NOAA CIOERT Cruise Report

Project Title: **South Atlantic MPAs and Deepwater Coral HAPCs: Characterization of Benthic Habitat and Fauna**

NOAA Ship *Pisces* Cruise 12-03
UNCW SuperPhantom ROV
July 6-19, 2012

Funding: CRCP Fishery Management Council Coral Reef Conservation
National Marine Fisheries Service (NMFS)
National Oceanic and Atmospheric Administration (NOAA)
South Atlantic Fishery Management Council (SAFMC)

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August 8, 2012

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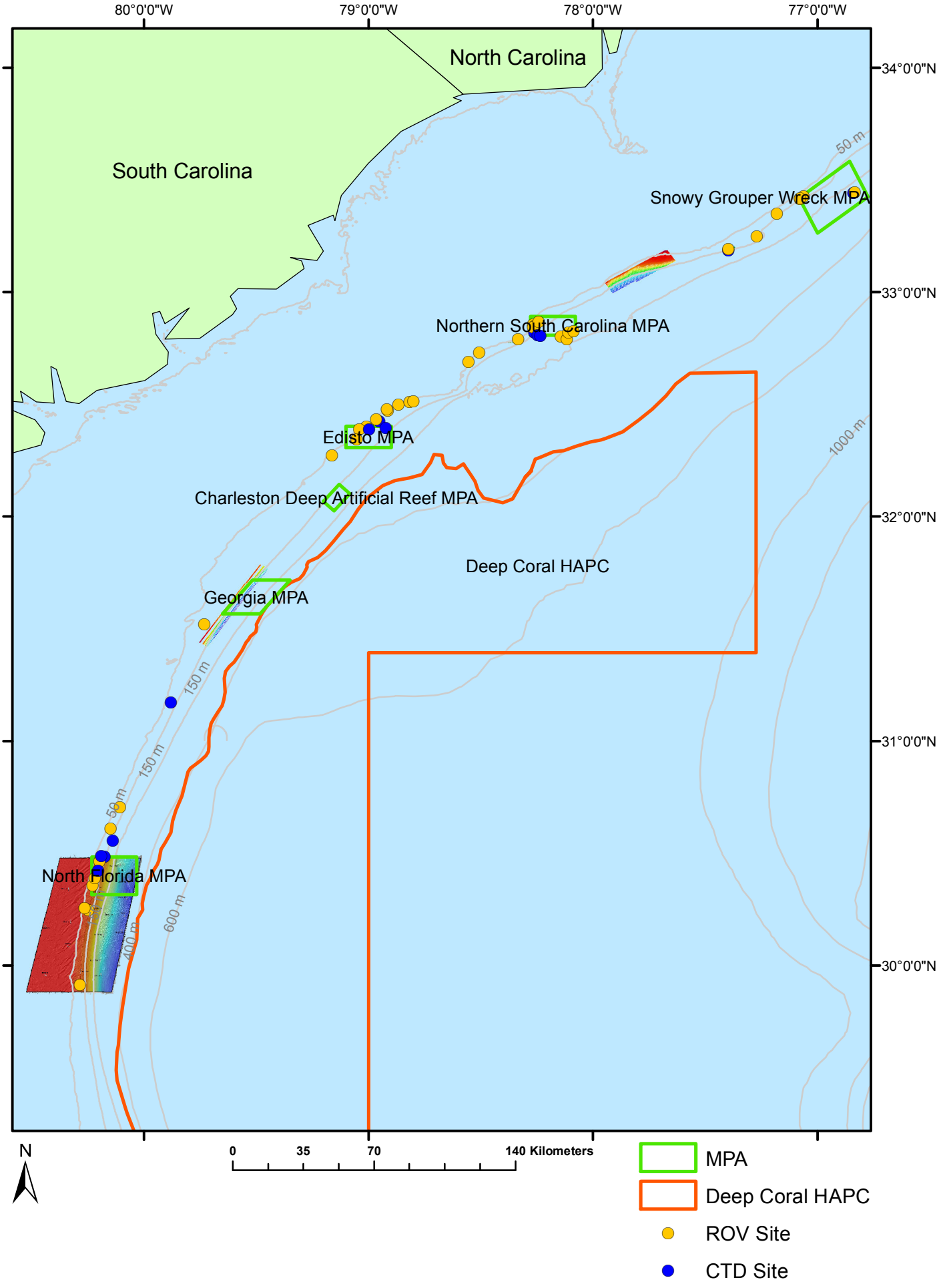
2012 NOAA *Pisces* MPA Cruise



COLLECTION SITE SUMMARY
SE USA Shelf-Edge MPA Cruise
July 6 - 19, 2012
NOAA Ship Pisces Cruise 12-03
UNCW SuperPhantom ROV

SITE NUMBER (DATE + SITE #)	LATITUDE	LONGITUDE	METHOD	DEPTH RANGE (Feet)		NUMBER of SAMPLES
7-VII-12-1	30° 33.4100'	80° 08.3700'	CTD 1			
7-VII-12-2	30° 27.7200'	80° 11.9400'	ROV 1	197	177	
7-VII-12-3	30° 21.3680'	80° 13.8060'	ROV 2	194	187	
7-VII-12-4	30° 23.4230'	80° 13.1690'	ROV 3	197	180	
7-VII-12-5	30° 25.3340'	80° 12.3050'	CTD 2			
8-VII-12-1	30° 29.3590'	80° 11.5220'	CTD 3			
8-VII-12-2	30° 15.2647'	80° 15.9359'	ROV 4	177	171	
8-VII-12-3	31° 31.3200'	79° 43.9800'	ROV 5	236	203	
9-VII-12-1	32° 25.3810'	78° 57.0770'	CTD 4			
9-VII-12-2	32° 24.0600'	79° 00.5400'	ROV 6	167	154	
9-VII-12-3	32° 23.2200'	79° 02.5200'	ROV 7	171	151	
9-VII-12-4	32° 25.9200'	78° 57.9000'	ROV 8	177	157	
10-VII-12-1	32° 23.1860'	78° 59.9020'	CTD 5			
10-VII-12-2	32° 20.5800'	79° 03.1200'	ROV 9	174	151	
10-VII-12-3	32° 16.3800'	79° 09.8400'	ROV 10	167	177	
10-VII-12-4	32° 28.3200'	78° 54.8400'	ROV 11	171	154	
11-VII-12-1	32° 23.6720'	78° 55.3770'	CTD 6			
11-VII-12-2	32° 28.6200'	78° 55.0200'	ROV 12	157	148	
11-VII-12-3	32° 29.8200'	78° 51.9600'	ROV 13	157	151	
11-VII-12-4	32° 30.6600'	78° 48.9600'	ROV 14	151	167	
11-VII-12-5	32° 30.9000'	78° 47.9400'	ROV 15	177	161	
12-VII-12-1	33° 11.1370'	77° 23.8210'	CTD 7			

SITE NUMBER (DATE + SITE #)	LATITUDE	LONGITUDE	METHOD	DEPTH RANGE (Feet)		NUMBER of SAMPLES
12-VII-12-2	33° 11.4600'	77° 23.8200'	ROV 16	266	220	
12-VII-12-3	33° 15.0000'	77° 16.2000'	ROV 17	335	223	
12-VII-12-4	33° 21.0000'	77° 10.8000'	ROV 18	299	256	
13-VII-12-1	33° 26.5080'	76° 50.3700'	CTD 8			
13-VII-12-2	33° 26.6170'	76° 50.0150'	ROV 19	840	794	
13-VII-12-3	33° 24.9000'	77° 04.6600'	ROV 20	387	279	
13-VII-12-4	33° 25.6370'	77° 03.6660'	ROV 21	217	213	
13-VII-12-5	33° 24.9610'	77° 04.6800'	ROV 22	404	272	
14-VII-12-1	32° 49.1800'	78° 15.7150'	CTD 9			
14-VII-12-2	32° 51.3000'	78° 15.9600'	ROV 23	157	154	
14-VII-12-3	32° 50.9400'	78° 15.5400'	ROV 24	171	157	
14-VII-12-4	32° 50.6860'	78° 16.0270'	ROV 25	164	157	
14-VII-12-5	32° 51.9990'	78° 14.4740'	ROV 26	230	207	
15-VII-12-1	32° 48.5000'	78° 14.7760'	CTD 10			
15-VII-12-2	32° 48.1800'	78° 08.6400'	ROV 27	548	531	
15-VII-12-3	32° 47.4600'	78° 07.0200'	ROV 28	554	515	
15-VII-12-4	32° 49.3200'	78° 06.4800'	ROV 29	535	518	
15-VII-12-5	32° 49.4400'	78° 05.1600'	ROV 30	558	525	
16-VII-12-1	32° 48.1840'	78° 14.0390'	CTD 11			
16-VII-12-2	32° 47.3460'	78° 19.9610'	ROV 31	180	157	
16-VII-12-3	32° 43.8600'	78° 30.3600'	ROV 32	180	148	
16-VII-12-4	32° 41.4000'	78° 33.3000'	ROV 33	157	141	
17-VII-12-1	31° 10.4100'	79° 52.8580'	CTD 12			
17-VII-12-2	30° 42.2650'	80° 06.4240'	ROV 34	210	167	2
17-VII-12-3	30° 36.5020'	80° 08.9040'	ROV 35	194	164	
18-VII-12-1	30° 29.1610'	80° 10.5560'	CTD 13			

SITE NUMBER (DATE + SITE #)	LATITUDE	LONGITUDE	METHOD	DEPTH RANGE (Feet)		NUMBER of SAMPLES
18-VII-12-2	30° 14.7600'	80° 14.8800'	ROV 36	200	177	
18-VII-12-3	29° 54.7340'	80° 17.1680'	ROV 37	217	177	

COLLECTION SITE DESCRIPTIONS
SE USA Shelf-Edge MPA Cruise
July 6 - 19, 2012
NOAA Ship Pisces Cruise 12-03
UNCW SuperPhantom ROV

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)		SEAS (Ft. from)		DEPTH RANGE (Ft.)	
7-VII-12-1 CTD 1 Florida, North Florida MPA, inside MPA									
7-VII-12-2 ROV 1 Florida, North Florida MPA, inside MPA	West base of main ridge ~54 m; east base 60 m. Ridge is low to moderate relief rock slabs and bould		50 Partly Cloudy	14.7	230	2-3	SE	197	177
7-VII-12-3 ROV 2 Florida, North Florida MPA, inside MPA	Low relief rock rubble, cobble and sediment from 56 to 59 m. Patchy hard bottom areas 10-20 m wide		Sunny	5	268	1-2	SW	194	187
7-VII-12-4 ROV 3 Florida, North Florida MPA, inside MPA	West base of main ridge ~54 m; east base ~60 m. Ridge is low to moderate relief with rock slabs and		50 Sunny	1.7	270	1-2	S	197	180
7-VII-12-5 CTD 2 Florida, North Florida MPA, inside MPA									
8-VII-12-1 CTD 3 Florida, North Florida MPA, outside MPA									

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)		SEAS (Ft. from)		DEPTH RANGE (Ft.)	
8-VII-12-2 ROV 4 Florida, North Florida MPA, outside and south of MPA	Flat, soft bottom with cobble and sand; patchy rock pavement with sediment veneer, sparse exposed b		30 Sunny		11 240	1-2	SW	177	171
8-VII-12-3 ROV 5 Georgia, Georgia MPA, southwest and outside of MPA	Mostly soft sediment, sand with sparse shell hash, asymmetrical ripples, sparse bioturbation. Patch		10 Sunny	1.2	SW 12.86 183	1-2	SW	236	203
9-VII-12-1 CTD 4 South Carolina, Edisto MPA, outside MPA, near north border									
9-VII-12-2 ROV 6 South Carolina, Edisto MPA, inside and outside MPA, near north border	All hard bottom. Rock pavement, rock outcrops 10-50 cm relief, some ledges 1 m. 80-100% rock cover		40 Partly Cloudy	0.25	W 23 230	3-5	SW	167	154
9-VII-12-3 ROV 7 South Carolina, Edisto MPA, inside MPA, north ridge	Middle of ridge- rock pavement, rock outcrops 80-100% cover, dense biota; west slope- steep dropoff		30 Sunny		10-15 SW	3-4	SW	171	151
9-VII-12-4 ROV 8 South Carolina, Edisto MPA, outside and north of MPA	High relief slope from 46-48 m at top of ridge to 52-53 m at west base. Large rock slabs, undercut		45 Sunny		15 SW	3-4	SW	177	157
10-VII-12-1 CTD 5 South Carolina, Edisto MPA, north and outside MPA									

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)		SEAS (Ft. from)		DEPTH RANGE (Ft.)	
10-VII-12-2 ROV 9 South Carolina, Edisto MPA, south ridge inside MPA	West edge of high relief ridge. Top of ledge 47.5 m, base of slope 52-53 m. Slope very rugged, upp	17	50 Sunny	0.25	18	227	3-5	SW	174	151
10-VII-12-3 ROV 10 South Carolina, Edisto MPA, ridge southwest and outside MPA	West slope of ridge: high relief, fractured rock slabs, undercut ledges, 1/2 to 2 m relief; top of s		50	0.25	18-20	185	3-4	SW	167	177
10-VII-12-4 ROV 11 South Carolina, Edisto MPA, ridge north and outside MPA	West slope of ridge is rugged, fractured rock slabs; top of ridge 48 m, base 51.5 m, <30o slope, 15-	19.3	50 Sunny	0.25	18	177	3-5	S	171	154
11-VII-12-1 CTD 6 South Carolina, Edisto MPA, ridge north and outside MPA										
11-VII-12-2 ROV 12 South Carolina, Edisto MPA, ridge north and outside MPA	The narrow ridge top is ~50 m wide; low relief rock pavement. The western upper slope has 1-3 ledges	19	50 Sunny	0.25	9.0	181	2-3'	SE	157	148
11-VII-12-3 ROV 13 South Carolina, Edisto MPA, ridge north and outside MPA	Low to moderate relief ridge; top 46.5 m, base on sand 48 m. Ridge very narrow 10-15 m; top rock sl	20	50 Sunny	0.25	13	208	2-3	SE	157	151
11-VII-12-4 ROV 14 South Carolina, Edisto MPA, ridge north and outside MPA	Transect starts with low relief rock pavement, sediment veneer; 48.5 m. Ridge begins as rock slabs,	20.8	50 Sunny	0.2	8.6	192	3	SE	151	167

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)		SEAS (Ft. from)		DEPTH RANGE (Ft.)	
11-VII-12-5 ROV 15 South Carolina, Edisto MPA, ridge north and outside MPA	Top of main ridge 50 m; upper west slope is high relief ledge 1-2 m, and often undercut 1-2 m; below	20.8	30	0.25 11	228	2	SE	177	161
12-VII-12-1 CTD 7 North Carolina, Station 22									
12-VII-12-2 ROV 16 North Carolina, N.C. MPA, south and outside of MPA	Mostly sand bottom with patchy low relief rock rubble/cobble and patches of exposed pavement and low		30 Overcast	0.1 3	150	Calm		266	220
12-VII-12-3 ROV 17 North Carolina, N.C. MPA, Steeples Ledges south and outside of MPA	Various hardbottom habitats and patch reefs; depth range 76-101 m. Reef 1, WP 1: 85.5 m sand at reef		50 Partly Cloudy	0.1 6	123	Calm		335	223
12-VII-12-4 ROV 18 North Carolina, N.C. MPA, south and outside of MPA	Flat slope, mosty sand shell hash with patches of scattered rock rubble, cobble and small boulders 0		30 Partly Cloudy	0.1 7	191	1-2	SW	299	256
13-VII-12-1 CTD 8 North Carolina, N.C. MPA, Station 26									
13-VII-12-2 ROV 19 North Carolina, N.C. MPA, Snowy Wreck Site, inside MPA	Transect along port hull from bow to stern and on deck. Oriented E-W, bow to west. Maximum depth i	10	10-15 Partly Cloudy	0.25 8.0	149	1		840	794

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)		SEAS (Ft. from)		DEPTH RANGE (Ft.)	
13-VII-12-3 ROV 20 North Carolina, N.C. MPA, inside and outside near border of MPA	Base of reef slope 118 m, top 75 m. 1-2 m rock boulders near base with Madracis coral colonies on v	18	50 Partly Cloudy	0.1	5	130	1-2	SE	387	279
13-VII-12-4 ROV 21 North Carolina, N.C. MPA, inside MPA near NW border	Mostly softbottom sediment; with scattered 2-3 m diameter patches of exposed rock, 10-20 cm relief;		50 Sunny	0.1	9.3	151	1-2	SW	217	213
13-VII-12-5 ROV 22 North Carolina, N.C. MPA, deep drop-off inside MPA	Transect heading northeast parallel to face of deep drop-off of multibeam map; depth range 123-92 m.		50 Sunny	0.1	10	115	1-2	SE	404	272
14-VII-12-1 CTD 9 South Carolina, Northern S.C. MPA, Station 31										
14-VII-12-2 ROV 23 South Carolina, Northern S.C. MPA, inside MPA	Transect mostly low relief rock pavement with sediment veneer, with 30-50% cover of dense algae domi	23.2	30 Sunny	0.1	11.3	107	1-2	SE	157	154
14-VII-12-3 ROV 24 South Carolina, Northern S.C. MPA, inside MPA	Numerous high relief rock mounds that are relatively smooth and rounded, 20-30 m diameter, and 3 m r	23.7	50 Partly Cloudy	0.1	10	116	1-2	SE	171	157
14-VII-12-4 ROV 25 South Carolina, Northern S.C. MPA, inside MPA	Reef areas with 1/2 - 1 m relief rock and ledges with nearly 100% cover of algae. Part of transect	23.875	30 Partly Cloudy	0.1	9	180	1-2	SE	164	157

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)		SEAS (Ft. from)		DEPTH RANGE (Ft.)	
14-VII-12-5 ROV 26 South Carolina, Northern S.C. MPA, inside MPA	Rock ridge from 65 to 70 m with 10o slope to the east, some 1 m ledges and eroded exposed rock at 69	20.8	30 Sunny	0.2	7	138	1-2	SE	230	207
15-VII-12-1 CTD 10 South Carolina, Northern S.C. MPA										
15-VII-12-2 ROV 27 South Carolina, Northern S.C. MPA, south and outside of MPA	Rock pavement with sediment veneer, 10 cm cobble, 30-80% cover, 30 cm exposed rock; 162 m at start o	12.8	15 Sunny	0.2	8	137	1	SE	548	531
15-VII-12-3 ROV 28 South Carolina, Northern S.C. MPA, south and outside of MPA	Start transect at 162.5 m on rock pavement with cobble, and 30 cm boulders; begin transect heading e	12.85	10 Partly Cloudy	0.5	9.8	147	1	SE	554	515
15-VII-12-4 ROV 29 South Carolina, Northern S.C. MPA, inside MPA	Transect starts on flat pavement and sediment with 10-20 cm cobble, 30 boulders and ledges. Scatter	13.6	30 Sunny	0.2	9.4	168	1	SE	535	518
15-VII-12-5 ROV 30 South Carolina, Northern S.C. MPA, inside MPA	Transect starts at 164 m on flat sediment, with 10-30 cm cobble and small boulders. Transect crosse	14.9	30 Partly Cloudy	0.25	4	195	1-2	SE	558	525
16-VII-12-1 CTD 11 South Carolina, Northern S.C. MPA, Station 41.										

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
16-VII-12-2 ROV 31 South Carolina, Northern S.C. MPA, southwest and outside MPA	Transect along E-W oriented ridge of multibeam. Ridge is mostly smooth rock, 30-45o slope on south	22.7	50 Partly Cloudy	0.25 N 8.6 135	1	180 157
16-VII-12-3 ROV 32 South Carolina, Northern S.C. MPA, southwest and outside MPA	South escarpment of main ridge is 47 m at top, and 55 m at base. Upper slope is vertical rock 1-2	22.22	30 Partly Cloudy	0.5 N 3.29 199	1	180 148
16-VII-12-4 ROV 33 South Carolina, Northern S.C. MPA, southwest and outside MPA	Transect starts along the west escarpment of the ridge, total relief 3 m, 42.5 to 45.8 m at base in	20.6	50 Partly Cloudy	0.2 6.7 93	1	157 141
17-VII-12-1 CTD 12 Florida, ~10 nmi north of North Florida MPA, Station 45						
17-VII-12-2 ROV 34 Florida, North Florida MPA, ~10 nmi north of MPA	Ridge on multibeam is extensive N-S oriented. Transect NE across ridge top, ~100 m wide: depth 52 m	16.3	50-100 Precipitation	0.2 7.2 235	calm	210 167
17-VII-12-3 ROV 35 Florida, North Florida MPA, ~10 nmi north of MPA	West escarpment of N-S oriented ridge: low relief slope ~15 m wide and 30-45o, 51m on top to 55 m in		50 Partly Cloudy	0.5 S 5 110	calm	194 164
18-VII-12-1 CTD 13 Florida, North Florida MPA, north of MPA						

SITE NUMBER COLLECTION METHOD LOCATION	HABITAT	TEMP. (C) SALINITY	VISI-BILITY (Ft.) WEATHER	CURRENT (KNOT from) (MPH from)	SEAS (Ft. from)	DEPTH RANGE (Ft.)
18-VII-12-2 ROV 36 Florida, North Florida MPA, south and outside of MPA	Transect along east and west slope of N-S oriented ridge of multibeam; depth range 55-61 m. West sl	17.7 Partly Cloudy	30	2 9.3 217	1	200 177
18-VII-12-3 ROV 37 Florida, 55 nmi east of St. Augustine, 60-m reef line, outside of MPA	West base, 56 m: sand and shell hash, with several knocked down 30 cm gorgonian colonies. West slop	15.4 Partly Cloudy	30	0.1 15.6 129	1	217 177

SPECIES LIST
SE USA Shelf-Edge MPA Cruise
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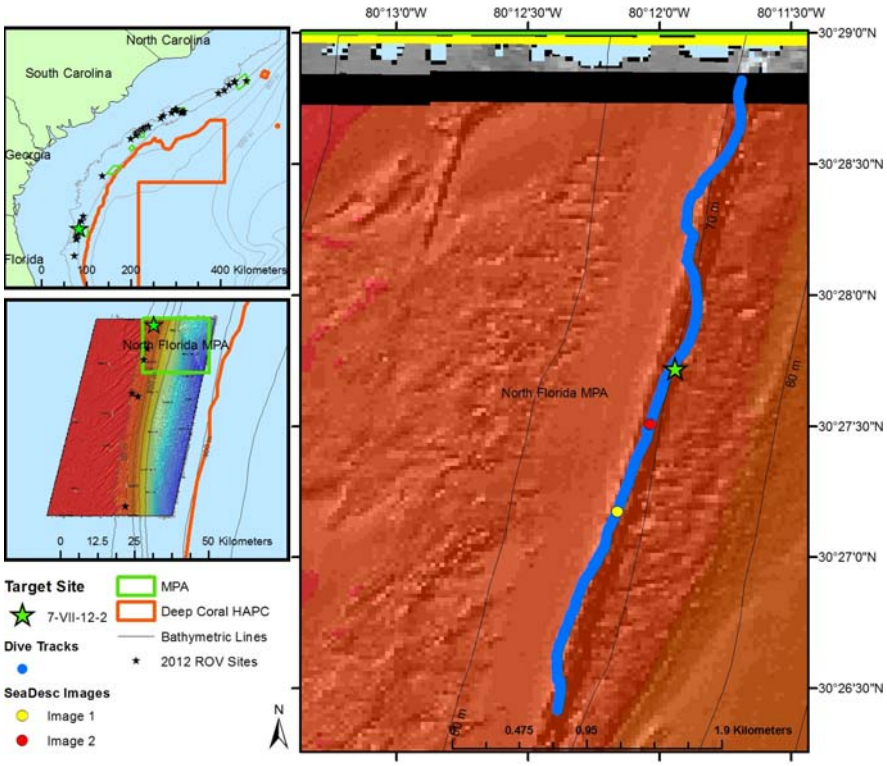
UNCW SuperPhantom ROV

SAMPLE NUMBER (Date+Site+Sample)	PHYLUM	TAXONOMY	METHOD	DEPTH (Ft.)
17-VII-12-2-001	Cni	Stichopathes sp.	ROV 34	
17-VII-12-2-002	Cni	Hydroida	ROV 34	

SEADESC Report - NOAA Ship PISCES Cruise

Dive Number: ROV 1 **Location:** Florida, North Florida MPA, inside MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	124
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 1	**Sonar Data:**	USWTR Bathy with ROV
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	Florida, North Florida MPA, inside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/7/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Data:

Minimum Bottom Depth (m):	54	**Total Transect Length (km):**	6.44
Maximum Bottom Depth (m):	60	**Surface Current (kn):**	2
On Bottom (Time- ESDT):	9:27	**On Bottom (Lat/Long):**	30°26.6500'N 80°12.3670'W
Off Bottom (Time- ESDT):	11:16	**Off Bottom (Lat/Long):**	30°28.8100'N 80°11.6880'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 50 **Current (kn):**

Figure 1: Demosponges and hydroids on rocky hardbottom habitat

Figure 2: *Tanacetipathes* black coral on rock pavement hardbottom

Notes (Objectives, Site Description, Habitat, Fauna):

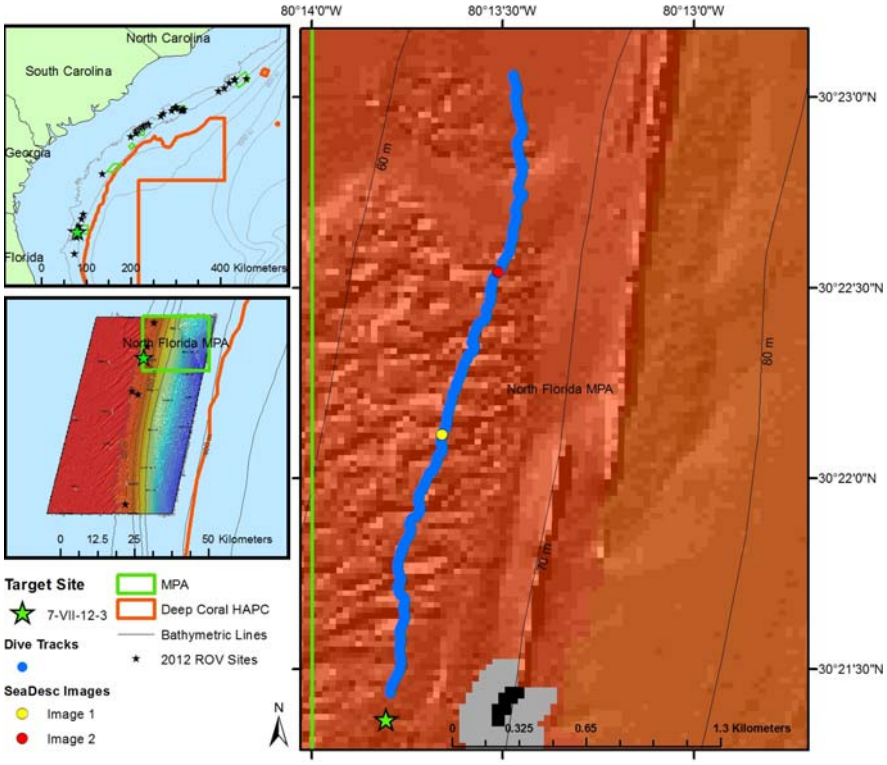
Sites/Objectives: ROV Dive 1, Site #- 7-VII-12-2. Target Site - North Florida MPA; 30°27.7200'N, 80°11.9400'W; 70 m. ROV survey inside MPA; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N, zigzag along main ridge oriented SW-NE.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database (Dive 1: time is -2 hours off EDT then reset to correct time at 8:44 am). Dive 1: No Quantitative photos taken; all photos random forward pointing; lasers 10 cm. Surface current approx. 2.0 kn, bottom current ~1.2 kn; unable to station keep or stop the ROV for habitat or still photos.

Site Description/Habitat/Biota:
West base of main ridge ~54 m; east base 60 m. Ridge is low to moderate relief rock slabs and boulders 1/2 m to 1 m relief, rock pavement, low ledges <1 m relief. Off ridge is rock pavement with sediment veneer and sand sediment with rubble.

Dominant Benthic Biota: Dense sessile biota on exposed rock dominated by Demospongiae- Ircinia campana, I. strobilina, Axinellida; Hydroida; Antipatharia- Tanacetipathes, Stichopathes lutkeni; Gorgonacea- purple Plexauridae; Polychaeta- Filograna; Ascidiacea- Didemnidae mounds; no algae; no hard coral.
Fish: yellow tail reef fish, reef butterfly, blue angelfish, red porgy, puffer, cowfish, tatler, few scamp.

Dive Number: ROV 2 **Location:** Florida, North Florida MPA, inside MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	
Principal Investator:	Stacy Harter	**Digital Photos:**	33
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 2	**Sonar Data:**	USWTR Bathy with ROV
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	Florida, North Florida MPA, inside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/7/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 2 **Location:** Florida, North Florida MPA, inside MPA

Dive Data:

Minimum Bottom Depth (m):	57	**Total Transect Length (km):**	3.78
Maximum Bottom Depth (m):	59	**Surface Current (kn):**	2
On Bottom (Time- ESDT):	13:15	**On Bottom (Lat/Long):**	30°21.4140'N 80°13.7900'W
Off Bottom (Time- ESDT):	14:25	**Off Bottom (Lat/Long):**	30°23.0620'N 80°13.4660'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** **Current (kn):**

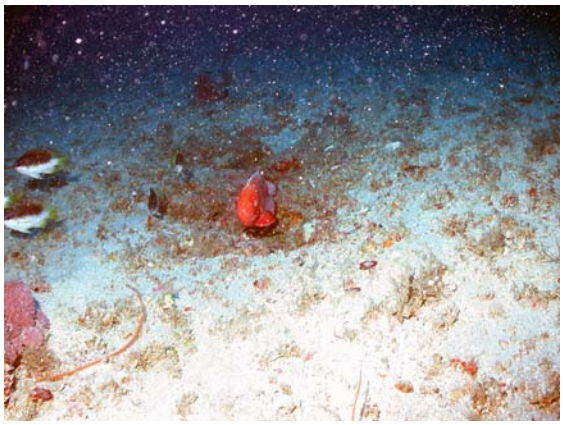


Figure 1: Short bigeye and yellowtail reeffish on patchy hardbottom habitat

Figure 2: Lionfish on rock outcrop and ledge habitat

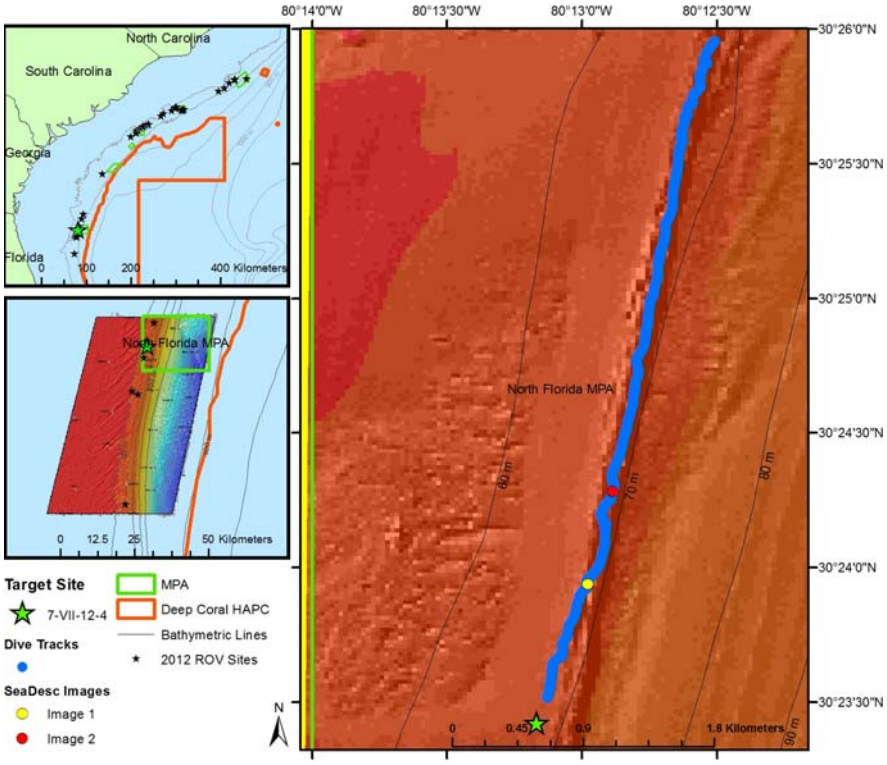
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 2, Site #- 7-VII-12-3. Target Site - North Florida MPA; 30°21.3680'N; 80°13.8060'W; 56-59 m. ROV survey inside MPA; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N on low relief, hard bottom west of main ridge on sonar.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. No CTD. Surface current approx. 2 kn, bottom current ~1 kn. Difficult to stop ROV with current.

Site Description/Habitat/Biota:
Low relief rock rubble, cobble and sediment from 56 to 59 m. Patchy hard bottom areas 10-20 m wide with rubble and some exposed rock, and scoured rock burrows. Sediment and rubble between hard bottom areas.

Dominant Benthic Biota: Relatively sparse sessile epifauna. Demospongiae- Ircinia campana, I. strobilina; Hydroida; Antipatharia- Tanacetipathes, Stichopathes lutkeni; Gorgonacea- purple Plexauridae; Polychaeta- Filograna; Ascidiacea- Didemnidae; no algae; no hard coral.
Fish: sand tilefish and tilefish rubble mounds common, yellow tail reef fish, reef butterfly, blue angelfish, red porgy.



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	88
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 3	**Sonar Data:**	USWTR Bathy with ROV
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	Florida, North Florida MPA, inside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/7/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 3 **Location:** Florida, North Florida MPA, inside MPA

Dive Data:

Minimum Bottom Depth (m):	55	**Total Transect Length (km):**	5.74
Maximum Bottom Depth (m):	60	**Surface Current (kn):**	2
On Bottom (Time- ESDT):	14:59	**On Bottom (Lat/Long):**	30°23.5330'N 80°13.1270'W
Off Bottom (Time- ESDT):	16:51	**Off Bottom (Lat/Long):**	30°25.9600'N 80°12.4840'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 50 **Current (kn):**

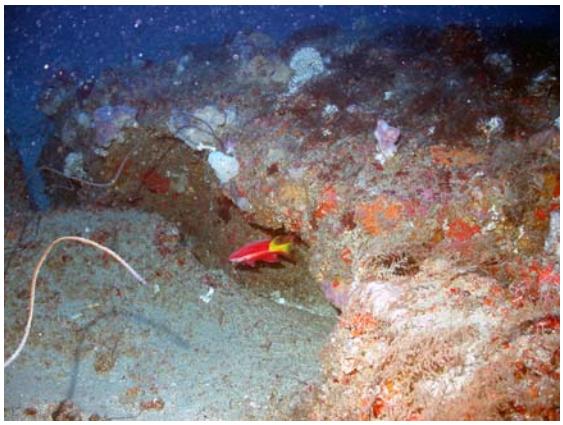


Figure 1: Spotfin hogfish on moderate relief rock ledge with *Stichopathes* black coral, sponges, and hydroids.

Figure 2: Male hogfish on moderate relief rock ledges

Notes (Objectives, Site Description, Habitat, Fauna):

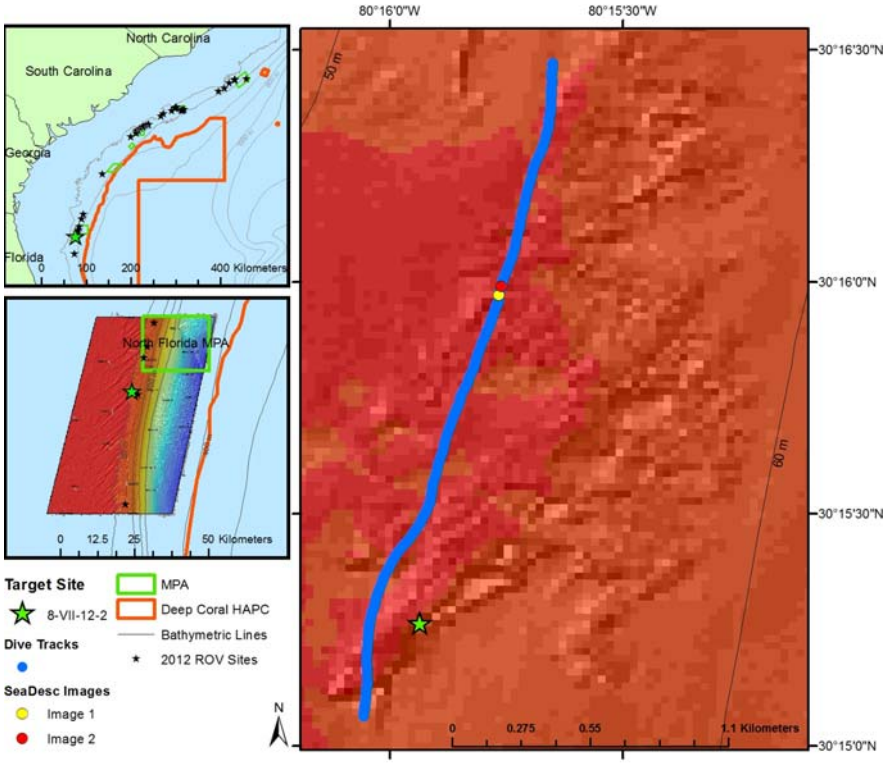
Site/Objectives: ROV Dive 3, Site #- 7-VII-12-4. Target Site - North Florida MPA; 30°23.4230'N, 80°13.1690'W; 56-60 m. ROV survey inside MPA; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N, zigzag along main ridge oriented SW-NE; continuation of ledge in Dive 1.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Digital video copied from DVD. Surface current approx. 2 kn, bottom current ~1 kn. Difficult to stop ROV with current.

Site Description/Habitat/Biota:
West base of main ridge ~54 m; east base ~60 m. Ridge is low to moderate relief with rock slabs and boulders 1/2 m to 1 m relief, rock pavement, and ledges 1/2-1 m relief. Large square rock slabs. Off ridge is rock pavement with sediment veneer and sand sediment.

Dominant Benthic Biota: Dense sessile biota on exposed rock dominated by Demospongiae- Ircinia campana, I. strobilina, Axinellida; Hydroida; Antipatharia- Tanacetipathes, Stichopathes lutkeni; Gorgonacea- purple Plexauridae; Polychaeta- Filograna; Ascidiacea- Didemnidae mounds; no algae; no hard coral.
Fish: dense schools of tomtate, vermillion snapper; scamp common, several 40-50 cm gag grouper, numerous lionfish; yellow tail reef fish, reef butterfly, blue angelfish, red porgy.

Dive Number: ROV 4 **Location:** Florida, North Florida MPA, outside and south of MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	
Principal Investator:	Stacy Harter	**Digital Photos:**	15
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	2
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	1
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 4	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy Shepard, John Reed, Stacy Harter, Stephanie Farrington
Location:	Florida, North Florida MPA, outside and south of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/8/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 4 **Location:** Florida, North Florida MPA, outside and south of MPA

Dive Data:

Minimum Bottom Depth (m):	52	**Total Transect Length (km):**	2.84
Maximum Bottom Depth (m):	54	**Surface Current (kn):**	2.8
On Bottom (Time- ESDT):	10:05	**On Bottom (Lat/Long):**	30°15.1430'N 80°16.0310'W
Off Bottom (Time- ESDT):	10:45	**Off Bottom (Lat/Long):**	30°16.3710'N 80°15.6320'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 30 **Current (kn):**

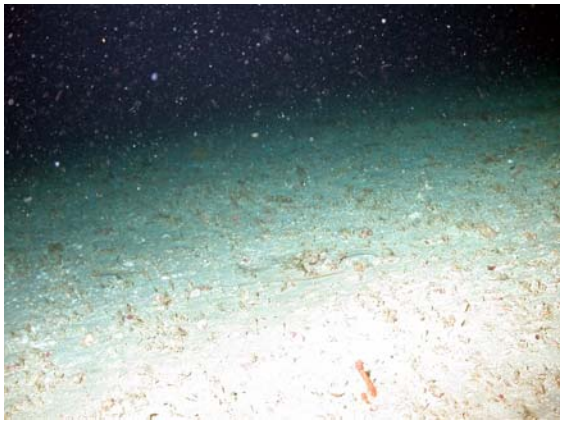


Figure 1: Soft bottom habitat with human debris (fishing line)

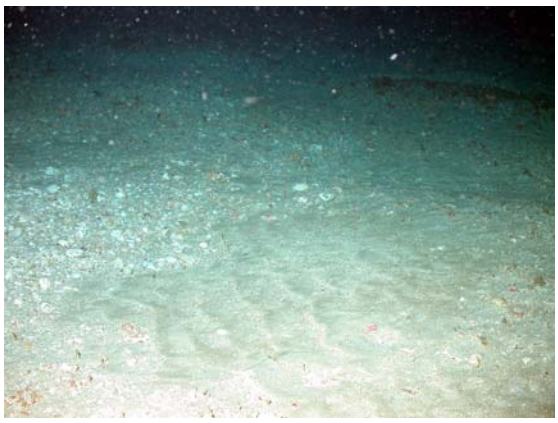


Figure 2: Soft bottom habitat

Notes (Objectives, Site Description, Habitat, Fauna):

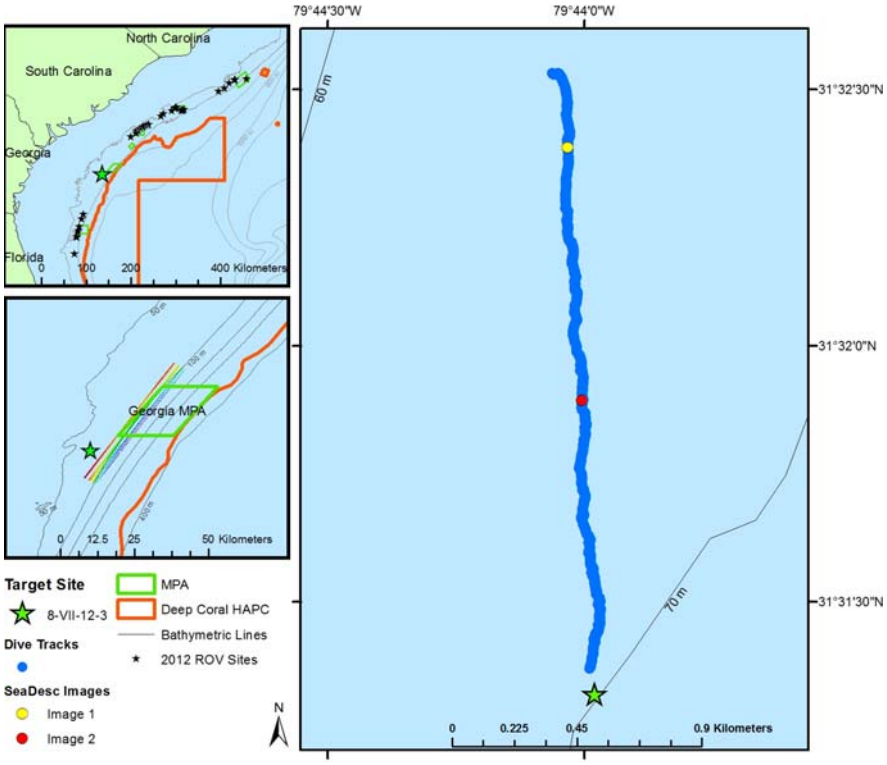
Site/Objectives: ROV Dive 4, Site #- 8-VII-12-2. Target Site – outside and south of North Florida MPA; 30° 15.2647'N, 80°15.9359'W; 60 m. ROV survey outside MPA site; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N, west of main ledge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current approx. 2 kn. Difficulty station keeping; drifting N at 1 kn; pulled off bottom during transect.

Site Description/Habitat/Biota:
West of main ridge and on west side of multibeam feature. Dive track 90-120 m west of plotted transect line; depth range 52-54 m. Flat, soft bottom with cobble and sand; patchy rock pavement with sediment veneer, sparse exposed bedrock, 20-50 cm relief, some to 1.5 m, patchy small boulders and cobble.

Dominant Benthic Biota: Antipathidae- Stichopathes, Gorgonacea- purple Plexauridae, Hydroida; Demospongiae- Ircinia campana.
Fish: tatler, grey triggerfish, reef butterfly, squirrelfish.

Dive Number: ROV 5 **Location:** Georgia, Georgia MPA, southwest and outside of MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	
Principal Investator:	Stacy Harter	**Digital Photos:**	73
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 5	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy Shepard, John Reed, Stacy Harter, Stephanie Farrington
Location:	Georgia, Georgia MPA, southwest and outside of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/8/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 5 **Location:** Georgia, Georgia MPA, southwest and outside of MPA

Dive Data:

Minimum Bottom Depth (m):	62	**Total Transect Length (km):**	2.99
Maximum Bottom Depth (m):	72	**Surface Current (kn):**	1.2
On Bottom (Time- ESDT):	17:10	**On Bottom (Lat/Long):**	31°31.3920'N 79°43.9840'W
Off Bottom (Time- ESDT):	18:20	**Off Bottom (Lat/Long):**	31°32.5160'N 79°44.0470'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 10 **Current (kn):** 1.2

Figure 1: Gorgonians on small rock outcrop

Figure 2: *Luidia* starfish on soft bottom

Notes (Objectives, Site Description, Habitat, Fauna):

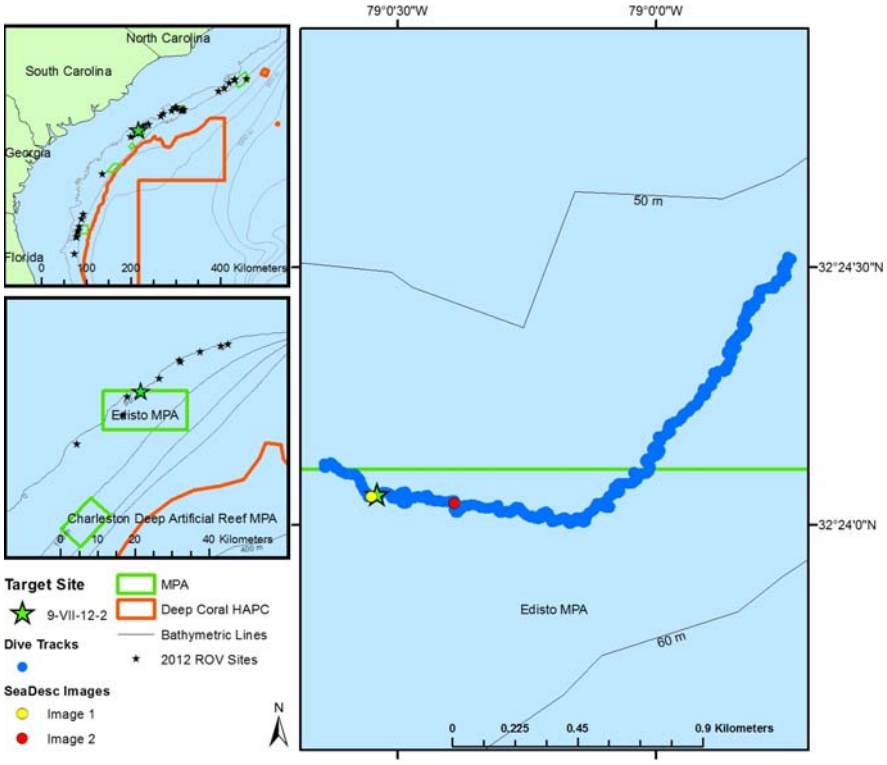
Site/Objectives: ROV Dive 5, Site #- 8-VII-12-3. Target Site – outside and SW of Georgia MPA; 31°31.3200'N; 79° 43.9800'W; 70 m. ROV survey outside MPA; no multibeam data. Conduct video/photo transect S-N along low relief features.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.2 kn to NE. Good station keeping, stayed on transect line. No multibeam or bathymetric data.

Site Description/Habitat/Biota:
Mostly soft sediment, sand with sparse shell hash, asymmetrical ripples, sparse bioturbation. Patches of hard bottom, rock pavement, low relief rock outcrops, 10-20 cm boulders; 62-72 m; hard bottom at 62-64 m.

Dominant Benthic Biota: Asteroidea- Luidia; Holothuroidea; Cidaroidea; Pennatulacea-Virgularia; Cerianthidae; Antipathidae- Stichopathes, Tanacetipathes; Demospongiae (several spp.)- Ircinia campana; Polychaeta- Filograna; Ascidiacea- Didemnidae.
Fish: flounder, tonguefish, lizardfish, batfish, bank seabass, sea robin, bigeye, tatler, red porgy, spotfin butterfly, bank butterfly, porcupine fish, numerous lionfish (7).

Dive Number: ROV 6 **Location:** South Carolina, Edisto MPA, inside and outside MPA, near north border



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	
Principal Investator:	Stacy Harter	**Digital Photos:**	253
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	3
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 6	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, inside and outside MPA, near north border	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington
Date Compiled:	8/9/2012		

Dive Number: ROV 6 **Location:** South Carolina, Edisto MPA, inside and outside MPA, near north border

Dive Data:

Minimum Bottom Depth (m):	47	**Total Transect Length (km):**	5.76
Maximum Bottom Depth (m):	51	**Surface Current (kn):**	1
On Bottom (Time- ESDT):	7:49	**On Bottom (Lat/Long):**	32°24.1040'N 79°00.6330'W
Off Bottom (Time- ESDT):	10:28	**Off Bottom (Lat/Long):**	32°24.5070'N 78°59.7370'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 40 **Current (kn):** 0.25

Figure 1: Bigeye and lionfish on hardbottom low relief outcrops.

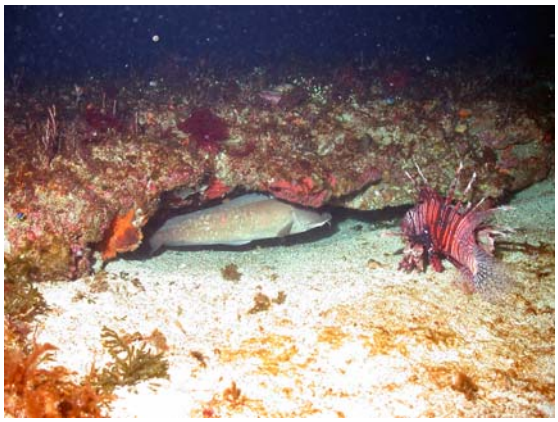


Figure 2: Brotulid and lionfish on hardbottom low relief outcrops

Notes (Objectives, Site Description, Habitat, Fauna):

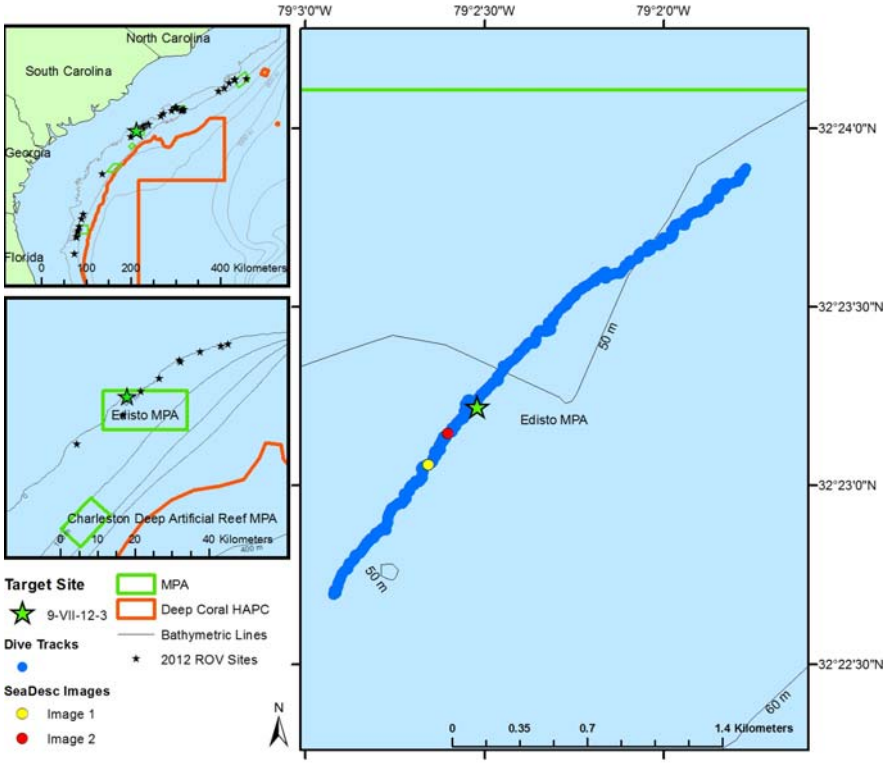
Site/Objectives: ROV Dive 6, Site #- 9-VII-12-2. Target Site – outside South Carolina Edisto MPA, near north border; 32°24.0600'N; 79°00.5400'W; 55 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct two video/photo transects on low relief pavement and along NE oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn to NE. Good station keeping, stayed on transect line. Trouble with digital still- unable to use manual w/ shutter priority. Used auto mode.

Site Description/Habitat/Biota:
Transect 1: Head east along border of MPA. Flat sediment, sand w/ dense Cyanophyta cover; areas of hard bottom, low relief rock pavement, exposed rock outcrops with 10-50 cm relief. Rock ledge 47 m top, 49.5 m base. Transect 2: Head NE parallel to ridge on multibeam map. All hard bottom. Rock pavement, rock outcrops 10-50 cm relief, some ledges 1 m. 80-100% rock cover on top of ridge; rock rubble and sediment along E base of ridge; 50% cover of rock boulders, 1 m relief, some 2 m relief, very rugose along west edge of ridge. Depth range 47-51 m.

Dominant Benthic Biota: Gorgonacea- purple plexaurid, Diodogorgia, Titanideum frauenfeldii, Ellisella, Leptogorgia; Antipatharia- Stichopathes; Demospongiae- Ircinia campana, tan cake sponge, Axinellida, many spp.; Hydroida; Annelida- Filograna; Echinoidea- Clypeaster; Decapoda- Panulirus argus; Ascidiacea- Didemnidae; Chlorophyta- Ulva?, leafy green, Codium; Rhodophyta- several spp., red blade; Phaeophyta- Sargassum (attached); Cyanophyta- mats on sediment and invertebrates.
Fish: yellow tail damselfish, reef butterfly, bank butterfly, tomtate, vermillion snapper, porgy (common), scamp (several), gag (few), graysby (common), spotfin hogfish, hogfish, scrawled cowfish, Brotulidae, wrasse bass,

jackknife fish, blue angelfish, queen angelfish, rock beauty, blue spotted cornet fish, lionfish (common- 40).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	214
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	4
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 7	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, inside MPA, north ridge	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/9/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 7 **Location:** South Carolina, Edisto MPA, inside MPA, north ridge

Dive Data:

Minimum Bottom Depth (m):	46	**Total Transect Length (km):**	7.08
Maximum Bottom Depth (m):	52	**Surface Current (kn):**	.5
On Bottom (Time- ESDT):	12:05	**On Bottom (Lat/Long):**	32°22.6870'N 79°02.9270'W
Off Bottom (Time- ESDT):	15:29	**Off Bottom (Lat/Long):**	32°23.8770'N 79°01.7750'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 30 **Current (kn):**

Figure 1: *Panulirus argus* (lobster) under low relief rock outcrops

Figure 2: Graysby and reef butterfly fish on moderate relief boulder with dense biota

Notes (Objectives, Site Description, Habitat, Fauna):

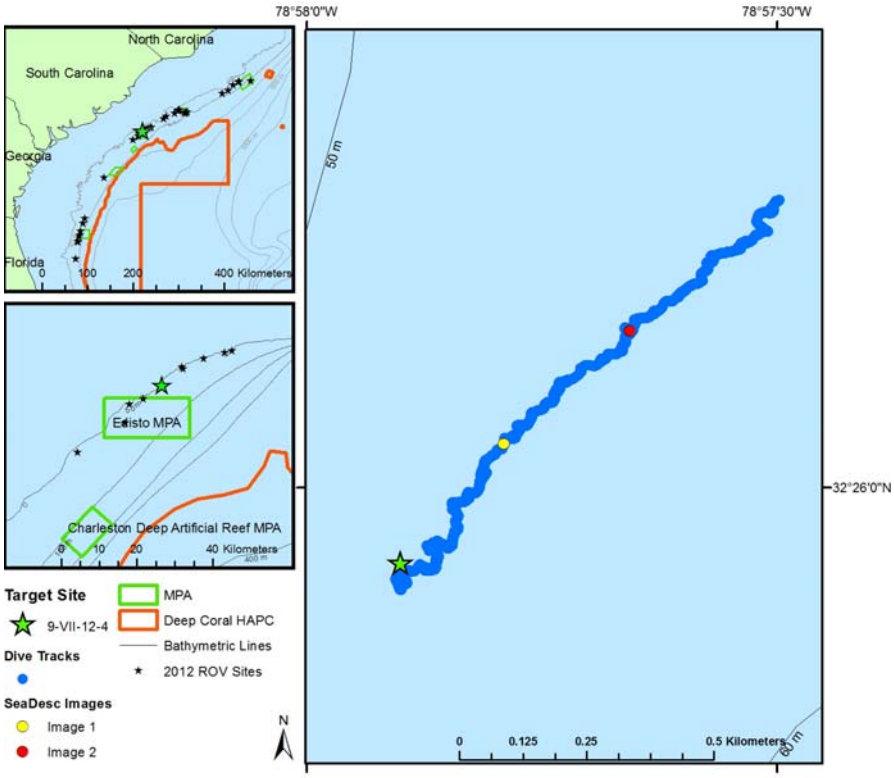
Site/Objectives: ROV Dive 7, Site #- 9-VII-12-3. Target Site – South Carolina Edisto MPA; 32°23.2200'N; 79° 02.5200'W; 50 m. ROV survey inside MPA; ground truth multibeam sonar of site. Conduct video/photo transects on north ridge, oriented NE-SW; Transect 4 and 5 along west edge of ridge, Transect 6 along east edge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn to NE. Good station keeping, stayed on transect line. Camera in manual mode, shutter priority 1/125 s.

Site Description/Habitat/Biota:
Transect 4 and 5, heading NE along west slope of main ridge which is ~150 m wide, oriented NE-SW. Middle of ridge- rock pavement, rock outcrops 80-100% cover, dense biota; west slope- steep drop-off with rugged topography, rock slabs undercut and broken off forming 1-2 m ledges, total relief of 4 m. Top of slope 46.5 m, base of west slope are rock slabs and boulders on sediment, grading into sediment at 52 m. Slope over ~10-20 m in width. Transect 6 heading NE along east edge of ridge. Less rugose than west slope. Drop-off from 47 m at top of east slope to 50 m at base. Rock slabs 50-100 cm relief.

Dominant Benthic Biota: Gorgonacea- Telesto, Swiftia, Diodogorgia, purple plexaurid, Diodogorgia, Ellisella; Antipatharia- Stichopathes, bushy white; Demospongiae- Ircinia campana, Callyspongia, tan cake sponge, Axinellida, many spp.; Hydroida; Decapoda- Panulirus argus; Ascidiacea- Didemnidae, Eudistoma; Chlorophyta- Codium, Caulerpa?; Rhodophyta- several spp., red blade; Phaeophyta- Sargassum (attached), Dictyota.
Fish: spawning(?) aggregation of scamp on west ridge (>50 in one aggregation), gag, snowy grouper, Yellow tail damselfish, reef butterfly, bank butterfly, banded butterfly, French angelfish, scorpionfish, tomtate, vermillion snapper (large schools), porgy (common), graysby (common), spotfin hogfish, hogfish, scrawled cowfish, blue angelfish, blue spotted cornet fish, lionfish (abundant- 150).

Dive Number: ROV 8 **Location:** South Carolina, Edisto MPA, outside and north of MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	
Principal Investator:	Stacy Harter	**Digital Photos:**	52
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	1
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 8	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, outside and north of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/9/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 8 **Location:** South Carolina, Edisto MPA, outside and north of MPA

Dive Data:

Minimum Bottom Depth (m):	48	**Total Transect Length (km):**	2.34
Maximum Bottom Depth (m):	54	**Surface Current (kn):**	1.5
On Bottom (Time- ESDT):	16:28	**On Bottom (Lat/Long):**	32°25.8930'N 78°58.9040'W
Off Bottom (Time- ESDT):	17:27	**Off Bottom (Lat/Long):**	32°26.2980'N 78°57.5020'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 45 **Current (kn):**

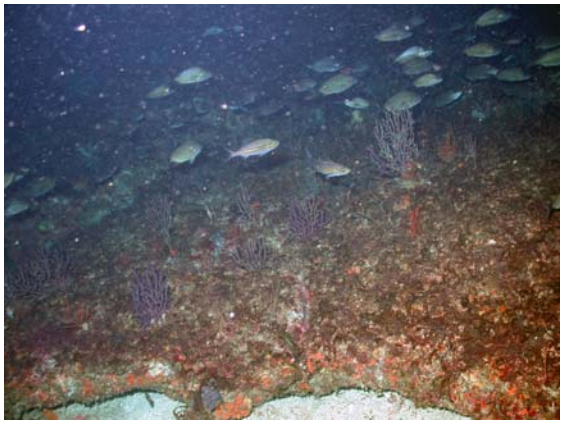


Figure 1: Rock pavement habitat with school of tomtate and dense cover of gorgonians, sponges, and algae

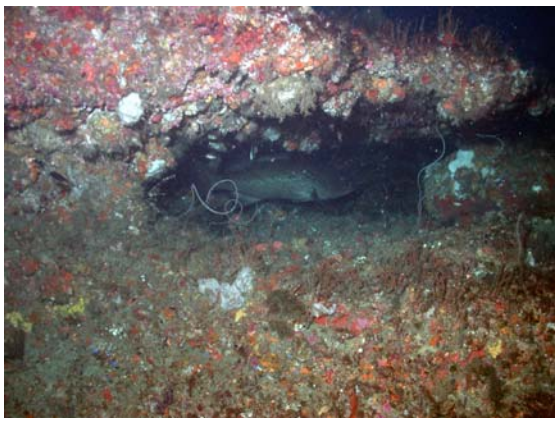


Figure 2: Scamp grouper under rock ledge

Notes (Objectives, Site Description, Habitat, Fauna):

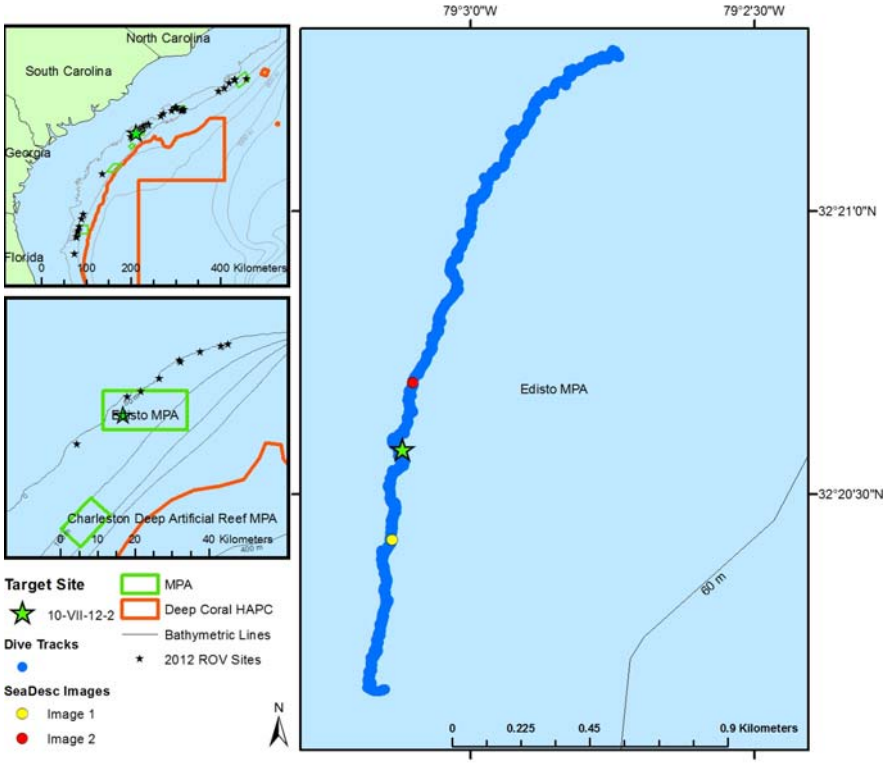
Site/Objectives: ROV Dive 8, Site #- 9-VII-12-4. Target Site – outside and north of South Carolina Edisto MPA; 32°25.9200'N; 78°57.9000'W; 50 m. ROV survey outside MPA site; ground truth multibeam sonar of site. Conduct one video/photo transect along west edge of NE-SW oriented ridge of multibeam map.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.5 kn to NW. Good station keeping, stayed on transect line. Camera in manual mode, shutter priority 1/125 s.

Site Description/Habitat/Biota:
Transect along NE-SW oriented ridge, ~100 m wide, along west edge of ridge. Similar to ROV site 7. High relief slope from 46-48 m at top of ridge to 52-53 m at west base. Large rock slabs, undercut ridge with 1-2 m relief; rugged topography. Base of ridge with rock slabs and boulders grading to sand sediment.

Dominant Benthic Biota: Gorgonacea- purple plexaurid, Nicella; Antipatharia- Stichopathes, bushy white; Hydroida; Demospongiae- Ircinia campana, tan cake, Aplysina, Callyspongia vaginalis; Annelida- Filograna; Ascidiacea- Eudistoma; Phaeophyta- Sargassum (attached).
Fish: scamp (common), gag, tomtate, vermillion snapper, blue angelfish, yellowtail reeffish, hogfish, spotfin hogfish, short bigeye, bigeye, porgy, reef butterfly, purple reeffish, queen angelfish, graysby, lionfish (common- 29).

Dive Number: ROV 9 **Location:** South Carolina, Edisto MPA, south ridge inside MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	215
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	3
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 9	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, south ridge inside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/10/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 9 **Location:** South Carolina, Edisto MPA, south ridge inside MPA

Dive Data:

Minimum Bottom Depth (m):	46	**Total Transect Length (km):**	6.46
Maximum Bottom Depth (m):	53	**Surface Current (kn):**	1.25
On Bottom (Time- ESDT):	7:55	**On Bottom (Lat/Long):**	32°01.4600'N 79°03.1680'W
Off Bottom (Time- ESDT):	10:46	**Off Bottom (Lat/Long):**	32°21.2710'N 79°02.7320'W
Physical (bottom); Temp (°C):	17	**Salinity:**	**Visibility (ft):** 50 **Current (kn):** 0.25

Figure 1: Hogfish (red color morph) on sediment with cyanophyta cover

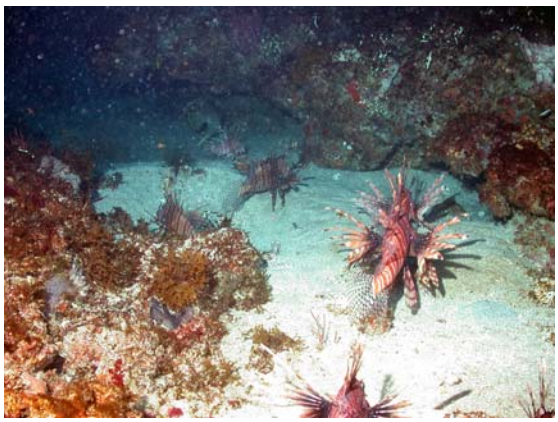


Figure 2: Lionfish (6) in rocky outcrop habitat

Notes (Objectives, Site Description, Habitat, Fauna):

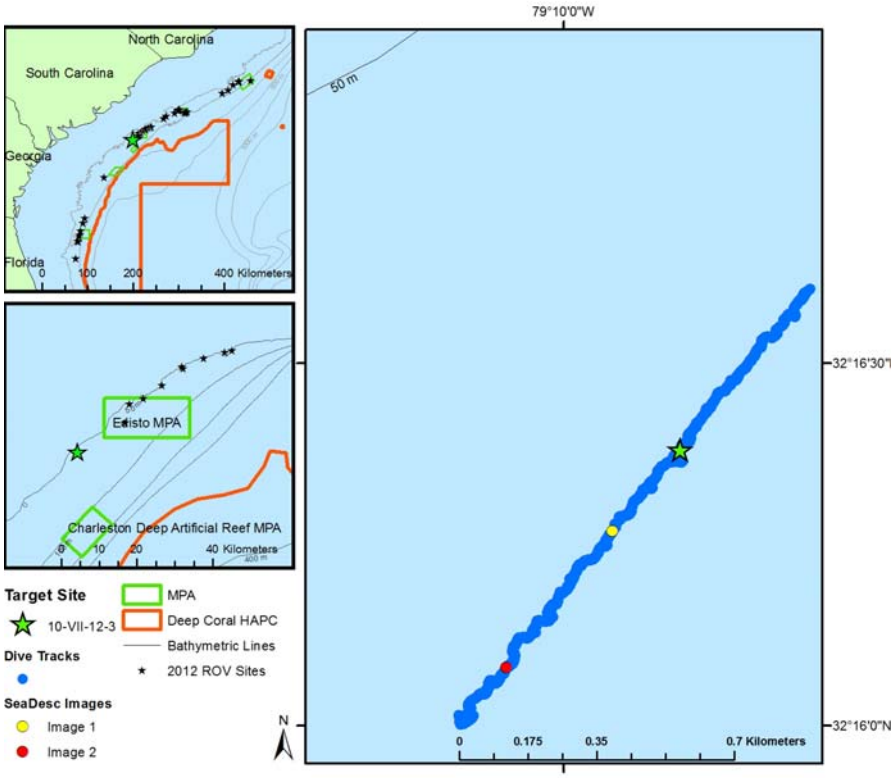
Site/Objectives: ROV Dive 9, Site #- 10-VII-12-2. Target Site – South Carolina Edisto MPA; 32°20.5800'N; 79° 03.1200'W; 60 m. ROV survey inside MPA; ground truth multibeam sonar of site. Conduct two S to N video/photo transects along middle and edge of south ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.25 kn from SW.

Site Description/Habitat/Biota:
Transect 1: low relief hard bottom, light orange zone of multibeam; 51.0- 51.5 m. Mostly low relief pavement, smooth exposed rock with no ledges, pavement with sediment veneer; sediment with Cyanophyta cover. 30-80% hard bottom cover. Sparse epifauna dominated by gorgonians, very few demosponges, and very few fish. Transect 2: in red zone of multibeam; transect in middle region of red zone mostly low relief rock pavement, and pavement with sediment veneer, with few or no small ledges; sparse sessile fauna and fish. Continue transect along west edge of high relief ridge. Top of ledge 47.5 m, base of slope 52-53 m. Slope very rugged, upper slope with 1 m ledges, undercut slabs, <30o slope to base. Lower slope and base with rock slabs, boulders, ledges 50-100 cm, then grading to sediment with Cyanophyta veneer at 52 m.

Dominant Benthic Biota: Very dense sessile biota dominated by purple gorgonians, Ellisellidae (several spp.), hydroids, Antipatharia (several spp.), and demosponges. Gorgonacea- Ellisella (whip, tan, li-pink), Ellisella barbadensis, Ellisella (erect branching), purple Plexaurid, Swiftia exserta, Nicella? (40 cm purple); Demospongiae- Ircinia campana, Ircinia strobilina, Callyspongia vaginalis, tan cake sponge, orange Axinellida, Aplysina (finger sponge), Spirastrellidae (encrusting); Antipathidae- Stichopathes, white bush, bottle brush, white mesh fan, Tanacetipathes; Hydroida; Annelida- Filograna (with ye Cyanophyta); Ascidiacea- Didemnidae (encrusting buttons), Eudistoma; Decapoda- Panulirus argus; Phaeophyta- Dictyota, Sargassum (attached);

Chlorophyta- Ulva?, green blade, Codium; Rhodophyta- red blades.
Fish: scamp (common), Amberjack, tomtate (large schools), vermillion snapper (large school), reef butterfly, bank butterfly, cornet fish, cowfish, sharpnose puffer, gag (few), blue angelfish, lionfish, soldierfish, Calamus porgy, short bigeye, tatler, jackknife fish, flying gurnard, lionfish (common, 35).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	170
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 10	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, ridge southwest and outside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/10/2012	**Report Analyst:**	John Reed, Stephanie Farrington
Date Compiled:	8/9/2012		

Dive Data:

Minimum Bottom Depth (m):	54	**Total Transect Length (km):**	3.67
Maximum Bottom Depth (m):	51	**Surface Current (kn):**	.25
On Bottom (Time- ESDT):	12:08	**On Bottom (Lat/Long):**	32°15.9960'N 79°10.1330'W
Off Bottom (Time- ESDT):	14:07	**Off Bottom (Lat/Long):**	32°16.6030'N 79°09.6570'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 50 **Current (kn):** 0.25

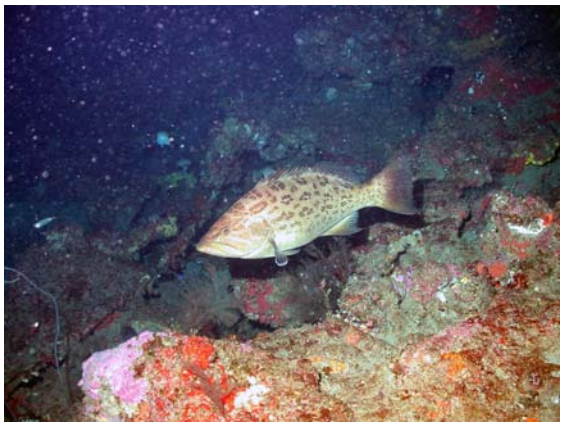


Figure 1: Scamp grouper on high relief rock habitat

Figure 2: Slipper lobster on high relief rock habitat

Notes (Objectives, Site Description, Habitat, Fauna):

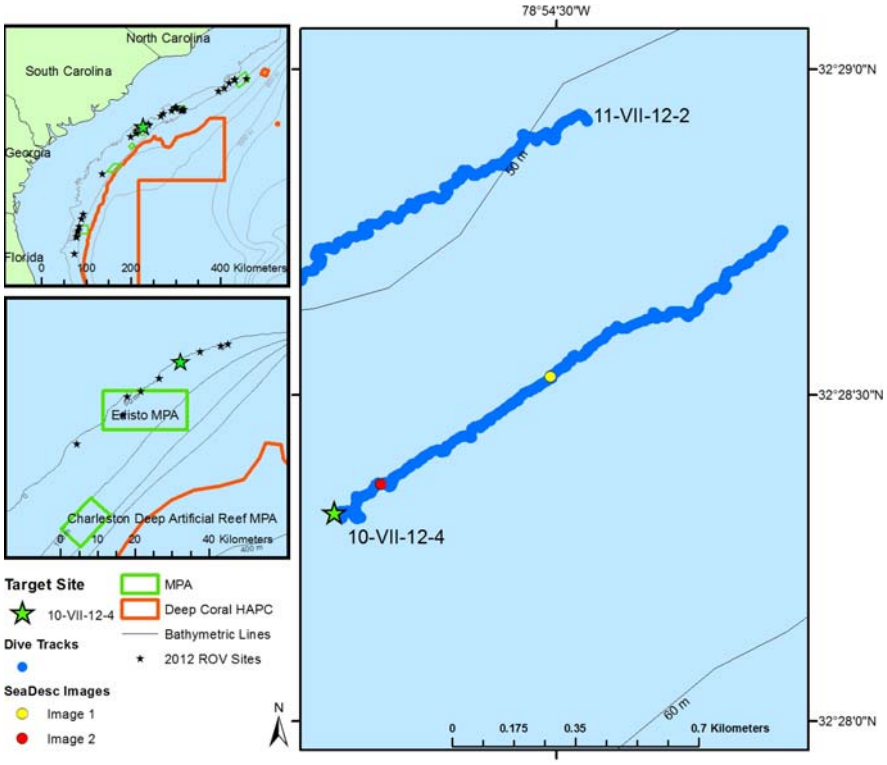
Site/Objectives: ROV Dive 10, Site #- 10-VII-12-3. Target Site – outside and southwest of South Carolina Edisto MPA; 32°16.3800'N; 79°09.8400'W; 55 m. ROV survey outside MPA site; ground truth multibeam sonar of site. Conduct video/photo transect along ridge; narrow ridge, 50 m wide, oriented SE-NW. Multibeam pixel resolution of sonar map is ~20 m.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.25 kn from SW.

Site Description/Habitat/Biota:
West slope of ridge: high relief, fractured rock slabs, undercut ledges, 1/2 to 2 m relief; top of slope 51 m, base 54 m. Slope <30o, 10-20 m wide. Lower slope fractured rock slabs 3-4 m wide, 1/2-1 m relief; boulders grading to sand with Cyanophyta veneer. Top middle of ridge, fractured rock, 1/2 m relief, less rugose. East slope of ridge, narrow slope 10 m, < 30o slope, top- 51 m, base 54.5 m. Fractured rock slabs, 1/2-1 m relief, but less rugose than west slope.

Dominant Benthic Biota: Very diverse and dense demosponges, gorgonians, and black coral common. Gorgonacea- Nicella (30-40 cm purple fan), Diodogorgia nodulifera? (10 cm purple, knobby); Hydroida; Antipatharia- Stichopathes, Antipathidae (several spp); Demospongiae- Ircinia campana, Ircinia strobilina, Callyspongia vaginalis, Aplysina, numerous thin encrusting spp, Erylus, Cinachyra, Spirastrellidae, Holopsamma?, tan cake; Annelida- Filograna; Decapoda- Panulirus argus, slipper lobster; Mollusca- spiny oyster; Ascidiacea- Didemnidae, Eudistoma.
Fish: scamp (common), gag, tomtate (large schools), vermillion snapper (large schools), amberjack, reef butterfly, bank butterfly, cornet fish, blue angel, French angel, bigeye, short bigeye, spadefish, spotfin hog, hogfish, spotted goatfish, purple reeffish, cowfish, graysby, ocean surgeonfish, southern? Stingray, lionfish

(abundant, 119).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	98
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 11	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, ridge north and outside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/10/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 11 **Location:** South Carolina, Edisto MPA, ridge north and outside MPA

Dive Data:

Minimum Bottom Depth (m):	47	**Total Transect Length (km):**	3.25
Maximum Bottom Depth (m):	52	**Surface Current (kn):**	0.6
On Bottom (Time- ESDT):	15:57	**On Bottom (Lat/Long):**	32°28.3100'N 78°54.8280'W
Off Bottom (Time- ESDT):	17:52	**Off Bottom (Lat/Long):**	32°28.7400'N 78°54.1460'W
Physical (bottom); Temp (°C):	19.3	**Salinity:**	**Visibility (ft):** 50 **Current (kn):** 0.25

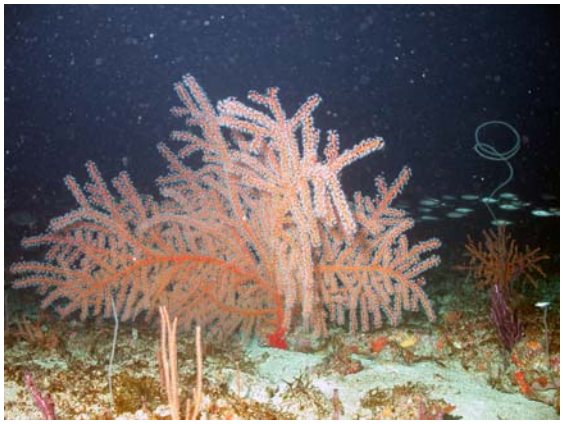


Figure 1: *Swiftia exerta* gorgonian on low relief pavement

Figure 2: Fish school under high relief ledge with gorgonians

Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 11, Site #- 10-VII-12-4. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°28.3200'N; 78°54.8400'W; 52 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect S to N along ridge oriented NE-SW, ~75 m wide. Multibeam pixel resolution ~20 m.

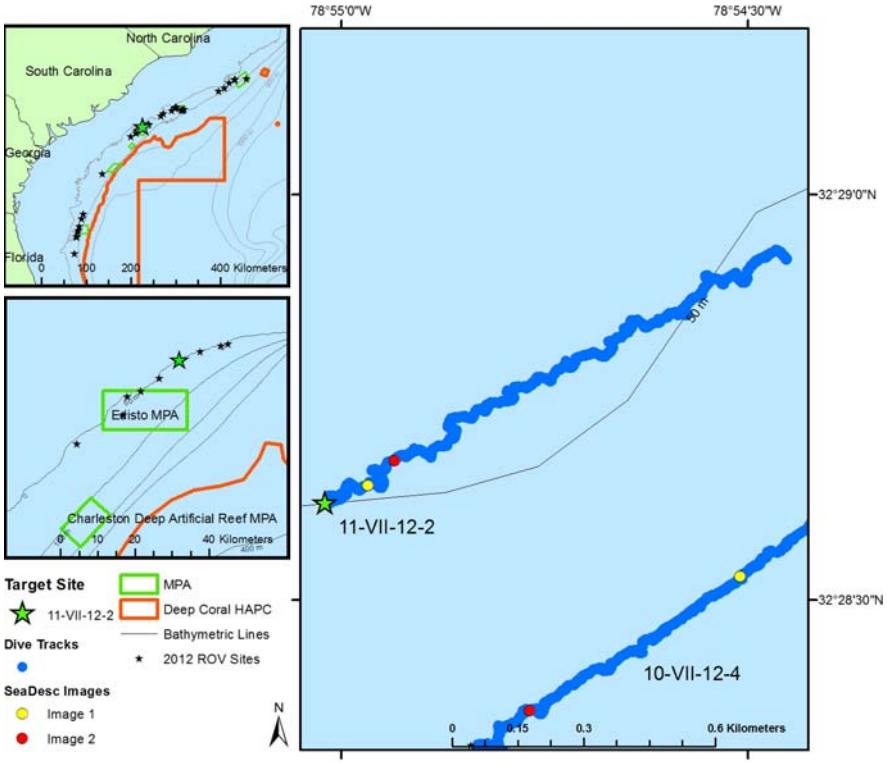
ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
West slope of ridge is rugged, fractured rock slabs; top of ridge 48 m, base 51.5 m, <30o slope, 15-20 m wide; upper slope- very rugged, rock slabs, undercut 1-2 m relief; lower slope- 10o slope, rock slabs, 1/2-1 m relief; base of slope- rock slabs and boulders, 1/2 m relief grading to 100% sediment with Cyanophyta veneer at 52 m. Top middle of ridge- flat rock pavement, low relief, 48 m. East slope <10o, rock pavement, few ledges.

Dominant Benthic Biota: Very dense cover dominated by gorgonians, algae, sponges and some black coral. Top of ridge with abundant Dictyota, Diodogorgia, Swiftia, Nicella, hydroids and Antipatharia. Gorgonacea- Diodogorgia (10 cm knobby purple), Ellisella (branching), Swiftia (30-60 cm orange), Nicella (30-50 cm purple fan), Titanideum frauenfeldii; Corallimorpharia; Antipatharia- Stichopathes, Antipathidae (several spp, large bushy white, white mesh fan); Hydroida; Demospongiae- Ircinia campana, Geodia, Callyspongia vaginalis, Axinellida (several spp), Aplysina (tubes), Annelida- Filograna; Ascidiacea- Didemnidae, Eudistoma; Phaeophyta- Dictyota, Sargassum; Rhodophyta- flat, bifurcate blades.
Fish: scamp (common), gag, tomtate (abundant), snowy grouper, vermillion snapper, reef butterfly, bank butterfly, banded butterfly, spotfin butterfly, blue angel, queen angelfish, porcupine fish, sharpnose puffer, spotfin hogfish, hogfish, scorpionfish, graysby, cornet fish, blackbar soldier, squirrelfish, Calamus porgy, gray

snapper, short bigeye, cowfish, lionfish (common, 30).

Dive Number: ROV 12 **Location:** South Carolina, Edisto MPA, ridge north and outside MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	132
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 12	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, ridge north and outside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/11/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 12 **Location:** South Carolina, Edisto MPA, ridge north and outside MPA

Dive Data:

Minimum Bottom Depth (m):	45	**Total Transect Length (km):**	2.93
Maximum Bottom Depth (m):	48	**Surface Current (kn):**	0.6
On Bottom (Time- ESDT):	8:00	**On Bottom (Lat/Long):**	32°28.6140'N 78°55.0140'W
Off Bottom (Time- ESDT):	9:30	**Off Bottom (Lat/Long):**	32°28.9350'N 78°54.4530'W
Physical (bottom); Temp (°C):	19	**Salinity:**	**Visibility (ft):** 50 **Current (kn):** 0.25

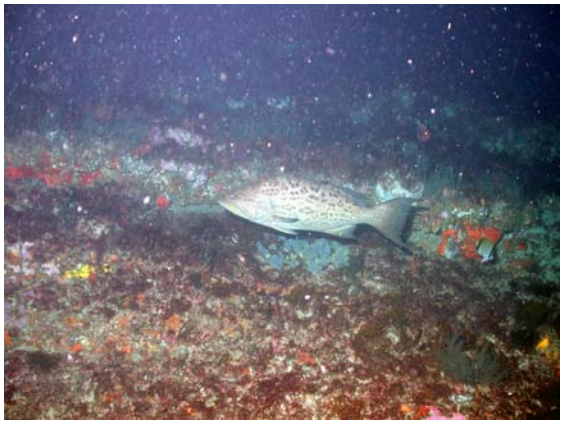


Figure 1: Scamp grouper on moderate relief hardbottom

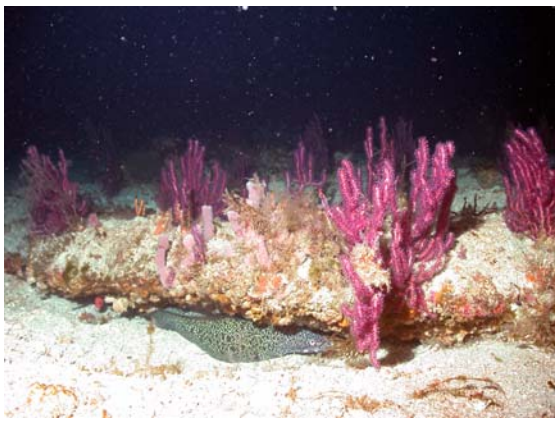


Figure 2: Eel under low relief ledge with *Diodogorgia* octocoral and *Callyspongia* sponge

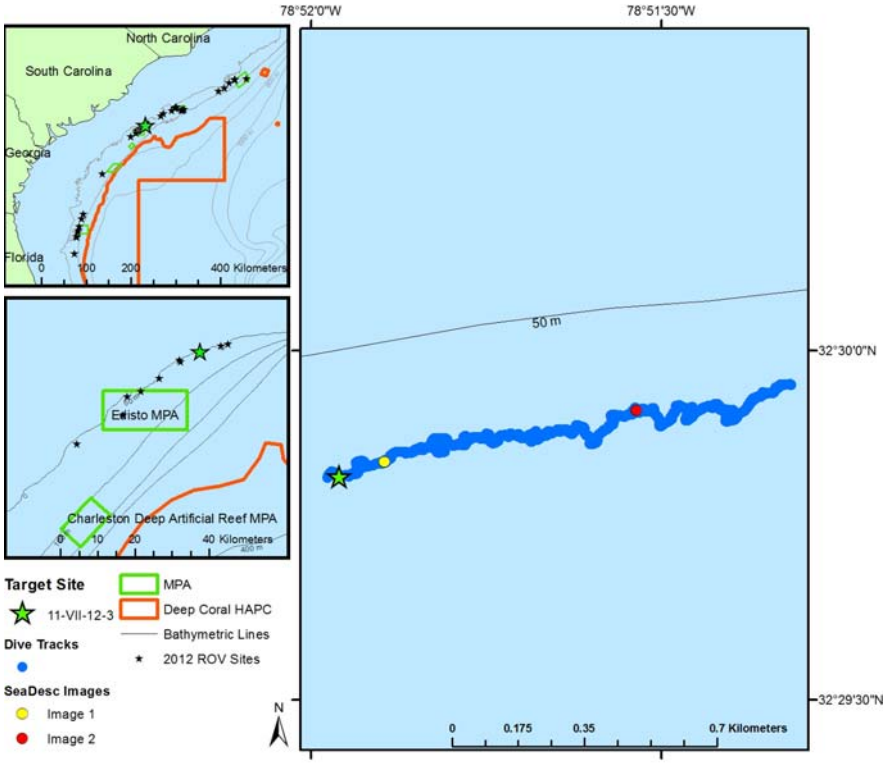
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 12, Site #- 11-VII-12-2. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°28.6200'N, 78°55.0200'W; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect along ridge, oriented SW-NE.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
Transect along moderate relief ridge (depth range-45-48 m) oriented SW-NE. Sediment gaps of 50-100 m width cut the ridge in several spots. The narrow ridge top is ~50 m wide; low relief rock pavement. The western upper slope has 1-3 ledges of 1-2 m relief, the lower slope extends over 15 m in width with low relief rock slabs, 3-4 m diameter, and 1/2 m relief, grading to flat sediment. The east slope is similar. Further north in the transect the reef ridge drops to about 15 m width, and relief of 1/2 to 1 m.

Dominant Benthic Biota: Dense cover dominated by gorgonians, sponges, black coral, and algae. Gorgonacea- Swiftia exserta (common), Diodogorgia, Nicella (20 cm), Telesto, Ellisella; Antipatharia- Stichopathes, Antipathes (bushy white); Hydroida; Demospongiae- Ircinia campana, Spirastrellidae, encrusting pink (common), Axinellida, Aplysina; Annelida- Filograna; Mollusca- Cassius; Decapoda- Panulirus argus; Holothuroidea; Ascidiacea- Eudistoma; Phaeophyta- Dictyota; Rhodophyta; Cyanophyta.
Fish: scamp (common), gag, tomtate (abundant), vermillion snapper, reef butterfly, soapfish, blue angelfish, cowfish, short bigeye, spotfin hogfish, greater amberjack, white grunt, gray snapper, shortnose puffer, graysby, red porgy, Calamus porgy, blackbar soldierfish, gray triggerfish, goatfish, nurse shark, lionfish (common, 82).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	125
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 13	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, ridge north and outside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/11/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 13 **Location:** South Carolina, Edisto MPA, ridge north and outside MPA

Dive Data:

Minimum Bottom Depth (m):	46	**Total Transect Length (km):**	3.43
Maximum Bottom Depth (m):	48	**Surface Current (kn):**	.25
On Bottom (Time- ESDT):	10:21	**On Bottom (Lat/Long):**	32°29.8120'N 78°51.9740'W
Off Bottom (Time- ESDT):	12:02	**Off Bottom (Lat/Long):**	32°29.9370'N 78°51.3070'W
Physical (bottom); Temp (°C):	20	**Salinity:**	**Visibility (ft):** 50 **Current (kn):** 0.25

Figure 1: Corallimorpharia on moderate relief ledge

Figure 2: Lionfish (13) on moderate relief ridge

Notes (Objectives, Site Description, Habitat, Fauna):

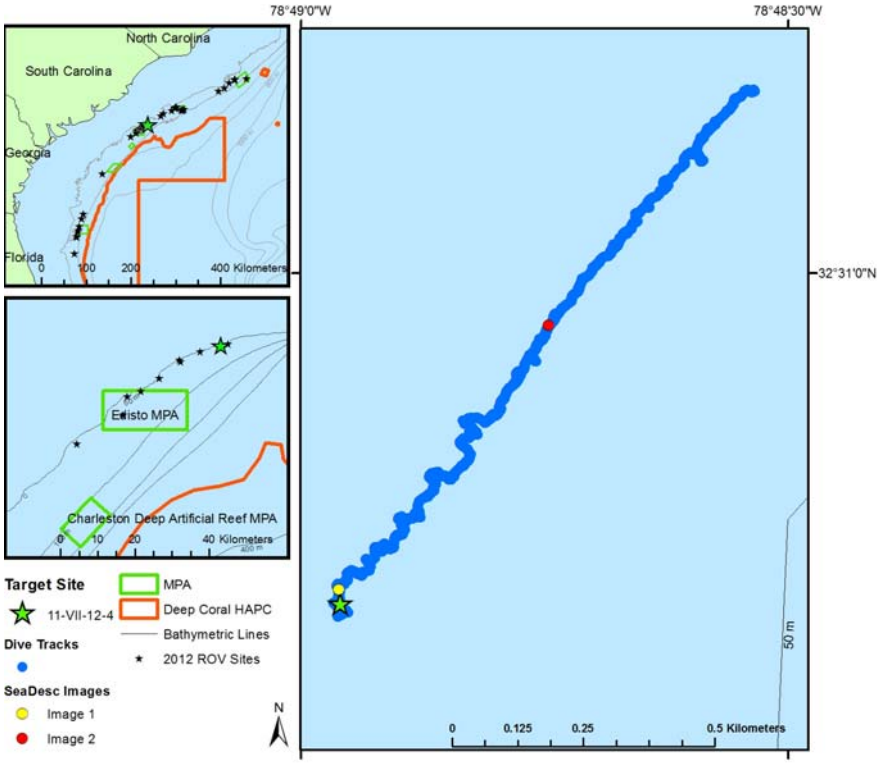
Site/Objectives: ROV Dive 13, Site #- 11-VII-12-3. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°29.8200'N, 78°51.9600'W; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect along ridge to NE.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
Low to moderate relief ridge; top 46.5 m, base on sand 48 m. Ridge very narrow 10-15 m; top rock slabs, fractured; west slope 1 m ledges, 2-4 m diameter rock slabs at base. Ridge broken with sand between; very light orange on multibeam. Main ridge ends; mostly soft bottom sand with patches of Cyanophyta; small patch reefs of scattered rock slabs, < 1m relief.

Dominant Benthic Biota: Dense cover dominated by gorgonians, sponges and black coral. Gorgonacea- Diodogorgia (10 cm knobby purple), Telesto, Ellisella (branching), Swiftia (30-60 cm orange), Nicella (30-50 cm purple fan); Corallimorpharia; Antipatharia- Stichopathes, Antipathidae (several spp, large bushy white, white mesh fan); Hydroida; Demospongiae- Ircinia campana, Axinellida (several spp), Spirastrellidae; Decapoda- Panulirus argus; Ascidiacea- Didemnidae, Eudistoma; Phaeophyta- Dictyota, Sargassum; Rhodophyta- flat, bifurcate blades.
Fish: scamp (common), gag, tomtate (abundant), vermillion snapper, reef butterfly, blue angel, queen angelfish, spotfin hogfish, hogfish, graysby, greater amberjack, squirrelfish, scrawled cowfish, Calamus porgy, cubbyu, gray snapper, southern stingray, short bigeye, rock beauty, lionfish (common, 76).

Dive Number: ROV 14 **Location:** South Carolina, Edisto MPA, ridge north and outside MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	112
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 14	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, ridge north and outside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/11/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 14 **Location:** South Carolina, Edisto MPA, ridge north and outside MPA

Dive Data:

Minimum Bottom Depth (m):	51	**Total Transect Length (km):**	3.01
Maximum Bottom Depth (m):	46	**Surface Current (kn):**	.1
On Bottom (Time- ESDT):	12:49	**On Bottom (Lat/Long):**	32°30.6440'N 78°48.9690'W
Off Bottom (Time- ESDT):	14:13	**Off Bottom (Lat/Long):**	32°32.1960'N 78°48.5420'W
Physical (bottom); Temp (°C):	20.8	**Salinity:**	**Visibility (ft):** 50 **Current (kn):** 0.2

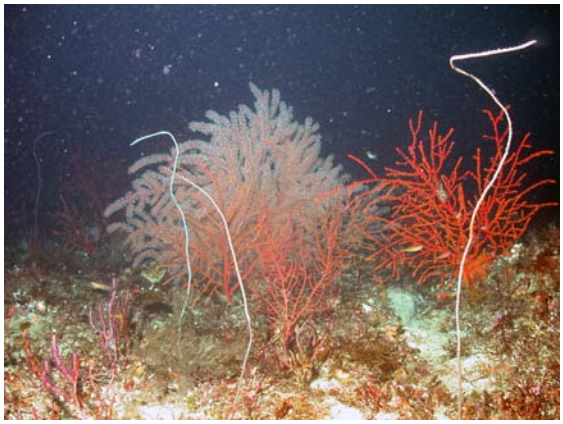


Figure 1: *Swiftia exserta* octocorals (with and without expanded polyps) on low relief pavement

Figure 2: Scamp grouper on high relief rock habitat

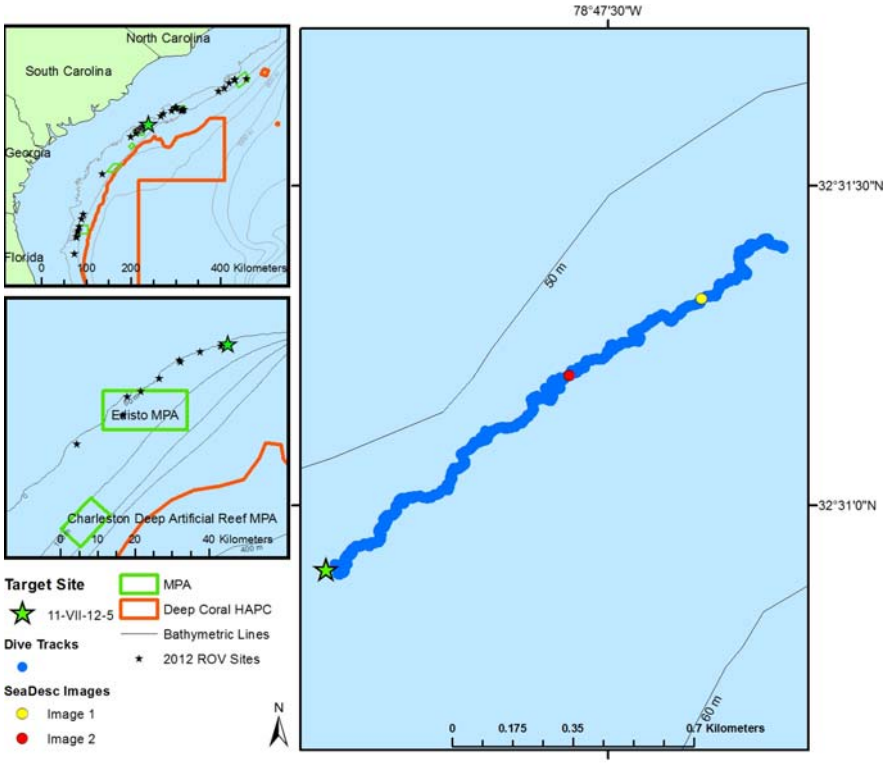
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 14, Site #- 11-VII-12-4. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°30.6600'N, 78°48.9600'W; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Single transect along NE-SW oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
Transect starts with low relief rock pavement, sediment veneer; 48.5 m. Ridge begins as rock slabs, 1/2-1 m relief, 50.5 m at base on west side. Ledge increases to extensive high relief feature, 51 m at base and 46 m top. Top of ledge undercut, small zone of rock slabs at base. Large schools of tomtate and scamp. Ledge decreases as go N to 2 m, 47-49 m on west drop-off. Top of ledge is flat rock slab, pavement, 10 m wide then grades into sand with no ledge on east side. At end of transect the west ledge has decreased to 1/2 m relief.

Dominant Benthic Biota: Scleractinia- solitary cup (clusters); Gorgonacea- Swiftia exserta (abundant), Nicella (30 cm), Diodogorgia, Telesto; Hydroida; Antipatharia- Stichopathes, other spp; Demospongiae- Callyspongia vaginalis, Spirastrellidae, Axinellida, Aplysina; Crinoid, Comatulid; Holothuroidea; Decapoda- Panulirus argus; Chlorophyta- stalked blade, Codium, spp; Rhodophyta- flat, bifurcate blade; Phaeophyta- Dictyota, Sargassum; Ascidiacea- Eudistoma.
Fish: scamp (abundant up to 20 in school), gag, greater amberjack, tomtate (huge schools), cornet fish, trumpet fish, southern stingray, rock hind, graysby, cubbyu, blue angelfish, scorpion fish, squirrelfish, surgeonfish, spotfin hogfish, rock beauty, spotted goatfish, jackknife fish, short bigeye, Calamus porgy, lionfish (common, 91).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	107
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 15	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Edisto MPA, ridge north and outside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/11/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 15 **Location:** South Carolina, Edisto MPA, ridge north and outside MPA

Dive Data:

Minimum Bottom Depth (m):	49	**Total Transect Length (km):**	4.06
Maximum Bottom Depth (m):	54	**Surface Current (kn):**	
On Bottom (Time- ESDT):	14:50	**On Bottom (Lat/Long):**	32°30.8390'N 78°47.9210'W
Off Bottom (Time- ESDT):	16:41	**Off Bottom (Lat/Long):**	32°31.3860'N 78°47.2790'W
Physical (bottom); Temp (°C):	20.8	**Salinity:**	**Visibility (ft):** 30 **Current (kn):** 0.25

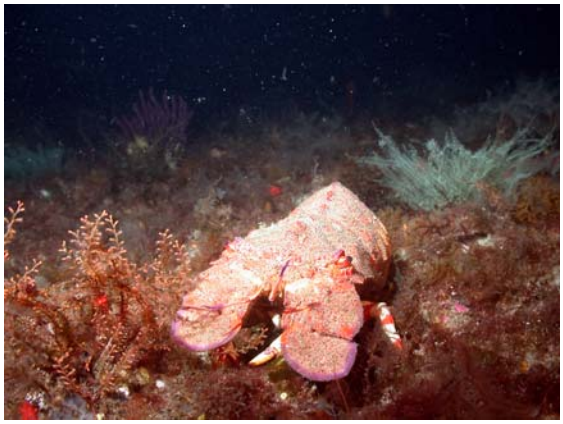


Figure 1: Slipper lobster on hardbottom ridge

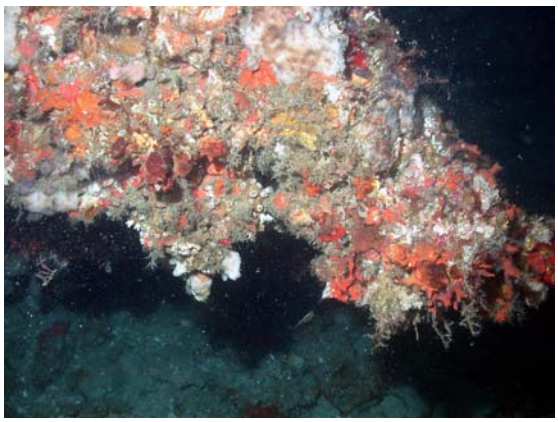


Figure 2: Solitary scleractinan cup corals, encrusting demosponges and *Schizoporella* bryozoa on undercut ledge

Notes (Objectives, Site Description, Habitat, Fauna):

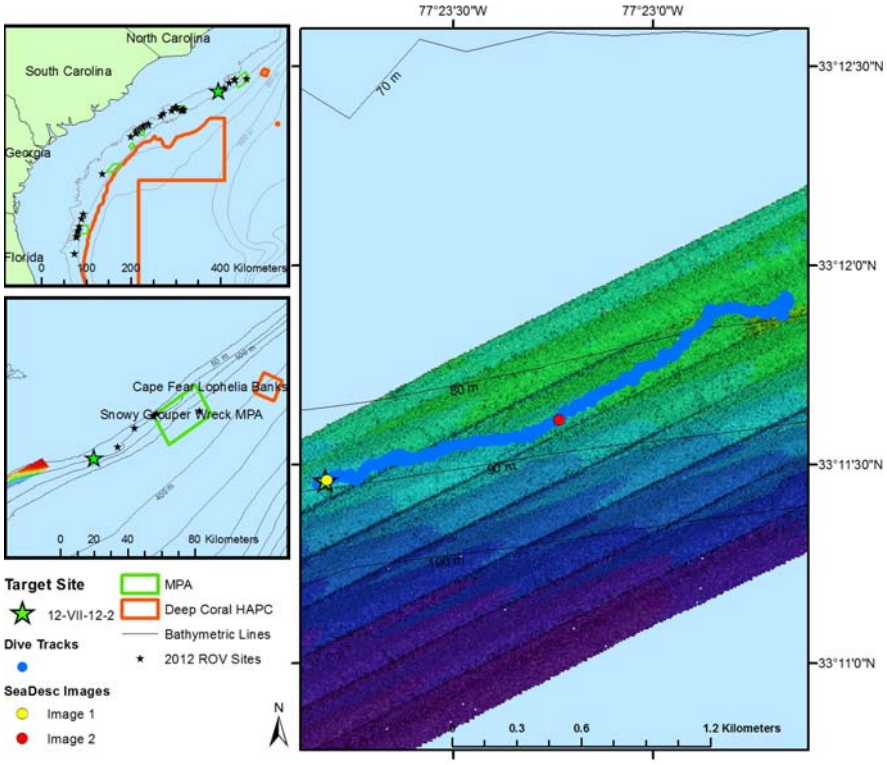
Site/Objectives: ROV Dive 15, Site #- 11-VII-12-5. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°30.9000'N, 78°47.9400'; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect along SW-NE oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
Narrow linear ridge oriented SW-NE; depth range 49-54 m which shows on multibeam as a well-defined dark orange ridge ~60 m wide. Video confirms this feature. Transected along west slope, top and east slope. Ridge broken in several spots separated by 100-150 m of sediment. Top of main ridge 50 m; upper west slope is high relief ledge 1-2 m, and often undercut 1-2 m; below the ledges is a zone of large rock slabs, 1-4 m diameter, 1 m thick which extends out 10-20+ m from the wall, ending in sediment at 54 m. The east slope of the ridge is similar in morphology as the west; top of east slope 49 m, base in sand is 54 m. The rock slab zone extends out further in parts to 30 m or more. The north end of each reef section decreases in height to 1-2 m, then scattered rock slabs grading into sediment gap.

Dominant Benthic Biota: The dominant sessile fauna are gorgonians, hydroids, sponges, and algae. Gorgonacea- Swiftia exserta, Nicella (30 cm), Diodogorgia, Telesto; Hydroida (2 spp common); Antipatharia- Stichopathes, Antipathes (bushy gray); Demospongiae- Ircinia campana, Callyspongia vaginalis, Spirastrellidae, Axinellida, Aplysina, Geodia; Crinoid- Comatulid; Holothuroidea; Decapoda- Panulirus argus; Chlorophyta- stalked blade, Codium, spp; Rhodophyta- flat, bifurcate blade; Phaeophyta- Dictyota, Sargassum; Cyanophyta; Ascidiacea- Eudistoma.

Fish: scamp (abundant up to 20+ in school), gag, greater amberjack, tomtate, vermillion snapper, cornet fish, trumpet fish, graysby, blue angelfish, scorpion fish, surgeonfish, spotfin hogfish, rock beauty, purple reef fish, reef butterfly, bank butterfly, rock hind, shortnose puffer, spotted goatfish, jackknife fish, short bigeye, bigeye, Calamus porgy, lionfish (common, 116).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	249
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	4
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 16	**Sonar Data:**	capehope_4m_col
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	North Carolina, N.C. MPA, south and outside of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/12/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 16 **Location:** North Carolina, N.C. MPA, south and outside of MPA

Dive Data:

Minimum Bottom Depth (m):	67	**Total Transect Length (km):**	6.93
Maximum Bottom Depth (m):	81	**Surface Current (kn):**	0.6
On Bottom (Time- ESDT):	7:45	**On Bottom (Lat/Long):**	33°11.4520'N 77°23.8280'W
Off Bottom (Time- ESDT):	11:41	**Off Bottom (Lat/Long):**	33°11.8690'N 77°22.6830'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 30 **Current (kn):** 0.1

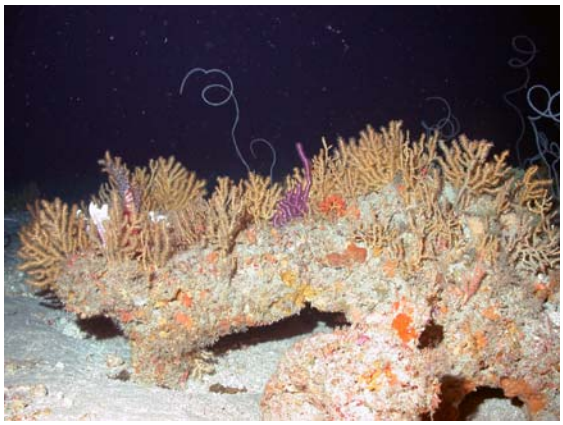


Figure 1: *Bebryce* octocorals and lionfish on rock boulder habitat

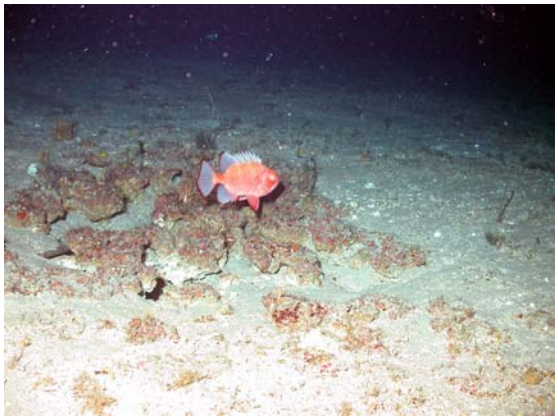


Figure 2: Bigeye on low relief, excavated rock habitat

Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 16, Site #- 12-VII-12-2. Target Site – ridge outside and south of North Carolina MPA; 33°11.4600'N; 77°23.8200'W; 85 m. ROV survey outside MPA; ground truth new Pisces multibeam sonar of site. Conduct video/photo transect over four waypoint features from multibeam which indicated a "drop off", "ridge" and a "bumpy zone".

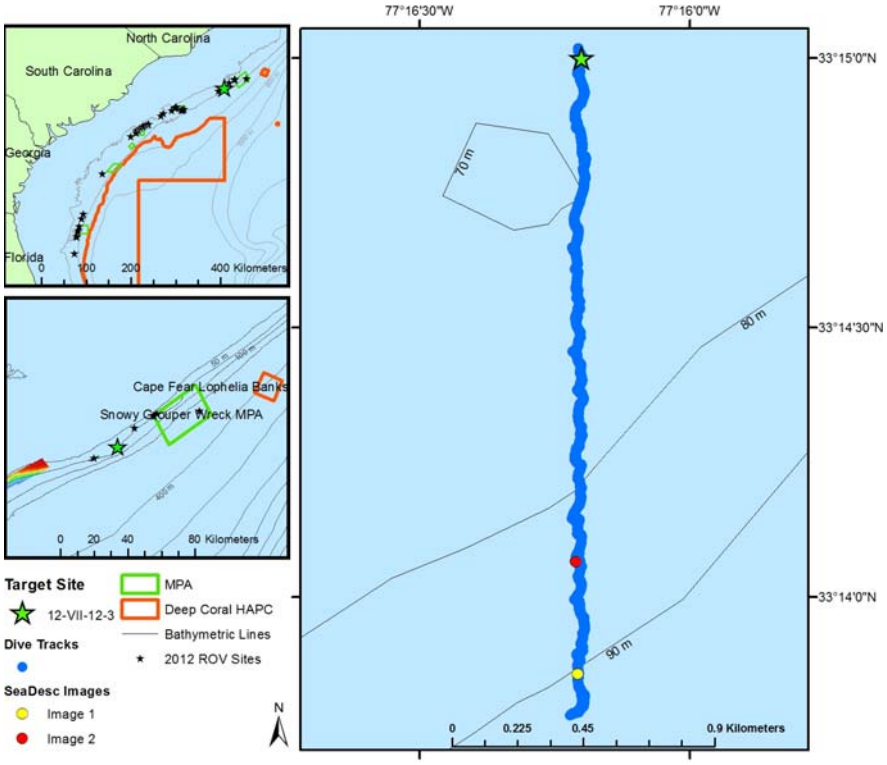
ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.6 kn from SW.

Site Description/Habitat/Biota:
Transect over 4 waypoints of multibeam features. Mostly sand bottom with patchy low relief rock rubble/cobble and patches of exposed pavement and low relief ledges <30 cm relief; depth range 81-67 m. Transect to WP 1: 80 m, flat sediment with 10-30% cover rock rubble, shell hash, small cobble, few small 1/2 m diameter boulders (< 20 cm relief). WP 1- 79m, 10-50% rock cobble, pavement, rock outcrops 10-15 cm relief. WP 4 (mound on multibeam) - 67.5 m, small area of exposed hard bottom, rock ledge and outcrops 30 cm relief.

Dominant Benthic Biota: Stichopathes, 10 cm purple gorgonians (Diodogorgia?), and 10 cm yellow gorgonians (Thesea?) are dominant. Gorgonacea- Diodogorgia?, Thesea?, Muricea? (40 cm white fan); Hydroida; Antipatharia- Stichopathes; Demospongiae- Spirastrellidae, Ircinia?, 20 cm cake (encrusted with yellow sponge); Annelida- Filograna; Echinodermata- Astroporpa annulata, Eucidaris?, Narcissia trigonaria; Decapoda- Stenorhynchus seticornis.
Fish: scamp (few), tatler, graysby, reef butterfly, spotfin butterfly, spotfin hogfish, bank butterfly, soapfish, sargassum triggerfish, short bigeye, Calamus porgy, creole fish, squirrelfish, blue angelfish, shortnose puffer, soldier fish, snow bass, moray eel, cowfish, rock hind, sand tilefish, greater amberjack (large school),

surgeonfish, hogfish, lionfish (few, 21).

Dive Number: ROV 17 **Location:** North Carolina, N.C. MPA, Steeples Ledges south and outside of MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	137
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	3
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 17	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	North Carolina, N.C. MPA, Steeples Ledges south and outside of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/12/2012	**Report Analyst:**	John Reed, Stephanie Farrington
Date Compiled:	8/9/2012		

Dive Data:

Minimum Bottom Depth (m):	68	**Total Transect Length (km):**	4.57
Maximum Bottom Depth (m):	102	**Surface Current (kn):**	0.5
On Bottom (Time- ESDT):	12:43	**On Bottom (Lat/Long):**	33°13.7790'N 77°16.2070'W
Off Bottom (Time- ESDT):	15:15	**Off Bottom (Lat/Long):**	33°15.0230'N 77°15.1960'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 50 **Current (kn):** 0.1

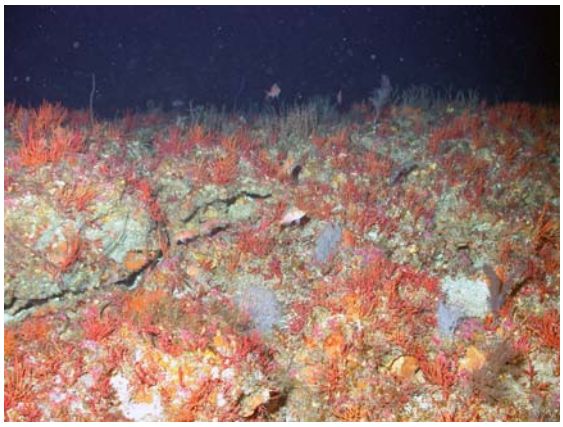


Figure 1: Field of red gorgonians on moderate relief hardbottom

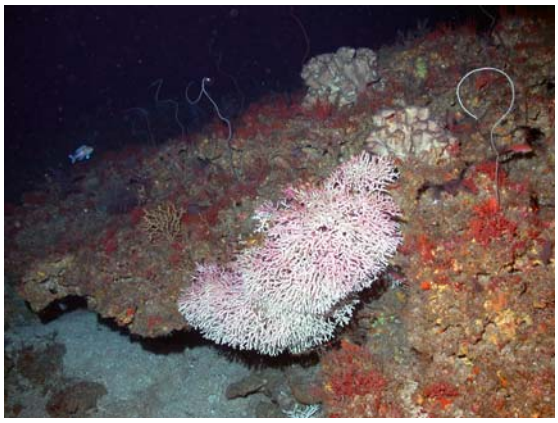


Figure 2: *Madracis myriaster* coral, *Stichopathes* black coral, and demosponges on moderate relief hardbottom

Notes (Objectives, Site Description, Habitat, Fauna):

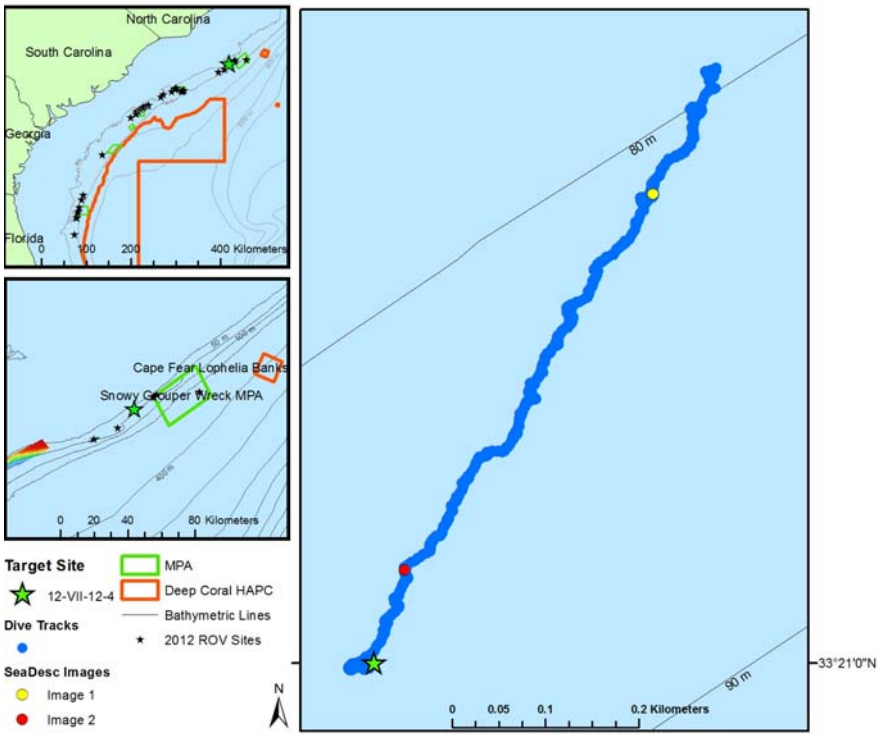
Site/Objectives: ROV Dive 17, Site #- 12-VII-12-3. Target Site – Steeples Ledges outside and south of North Carolina MPA; 33°15.0000'N; 77°16.2000'W; 85 m. ROV survey outside MPA; no multibeam sonar of site. Conduct video/photo transect over target waypoints from Ross and Quatrini paper.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn from SW.

Site Description/Habitat/Biota:
Transect heading North across several waypoints. Various hard bottom habitats and patch reefs; depth range 76-101 m. Reef 1, WP 1: 85.5 m sand at reef base; top 82 m. Distinct reef edge, linear reef oriented E-W, rock boulders 2-4 m relief. Vertical face of rock with 10-40 cm Madracis myriaster(?) colonies, encrusting demosponges; Leptogorgia hebes and black coral (4 spp. common) on top. Top of reef eroded rock, 1/2 m relief, north side of reef drops off to 100 m in sand. Reef 2: 1-2 m rock slabs or boulders, 1/2 m relief, 50% cover, 100 m base, 98.5 m top. Reef 3: 95-89 m, eroded rock,1/2 m relief, 45o slope at edge; Madracis (15 cm-100 cm). Reef 4: 78-79 m, rock boulders, slabs, 50 cm relief; 30 cm Madracis; patchy rock 50% cover. Reef 5: 73-74 m, low relief rock knolls, smooth rock, no ledges, 50% cover. Reef 6: 65-67.5 m, smooth rock knolls, like sand dunes on sand bottom; fairly barren. Reef 7: 69.5 m on top, more rugose, but rock knolls. Reef 8: at end WP; 76 m, smooth rock knolls, some rock ledges, 30 cm relief.

Dominant Benthic Biota: Scleractinia- Madracis (myriaster?, 10-100 cm), unid. cup coral; Gorgonacea- Leptogorgia hebes (yellow and orange); Antipatharia- ~4 spp; Hydroida; Demospongiae- Spirastrellidae (encrusting yellow and orange), Astrophorida? (lumpy white); Echinodermata- basket star; Chlorophyta- leafy

green.
Fish: scamp, red grouper (1), speckled hind (1), greater amberjack, bank butterfly, reef butterfly, bigeye, blackbar soldierfish, blue angelfish, roughtongue bass (anthiids), graysby, Calamus porgy, hogfish, spotfin hog, rock beauty, sand tilefish, Spanish flag, striped bass, soapfish, tatler, tomtate, vermillion snapper, lionfish (few-8).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	68
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	1
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 18	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	North Carolina, N.C. MPA, south and outside of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/12/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 18 **Location:** North Carolina, N.C. MPA, south and outside of MPA

Dive Data:

Minimum Bottom Depth (m):	78	**Total Transect Length (km):**	1.76
Maximum Bottom Depth (m):	91	**Surface Current (kn):**	.4
On Bottom (Time- ESDT):	16:31	**On Bottom (Lat/Long):**	33°20.9970'N 77°10.8020'W
Off Bottom (Time- ESDT):	17:28	**Off Bottom (Lat/Long):**	33°21.3400'N 77°10.6000'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 30 **Current (kn):** 0.1

Figure 1: Snowy grouper, short bigeyes and butterflyfish near crinoid covered rock outcrop

Figure 2: Crinoid thicket on scattered rock boulders

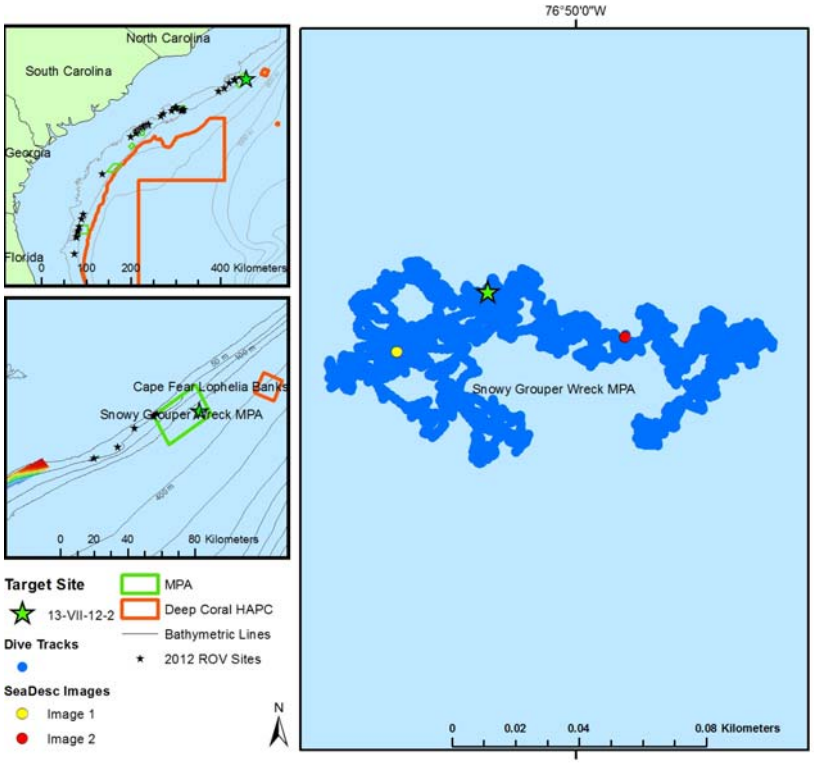
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 18, Site #- 12-VII-12-4. Target Site – outside and south of North Carolina MPA; 33° 21.0000'N, 77°10.8000'W; 85 m. ROV survey outside MPA; no multibeam sonar of the site. Conduct single video/photo transect of target waypoints from David and Harter previous dives.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.1 kn from S.

Site Description/Habitat/Biota:
Transect heading northeast across selected waypoints. Various hard bottom habitats and patch reefs; depth range 78-91 m. Flat slope, mostly sand shell hash with patches of scattered rock rubble, cobble and small boulders 0.5-3 m diameter and <30 cm relief. Dense cover of Comactinia? crinoids on all available hard substrate.

Dominant Benthic Biota: Pennatulacea; Antipatharia- Stichopathes; Demospongiae- Verongida?; Arthropoda- Stenorhynchus seticornis, hermit crabs; Echinodermata- Comactinia? crinoids (abundant); Asteroidea; Chlorophyta- leafy green; Rhodophyta- Rhodomenia?.
Fish- scamp grouper, snowy grouper, blue angelfish; butterflyfish, reef butterflyfish, eels (a few spp), high hat, short Bigeye, soapfish, tatler, triggerfish.



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	123
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 19	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	North Carolina, N.C. MPA, Snowy Wreck Site, inside MPA		
Date of Dive:	7/13/2012	**Data Management:**	Access Database, Excel Spreadsheet
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 19 **Location:** North Carolina, N.C. MPA, Snowy Wreck Site, inside MPA

Dive Data:

Minimum Bottom Depth (m):	242	**Total Transect Length (km):**	3.44
Maximum Bottom Depth (m):	256	**Surface Current (kn):**	0.5
On Bottom (Time- ESDT):	8:10	**On Bottom (Lat/Long):**	33°26.6240'N 76°50.0190'W
Off Bottom (Time- ESDT):	9:29	**Off Bottom (Lat/Long):**	33°26.6190'N 76°49.9610'W
Physical (bottom); Temp (°C):	10	**Salinity:**	**Visibility (ft):** 10-15 **Current (kn):** 0.25

Figure 1: *Lophelia* coral thicket, galatheid crab, *Actinoscyphia* fly-trap anemone, and red anemones on 'Snowy Grouper Shipwreck' railing

Figure 2: *Lophelia* coral thicket, *Actinoscyphia* fly-trap anemones, and white anemones on 'Snowy Grouper Shipwreck' railing

Notes (Objectives, Site Description, Habitat, Fauna):

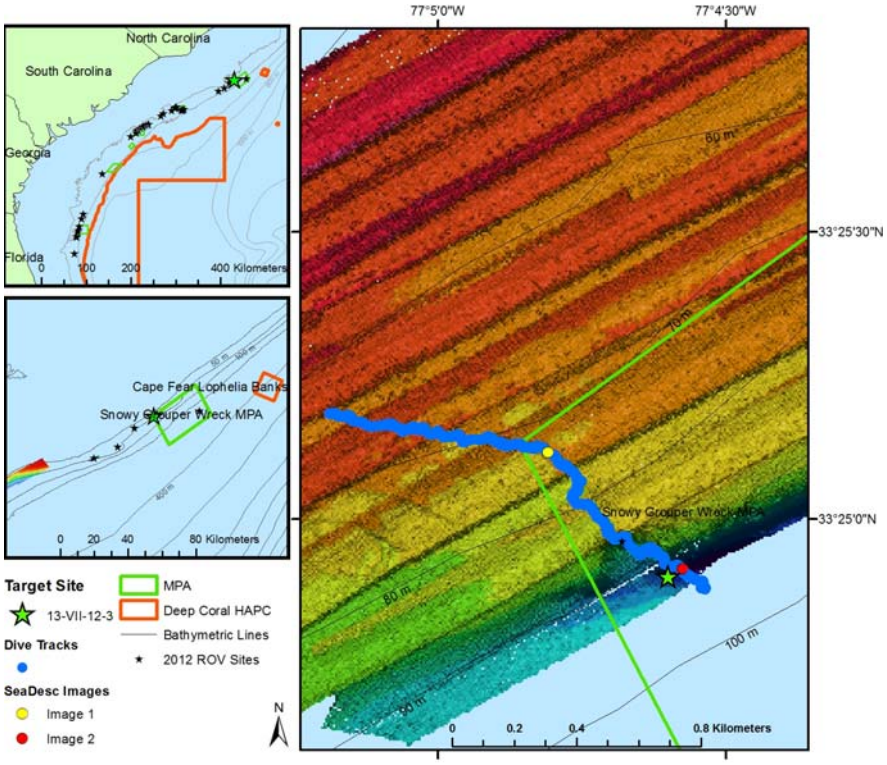
Site/Objectives: ROV Dive 19, Site #- 13-VII-12-2. Target Site – North Carolina MPA, Snowy Wreck Site; actual ROV WP fix- wreck stern: 33°26.6120'N, 76°49.9670'W; port side, maximum depth at sediment- 256 m; deck depth 245-250 m. Conduct video/photo survey of shipwreck and ground truth new Pisces multibeam sonar map.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn; bottom 0 kn; visibility 10-15', dense particulate organic matter.

Site Description/Habitat/Biota:
Transect along port hull from bow to stern and on deck; ship oriented E-W, bow to west. Maximum depth is 256 m on port side at sediment; bow at deck level- 247 m; deck level on port side- 245 m; crane on main deck 242 m. No debris visible on port side on sediment. Port anchor in place. Port hull toward the stern is cracked vertically; does not appear to be bent inward or out. Rounded stern intact; deck plates open; port davits in deployed position over side; two pairs of davits.

Dominant Benthic Biota: Anemones and hydroids cover the wreck, Lophelia coral common but not abundant, mostly 10-50 cm live white colonies; most on vertical mast or pipes; sparse on vertical hull structure; very few on deck. Scleractinia- Lophelia pertusa (10-30 cm, common; 40-50 cm rare); Actiniaria- 3-4 spp, Actinoscyphia (venus fly trap, pink, 10 cm, very common), Sagartiid (pink lip, rare), white (2 cm, abundant); Hydroida; Gorgonacea- Muricea? (white fan, 15 cm), Ellisellidae (sparse eb, white); Demospongiae- yellow-orange encrusting; Decapoda- Galatheidae, Eumunida?.

Fish: snowy grouper (large school on wreck, hundreds?), Laemonema sp.



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	118
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 20	**Sonar Data:**	SGW_dive32_33_5Mres
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	North Carolina, N.C. MPA, inside and outside near border of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/13/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Data:

Minimum Bottom Depth (m):	85	**Total Transect Length (km):**	3.11
Maximum Bottom Depth (m):	118	**Surface Current (kn):**	0.5
On Bottom (Time- ESDT):	13:24	**On Bottom (Lat/Long):**	33°24.8780'N 77°04.5410'W
Off Bottom (Time- ESDT):	14:51	**Off Bottom (Lat/Long):**	33°25.1790'N 77°05.1710'W

Physical (bottom); Temp (°C): 18 **Salinity:** **Visibility (ft):** 50 **Current (kn):** 0.1

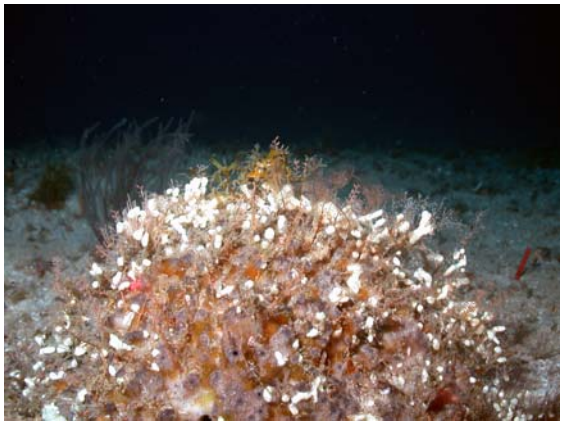


Figure 1: Didemnidae tunicates, *Dictyota* algae and hydroids on rock outcrop

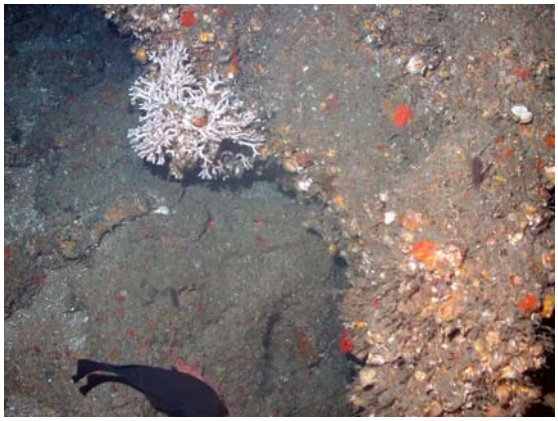


Figure 2: *Madracis myriaster* coral on rock outcrop

Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 20, Site #- 13-VII-12-3. Target Site – inside and outside of northwest border North Carolina MPA; 33°24.9000'N, 77°04.6600'W; 90 m. ROV survey inside and outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect of several multibeam features.

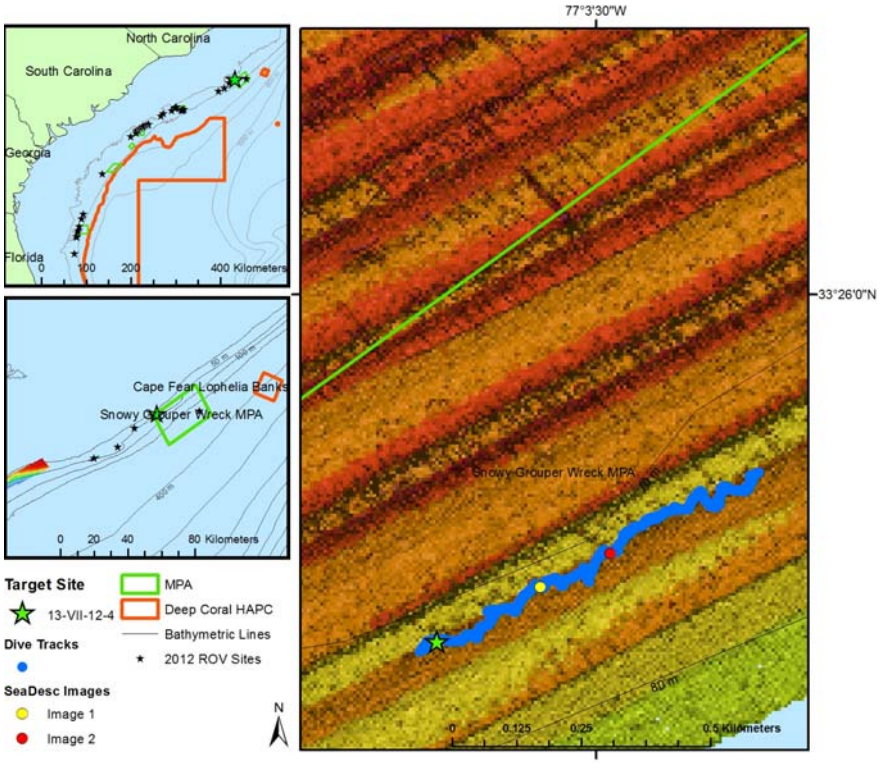
ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn from S; bottom 0.1 kn.

Site Description/Habitat/Biota:
Transect heading northwest across selected waypoints from new multibeam. WP 1 is deep drop-off from multibeam within MPA. Base of reef slope 118 m, top 75 m. 1-2 m rock boulders near base with Madracis coral colonies on vertical faces mostly near base of slope. Reef slope 10-30o, of very eroded rock, rock boulders, outcrops, 1/2 - 1 m relief. 85 m- rounded rock, top of mound, but gradual slope up to 71 m and flat sand. WP 2 to 3 is mostly sand with patchy rock rubble/cobble, and patchy low relief pavement (<30 cm exposed ledges). WP 3 to 4 at end; is outside MPA, 72-62.5 m, flat sand, sparse rubble, exposed pavement, low ledges; sand tilefish burrows common.

Dominant Benthic Biota: Sparse biota on rock, mostly encrusting sponges and hydroids. Madracis coral colonies common near the base of reef 1 (110 m) but not present higher up on reef. Scleractinia- Madracis myriaster? (20 cm diameter, white); Gorgonacea- Diodogorgia? (purple); Hydroida; Antipatharia- Stichopathes; Demospongiae- Spirastrellidae (yellow and red encrusting), Aplysina? (cluster, thick walled hollow tubes).
Fish: scamp grouper (uncommon), red grouper (several); graysby, sand tilefish (common on top in sand), hogfish, amberjack, bigeye, blue angelfish, greenband wrasse, grey trigger, razorfish, reef butterfly, rock

beauty, soapfish, Spanish flag, spotfin butterfly, squirrelfish, tatler, tomtate, wrasse, wrasse bass, lionfish (24).

Dive Number: ROV 21 **Location:** North Carolina, N.C. MPA, inside MPA near NW border



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	57
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	1
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 21	**Sonar Data:**	SGW_dive32_33_5Mres
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	North Carolina, N.C. MPA, inside MPA near NW border		
Date of Dive:	7/13/2012	**Data Management:**	Access Database, Excel Spreadsheet
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 21 **Location:** North Carolina, N.C. MPA, inside MPA near NW border

Dive Data:

Minimum Bottom Depth (m):	65	**Total Transect Length (km):**	1.58
Maximum Bottom Depth (m):	66	**Surface Current (kn):**	1.0
On Bottom (Time- ESDT):	15:23	**On Bottom (Lat/Long):**	33°25.6340'N 77°03.6680'W
Off Bottom (Time- ESDT):	16:03	**Off Bottom (Lat/Long):**	33°25.8220'N 77°03.3140'W
Physical (bottom); Temp (°C):		**Salinity:**	**Visibility (ft):** 50 **Current (kn):** 0.1

Figure 1: Red grouper and lionfish on patch of exposed rock

Figure 2: Lionfish on patch of exposed rock

Notes (Objectives, Site Description, Habitat, Fauna):

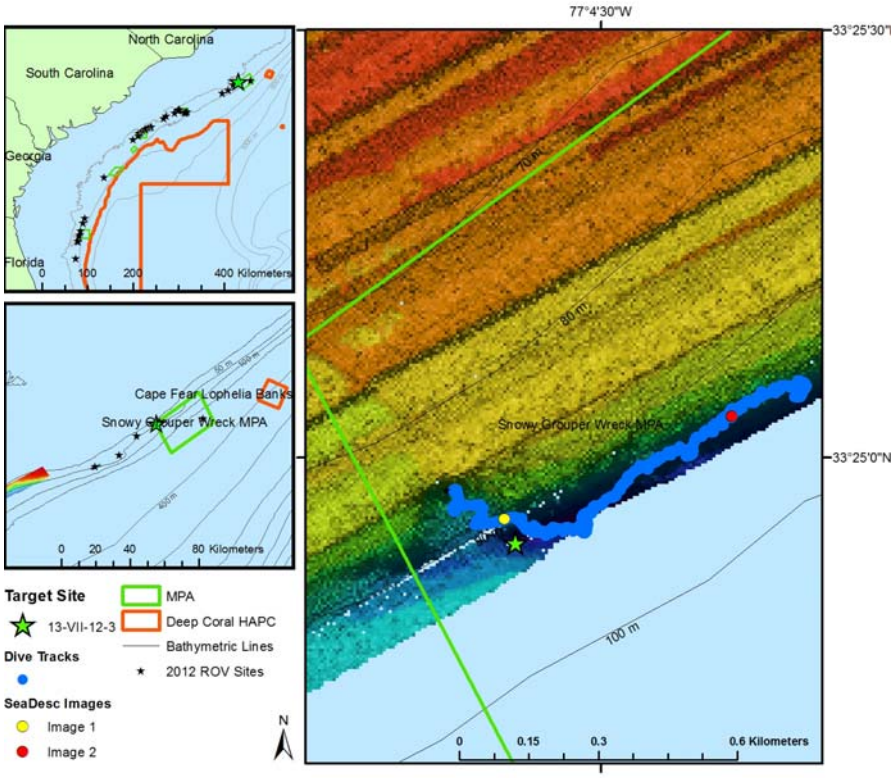
Site/Objectives: ROV Dive 21, Site #- 13-VII-12-4. Target Site – North Carolina MPA, inside MPA near NW border; 33°25.6370'N, 77°03.6660'W; 70 m. ROV survey inside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect over multibeam targets.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.0 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Mostly soft bottom sediment; with scattered 2-3 m diameter patches of exposed rock, 10-20 cm relief; appear to be excavated bedrock and cobble.

Dominant Benthic Biota: Sparse fauna on cobble. Each patch of exposed bedrock with short bigeyes and tatlers; no tilefish observed; sparse area of tilefish burrows. Gorgonacea- Diodogorgia? (10 cm purple fan); Hydroida; Antipatharia- Stichopathes; Demospongiae- Aplysina, Geodia; Annelida- Filograna; Echinoidea- Clypeaster; Asteroidea- Narcissia trigonaria; Chlorophyta- stalked blade; Rhodophyta (2 spp); Phaeophyta- Dictyota?.
Fish: red grouper (few), bank seabass, tatler, short bigeye, blue angelfish, wrasse and lionfish (12).

Dive Number: ROV 22 **Location:** North Carolina, N.C. MPA, deep drop-off inside MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	93
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	1
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 22	**Sonar Data:**	SGW_dive32_33_5Mres
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	North Carolina, N.C. MPA, deep drop-off inside MPA		
Date of Dive:	7/13/2012	**Data Management:**	Access Database, Excel Spreadsheet
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 22 **Location:** North Carolina, N.C. MPA, deep drop-off inside MPA

Dive Data:

Minimum Bottom Depth (m):	83	**Total Transect Length (km):**	2.49
Maximum Bottom Depth (m):	123	**Surface Current (kn):**	.75
On Bottom (Time- ESDT):	16:43	**On Bottom (Lat/Long):**	33°24.9500'N 77°04.6630'W
Off Bottom (Time- ESDT):	17:42	**Off Bottom (Lat/Long):**	33°25.0900'N 77°04.2500'W
Physical (bottom); Temp (°C):		**Salinity:**	**Visibility (ft):** 50 **Current (kn):** 0.1

Figure 1: *Madracis myriaster* coral on boulder

Figure 2: Scamp groupers on scattered boulder habitat

Notes (Objectives, Site Description, Habitat, Fauna):

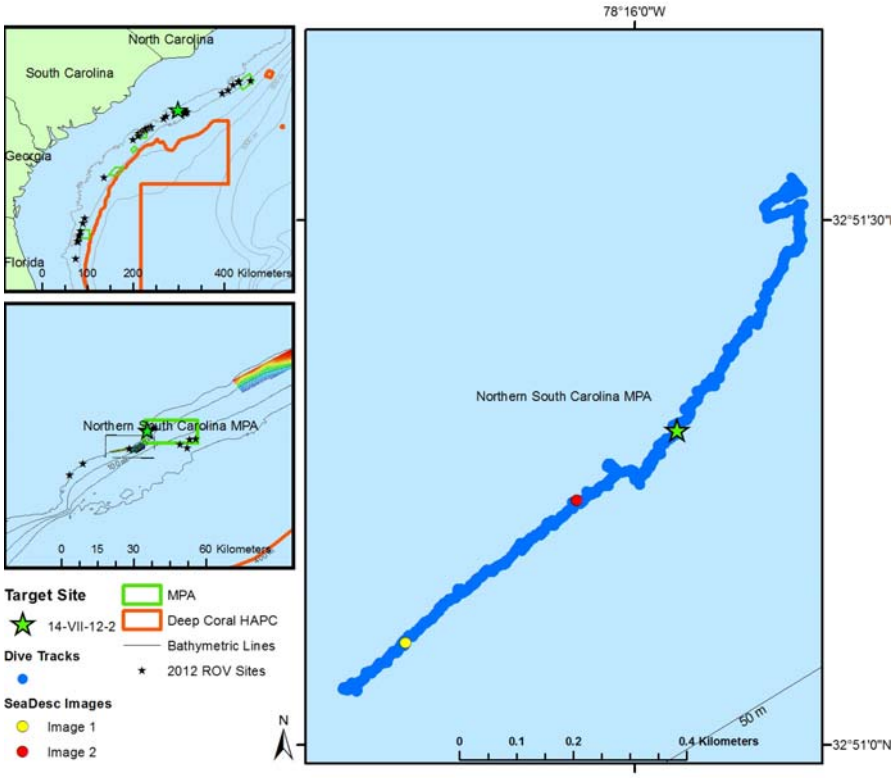
Site/Objectives: ROV Dive 22, Site #- 13-VII-12-5. Target Site – North Carolina MPA; 33°24.9610'N; 77° 04.6800'W; 90 m. ROV survey inside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect along deep drop-off of new Pisces multibeam sonar. Start at same WP 1 as Dive 20.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.0 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Transect heading northeast parallel to face of deep drop-off of multibeam map; depth range 123-92 m. Base of reef 121 m, top 83 m. WP 1 in cove of multibeam- 83 m, 50% cover with 1/2-1 m diameter rock boulders, 1/2 m relief. Head to northeast along face of deep drop-off of multibeam. 93 m- rock cobble and 1/2 m boulders, 50% rock cover; 97 m- 45o slope. 101 m- flattens out, 10-30% rock cobble, 2 m diameter boulders, 1/2 m relief. 97 m- 20-30o slope, cobble and 1 m boulders; 15-30 cm Madracis coral colonies common. Madracis from 97-112 m. Series of 30-45o drop-offs and terraces on slope down to 110 m where it flattens out. Most of slope is rugged, eroded rock with 1/2-1 m relief. 123 m- flat sand and shell-hash. Lots of fishing line on bottom.

Dominant Benthic Biota: Sparse fauna on rock, mostly encrusting sponges, small orange gorgonians, Ellisella whip gorgonians, Madracis coral, and wire black coral. Scleractinia- Madracis (myriaster?); Gorgonacea- Thesea? (5 cm orange fan), Ellisella (1/.2 m white whip), Diodogorgia? (10 cm purple); Antipatharia- Stichopathes; Hydroida; Decapoda- Panulirus argus.
Fish: gag grouper, scamp (few), red grouper, roughtongue bass, Calamus porgy, red porgy, hogfish, short bigeye, scorpionfish, tatler, cubbyu, eel, short bigeye, roughtongue bass, wrasse bass, tomtate, soapfish, spiny

cheek or cardinal soldierfish, reef butterfly, blue angelfish, lionfish (23).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	112
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 23	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, inside MPA		
Date of Dive:	7/14/2012	**Data Management:**	Access Database, Excel Spreadsheet
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 23 **Location:** South Carolina, Northern S.C. MPA, inside MPA

Dive Data:

Minimum Bottom Depth (m):	47	**Total Transect Length (km):**	3.21
Maximum Bottom Depth (m):	48	**Surface Current (kn):**	0.4
On Bottom (Time- ESDT):	7:45	**On Bottom (Lat/Long):**	32°51.0550'N 78°16.2610'W
Off Bottom (Time- ESDT):	9:08	**Off Bottom (Lat/Long):**	32°51.5380'N 78°15.8580'W
Physical (bottom); Temp (°C):	23.2	**Salinity:**	**Visibility (ft):** 30 **Current (kn):** 0.1

Figure 1: Red grouper on algal dominated pavement

Figure 2: Lionfish on rock outcrop habitat

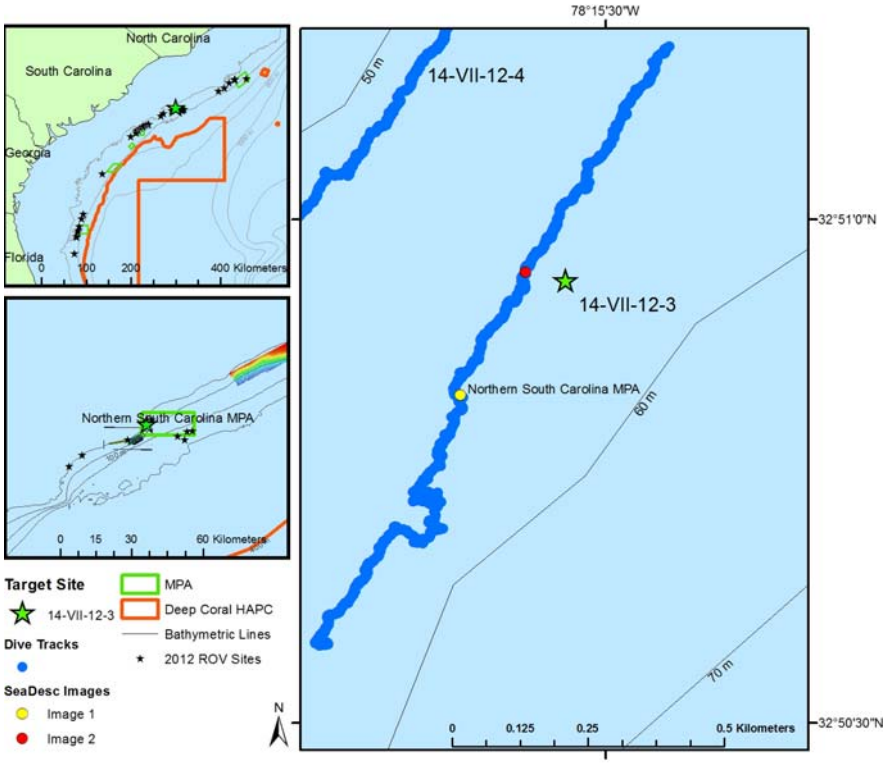
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 23, Site #- 14-VII-12-2. Target Site – South Carolina, Northern S.C. MPA; 32° 51.3000'N; 78°15.9600'W; 55 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect on low relief features of multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Transect mostly low relief rock pavement with sediment veneer, with 30-50% cover of dense algae dominated by Phaeophyta, mostly Dictyota and some Codium on cobble and exposed rock. Patches of exposed rock, 10 cm relief, probably excavated by fish, most had bigeyes associated. Some areas with sparse 1/2-1 m diameter flat boulders, <1.2 m relief, Near end waypoint appears to be low relief rock ledge, 1/2 m relief, and about 10 m wide, oriented NE-SW which appears faintly on multibeam. Total depth range 47.5-48.5 m

Dominant Benthic Biota: Gorgonacea- Ellisellidae, Nicella, Titanideum frauenfeldii; Hydroida; Demospongiae- Aplysina, Callyspongia vaginalis, Microcionidae?, Geodia; Asteroidea- Narcissia trigonaria; Ascidiacea- Didemnidae, Eudistoma; Chlorophyta- Codium; Phaeophyta- Dictyota, Padina?, Sargassum; Rhodophyta- spp. Fish: blue angelfish, graysby grouper, red grouper (several), scamp, hogfish, sand diver, red porgy, Calamus porgy, cowfish, puffer, cubbyu, french angelfish (adult and juvenile), goatfish, scorpion fish, short bigeye, spotfin butterflyfish, scorpionfish, spotfin hogfish, tang, tattler, yellowhead wrasse, lionfish (10).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	124
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 24	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, inside MPA		
Date of Dive:	7/14/2012	**Data Management:**	Access Database, Excel Spreadsheet
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Data:

Minimum Bottom Depth (m):	48	**Total Transect Length (km):**	3.11
Maximum Bottom Depth (m):	52	**Surface Current (kn):**	0.4
On Bottom (Time- ESDT):	9:45	**On Bottom (Lat/Long):**	32°50.5780'N 78°15.7750'W
Off Bottom (Time- ESDT):	11:16	**Off Bottom (Lat/Long):**	32°51.1700'N 78°15.4260'W
Physical (bottom); Temp (°C):	23.7	**Salinity:**	**Visibility (ft):** 50 **Current (kn):** 0.1

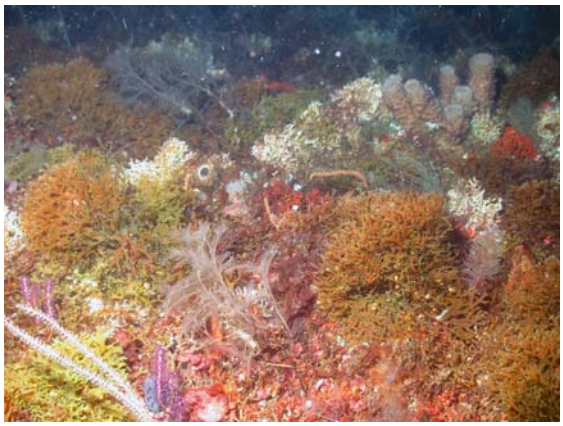


Figure 1: Dense *Dictyota* algae, *Callyspongia vaginalis* tube sponge, and hydroids on low relief hardbottom

Figure 2: Hogfish on algal dominated rock pavement

Notes (Objectives, Site Description, Habitat, Fauna):

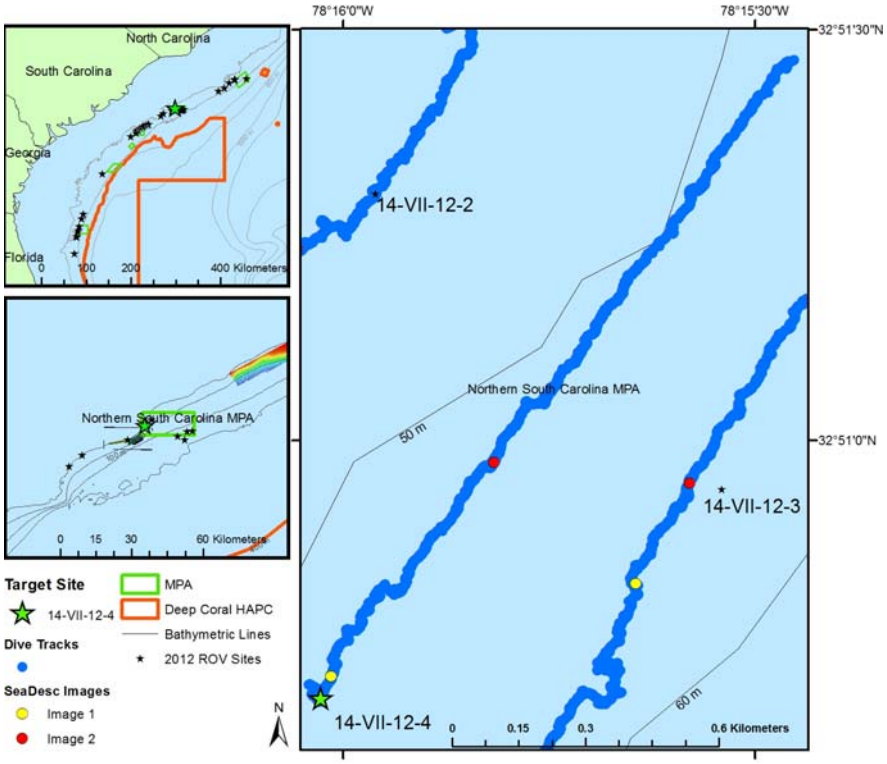
Site/Objectives: ROV Dive 24, Site #- 14-VII-12-3. Target Site – South Carolina, Northern S.C. MPA; 32° 50.9400'N; 78°15.5400'W; 60 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect over rock mound habitat visible on multibeam sonar; lumps on the MB.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Transect starts on flat rock pavement with sediment veneer; with patchy 2-3 m diameter exposed rock patches, excavated pavement with 10 cm relief. Low relief rock knolls on flat bottom dominated by Phaeophyta. The second part of the transect crossed numerous high relief rock mounds that are relatively smooth and rounded, 20-30 m diameter, and 3 m relief with 30-45o slope, but few ledges. Most are about 48 m at the top and 51 m at the base on sediment on pavement. Moderate relief mounds are about 10 m diameter and 1 m relief. All the mounds have nearly 100% cover of algae and epifauna.

Dominant Benthic Biota: Gorgonacea- Briareum?, Diodogorgia, Ellisellidae, Iciligorgia schrammi, Swiftia exserta; Hydroida; Antipathidae- bottle brush, Tanacetipathes, white fan mesh, Stichopathes; Demospongiae- Agelas, Axinellida, Callyspongia vaginalis, Spirastrellidae; Echinodermata- Asteroidea, Gorgonocephalidae; Annelida- Filograna; Ascidiacea - Didemnidae, Eudistoma; Cyanophyta; Chlorophyta; Phaeophyta- Dictyota, Sargassum; Rhodophyta.
Fish: blue angelfish, Calamus porgy, hogfish, graysby, parrotfish, orange back bass, purple reeffish, scamp grouper, sharpnose puffer, snake eel, spotfin butterfly, squirrelfish, sunshine fish, tatler, yellow tail reeffish,

lionfish (18).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	144
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 25	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, inside MPA		
Date of Dive:	7/14/2012	**Data Management:**	Access Database, Excel Spreadsheet
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 25 **Location:** South Carolina, Northern S.C. MPA, inside MPA

Dive Data:

Minimum Bottom Depth (m):	48	**Total Transect Length (km):**	4.15
Maximum Bottom Depth (m):	50	**Surface Current (kn):**	0.5
On Bottom (Time- ESDT):	12:05	**On Bottom (Lat/Long):**	32°50.6870'N 78°16.0370'W
Off Bottom (Time- ESDT):	14:01	**Off Bottom (Lat/Long):**	32°51.4640'N 78°15.4420'W
Physical (bottom); Temp (°C):	#####	**Salinity:**	**Visibility (ft):** 30 **Current (kn):** 0.1

Figure 1: Dense *Dictyota* algae on rocky hardbottom

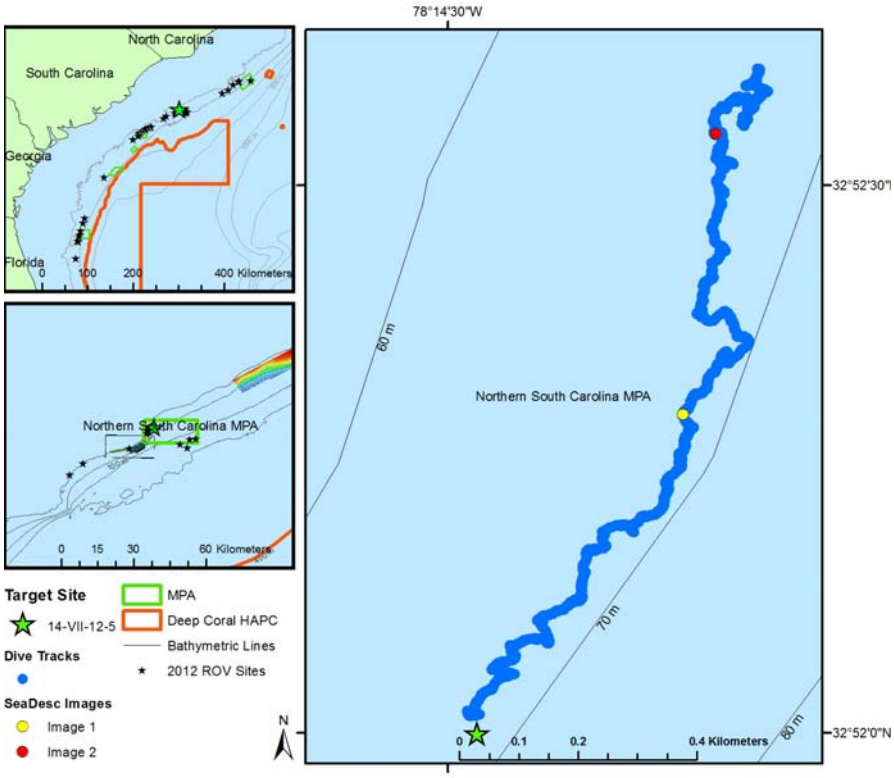
Figure 2: Scamp grouper on *Dictyota* algal covered rock boulders

Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 25, Site #- 14-VII-12-4. Target Site – South Carolina, Northern S.C. MPA; 32° 50.6860'N, 78°16.0270'W; 50 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect of new site; very faint, light orange ridge on multibeam.
ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Transect starts on flat rock pavement and scattered 1/2 m rock boulders with dense Phaeophyta cover. Reef areas with 1/2 - 1 m relief rock and ledges with nearly 100% cover of algae. Part of transect along narrow rock ridge, 1/2 m relief, oriented NE-SW. End of transect on flat sediment and pavement with scattered smooth, rounded rock mounds, 10-20 m diameter, 2 m relief, 48 m at top and 50 m at base.
Dominant Benthic Biota: Gorgonacea- Diodogorgia, Ellisella (whip), Ellisellidae, Leptogorgia, Telesto, Swiftia exserta; Hydroida; Demospongiae- Agelas, Aplysina, Callyspongia vaginalis, Ircinia campana; Annelida- Filograna; Asteroidea- Narcissia trigonaria; Ascidiacea- Didemnidae, Eudistoma; Chlorophyta- Codium, stalk blades; Phaeophyta- Dictyota (abundant), Padina, Sargassum, Spatoglossum; Rhodophyta- stalked blades, Halymenia?, Rhodomenia?.
Fish: bank butterfly, greater amberjack, blue angelfish, cowfish, cubbyu, graysby, hogfish, jackknife fish, parrotfish, reef butterflyfish, rock beauty, rock hind, scamp (few), snowy (1), soapfish, Spanish hogfish, spotfin hogfish, tang, squirrelfish, tatler, tomtate, white grunt (common), wrasse bass, yellowhead wrasse, lionfish (24).

Dive Number: ROV 26 **Location:** South Carolina, Northern S.C. MPA, inside MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	81
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 26	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, inside MPA		
Date of Dive:	7/14/2012	**Data Management:**	Access Database, Excel Spreadsheet
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 26 **Location:** South Carolina, Northern S.C. MPA, inside MPA

Dive Data:

Minimum Bottom Depth (m):	63	**Total Transect Length (km):**	3.45
Maximum Bottom Depth (m):	70	**Surface Current (kn):**	.25
On Bottom (Time- ESDT):	14:35	**On Bottom (Lat/Long):**	32°52.0170'N 78°14.4690'W
Off Bottom (Time- ESDT):	16:11	**Off Bottom (Lat/Long):**	32°52.6110'N 78°14.1950'W

Physical (bottom); Temp (°C): 20.8 **Salinity:** **Visibility (ft):** 30 **Current (kn):** 0.2

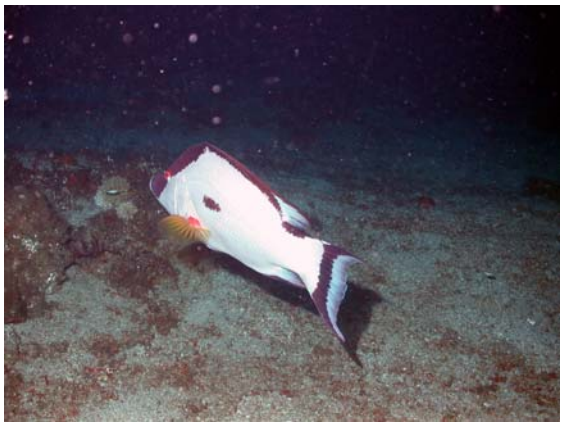


Figure 1: Hogfish (male) over sediment veneered hard bottom

Figure 2: Anemone on low relief pavement

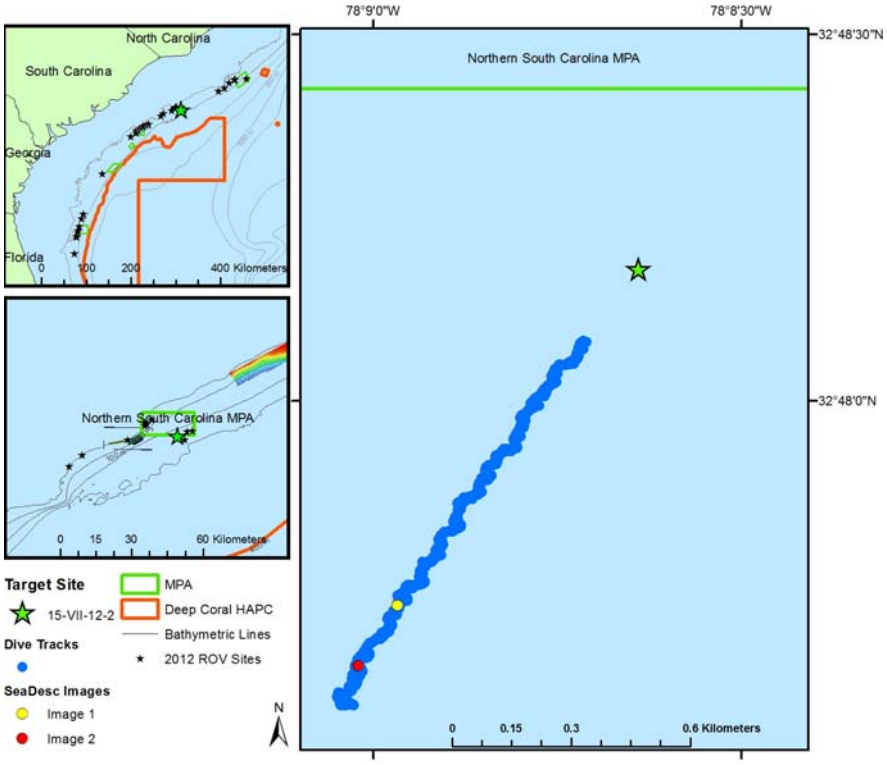
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 26, Site #- 14-VII-12-5. Target Site – South Carolina, Northern S.C. MPA; 32° 51.9990'N; 78°14.4740'W; 65 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect of new site multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from S; bottom 0.2 kn.

Site Description/Habitat/Biota:
Transect starts at 65 m on flat rock pavement with sediment veneer, rubble, and cobble; sparse 1 m diameter exposed rock, excavated by fish, 10 cm relief, about 10-30% exposed rock cover. Few 1/4 m boulders, fairly barren rock. Rock ridge from 65 to 70 m with 10o slope to the east, some 1 m ledges and eroded exposed rock at 69 m. Continue transect parallel to rock slope to the NE. Sediment and rock pavement at the base of the slope at 70 m.

Dominant Benthic Biota: Gorgonacea- Diodogorgia?, Ellisella (whip), Ellisellidae, Titanideum frauenfeldii; Hydroida; Antipatharia- Stichopathes, spp; Actiniaria; Demospongiae- Agelas?, Aplysina, Astrophorida, Cinachyra?, Ircinia campana; Asteroidea- Narcissia trigonaria; Crinoidea; Annelida- Filograna; Chlorophyta; Phaeophyta- unid. spp.
Fish: greater amberjack, bank butterfly, reef butterfly, cubbyu, graysby, hogfish, porgy, scamp (few), short bigeye, spotfin butterfly, tatler, white grunt, wrasse bass, yellowtail reeffish, lionfish (12).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	158
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 27	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, south and outside of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/15/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 27 **Location:** South Carolina, Northern S.C. MPA, south and outside of MPA

Dive Data:

Minimum Bottom Depth (m):	162	**Total Transect Length (km):**	4.24
Maximum Bottom Depth (m):	167	**Surface Current (kn):**	0.25
On Bottom (Time- ESDT):	8:02	**On Bottom (Lat/Long):**	32°47.5770'N 78°08.0410'W
Off Bottom (Time- ESDT):	9:35	**Off Bottom (Lat/Long):**	32°48.0860'N 78°08.7070'W
Physical (bottom); Temp (°C):	12.8	**Salinity:**	**Visibility (ft):** 15 **Current (kn):** 0.2

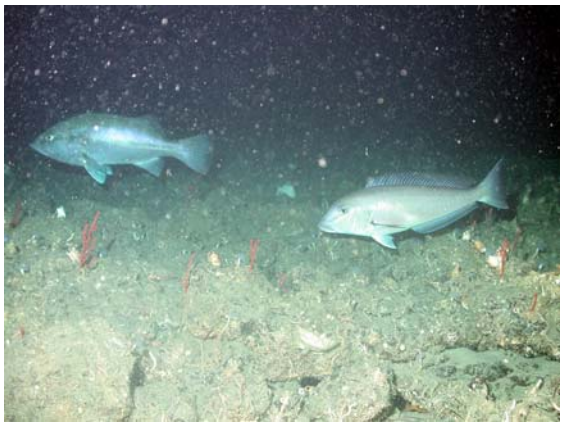


Figure 1: Snowy grouper (left) and blueliine tilefish on low relief hardbottom

Figure 2: *Leiodermatium* demosponge on low relief hardbottom

Notes (Objectives, Site Description, Habitat, Fauna):

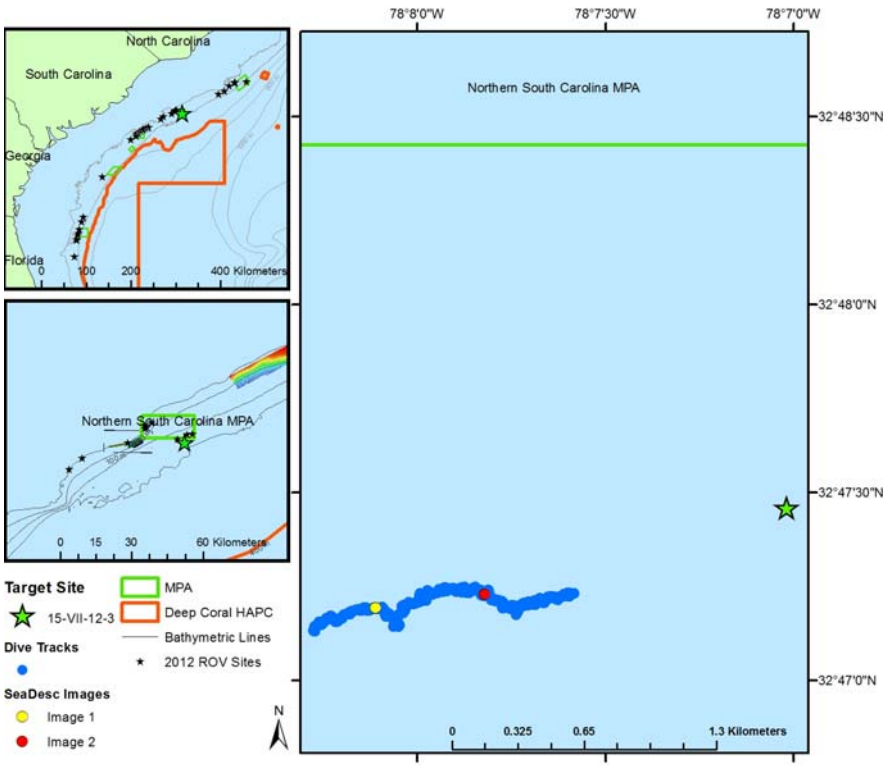
Site/Objectives: ROV Dive 27, Site #- 15-VII-12-2. Target Site – outside and south of South Carolina, Northern S.C. MPA; 32°48.1800'N, 78°08.6400'W; 175 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar map of the site. Conduct video/photo transect on low relief hard bottom of multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from S; bottom 0.2.

Site Description/Habitat/Biota:
Rock pavement with sediment veneer, 10 cm cobble, 30-80% cover, 30 cm exposed rock; 162 m at start of transect, 167 m at end.

Dominant Benthic Biota: Gorgonacea- Swiftia; Demospongiae- Astrophorida, Desmacella, Leiodermatium, Pachastrellidae, Spongosorites, Zyzzya; Hexactinellida- Farrea; Annelida- Serpulidae; Echinoidea- Cidaroidea; Holothuroidea: Holothuria lentiginosa enodis?, Paracolochirus mysticus (weenie); Gastropoda- Perotrochus quoyanus?, Volutidae?; Arthropods- Decapoda crabs, hermit crabs, Majidae.
Fish: anthiids, apricot bass, bank butterflyfish, black bellied rosefish, blackbar drum, blueline tilefish, boarfish, French butterflyfish, Gephyroberyx, Laemonema, longspine snipefish, red hogfish, red porgy, saddle bass, saddleback, scorpion fish, sea robin, short bigeye, snipe, snowy grouper, squirrelfish, NO LIONFISH.

Dive Number: ROV 28 **Location:** South Carolina, Northern S.C. MPA, south and outside of MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	113
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 28	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, south and outside of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/15/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Data:

Minimum Bottom Depth (m):	157	**Total Transect Length (km):**	4.50
Maximum Bottom Depth (m):	169	**Surface Current (kn):**	0.2
On Bottom (Time- ESDT):	10:15	**On Bottom (Lat/Long):**	32°47.1430'N 78°08.2690'W
Off Bottom (Time- ESDT):	11:44	**Off Bottom (Lat/Long):**	32°47.2320'N 78°07.5730'W
Physical (bottom); Temp (°C):	12.85	**Salinity:**	**Visibility (ft):** 10 **Current (kn):** 0.5

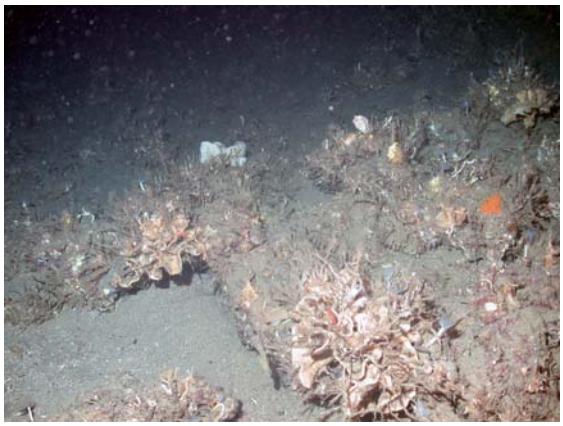


Figure 1: *Leiodermatium* sponges and Holothuroidea (*Paracolochirus mysticus)* on low relief hardbottom

Figure 2: *Cancer borealis* on sediment

Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 28, Site #- 15-VII-12-3. Target Site – outside and south of South Carolina, Northern S.C. MPA; 32°47.4600'N;78°07.0200'W; 175 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transects along apparent glacial iceberg scour (~142 m wide).

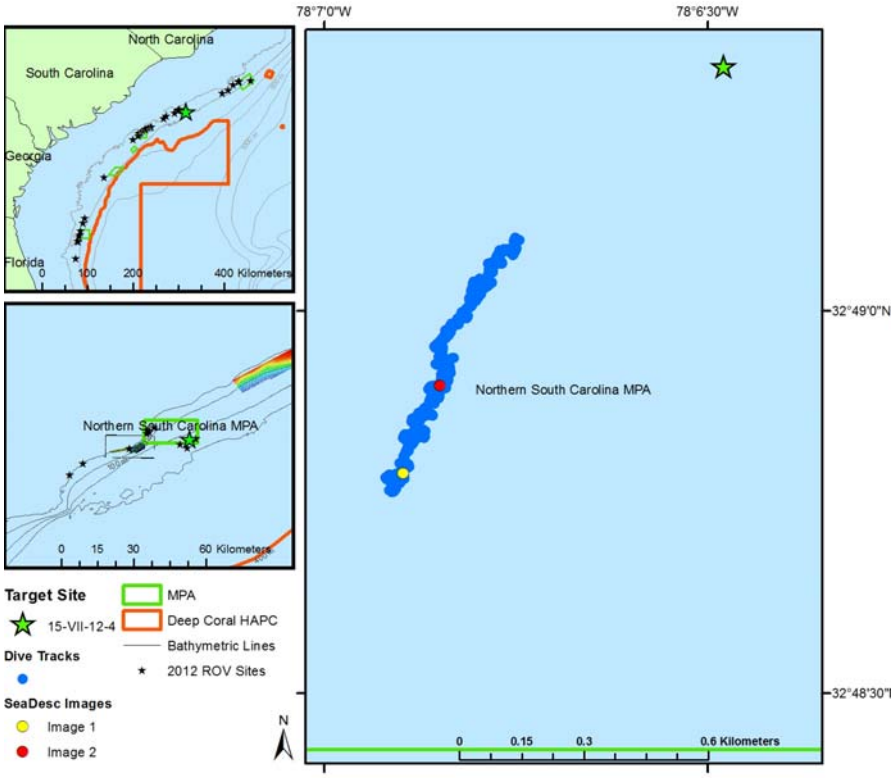
ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.2 kn from S; bottom 0.2-0.5 kn.

Site Description/Habitat/Biota:
Start transect at 162.5 m on rock pavement with cobble, and 30 cm boulders; begin transect heading east along north rim of E-W oriented ice berg scour. Top of rocky rim 162-157 m, rugged, eroded rock, 30-50 cm boulders; some 1-2 m ledges on upper slope. North rim is ~40 m wide. North slope of rim about 30o down to 167 m at base in sand and cobble. Transect across scour valley: flat, ~80 m wide, maximum depth 169 m, all fine dark sediment. Base of south rim 167 m, slope with 1-2 m ledges and 1 m boulders, rugged 45° slope, eroded rock. Top of south rim 160 m.

Dominant Benthic Biota: Dominant fauna are dense and abundant Leiodermatium sponges, pachastrellid plate sponges, corallistid plate and cup sponges, and small holothurians (sea weenies). Gorgonacea- orange fan; Hydroida; Demospongiae- Corallistidae, Leiodermatium, Lithistida, Pachastrellidae; Echinoidea- Cidaroidea; Holothuroidea- Paracolochirus mysticus; Asteroidea; Gastropoda- Perotrochus quoyanus?, Arthropoda- Cancer, hermit crabs; Annelida- Serpulidae.

Fish: amberjack, apricot bass, bigeye, blackbar drum, blueline tilefish, cardinal soldierfish, French butterflyfish, Gephyroberyx (roughies), Laemonema, scorpion fish, snowy grouper (many), soldierfish, yellowfin bass.

Dive Number: ROV 29 **Location:** South Carolina, Northern S.C. MPA, inside MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	184
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 29	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, inside MPA		
Date of Dive:	7/15/2012	**Data Management:**	Access Database, Excel Spreadsheet
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 29 **Location:** South Carolina, Northern S.C. MPA, inside MPA

Dive Data:

Minimum Bottom Depth (m):	158	**Total Transect Length (km):**	2.65
Maximum Bottom Depth (m):	163	**Surface Current (kn):**	0.4
On Bottom (Time- ESDT):	12:37	**On Bottom (Lat/Long):**	32°48.7740'N 78°06.9030'W
Off Bottom (Time- ESDT):	14:22	**Off Bottom (Lat/Long):**	32°49.3360'N 78°06.5180'W
Physical (bottom); Temp (°C):	13.6	**Salinity:**	**Visibility (ft):** 30 **Current (kn):** 0.2

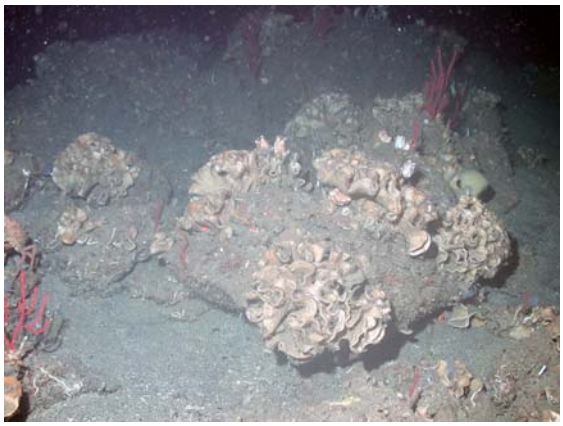


Figure 1: 1 m relief scattered boulders covered in *Leiodermatium* demosponges

Figure 2: Snowy grouper on sediment veneered hardbottom

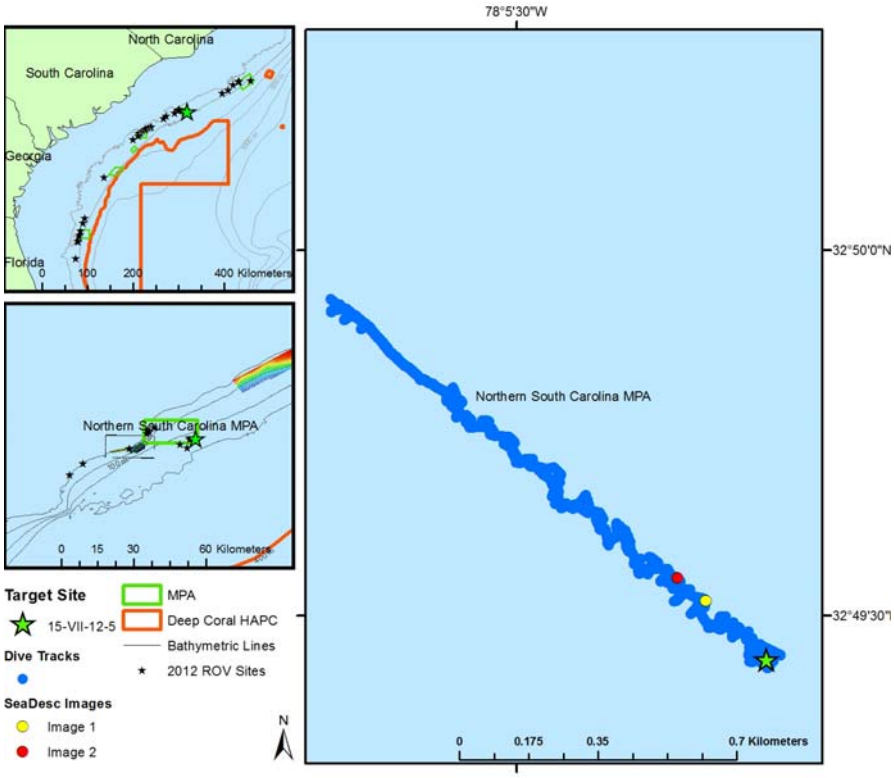
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 29, Site #- 15-VII-12-4. Target Site – South Carolina, Northern S.C. MPA; 32° 49.3200'N; 78°06.4800'W; 175 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect along N-S oriented iceberg scour of multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn from S; bottom 0.2 kn.

Site Description/Habitat/Biota:
Transect starts on flat pavement and sediment with 10-20 cm cobble, 30 boulders and ledges. Scattered patches of rock piles, 1 m relief (158 m top- 160 m base), with dense Leiodermatium sponges, orange gorgonians, and holothurian (sea weenies). Transect continues along east rim of N-S oriented ice berg scar; top 160 m, valley in scar 163 m sediment. The rim is rugged rock, boulder, cobble, and ledges.

Dominant Benthic Biota: Gorgonacea- Scleracis? (orange fan); Hydroida; Demospongiae- Desmacella, Leiodermatium (abundant), Lithistida, Corallistidae (common), Pachastrellidae, Spongosorites?; Hexactinellida; Arthropoda- hermit crab, Majidae, Parthenope; Echinoidea- Cidaroidea; Holothuroidea- Holothuria lentiginosa, Paracolochirus mysticus; Asteroidea- Narcissia trigonaria; Mollusca- Tonna?, Perotrochus quoyanus (common), Scaphella; Annelida- Serpulidae.
Fish: anthiids (common), apricot bass, Gephyroberyx, bigeye, bigeye soldierfish, blackbar drum, blueline tilefish, boarfish, bulleye, flounder, longspine snipefish, porgy, red hogfish, rough backed batfish, saddle bass, scorpion fish, short bigeye, snowy grouper, wrasse bass, yellowfin bass.



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	101
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 30	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, inside MPA		
Date of Dive:	7/15/2012	**Data Management:**	Access Database, Excel Spreadsheet
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 30 **Location:** South Carolina, Northern S.C. MPA, inside MPA

Dive Data:

Minimum Bottom Depth (m):	160	**Total Transect Length (km):**	4.23
Maximum Bottom Depth (m):	170	**Surface Current (kn):**	0.2
On Bottom (Time- ESDT):	15:04	**On Bottom (Lat/Long):**	32°49.4290'N 78°05.1620'W
Off Bottom (Time- ESDT):	16:38	**Off Bottom (Lat/Long):**	32°49.9320'N 78°05.7480'W

Physical (bottom); Temp (°C): 14.9 **Salinity:** **Visibility (ft):** 30 **Current (kn):** 0.25

Figure 1: Holothuroidea, *Paracolochirus mysticus,* on rock boulder

Figure 2: Edge of iceberg scar, cidaroid urchin on rock boulders encrusted with tube worms

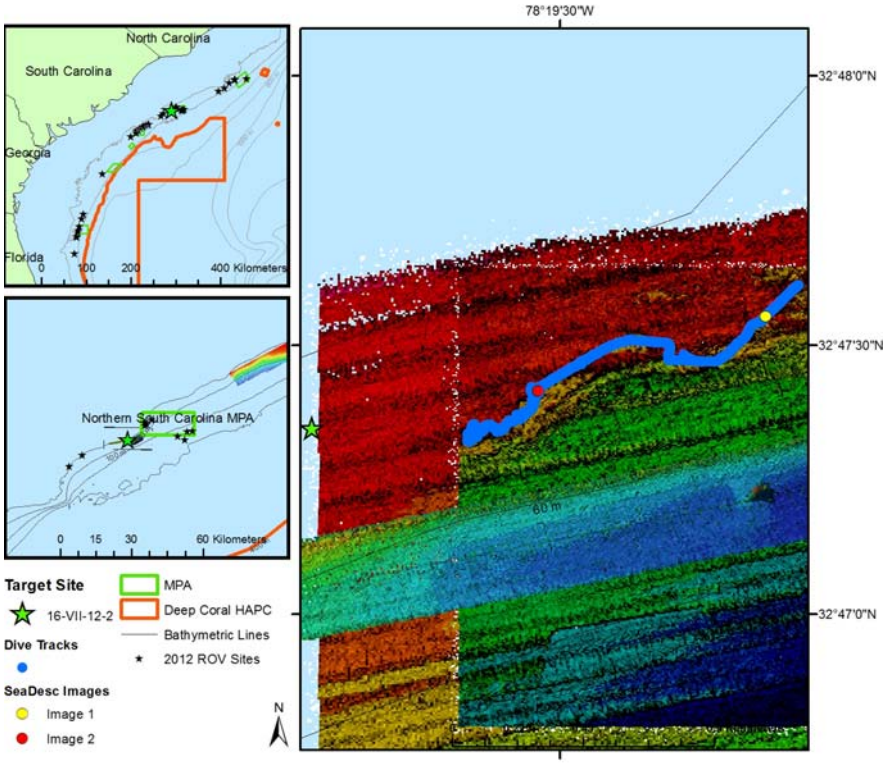
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 30, Site #- 15-VII-12-5. Target Site – South Carolina, Northern S.C. MPA; 32° 49.4400'N, 78°05.1600'W; 175 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect perpendicular to three ice berg scars in multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.2 kn from S; bottom 0.25 kn.

Site Description/Habitat/Biota:
Transect starts at 164 m on flat sediment, with 10-30 cm cobble and small boulders. Transect crosses first ice berg scar; top rim is 165-168 m, sparse cobble and small boulders, then slopes to the sediment covered valley at 170 m. Top of west rim is 163 m, also with sparse 10-30 cm cobble and boulders. Crossing second ice berg scar is 161-163 m along top rims to166 m in the valley; cobble and boulders to 30-50 cm. Flat sand and cobble is between the scars. The third and last scar has 10-50 cm relief along the top rim at 161 m, and slopes to 164 m in the valley which is flat sediment.

Dominant Benthic Biota: Gorgonacea (orange fans common); Actiniaria- Cerianthidae; Demospongiae- Leiodermatium (common); Annelida- Serpulidae; Arthropoda- hermit crab, Majidae, Parthenope ; Asteroidea- 6 arm star; Echinoidea- Cidaroidea; Holothuroidea- Holothuria lentiginosa, Paracolochirus mysticus; Mollusca- Murex, Perotrochus quoyanus, squid; Tonna?.
Fish: anthiids, blackbar drum, blueline tilefish, boarfish, flounder, giant anthiid- longtail bass?, lizardfish, longspine snipefish, red hogfish, red porgy, scorpion fish, short bigeye, Gephyroberyx, snowy grouper.



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	122
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 31	**Sonar Data:**	new_bumpgeo
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, southwest and outside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/16/2012	**Report Analyst:**	John Reed, Stephanie Farrington
Date Compiled:	8/9/2012		

Dive Number: ROV 31 **Location:** South Carolina, Northern S.C. MPA, southwest and outside MPA

Dive Data:

Minimum Bottom Depth (m):	48	**Total Transect Length (km):**	2.84
Maximum Bottom Depth (m):	55	**Surface Current (kn):**	0.4
On Bottom (Time- ESDT):	8:00	**On Bottom (Lat/Long):**	32°47.3300'N 78°19.6610'W
Off Bottom (Time- ESDT):	9:49	**Off Bottom (Lat/Long):**	32°47.6130'N 78°19.0540'W
Physical (bottom); Temp (°C):	22.7	**Salinity:**	**Visibility (ft):** 50 **Current (kn):** 0.25

Figure 1: Bottle brush Antipatharia on *Dictyota* algal dominated low-relief hardbottom

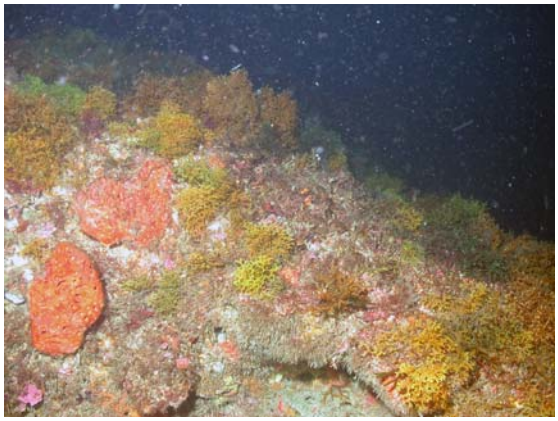


Figure 2: *Agelas* sponges on *Dictyota* algal dominated hardbottom

Notes (Objectives, Site Description, Habitat, Fauna):

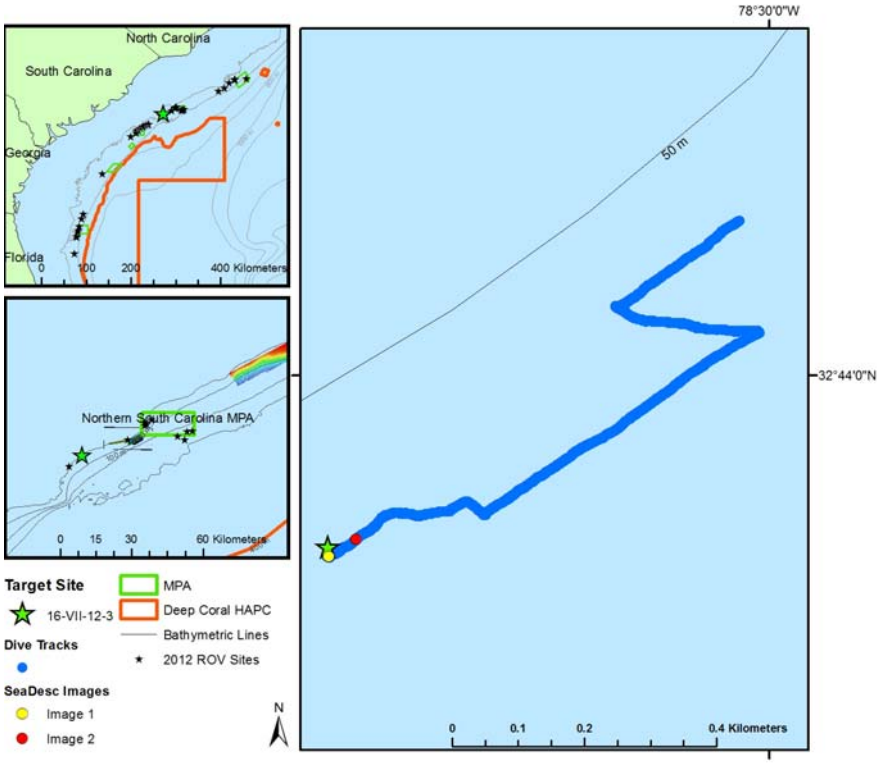
Site/Objectives: ROV Dive 31, Site #- 16-VII-12-2. Target Site – outside of South Carolina, Northern S.C. MPA; 32°47.3460'N, 78°19.9610'W; 55 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect on E-W oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn; bottom 0.25 kn.

Site Description/Habitat/Biota:
Transect along E-W oriented ridge of multibeam. Ridge is mostly smooth rock, 30-45o slope on south slope, few ledges, low rugosity; top 49 m, base 52 m. Nearly 100% cover of algae, dense Dictyota, along with green and red algae, large Agelas sponges, hydroids, and black coral. Off ridge is mostly patchy rock cobble and low relief rock knolls of 1/2 to 1 m relief, 5-10 m diameter, covered with similar biota, at depth of 52-54 m. Few large reef fish present.

Dominant Benthic Biota: Gorgonacea- Diodogorgia?, Ellisella (whips, tan), Ellisella barbadensis (orange), Swiftia (uncommon), Telesto; Alcyonacea- Nephtheidae; Hydroida; Antipatharia- Stichopathes, several spp (bottle brush, bushy white); Actiniaria- Condylactis gigantea; Demospongiae- Agelas (10-30 cm orange, thick plates), Aplysina (cluster thick tubes), Aplysina (creeping, branching), Callyspongia vaginalis, Niphates?, Spirastrellidae (orange/red encrusting); Ircinia campana; Asteroidea- Narcissia trigonaria; Ascidiacea- Eudistoma; Phaeophyta- Dictyota (dense, 4 color morphs), Sargassum (attached); Rhodophyta (several spp.), Chlorophyta (several spp.).
Fish: scamp (4), greater amberjack, blue angelfish, blue goby, Calamus porgy, creole fish, doctor fish, french angelfish, hogfish, rock beauty, reef butterfly, sand tile burrow, soapfish, spanish hogfish, spotfin butterfly,

squirrelfish, surgeonfish, tomtate, lionfish (common, 30).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	82
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 32	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, southwest and outside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/16/2012	**Report Analyst:**	John Reed, Stephanie Farrington
Date Compiled:	8/9/2012		

Dive Number: ROV 32 **Location:** South Carolina, Northern S.C. MPA, southwest and outside MPA

Dive Data:

Minimum Bottom Depth (m):	45	**Total Transect Length (km):**	1.55
Maximum Bottom Depth (m):	55	**Surface Current (kn):**	.5
On Bottom (Time- ESDT):	11:36	**On Bottom (Lat/Long):**	32°43.8520'N 78°30.3600'W
Off Bottom (Time- ESDT):	13:10	**Off Bottom (Lat/Long):**	32°44.1330'N 78°30.0166'W
Physical (bottom); Temp (°C):	22.22	**Salinity:**	**Visibility (ft):** 30 **Current (kn):** 0.5

Figure 1: *Eudistoma* tunicates, *Sargassum* and gorgonians on *Dictyota* algal dominated pavement

Figure 2: *Nicella* and purple plexaurid octocorals on algal dominated pavement

Notes (Objectives, Site Description, Habitat, Fauna):

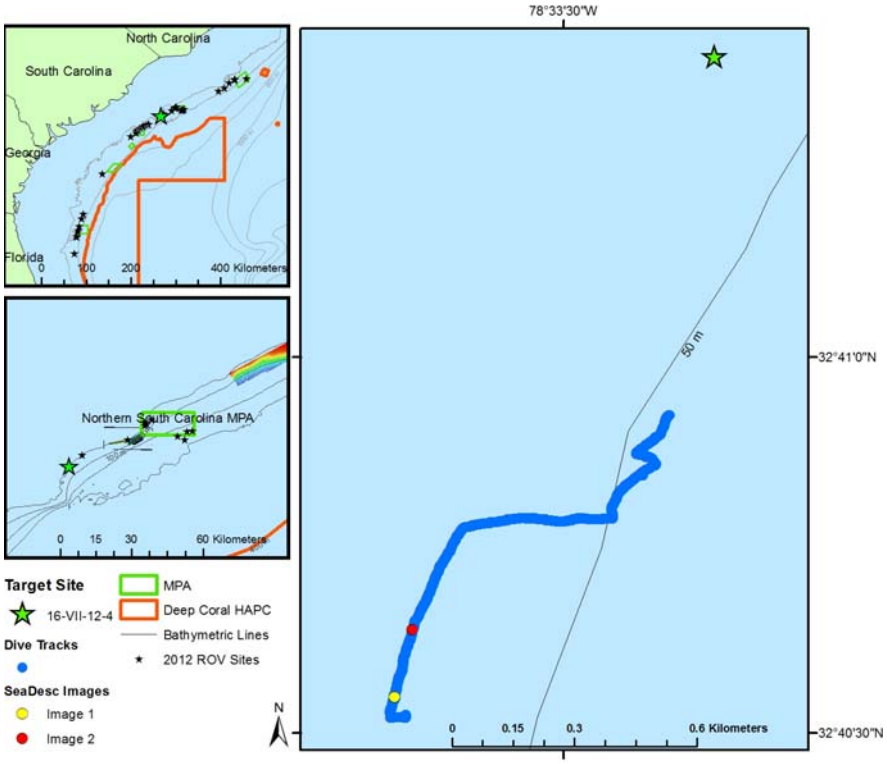
Site/Objectives: ROV Dive 32, Site #- 16-VII-12-3. Target Site – outside and southwest of South Carolina, Northern S.C. MPA; 32°43.8600'N; 78°30.3600'W; 50 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar. Conduct video/photo transect along NE-SW oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn; bottom 0.5. ROV navigation failed- all GPS positions logged from ship GPS position.

Site Description/Habitat/Biota:
Transect starts at WP 1 at depth of 45.5 m on flat pavement with 10-20 cm rock; exposed rock 100% covered with dense algae, mostly Dictyota, along with hydroids, sponges, and few gorgonians. Transect along ridge, moderate relief ledge with 2 m relief, 45-47 m. South escarpment of main ridge is 47 m at top, and 55 m at base. Upper slope is vertical rock 1-2 m relief; below this the lower slope which extends 15-20 m in width are ledges, very rugged and rugose, and a jumble of rock slabs and boulders. Huge schools of tomtate, and reef fish are common. The rock escarpment and boulders has little algae; mostly encrusting sponges and black coral. A transect to the NW crossed the ridge which is flat on top, ~100 m wide, to the north escarpment. Top of ridge, 46 m, is flat rock pavement, low relief rock, with dense brown algae, Dictyota, Sargassum (attached up to 1-2 m long), and hydroids; 50% cover of rock and algal. The north escarpment is 45 m at the top rim and slopes 10-20o to 47.5 m at the base in sand. The width of the drop-off is about 10 m width.

Dominant Benthic Biota: The flat pavement and ridge top is covered nearly completely with dense Dictyota, Sargassum, along with sponges, gorgonians, and black coral. Gorgonacea- Diodogorgia?, Ellisella (whip), Ellisellidae (branched), Nicella (30 cm purple); Hydroida; Antipatharia- Stichopathes, several spp;

Demospongiae- Aplysina (thick cluster tubes), Axinellida, Callyspongia vaginalis, Haliclona?, Spirastrellidae, Ircinia campana; Ascidiacea- Didemnidae, Eudistoma; Chlorophyta- Codium, several spp.; Phaeophyta- Dictyota, Sargassum.
Fish: bank butterfly, blue angelfish, Calamus porgy, cowfish, creole fish, French angelfish, gag grouper (1), goatfish, hogfish, queen angelfish, reef butterflyfish, scamp (5), scorpion fish, short bigeye, shortnose puffer, spotted goatfish, tomtate (huge schools on South escarpment), tatler, vermillion snapper, lionfish (common, 37).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	110
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 33	**Sonar Data:**	
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	South Carolina, Northern S.C. MPA, southwest and outside MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/16/2012	**Report Analyst:**	John Reed, Stephanie Farrington
Date Compiled:	8/9/2012		

Dive Data:

Minimum Bottom Depth (m):	43	**Total Transect Length (km):**	1.59
Maximum Bottom Depth (m):	48	**Surface Current (kn):**	0.5
On Bottom (Time- ESDT):	14:09	**On Bottom (Lat/Long):**	32°40.5262'N 78°33.7080'W
Off Bottom (Time- ESDT):	15:37	**Off Bottom (Lat/Long):**	32°40.9230'N 78°33.3600'W

Physical (bottom); Temp (°C): 20.6 **Salinity:** **Visibility (ft):** 50 **Current (kn):** 0.2

Figure 1: Scamp grouper and school of tomtate on high relief hardbottom

Figure 2: *Agelas* sponge and *Telesto* octocoral on moderate relief hardbottom

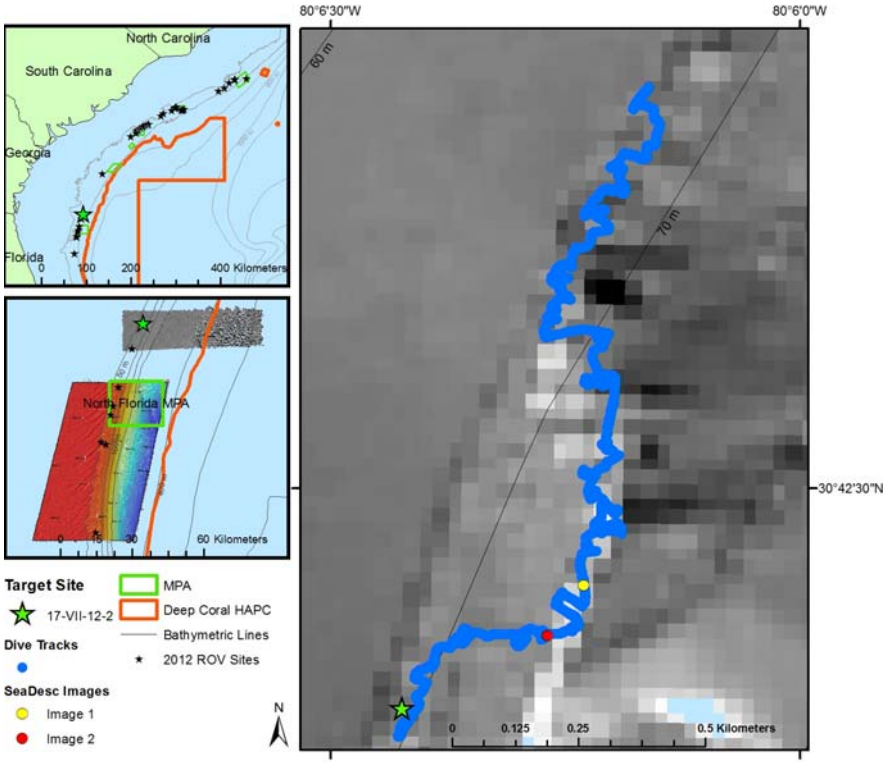
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 33, Site #- 16-VII-12-4. Target Site – outside and southwest of South Carolina, Northern S.C. MPA; 32°41.4000'N, 78°33.3000'W; 50 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect along ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn; bottom 0.2. ROV navigation failed- all navigation data is from ship's GPS.

Site Description/Habitat/Biota:
Transect starts along the west escarpment of the ridge, total relief 3 m, 42.5 to 45.8 m at base in sediment. Escarpment is very rugose, with an upper vertical wall 1-2 m, undercut ledge and 1-2 m boulders on lower slope which extends 10-20 m in width. The top of the ridge is flat, low relief pavement, 80-100% cover, and very dense fields of Padina brown algae. The east escarpment of the ridge is less rugged, has a 1 m ledge with 1/2 m rock slabs and boulders at the base which grades into sand at 47.5 m.

Dominant Benthic Biota: Gorgonacea- Diodogorgia?, Ellisella (whips), Ellisellidae (branched), Nicella (30 cm purple fan), Telesto, Titanideum frauenfeldii; Hydroida; Antipatharia- Stichopathes; Demospongiae- Agelas (red plates), Aplysina (cluster hollow tubes), Callyspongia vaginalis, tan cake sponge, Ircinia campana; Arthropoda- slipper lobster; Ascidiacea- Eudistoma; Phaeophyta- Dictyota (dense), Padina (dense), Sargassum (dense).
Fish: greater amberjack, blackbar soldierfish, blue angelfish, Calamus porgy, cornet fish, cubbyu, gray snapper, graysby, hogfish, porcupine fish, rock beauty, rock hind, scamp (few), Spanish hogfish, spotted goatfish, tatler, tomtate, triggerfish, trumpet fish, vermillion snapper, white grunt, wrasse bass, lionfish (common, 34).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	162
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	2
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 34	**Sonar Data:**	ShadedCC
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	Florida, North Florida MPA, ~10 nmi north of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/17/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 34 **Location:** Florida, North Florida MPA, ~10 nmi north of MPA

Dive Data:

Minimum Bottom Depth (m):	51	**Total Transect Length (km):**	4.15
Maximum Bottom Depth (m):	64	**Surface Current (kn):**	.5
On Bottom (Time- ESDT):	11:39	**On Bottom (Lat/Long):**	30°42.2415'N 80°06.4240'W
Off Bottom (Time- ESDT):	13:43	**Off Bottom (Lat/Long):**	30°42.9294'N 80°06.1368'W
Physical (bottom); Temp (°C):	16.3	**Salinity:**	**Visibility (ft):** 50-10 **Current (kn):** 0.2

Figure 1: Speckled hind on low relief hardbottom

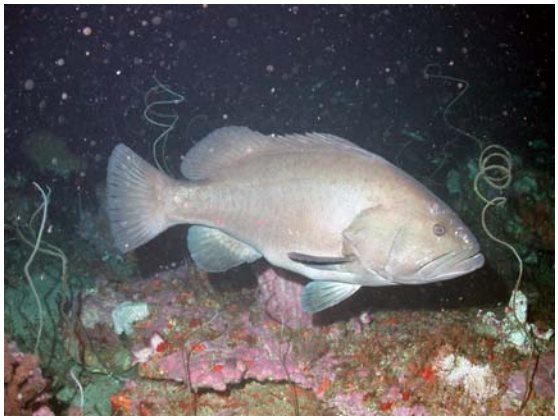


Figure 2: Warsaw grouper and *Stichopathes* black whip coral on low relief hardbottom

Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 34, Site #- 17-VII-12-2. Target Site – ~10 nmi north of North Florida MPA; 30° 42.2650'N; 80°06.4240'W; 70 m. ROV survey outside MPA and ground truth Navy multibeam sonar map of the site. Conduct video/photo transect along N-S oriented ridge of sonar map; multibeam is 15 m resolution.

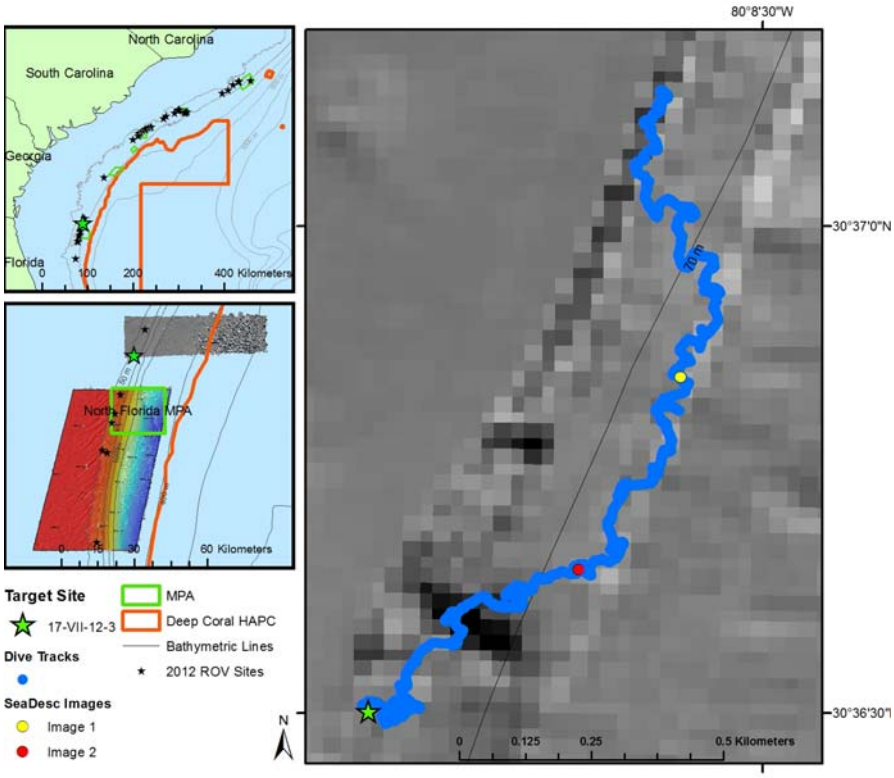
ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn; bottom 0.2.

Site Description/Habitat/Biota:
Ridge on multibeam is extensive N-S oriented. Transect NE across ridge top, ~100 m wide: depth 52 m, rock pavement with sediment, 10-30 cm relief rock and scattered low relief ledges. Dominant fauna- various demosponges, hydroids, gorgonians and black coral. Few fish except on ledges. Eastern escarpment of ridge: transect to the north along the face of the east escarpment- top of edge 56 m, base in sand 60-64 m. Escarpment is 10-20o slope of fractured rock slabs with 30-50 cm relief, jumbled rock slabs and boulders which extend 15-20 m or more from the top edge. Rock slope dominated by back coral, encrusting sponges, Ircinia vase sponges, and gorgonians. Dense schools of tomtate, vermillion snapper, along with gag grouper, numerous scamp grouper, 6 speckled hind, and 3 warsaw grouper. East of the escarpment is flat sand with some low relief rock pavement patches. Transect along western escarpment of ridge: 10o slope of fractured rock slabs, 30-50 cm relief, but not as rugose as the east slope; top edge 49 m, base 52 m.

Dominant Benthic Biota: Gorgonacea- Diodogorgia, Ellisella barbadensis, Nicella; Demospongiae- Aplysina, Callyspongia vaginalis, Cinachyra, Spirastrellidae, Ircinia campana; Antipathidae- Antipathes, Stichopathes; Hydroida; Zoanthidea; Annelida- Filograna; Arthropoda- Panulirus argus; Bryozoa- Horn bryozoa, Schizoporella?; Ascidiacea- Didemnidae; Chlorophyta; Phaeophyta- Sargassum; Rhodophyta.
Fish: scamp grouper (common on east slope), Warsaw grouper (east slope), gag grouper (east slope), speckled

hind (4), amberjack, bank butterflyfish, bicolor damselfish, black bar drum, black fin snapper, blue angelfish, Calamus porgy, cowfish, creole fish, cubbyu, hogfish, jackknife, purple reef fish, queen trigger, reef butterflyfish, shortnose puffer, spotfin butterflyfish, squirrelfish, surgeonfish, tatler, tomtate, triggerfish, vermillion snapper, wrasse bass, yellowtail reeffish; lionfish (16).

Dive Number: ROV 35 **Location:** Florida, North Florida MPA, ~10 nmi north of MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	121
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 35	**Sonar Data:**	ShadedCC
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	Florida, North Florida MPA, ~10 nmi north of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/17/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 35 **Location:** Florida, North Florida MPA, ~10 nmi north of MPA

Dive Data:

Minimum Bottom Depth (m):	50	**Total Transect Length (km):**	3.74
Maximum Bottom Depth (m):	59	**Surface Current (kn):**	.75
On Bottom (Time- ESDT):	14:50	**On Bottom (Lat/Long):**	30°36.4968'N 80°08.9012'W
Off Bottom (Time- ESDT):	16:27	**Off Bottom (Lat/Long):**	30°37.1313'N 80°08.5945'W

Physical (bottom); Temp (°C): **Salinity:** **Visibility (ft):** 50 **Current (kn):** 0.5

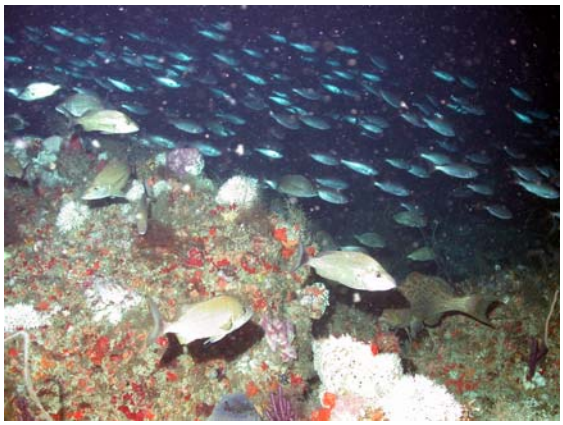


Figure 1: School of tomtate and vermillion snapper with grouper and *Filograna* worm colonies on moderate relief boulders

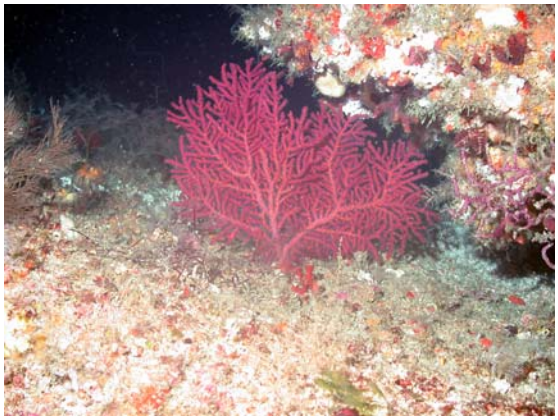


Figure 2: *Nicella* gorgonian on low relief boulders

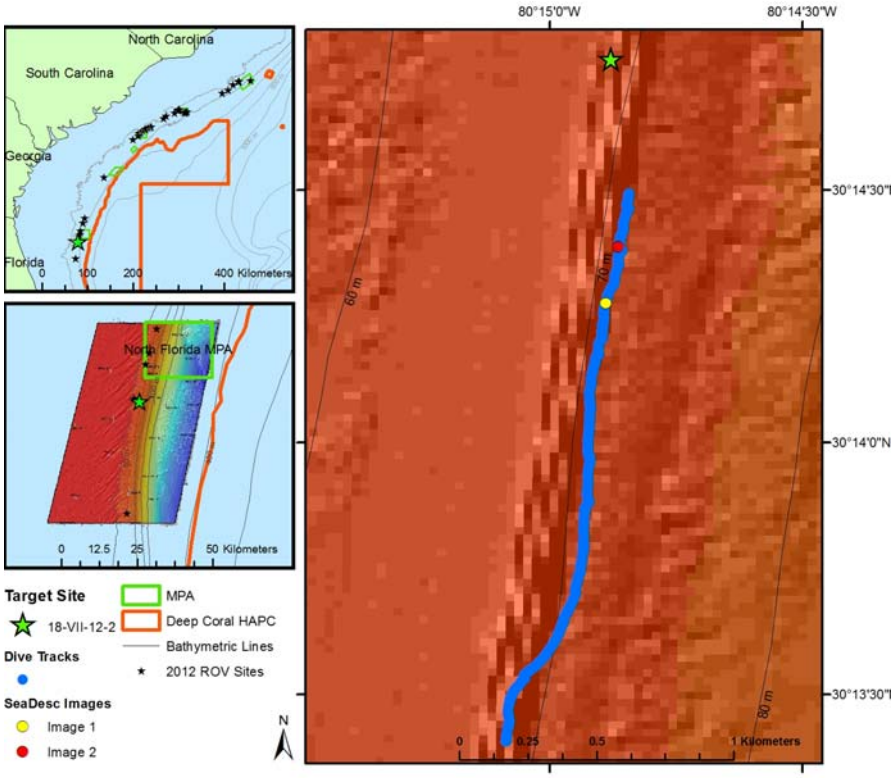
Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 35, Site #- 17-VII-12-3. Target Site – ~10 nmi north of North Florida MPA; 30° 36.5020'N; 80°08.9040'W; 50 m. ROV survey outside MPA and ground truth Navy multibeam sonar of the site. Conduct video/photo transect along N-S oriented ridge of sonar map; sonar resolution is 15 m.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.75 kn; bottom 0.5.

Site Description/Habitat/Biota:
West escarpment of N-S oriented ridge: low relief slope ~15 m wide and 30-45o, 51m on top to 55 m in sand at the base, with rock slabs and few ledges of 10-30 cm relief; dominated by black corals, purple gorgonians, encrusting sponges, hydroids, and Filograna worm clusters. East slope of the ridge: Fractured rock slabs and low relief boulders on 10o slope, with 30-50 cm ledges; 55 m at top to 59 m on sand and rubble at base. Mostly encrusting sponges, didemnid ascidians, and Filograna worms. Transect NW across the ridge: 54 m, rock pavement and sediment, with scattered 30-50 cm ledges.

Dominant Benthic Biota: Gorgonacea- Diodogorgia, Nicella; Antipathidae- Stichopathes, Hydroida; Demospongiae- Agelas, Aplysina, Cinachyra, Ircinia sp., Ircinia campana, Neofibularia, Spirastrellidae; Arthropoda- Panulirus argus; Annelida- Filograna; Bryozoan- horn Bryozoan, Schizoporella?; Ascidiacea- Didemnidae; Cyanophyta; Rhodophyta.
Fish: amberjack, bank butterflyfish, Calamus porgy, cowfish, creole fish, cubbyu, purple reeffish, reef butterflyfish, rock beauty, sand tilefish, scamp grouper, snake eel, speckled hind, spotfin butterflyfish, spotfin hogfish, squirrelfish, stingray, tatler, tomtate, vermillion snapper, wrasse bass, yellowtail reeffish, sand tilefish burrow, lionfish (6).



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	18
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	1
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 36	**Sonar Data:**	USWTR Bathy with ROV
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	Florida, North Florida MPA, south and outside of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/18/2012		
Date Compiled:	8/9/2012	**Report Analyst:**	John Reed, Stephanie Farrington

Dive Number: ROV 36 **Location:** Florida, North Florida MPA, south and outside of MPA

Dive Data:

Minimum Bottom Depth (m):	54	**Total Transect Length (km):**	2.27
Maximum Bottom Depth (m):	61	**Surface Current (kn):**	3.0
On Bottom (Time- ESDT):	10:40	**On Bottom (Lat/Long):**	30°13.5277'N 80°15.0716'W
Off Bottom (Time- ESDT):	11:15	**Off Bottom (Lat/Long):**	30°14.5758'N 80°14.8220'W
Physical (bottom); Temp (°C):	17.7	**Salinity:**	**Visibility (ft):** 30 **Current (kn):** 2

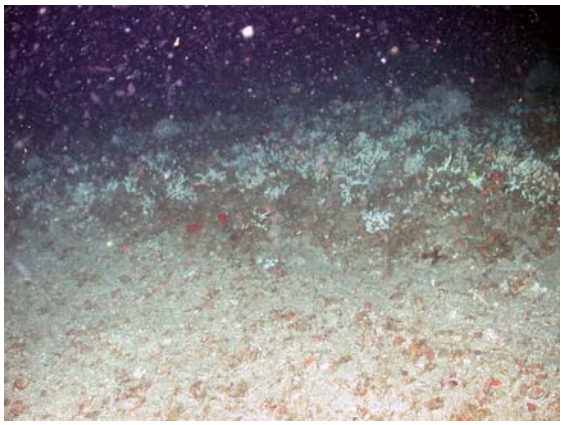


Figure 1: Didemnidae tunicates on low relief pavement

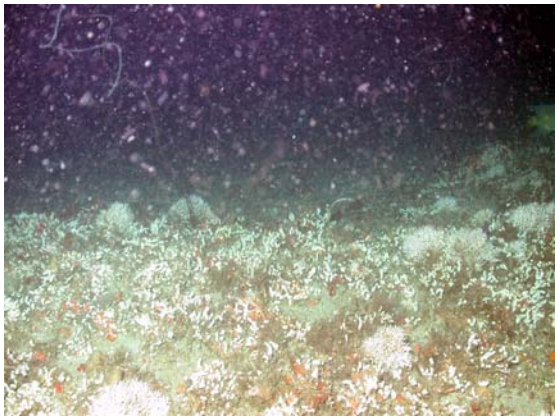


Figure 2: Didemnidae tunicates, *Filograna* polychaete colonies, and *Stichopathes* black coral on low relief pavement

Notes (Objectives, Site Description, Habitat, Fauna):

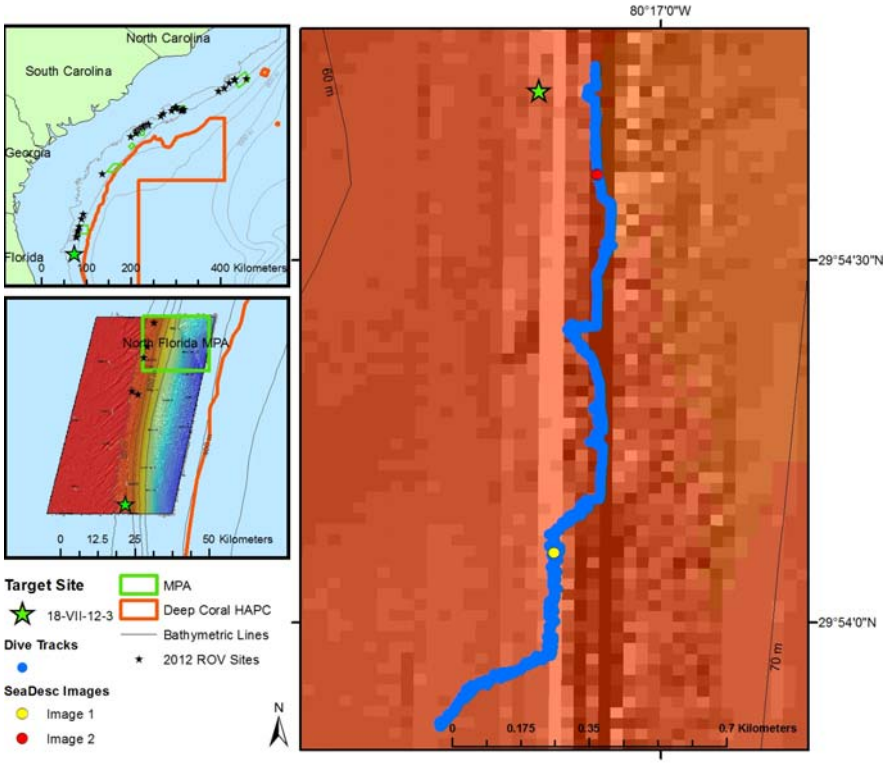
Site/Objectives: ROV Dive 36, Site #- 18-VII-12-2. Target Site – outside and south of North Florida MPA; 30° 14.7600'N, 80°14.8800'W; 55 m. ROV survey outside MPA and ground truth Navy multibeam sonar of the site. Conduct video/photo transect along west slope of ridge of multibeam sonar map.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.3.0 kn; bottom 2.0. Unable to station keep, drifting 1-2 kn to the north, often pulled off bottom; only on bottom few short periods.

Site Description/Habitat/Biota:
Transect along east and west slope of N-S oriented ridge of multibeam; depth range 55-61 m. West slope: 55 m, sand with 30-50% cover of flat rock slabs, 30 cm relief; slope appeared as 10o jumble of rock slabs, which corresponded to black line of multibeam. East slope: 61 m, series of linear, low relief, smooth rock knolls, <30 cm, separated by rock pavement and sediment. Cover is very sparse and very few fish.

Dominant Benthic Biota: Antipatharia- Stichopathes; Hydroida; Demospongiae- Ircinia campana, encrusting spp; Annelida- Filograna (dense 10 cm colonies); Ascidiacea- Didemnidae (dense 2 cm nubs).
Fish: reef butterfly, spotfin hogfish, tatler.

Dive Number: ROV 37 **Location:** Florida, 55 nmi east of St. Augustine, 60-m reef line, outside of MPA



Dive Overview:

Project:	South Atlantic MPA	**Sensors Used:**	Temperature (°C)
Principal Investator:	Stacy Harter	**Digital Photos:**	176
PI Contact Info:	3500 Delwood Beach Rd. Panama City FL 32444	**Hard Drive:**	1
		HDCam:	0
Purpose:	ROV surveys to compare inside and outside shelf-edge MPA sites	**DVD:**	2
		Specimens:	0
Expedition Website:	http://teacheratsea.wordpress.com/category/marsha-skoczek/	**ROV Navigation Data:**	TracPointII
		Ship Position System:	All ROV nav coordinates in Site Notes are ship's GPS coord.
Dive #:	ROV 37	**Sonar Data:**	USWTR Bathy with ROV
Vessel:	NOAA Ship *Pisces*	**Scientific Observers:**	Andy David, John Reed, Stacy Harter, Stephanie Farrington
Location:	Florida, 55 nmi east of St. Augustine, 60-m reef line, outside of MPA	**Data Management:**	Access Database, Excel Spreadsheet
Date of Dive:	7/18/2012	**Report Analyst:**	John Reed, Stephanie Farrington
Date Compiled:	8/9/2012		

Dive Number: ROV 37 **Location:** Florida, 55 nmi east of St. Augustine, 60-m reef line, outside of MPA

Dive Data:

Minimum Bottom Depth (m):	54	**Total Transect Length (km):**	4.07
Maximum Bottom Depth (m):	66	**Surface Current (kn):**	1.25
On Bottom (Time- ESDT):	14:14	**On Bottom (Lat/Long):**	29°53.8645'N 80°17.2909'W
Off Bottom (Time- ESDT):	16:20	**Off Bottom (Lat/Long):**	29°54.7730'N 80°17.1088'W
Physical (bottom); Temp (°C):	15.4	**Salinity:**	**Visibility (ft):** 30 **Current (kn):** 0.1

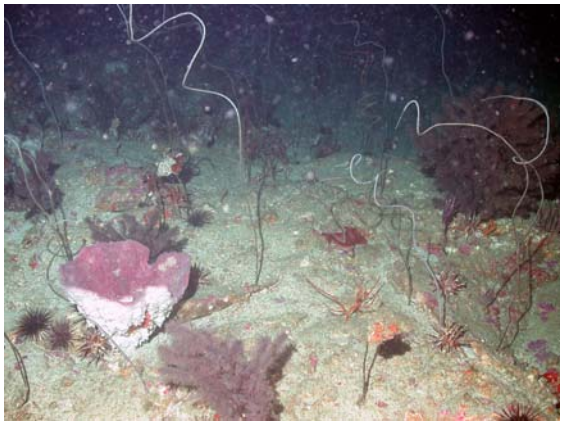


Figure 1: St. Augustine ridge- *Ircinia campana* sponge, *Stichopathes* black whip coral, bush antipatharians, and *Eucidaris* urchins on rock pavement

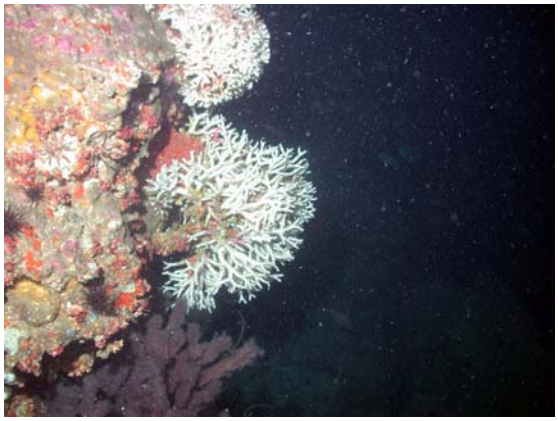


Figure 2: St Augustine ridge- *Oculina varicosa* coral and bush antipatharian on rock escarpment

Notes (Objectives, Site Description, Habitat, Fauna):

Site/Objectives: ROV Dive 37, Site #- 18-VII-12-3. Target Site – 55 nmi east of St. Augustine, 60-m reef line, outside MPA; 29°54.7340'N, 80°17.1680'W; 60 m. ROV survey outside MPA and ground truth Navy multibeam sonar and NOAA Bathymetric chart of the site. Conduct video/photo survey of NOAA Bathymetric Chart which shows high relief features, possibly Oculina coral, and Navy multibeam sonar map (15 m resolution) which shows a linear N-S ridge. A. David's ROV dive in 2007 on the same ridge a few miles north reported a 10-m tall N-S ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.25 kn; bottom 0 kn.

Site Description/Habitat/Biota:
Transect up west slope of N-S oriented ridge, along top, and along the east escarpment. Feature proves to be a N-S linear rock ridge, 56 m at west base, 54-56 m on top, and 65 m at east base. Appears to be the same continuous ridge system that continues north through the North Florida MPA site. At this site it is not individual Oculina coral mounds, although individual 10-30 cm live white Oculina varicosa coral colonies were common on the vertical rock surfaces along the east escarpment at depths of 58-61. The same ridge system continues south but become individual Oculina coral mounds off of Daytona and continuing south to Fort Pierce. West base, 56 m: sand and shell hash, with several knocked down 30 cm gorgonian colonies. West slope of ridge: 56 to 54 m, 20o slope, jumbled 1-2 m rock slabs, 30-50 cm relief, with black coral, numerous black sea urchins (Arbacia or Centrostephanus), sponges, and 15-30 cm gorgonians. Fairly dense fauna on slope and upper edge of ridge; some scamp. Ridge top; 55-56 m, ~50 m wide, flat pavement consisting of

fractured rock slabs, and some ledges, 10-30 cm relief; fairly barren compared to edge zones, black coral, gorgonians, and sponges still common. East edge and escarpment: 30o slope from 56 to 65 m, extending 10-20 m to the base which grades into sand at 64-66 m. Upper slope near vertical rock with 1-2 m relief of rugged rock and the lower slope is a jumble of 1-2 m rock slabs, 1/2-1 m relief.

Dominant Benthic Biota: Antipathidae (3-4 spp.), gorgonacea, demosponges, sea urchins, and Oculina varicosa are dominant. Scleractinia- Oculina varicosa, (live white, 10-20 cm colonies, 13+ colonies); Antipathidae (4 spp)- Stichopathes, 30-40 cm bushy brown, white fans, Australian pine; Gorgonacea- Diodogorgia? (10-15 cm purple), Swiftia exserta (30-40 cm red); Hydroida; Demospongiae- Cinachyra?, Neofibularia, Spirastrellidae, Ircinia campana, other spp; Asteroidea; Echinoidea- Arbacia or Centrostephanus, Eucidaris tribuloides; Ascidiacea- Didemnidae; Algae - crustose coralline algae; Rhodophyta.
Fish: greater amberjack, bank butterflyfish, bank seabass, blackbar drum, blue angelfish, cowfish, cubbyu, hogfish, red porgy, reef butterflyfish, scamp grouper, sharpnose puffer, short bigeye, spotfin hogfish, squirrelfish, tatler, tomtate (numerous), vermillion snapper (numerous), yellowtail reeffish, lionfish (8).

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **7-VII-12-1** **MILSORTCODESITE:** **201207071**

METHOD (DIVE #): CTD 1 DEPLOY TIME _____ ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida, Jacksonville, North Florida MPA

DVD: _____ Hard Drive: _____ HD Cam _____

TARGET LATITUDE: 30°33.4100'N LONGITUDE: 80°08.3700'W DEPTH (FT): 302 (M): 92

TARGET DESCRIPTION: _____

ON BOTTOM LATITUDE: _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

ON BOTTOM (GMT): TIME: _____ HABITAT: _____

OFF BOTTOM LATITUDE : _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

OFF BOTTOM (GMT): TIME: _____ HABITAT: _____

DEPTH (Ft-MAX): _____ (M): _____ (Ft-MIN): _____ (M): _____

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): _____ (°F): _____ VIS (Ft): _____ SAL (PPT): _____

CURRENT (Kn): _____ (DIRECTION FROM): _____

WEATHER (CLOUD COVER): _____ (MPH): _____ (DIR FROM): _____

SEAS (FT): _____ SEAS (DIR FROM): _____

TOTAL NUMBER OF SAMPLES: _____

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **7-VII-12-2** **MILSORTCODESITE:** **201207072**

METHOD (DIVE #): ROV 1 DEPLOY TIME 9:22:35 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida, Jacksonville, North Florida MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 30°27.7200'N LONGITUDE: 80°11.9400'W DEPTH (FT): 230 (M): 70

TARGET DESCRIPTION: North Florida MPA, Station #2, inside MPA, transect S to N along main ridge; Navy multibeam

ON BOTTOM LATITUDE: 30°26.6500'N LONGITUDE: 80°12.3670'W DEPTH (FT): 180 (M): 55

ON BOTTOM (GMT): TIME: 9:27 HABITAT: hard bottom; pavement; Rock;

OFF BOTTOM LATITUDE : 30°28.8100'N LONGITUDE: 80°11.6880'W DEPTH (FT): 184 (M): 56

OFF BOTTOM (GMT): TIME: 11:16:00 AM HABITAT: rock boulders and slabs;

DEPTH (Ft-MAX): 197 (M): 60 (Ft-MIN): 177 (M): 54

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 14.7 (DIR FROM): 230

SEAS (FT): 2-3 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Sites/Objectives: ROV Dive 1, Site #- 7-VII-12-2. Target Site - North Florida MPA; 30°27.7200'N, 80°11.9400'W; 70 m. ROV survey inside MPA; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N, zigzag along main ridge oriented SW-NE.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database (Dive 1: time is -2 hours off EDT then reset to correct time at 8:44 am). Dive 1: No Quantitative photos taken; all photos random forward pointing; lasers 10 cm. Surface current approx. 2.0 kn, bottom current ~1.2 kn; unable to station keep or stop the ROV for habitat or still photos.

Site Description/Habitat/Biota:
West base of main ridge ~54 m; east base 60 m. Ridge is low to moderate relief rock slabs and boulders 1/2 m to 1 m relief, rock pavement, low ledges <1 m relief. Off ridge is rock pavement with sediment veneer and sand sediment with rubble.

Dominant Benthic Biota: Dense sessile biota on exposed rock dominated by Demospongiae- Ircinia campana, I. strobilina, Axinellida; Hydroida; Antipatharia- Tanacetipathes, Stichopathes lutkeni; Gorgonacea- purple Plexauridae; Polychaeta- Filograna; Ascidiacea- Didemnidae mounds; no algae; no hard coral.
Fish: yellow tail reef fish, reef butterfly, blue angelfish, red porgy, puffer, cowfish, tatler, few scamp.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **7-VII-12-3** **MILSORTCODESITE:** **201207073**

METHOD (DIVE #): ROV 2 DEPLOY TIME 1:11:54 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Florida MPA Site, Station 3

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 30°21.3680'N LONGITUDE: 80°13.8060'W DEPTH (FT): 150 (M): 46

TARGET DESCRIPTION: North Florida MPA Site; Station 3; Navy multibeam, low relief hard bottom patches west of main ridge

ON BOTTOM LATITUDE: 30°21.4140'N LONGITUDE: 80°13.7900'W DEPTH (FT): 194 (M): 59

ON BOTTOM (GMT): TIME: 13:15 HABITAT: soft bottom, rubble

OFF BOTTOM LATITUDE : 30°23.0620'N LONGITUDE: 80°13.4660'W DEPTH (FT): 184 (M): 56

OFF BOTTOM (GMT): TIME: 2:25:00 PM HABITAT: sand

DEPTH (Ft-MAX): 194 (M): 59 (Ft-MIN): 187 (M): 57

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 5 (DIR FROM): 268

SEAS (FT): 1-2 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 2, Site #- 7-VII-12-3. Target Site - North Florida MPA; 30°21.3680'N; 80°13.8060'W; 56-59 m. ROV survey inside MPA; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N on low relief, hard bottom west of main ridge on sonar.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. No CTD. Surface current approx. 2 kn, bottom current ~1 kn. Difficult to stop ROV with current.

Site Description/Habitat/Biota:
Low relief rock rubble, cobble and sediment from 56 to 59 m. Patchy hard bottom areas 10-20 m wide with rubble and some exposed rock, and scoured rock burrows. Sediment and rubble between hard bottom areas.

Dominant Benthic Biota: Relatively sparse sessile epifauna. Demospongiae- Ircinia campana, I. strobilina; Hydroida; Antipatharia- Tanacetipathes, Stichopathes lutkeni; Gorgonacea- purple Plexauridae; Polychaeta- Filograna; Ascidiacea- Didemnidae; no algae; no hard coral.
Fish: sand tilefish and tilefish rubble mounds common, yellow tail reef fish, reef butterfly, blue angelfish, red porgy.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 7-VII-12-4 **MILSORTCODESITE:** 201207074

METHOD (DIVE #): ROV 3 DEPLOY TIME 2:53:00 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida. North Florida MPA, station 4

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 30°23.4230'N LONGITUDE: 80°13.1690'W DEPTH (FT): 180 (M): 55

TARGET DESCRIPTION: North Florida MPA Site; Station 4; Navy multibeam, low relief hard bottom patches west of main ridge

ON BOTTOM LATITUDE: 30°23.5330'N LONGITUDE: 80°13.1270'W DEPTH (FT): 184 (M): 56

ON BOTTOM (GMT): TIME: 14:59 HABITAT: soft bottom;

OFF BOTTOM LATITUDE : 30°25.9600'N LONGITUDE: 80°12.4840'W DEPTH (FT): 197 (M): 60

OFF BOTTOM (GMT): TIME: 4:51:00 PM HABITAT: Sediment

DEPTH (Ft-MAX): 197 (M): 60 (Ft-MIN): 180 (M): 55

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 1.7 (DIR FROM): 270

SEAS (FT): 1-2 SEAS (DIR FROM): S

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 3, Site #- 7-VII-12-4. Target Site - North Florida MPA; 30°23.4230'N, 80°13.1690'W; 56-60 m. ROV survey inside MPA; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N, zigzag along main ridge oriented SW-NE; continuation of ledge in Dive 1.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Digital video copied from DVD. Surface current approx. 2 kn, bottom current ~1 kn. Difficult to stop ROV with current.

Site Description/Habitat/Biota:
West base of main ridge ~54 m; east base ~60 m. Ridge is low to moderate relief with rock slabs and boulders 1/2 m to 1 m relief, rock pavement, and ledges 1/2-1 m relief. Large square rock slabs. Off ridge is rock pavement with sediment veneer and sand sediment.

Dominant Benthic Biota: Dense sessile biota on exposed rock dominated by Demospongiae- Ircinia campana, I. strobilina, Axinellida; Hydroida; Antipatharia- Tanacetipathes, Stichopathes lutkeni; Gorgonacea- purple Plexauridae; Polychaeta- Filograna; Ascidiacea- Didemnidae mounds; no algae; no hard coral.
Fish: dense schools of tomtate, vermillion snapper; scamp common, several 40-50 cm gag grouper, numerous lionfish; yellow tail reef fish, reef butterfly, blue angelfish, red porgy.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **7-VII-12-5** **MILSORTCODESITE:** **201207075**

METHOD (DIVE #): CTD 2 DEPLOY TIME 6:57:00 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida. North Florida MPA

DVD: Hard Drive: HD Cam

TARGET LATITUDE: 30°25.3340'N LONGITUDE: 80°12.3050'W DEPTH (FT): 197 (M): 60

TARGET DESCRIPTION:

ON BOTTOM LATITUDE: LONGITUDE: DEPTH (FT): (M):

ON BOTTOM (GMT): TIME: HABITAT:

OFF BOTTOM LATITUDE : LONGITUDE: DEPTH (FT): (M):

OFF BOTTOM (GMT): TIME: 7:00:00 PM HABITAT:

DEPTH (Ft-MAX): (M): (Ft-MIN): (M):

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): (MPH): (DIR FROM):

SEAS (FT): SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **8-VII-12-1** **MILSORTCODESITE:** **201207081**

METHOD (DIVE #): CTD 3 DEPLOY TIME 6:59:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida. North Florida outside the MPA

DVD: Hard Drive: HD Cam

TARGET LATITUDE: 30°29.3590'N LONGITUDE: 80°11.5220'W DEPTH (FT): 230 (M): 70

TARGET DESCRIPTION:

ON BOTTOM LATITUDE: LONGITUDE: DEPTH (FT): (M):

ON BOTTOM (GMT): TIME: HABITAT:

OFF BOTTOM LATITUDE : LONGITUDE: DEPTH (FT): (M):

OFF BOTTOM (GMT): TIME: 7:05:00 AM HABITAT:

DEPTH (Ft-MAX): (M): (Ft-MIN): (M):

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): (MPH): (DIR FROM):

SEAS (FT): SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **8-VII-12-2** **MILSORTCODESITE:** **201207082**

METHOD (DIVE #): ROV 4 DEPLOY TIME 10:01:43 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida, North Florida MPA site, Station 7, south of MPA, west of main ridge

DVD: 1 Hard Drive: 2 HD Cam 0

TARGET LATITUDE: 30°15.2647'N LONGITUDE: 80°15.9359'W DEPTH (FT): 197 (M): 60

TARGET DESCRIPTION: Low relief hard bottom, rock pavement, 30 cm outcrops; sediment

ON BOTTOM LATITUDE: 30°15.1430'N LONGITUDE: 80°16.0310'W DEPTH (FT): 197 (M): 60

ON BOTTOM (GMT): TIME: 10:05 HABITAT: Pavement with sediment vaneer; some exposed bed rock

OFF BOTTOM LATITUDE : 30°16.3710'N LONGITUDE: 80°15.6320'W DEPTH (FT): 171 (M): 52

OFF BOTTOM (GMT): TIME: 10:45:43 AM HABITAT: sand

DEPTH (Ft-MAX): 177 (M): 54 (Ft-MIN): 171 (M): 52

COLLECTORS: Andy Shepard, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 11 (DIR FROM): 240

SEAS (FT): 1-2 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 4, Site #- 8-VII-12-2. Target Site – outside and south of North Florida MPA; 30°15.2647'N, 80° 15.9359'W; 60 m. ROV survey outside MPA site; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N, west of main ledge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current approx. 2 kn. Difficulty station keeping; drifting N at 1 kn; pulled off bottom during transect.

Site Description/Habitat/Biota:
West of main ridge and on west side of multibeam feature. Dive track 90-120 m west of plotted transect line; depth range 52-54 m. Flat, soft bottom with cobble and sand; patchy rock pavement with sediment veneer, sparse exposed bedrock, 20-50 cm relief, some to 1.5 m, patchy small boulders and cobble.

Dominant Benthic Biota: Antipathidae- Stichopathes, Gorgonacea- purple Plexauridae, Hydroida; Demospongiae- Ircinia campana.
Fish: tatler, grey triggerfish, reef butterfly, squirrelfish.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **8-VII-12-3** **MILSORTCODESITE:** **201207083**

METHOD (DIVE #): ROV 5 DEPLOY TIME 5:04:22 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: Georgia, MPA site, Station 8, SW outside of MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 31°31.3200'N LONGITUDE: 79°43.9800'W DEPTH (FT): 230 (M): 70

TARGET DESCRIPTION: Low relief hard bottom, rock pavement, low rock outcrops

ON BOTTOM LATITUDE: 31°31.3920'N LONGITUDE: 79°43.9840'W DEPTH (FT): 236 (M): 72

ON BOTTOM (GMT): TIME: 17:10 HABITAT: soft bottom; asymetrical ripples;

OFF BOTTOM LATITUDE : 31°32.5160'N LONGITUDE: 79°44.0470'W DEPTH (FT): 203 (M): 62

OFF BOTTOM (GMT): TIME: 6:20:00 PM HABITAT: soft bottom, sand

DEPTH (Ft-MAX): 236 (M): 72 (Ft-MIN): 203 (M): 62

COLLECTORS: Andy Shepard, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 10 SAL (PPT):

CURRENT (Kn): 1.2 (DIRECTION FROM): SW

WEATHER (CLOUD COVER): Sunny (MPH): 12.86 (DIR FROM): 183

SEAS (FT): 1-2 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 5, Site #- 8-VII-12-3. Target Site – outside and SW of Georgia MPA; 31°31.3200'N; 79°43.9800'W; 70 m. ROV survey outside MPA; no multibeam data. Conduct video/photo transect S-N along low relief features.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.2 kn to NE. Good station keeping, stayed on transect line. No multibeam or bathymetric data.

Site Description/Habitat/Biota:
Mostly soft sediment, sand with sparse shell hash, asymmetrical ripples, sparse bioturbation. Patches of hard bottom, rock pavement, low relief rock outcrops, 10-20 cm boulders; 62-72 m; hard bottom at 62-64 m.

Dominant Benthic Biota: Asteroidea- Luidia; Holothuroidea; Cidaroidea; Pennatulacea-Virgularia; Cerianthidae; Antipathidae- Stichopathes, Tanacetipathes; Demospongiae (several spp.)- Ircinia campana; Polychaeta- Filograna; Ascidiacea- Didemnidae. Fish: flounder, tonguefish, lizardfish, batfish, bank seabass, sea robin, bigeye, tatler, red porgy, spotfin butterfly, bank butterfly, porcupine fish, numerous lionfish (7).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **9-VII-12-1** **MILSORTCODESITE:** **201207091**

METHOD (DIVE #): CTD 4 DEPLOY TIME 7:00:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 9, outside MPA, near north border

DVD: _____ Hard Drive: _____ HD Cam _____

TARGET LATITUDE: 32°25.3810'N LONGITUDE: 78°57.0770'W DEPTH (FT): 213 (M): 65

TARGET DESCRIPTION: _____

ON BOTTOM LATITUDE: _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

ON BOTTOM (GMT): TIME: _____ HABITAT: _____

OFF BOTTOM LATITUDE : _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

OFF BOTTOM (GMT): TIME: 7:08:00 AM HABITAT: _____

DEPTH (Ft-MAX): _____ (M): _____ (Ft-MIN): _____ (M): _____

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): _____ (°F): _____ VIS (Ft): _____ SAL (PPT): _____

CURRENT (Kn): _____ (DIRECTION FROM): _____

WEATHER (CLOUD COVER): _____ (MPH): _____ (DIR FROM): _____

SEAS (FT): _____ SEAS (DIR FROM): _____

TOTAL NUMBER OF SAMPLES: _____

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 9-VII-12-2 **MILSORTCODESITE:** 201207092

METHOD (DIVE #): ROV 6 DEPLOY TIME 7:45:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 10, outside MPA, near north border

DVD: 3 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°24.0600'N LONGITUDE: 79°00.5400'W DEPTH (FT): 180 (M): 55

TARGET DESCRIPTION: Flat sand; areas of hard bottom, low relief rock pavement, exposed rock outcrops

ON BOTTOM LATITUDE: 32°24.1040'N LONGITUDE: 79°00.6330'W DEPTH (FT): 167 (M): 51

ON BOTTOM (GMT): TIME: 7:49 HABITAT: flat soft bottom; sand

OFF BOTTOM LATITUDE : 32°24.5070'N LONGITUDE: 78°59.7370'W DEPTH (FT): 161 (M): 49

OFF BOTTOM (GMT): TIME: 10:28:00 AM HABITAT: Hard bottom; soft bottom; Rock; 50% cover;

DEPTH (Ft-MAX): 167 (M): 51 (Ft-MIN): 154 (M): 47

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 40 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM): W

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 23 (DIR FROM): 230

SEAS (FT): 3-5 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 6, Site #- 9-VII-12-2. Target Site – outside South Carolina Edisto MPA, near north border; 32° 24.0600'N; 79°00.5400'W; 55 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct two video/photo transects on low relief pavement and along NE oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn to NE. Good station keeping, stayed on transect line. Trouble with digital still- unable to use manual w/ shutter priority. Used auto mode.

Site Description/Habitat/Biota:
Transect 1: Head east along border of MPA. Flat sediment, sand w/ dense Cyanophyta cover; areas of hard bottom, low relief rock pavement, exposed rock outcrops with 10-50 cm relief. Rock ledge 47 m top, 49.5 m base. Transect 2: Head NE parallel to ridge on multibeam map. All hard bottom. Rock pavement, rock outcrops 10-50 cm relief, some ledges 1 m. 80-100% rock cover on top of ridge; rock rubble and sediment along E base of ridge; 50% cover of rock boulders, 1 m relief, some 2 m relief, very rugose along west edge of ridge. Depth range 47-51 m.

Dominant Benthic Biota: Gorgonacea- purple plexaurid, Diodogorgia, Titanideum frauenfeldii, Ellisella, Leptogorgia; Antipatharia- Stichopathes; Demospongiae- Ircinia campana, tan cake sponge, Axinellida, many spp.; Hydroida; Annelida- Filograna; Echinoidea- Clypeaster; Decapoda- Panulirus argus; Ascidiacea- Didemnidae; Chlorophyta- Ulva?, leafy green, Codium; Rhodophyta- several spp., red blade; Phaeophyta- Sargassum (attached); Cyanophyta- mats on sediment and invertebrates.
Fish: yellow tail damselfish, reef butterfly, bank butterfly, tomtate, vermillion snapper, porgy (common), scamp (several), gag (few), graysby (common), spotfin hogfish, hogfish, scrawled cowfish, Brotulidae, wrasse bass, jackknife fish, blue angelfish, queen angelfish, rock beauty, blue spotted cornet fish, lionfish (common- 40).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **9-VII-12-3** **MILSORTCODESITE:** **201207093**

METHOD (DIVE #): ROV 7 DEPLOY TIME 12:03:25 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

DVD: 4 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°23.2200'N LONGITUDE: 79°02.5200'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: Ridge with steep drop-off, rugged topography, rock slabs undercut and broken

ON BOTTOM LATITUDE: 32°22.6870'N LONGITUDE: 79°02.9270'W DEPTH (FT): 164 (M): 50

ON BOTTOM (GMT): TIME: 12:05 HABITAT:

OFF BOTTOM LATITUDE : 32°23.8770'N LONGITUDE: 79°01.7750'W DEPTH (FT): 157 (M): 48

OFF BOTTOM (GMT): TIME: 3:29:56 PM HABITAT: soft bottom; off ledge on the east side of the ridge

DEPTH (Ft-MAX): 171 (M): 52 (Ft-MIN): 151 (M): 46

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 10-15 (DIR FROM): SW

SEAS (FT): 3-4 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 7, Site #- 9-VII-12-3. Target Site – South Carolina Edisto MPA; 32°23.2200'N; 79°02.5200'W; 50 m. ROV survey inside MPA; ground truth multibeam sonar of site. Conduct video/photo transects on north ridge, oriented NE-SW; Transect 4 and 5 along west edge of ridge, Transect 6 along east edge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn to NE. Good station keeping, stayed on transect line. Camera in manual mode, shutter priority 1/125 s.

Site Description/Habitat/Biota:
Transect 4 and 5, heading NE along west slope of main ridge which is ~150 m wide, oriented NE-SW. Middle of ridge- rock pavement, rock outcrops 80-100% cover, dense biota; west slope- steep drop-off with rugged topography, rock slabs undercut and broken off forming 1-2 m ledges, total relief of 4 m. Top of slope 46.5 m, base of west slope are rock slabs and boulders on sediment, grading into sediment at 52 m. Slope over ~10-20 m in width. Transect 6 heading NE along east edge of ridge. Less rugose than west slope. Drop-off from 47 m at top of east slope to 50 m at base. Rock slabs 50-100 cm relief.

Dominant Benthic Biota: Gorgonacea- Telesto, Swiftia, Diodogorgia, purple plexaurid, Diodogorgia, Ellisella; Antipatharia- Stichopathes, bushy white; Demospongiae- Ircinia campana, Callyspongia, tan cake sponge, Axinellida, many spp.; Hydroida; Decapoda- Panulirus argus; Ascidiacea- Didemnidae, Eudistoma; Chlorophyta- Codium, Caulerpa?; Rhodophyta- several spp., red blade; Phaeophyta- Sargassum (attached), Dictyota.
Fish: spawning(?) aggregation of scamp on west ridge (>50 in one aggregation), gag, snowy grouper, Yellow tail damselfish, reef butterfly, bank butterfly, banded butterfly, French angelfish, scorpionfish, tomtate, vermillion snapper (large schools), porgy (common), graysby (common), spotfin hogfish, hogfish, scrawled cowfish, blue angelfish, blue spotted cornet fish, lionfish (abundant- 150).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **9-VII-12-4** **MILSORTCODESITE:** **201207094**

METHOD (DIVE #): ROV 8 DEPLOY TIME 4:26:00 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

DVD: 1 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°25.9200'N LONGITUDE: 78°57.9000'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: Ridge outside of Edisto MPA site

ON BOTTOM LATITUDE: 32°25.8930'N LONGITUDE: 78°58.9040'W DEPTH (FT): 167 (M): 51

ON BOTTOM (GMT): TIME: 16:28 HABITAT: Rock pavement; large slabs lowe relief <50 cm; 100% cover HB

OFF BOTTOM LATITUDE : 32°26.2980'N LONGITUDE: 78°57.5020'W DEPTH (FT): 171 (M): 52

OFF BOTTOM (GMT): TIME: 5:27:37 PM HABITAT: Soft bottom; Rock; base of ridge on west side;

DEPTH (Ft-MAX): 177 (M): 54 (Ft-MIN): 157 (M): 48

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 45 SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 15 (DIR FROM): SW

SEAS (FT): 3-4 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 8, Site #- 9-VII-12-4. Target Site – outside and north of South Carolina Edisto MPA; 32°25.9200'N; 78°57.9000'W; 50 m. ROV survey outside MPA site; ground truth multibeam sonar of site. Conduct one video/photo transect along west edge of NE-SW oriented ridge of multibeam map.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.5 kn to NW. Good station keeping, stayed on transect line. Camera in manual mode, shutter priority 1/125 s.

Site Description/Habitat/Biota:
Transect along NE-SW oriented ridge, ~100 m wide, along west edge of ridge. Similar to ROV site 7. High relief slope from 46-48 m at top of ridge to 52-53 m at west base. Large rock slabs, undercut ridge with 1-2 m relief; rugged topography. Base of ridge with rock slabs and boulders grading to sand sediment.

Dominant Benthic Biota: Gorgonacea- purple plexaurid, Nicella; Antipatharia- Stichopathes, bushy white; Hydroida; Demospongiae- Ircinia campana, tan cake, Aplysina, Callyspongia vaginalis; Annelida- Filograna; Ascidiacea- Eudistoma; Phaeophyta- Sargassum (attached).
Fish: scamp (common), gag, tomtate, vermillion snapper, blue angelfish, yellowtail reeffish, hogfish, spotfin hogfish, short bigeye, bigeye, porgy, reef butterfly, purple reeffish, queen angelfish, graysby, lionfish (common- 29).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **10-VII-12-1** **MILSORTCODESITE:** **201207101**

METHOD (DIVE #): CTD 5 DEPLOY TIME 6:59:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 13, north and outside MPA

DVD: _____ Hard Drive: _____ HD Cam _____

TARGET LATITUDE: 32°23.1860'N LONGITUDE: 78°59.9020'W DEPTH (FT): 210 (M): 64

TARGET DESCRIPTION: _____

ON BOTTOM LATITUDE: _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

ON BOTTOM (GMT): TIME: _____ HABITAT: _____

OFF BOTTOM LATITUDE : _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

OFF BOTTOM (GMT): TIME: 7:06:00 AM HABITAT: _____

DEPTH (Ft-MAX): _____ (M): _____ (Ft-MIN): _____ (M): _____

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): _____ (°F): _____ VIS (Ft): _____ SAL (PPT): _____

CURRENT (Kn): _____ (DIRECTION FROM): _____

WEATHER (CLOUD COVER): _____ (MPH): _____ (DIR FROM): _____

SEAS (FT): _____ SEAS (DIR FROM): _____

TOTAL NUMBER OF SAMPLES: _____

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 10-VII-12-2 **MILSORTCODESITE:** 201207102

METHOD (DIVE #): ROV 9 DEPLOY TIME 7:50:40 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 14, south ridge inside MPA

DVD: 3 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°20.5800'N LONGITUDE: 79°03.1200'W DEPTH (FT): 197 (M): 60

TARGET DESCRIPTION: Rock pavement and high relief ridge slope

ON BOTTOM LATITUDE: 32°01.4600'N LONGITUDE: 79°03.1680'W DEPTH (FT): 184 (M): 56

ON BOTTOM (GMT): TIME: 7:55 HABITAT: hard bottom; patchy low relief pavement; rubble; 50% cover

OFF BOTTOM LATITUDE : 32°21.2710'N LONGITUDE: 79°02.7320'W DEPTH (FT): 167 (M): 51

OFF BOTTOM (GMT): TIME: 10:46:28 AM HABITAT: flat pavement; sediment veneer

DEPTH (Ft-MAX): 174 (M): 53 (Ft-MIN): 151 (M): 46

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 17 (°F): 62.6 VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 18 (DIR FROM): 227

SEAS (FT): 3-5 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 9, Site #- 10-VII-12-2. Target Site – South Carolina Edisto MPA; 32°20.5800'N; 79°03.1200'W; 60 m. ROV survey inside MPA; ground truth multibeam sonar of site. Conduct two S to N video/photo transects along middle and edge of south ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.25 kn from SW.

Site Description/Habitat/Biota:
Transect 1: low relief hard bottom, light orange zone of multibeam; 51.0- 51.5 m. Mostly low relief pavement, smooth exposed rock with no ledges, pavement with sediment veneer; sediment with Cyanophyta cover. 30-80% hard bottom cover. Sparse epifauna dominated by gorgonians, very few demosponges, and very few fish. Transect 2: in red zone of multibeam; transect in middle region of red zone mostly low relief rock pavement, and pavement with sediment veneer, with few or no small ledges; sparse sessile fauna and fish. Continue transect along west edge of high relief ridge. Top of ledge 47.5 m, base of slope 52-53 m. Slope very rugged, upper slope with 1 m ledges, undercut slabs, <30o slope to base. Lower slope and base with rock slabs, boulders, ledges 50-100 cm, then grading to sediment with Cyanophyta veneer at 52 m.

Dominant Benthic Biota: Very dense sessile biota dominated by purple gorgonians, Ellisellidae (several spp.), hydroids, Antipatharia (several spp.), and demosponges. Gorgonacea- Ellisella (whip, tan, li-pink), Ellisella barbadensis, Ellisella (erect branching), purple Plexaurid, Swiftia exserta, Nicella? (40 cm purple); Demospongiae- Ircinia campana, Ircinia strobilina, Callyspongia vaginalis, tan cake sponge, orange Axinellida, Aplysina (finger sponge), Spirastrellidae (encrusting); Antipathidae- Stichopathes, white bush, bottle brush, white mesh fan, Tanacetipathes; Hydroida; Annelida- Filograna (with ye Cyanophyta); Ascidiacea- Didemnidae (encrusting buttons), Eudistoma; Decapoda- Panulirus argus; Phaeophyta- Dictyota, Sargassum (attached); Chlorophyta- Ulva?, green blade, Codium; Rhodophyta- red blades.
Fish: scamp (common), Amberjack, tomtate (large schools), vermillion snapper (large school), reef butterfly, bank butterfly, cornet fish, cowfish, sharpnose puffer, gag (few), blue angelfish, lionfish, soldierfish, Calamus porgy, short bigeye, tatler, jackknife fish, flying gurnard, lionfish (common, 35).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **10-VII-12-3** **MILSORTCODESITE:** **201207103**

METHOD (DIVE #): ROV 10 DEPLOY TIME 12:06:01 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°16.3800'N LONGITUDE: 79°09.8400'W DEPTH (FT): 180 (M): 55

TARGET DESCRIPTION: Narrow ridge oriented SE-NW

ON BOTTOM LATITUDE: 32°15.9960'N LONGITUDE: 79°10.1330'W DEPTH (FT): 177 (M): 54

ON BOTTOM (GMT): TIME: 12:08 HABITAT: hard bottom; high relief; 1-2 m relief

OFF BOTTOM LATITUDE : 32°16.6030'N LONGITUDE: 79°09.6570'W DEPTH (FT): 177 (M): 54

OFF BOTTOM (GMT): TIME: 2:07:04 PM HABITAT: Rock; large rock outcrops; 0.5 m relief

DEPTH (Ft-MAX): 167 (M): 51 (Ft-MIN): 177 (M): 54

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM):

WEATHER (CLOUD COVER): (MPH): 18-20 (DIR FROM): 185

SEAS (FT): 3-4 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 10, Site #- 10-VII-12-3. Target Site – outside and southwest of South Carolina Edisto MPA; 32° 16.3800'N; 79°09.8400'W; 55 m. ROV survey outside MPA site; ground truth multibeam sonar of site. Conduct video/photo transect along ridge; narrow ridge, 50 m wide, oriented SE-NW. Multibeam pixel resolution of sonar map is ~20 m.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.25 kn from SW.

Site Description/Habitat/Biota:
West slope of ridge: high relief, fractured rock slabs, undercut ledges, 1/2 to 2 m relief; top of slope 51 m, base 54 m. Slope <30o, 10-20 m wide. Lower slope fractured rock slabs 3-4 m wide, 1/2-1 m relief; boulders grading to sand with Cyanophyta veneer. Top middle of ridge, fractured rock, 1/2 m relief, less rugose. East slope of ridge, narrow slope 10 m, < 30o slope, top-51 m, base 54.5 m. Fractured rock slabs, 1/2-1 m relief, but less rugose than west slope.

Dominant Benthic Biota: Very diverse and dense demosponges, gorgonians, and black coral common. Gorgonacea- Nicella (30-40 cm purple fan), Diodogorgia nodulifera? (10 cm purple, knobby); Hydroida; Antipatharia- Stichopathes, Antipathidae (several spp); Demospongiae- Ircinia campana, Ircinia strobilina, Callyspongia vaginalis, Aplysina, numerous thin encrusting spp, Erylus, Cinachyra, Spirastrellidae, Holopsamma?, tan cake; Annelida- Filograna; Decapoda- Panulirus argus, slipper lobster; Mollusca- spiny oyster; Ascidiacea- Didemnidae, Eudistoma.
Fish: scamp (common), gag, tomtate (large schools), vermillion snapper (large schools), amberjack, reef butterfly, bank butterfly, cornet fish, blue angel, French angel, bigeye, short bigeye, spadefish, spotfin hog, hogfish, spotted goatfish, purple reeffish, cowfish, graysby, ocean surgeonfish, southern? Stingray, lionfish (abundant, 119).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **10-VII-12-4** **MILSORTCODESITE:** **201207104**

METHOD (DIVE #): ROV 11 DEPLOY TIME 3:54:10 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°28.3200'N LONGITUDE: 78°54.8400'W DEPTH (FT): 171 (M): 52

TARGET DESCRIPTION: rock ridge and ledges

ON BOTTOM LATITUDE: 32°28.3100'N LONGITUDE: 78°54.8280'W DEPTH (FT): 157 (M): 48

ON BOTTOM (GMT): TIME: 15:57 HABITAT: pavement; 1-2 m ledge at the dropoff; west slope of ridge

OFF BOTTOM LATITUDE : 32°28.7400'N LONGITUDE: 78°54.1460'W DEPTH (FT): 157 (M): 48

OFF BOTTOM (GMT): TIME: 5:52:52 PM HABITAT: hard bottom; on track line; rock pavement low relief

DEPTH (Ft-MAX): 171 (M): 52 (Ft-MIN): 154 (M): 47

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 19.3 (°F): 66.74 VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 18 (DIR FROM): 177

SEAS (FT): 3-5 SEAS (DIR FROM): S

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 11, Site #- 10-VII-12-4. Target Site – ridge outside and north of South Carolina Edisto MPA; 32° 28.3200'N; 78°54.8400'W; 52 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect S to N along ridge oriented NE-SW, ~75 m wide. Multibeam pixel resolution ~20 m.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
West slope of ridge is rugged, fractured rock slabs; top of ridge 48 m, base 51.5 m, <30o slope, 15-20 m wide; upper slope- very rugged, rock slabs, undercut 1-2 m relief; lower slope- 10o slope, rock slabs, 1/2-1 m relief; base of slope- rock slabs and boulders, 1/2 m relief grading to 100% sediment with Cyanophyta veneer at 52 m. Top middle of ridge- flat rock pavement, low relief, 48 m. East slope <10o, rock pavement, few ledges.

Dominant Benthic Biota: Very dense cover dominated by gorgonians, algae, sponges and some black coral. Top of ridge with abundant Dictyota, Diodogorgia, Swiftia, Nicella, hydroids and Antipatharia. Gorgonacea- Diodogorgia (10 cm knobby purple), Ellisella (branching), Swiftia (30-60 cm orange), Nicella (30-50 cm purple fan), Titanideum frauenfeldii; Corallimorpharia; Antipatharia- Stichopathes, Antipathidae (several spp, large bushy white, white mesh fan); Hydroida; Demospongiae- Ircinia campana, Geodia, Callyspongia vaginalis, Axinellida (several spp), Aplysina (tubes), Annelida- Filograna; Ascidiacea- Didemnidae, Eudistoma; Phaeophyta- Dictyota, Sargassum; Rhodophyta- flat, bifurcate blades.
Fish: scamp (common), gag, tomtate (abundant), snowy grouper, vermillion snapper, reef butterfly, bank butterfly, banded butterfly, spotfin butterfly, blue angel, queen angelfish, porcupine fish, sharpnose puffer, spotfin hogfish, hogfish, scorpionfish, graysby, cornet fish, blackbar soldier, squirrelfish, Calamus porgy, gray snapper, short bigeye, cowfish, lionfish (common, 30).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **11-VII-12-1** **MILSORTCODESITE:** **201207111**

METHOD (DIVE #): CTD 6 DEPLOY TIME 7:00:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 17, ridge north and outside MPA

DVD: _____ Hard Drive: _____ HD Cam _____

TARGET LATITUDE: 32°23.6720'N LONGITUDE: 78°55.3770'W DEPTH (FT): 279 (M): 85

TARGET DESCRIPTION: _____

ON BOTTOM LATITUDE: _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

ON BOTTOM (GMT): TIME: _____ HABITAT: _____

OFF BOTTOM LATITUDE : _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

OFF BOTTOM (GMT): TIME: 7:06:00 AM HABITAT: _____

DEPTH (Ft-MAX): _____ (M): _____ (Ft-MIN): _____ (M): _____

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): _____ (°F): _____ VIS (Ft): _____ SAL (PPT): _____

CURRENT (Kn): _____ (DIRECTION FROM): _____

WEATHER (CLOUD COVER): _____ (MPH): _____ (DIR FROM): _____

SEAS (FT): _____ SEAS (DIR FROM): _____

TOTAL NUMBER OF SAMPLES: _____

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **11-VII-12-2** **MILSORTCODESITE:** **201207112**

METHOD (DIVE #): ROV 12 DEPLOY TIME 7:57:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°28.6200'N LONGITUDE: 78°55.0200'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: Ridge north of MPA

ON BOTTOM LATITUDE: 32°28.6140'N LONGITUDE: 78°55.0140'W DEPTH (FT): 157 (M): 48

ON BOTTOM (GMT): TIME: 8:00 HABITAT: Rock ridge, ledges

OFF BOTTOM LATITUDE : 32°28.9350'N LONGITUDE: 78°54.4530'W DEPTH (FT): 151 (M): 46

OFF BOTTOM (GMT): TIME: 9:30:34 AM HABITAT: top edge of reef 46 m low relief .5 m tall;

DEPTH (Ft-MAX): 157 (M): 48 (Ft-MIN): 148 (M): 45

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 19 (°F): 66.2 VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 9.0 (DIR FROM): 181

SEAS (FT): 2-3' SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 12, Site #- 11-VII-12-2. Target Site – ridge outside and north of South Carolina Edisto MPA; 32° 28.6200'N, 78°55.0200'W; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect along ridge, oriented SW-NE.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
Transect along moderate relief ridge (depth range-45-48 m) oriented SW-NE. Sediment gaps of 50-100 m width cut the ridge in several spots. The narrow ridge top is ~50 m wide; low relief rock pavement. The western upper slope has 1-3 ledges of 1-2 m relief, the lower slope extends over 15 m in width with low relief rock slabs, 3-4 m diameter, and 1/2 m relief, grading to flat sediment. The east slope is similar. Further north in the transect the reef ridge drops to about 15 m width, and relief of 1/2 to 1 m.

Dominant Benthic Biota: Dense cover dominated by gorgonians, sponges, black coral, and algae. Gorgonacea- Swiftia exserta (common), Diodogorgia, Nicella (20 cm), Telesto, Ellisella; Antipatharia- Stichopathes, Antipathes (bushy white); Hydroida; Demospongiae- Ircinia campana, Spirastrellidae, encrusting pink (common), Axinellida, Aplysina; Annelida- Filograna; Mollusca- Cassius; Decapoda- Panulirus argus; Holothuroidea; Ascidiacea- Eudistoma; Phaeophyta- Dictyota; Rhodophyta; Cyanophyta.
Fish: scamp (common), gag, tomtate (abundant), vermillion snapper, reef butterfly, soapfish, blue angelfish, cowfish, short bigeye, spotfin hogfish, greater amberjack, white grunt, gray snapper, shortnose puffer, graysby, red porgy, Calamus porgy, blackbar soldierfish, gray triggerfish, goatfish, nurse shark, lionfish (common, 82).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **11-VII-12-3** **MILSORTCODESITE:** **201207113**

METHOD (DIVE #): ROV 13 DEPLOY TIME 10:17:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°29.8200'N LONGITUDE: 78°51.9600'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: Ridge north of MPA

ON BOTTOM LATITUDE: 32°29.8120'N LONGITUDE: 78°51.9740'W DEPTH (FT): 151 (M): 46

ON BOTTOM (GMT): TIME: 10:21 HABITAT: hard bottom; Rock; 46.5 m top; rock slabs fractured, 1-2 m relief;

OFF BOTTOM LATITUDE : 32°29.9370'N LONGITUDE: 78°51.3070'W DEPTH (FT): 151 (M): 46

OFF BOTTOM (GMT): TIME: 12:02:27 PM HABITAT: soft bottom; off reef

DEPTH (Ft-MAX): 157 (M): 48 (Ft-MIN): 151 (M): 46

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 20 (°F): 68 VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 13 (DIR FROM): 208

SEAS (FT): 2-3 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 13, Site #- 11-VII-12-3. Target Site – ridge outside and north of South Carolina Edisto MPA; 32° 29.8200'N, 78°51.9600'W; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect along ridge to NE.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
Low to moderate relief ridge; top 46.5 m, base on sand 48 m. Ridge very narrow 10-15 m; top rock slabs, fractured; west slope 1 m ledges, 2-4 m diameter rock slabs at base. Ridge broken with sand between; very light orange on multibeam. Main ridge ends; mostly soft bottom sand with patches of Cyanophyta; small patch reefs of scattered rock slabs, < 1m relief.

Dominant Benthic Biota: Dense cover dominated by gorgonians, sponges and black coral. Gorgonacea- Diodogorgia (10 cm knobby purple), Telesto, Ellisella (branching), Swiftia (30-60 cm orange), Nicella (30-50 cm purple fan); Corallimorpharia; Antipatharia- Stichopathes, Antipathidae (several spp, large bushy white, white mesh fan); Hydroida; Demospongiae- Ircinia campana, Axinellida (several spp), Spirastrellidae; Decapoda- Panulirus argus; Ascidiacea- Didemnidae, Eudistoma; Phaeophyta- Dictyota, Sargassum; Rhodophyta- flat, bifurcate blades.
Fish: scamp (common), gag, tomtate (abundant), vermillion snapper, reef butterfly, blue angel, queen angelfish, spotfin hogfish, hogfish, graysby, greater amberjack, squirrelfish, scrawled cowfish, Calamus porgy, cubbyu, gray snapper, southern stingray, short bigeye, rock beauty, lionfish (common, 76).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **11-VII-12-4** **MILSORTCODESITE:** **201207114**

METHOD (DIVE #): ROV 14 DEPLOY TIME 12:47:25 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°30.6600'N LONGITUDE: 78°48.9600'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: Ridge north of MPA

ON BOTTOM LATITUDE: 32°30.6440'N LONGITUDE: 78°48.9690'W DEPTH (FT): 164 (M): 50

ON BOTTOM (GMT): TIME: 12:49 HABITAT: flat rock pavement; rubble; low relief <.5 m ; boulders < 1 m

OFF BOTTOM LATITUDE : 32°32.1960'N LONGITUDE: 78°48.5420'W DEPTH (FT): 233 (M): 71

OFF BOTTOM (GMT): TIME: 2:13:39 PM HABITAT: end of reef ledge

DEPTH (Ft-MAX): 151 (M): 46 (Ft-MIN): 167 (M): 51

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 20.8 (°F): 69.44 VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.2 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 8.6 (DIR FROM): 192

SEAS (FT): 3 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 14, Site #- 11-VII-12-4. Target Site – ridge outside and north of South Carolina Edisto MPA; 32° 30.6600'N, 78°48.9600'W; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Single transect along NE-SW oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
Transect starts with low relief rock pavement, sediment veneer; 48.5 m. Ridge begins as rock slabs, 1/2-1 m relief, 50.5 m at base on west side. Ledge increases to extensive high relief feature, 51 m at base and 46 m top. Top of ledge undercut, small zone of rock slabs at base. Large schools of tomtate and scamp. Ledge decreases as go N to 2 m, 47-49 m on west drop-off. Top of ledge is flat rock slab, pavement, 10 m wide then grades into sand with no ledge on east side. At end of transect the west ledge has decreased to 1/2 m relief.

Dominant Benthic Biota: Scleractinia- solitary cup (clusters); Gorgonacea- Swiftia exserta (abundant), Nicella (30 cm), Diodogorgia, Telesto; Hydroida; Antipatharia- Stichopathes, other spp; Demospongiae- Callyspongia vaginalis, Spirastrellidae, Axinellida, Aplysina; Crinoid, Comatulid; Holothuroidea; Decapoda- Panulirus argus; Chlorophyta- stalked blade, Codium, spp; Rhodophyta- flat, bifurcate blade; Phaeophyta- Dictyota, Sargassum; Ascidiacea- Eudistoma.
Fish: scamp (abundant up to 20 in school), gag, greater amberjack, tomtate (huge schools), cornet fish, trumpet fish, southern stingray, rock hind, graysby, cubbyu, blue angelfish, scorpion fish, squirrelfish, surgeonfish, spotfin hogfish, rock beauty, spotted goatfish, jackknife fish, short bigeye, Calamus porgy, lionfish (common, 91).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 11-VII-12-5 **MILSORTCODESITE:** 201207115

METHOD (DIVE #): ROV 15 DEPLOY TIME 2:50:30 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°30.9000'N LONGITUDE: 78°47.9400'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: SW-NE oriented ridge

ON BOTTOM LATITUDE: 32°30.8390'N LONGITUDE: 78°47.9210'W DEPTH (FT): 161 (M): 49

ON BOTTOM (GMT): TIME: 14:50 HABITAT: hard bottom, top of ridge; undercut ledge on the west side

OFF BOTTOM LATITUDE : 32°31.3860'N LONGITUDE: 78°47.2790'W DEPTH (FT): 167 (M): 51

OFF BOTTOM (GMT): TIME: 4:41:05 PM HABITAT: 1-2 m, ledge on soft bottom

DEPTH (Ft-MAX): 177 (M): 54 (Ft-MIN): 161 (M): 49

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 20.8 (°F): 69.44 VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM):

WEATHER (CLOUD COVER): (MPH): 11 (DIR FROM): 228

SEAS (FT): 2 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 15, Site #- 11-VII-12-5. Target Site – ridge outside and north of South Carolina Edisto MPA; 32° 30.9000'N, 78°47.9400'; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect along SW-NE oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from SW.

Site Description/Habitat/Biota:
Narrow linear ridge oriented SW-NE; depth range 49-54 m which shows on multibeam as a well-defined dark orange ridge ~60 m wide. Video confirms this feature. Transected along west slope, top and east slope. Ridge broken in several spots separated by 100-150 m of sediment. Top of main ridge 50 m; upper west slope is high relief ledge 1-2 m, and often undercut 1-2 m; below the ledges is a zone of large rock slabs, 1-4 m diameter, 1 m thick which extends out 10-20+ m from the wall, ending in sediment at 54 m. The east slope of the ridge is similar in morphology as the west; top of east slope 49 m, base in sand is 54 m. The rock slab zone extends out further in parts to 30 m or more. The north end of each reef section decreases in height to 1-2 m, then scattered rock slabs grading into sediment gap.

Dominant Benthic Biota: The dominant sessile fauna are gorgonians, hydroids, sponges, and algae. Gorgonacea- Swiftia exserta, Nicella (30 cm), Diodogorgia, Telesto; Hydroida (2 spp common); Antipatharia- Stichopathes, Antipathes (bushy gray); Demospongiae- Ircinia campana, Callyspongia vaginalis, Spirastrellidae, Axinellida, Aplysina, Geodia; Crinoid- Comatulid; Holothuroidea; Decapoda- Panulirus argus; Chlorophyta- stalked blade, Codium, spp; Rhodophyta- flat, bifurcate blade; Phaeophyta- Dictyota, Sargassum; Cyanophyta; Ascidiacea- Eudistoma.
Fish: scamp (abundant up to 20+ in school), gag, greater amberjack, tomtate, vermillion snapper, cornet fish, trumpet fish, graysby, blue angelfish, scorpion fish, surgeonfish, spotfin hogfish, rock beauty, purple reef fish, reef butterfly, bank butterfly, rock hind, shortnose puffer, spotted goatfish, jackknife fish, short bigeye, bigeye, Calamus porgy, lionfish (common, 116).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 12-VII-12-1 **MILSORTCODESITE:** 201207121

METHOD (DIVE #): CTD 7 DEPLOY TIME 7:00:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Carolina, Station 22,

DVD: Hard Drive: HD Cam

TARGET LATITUDE: 33°11.1370'N LONGITUDE: 77°23.8210'W DEPTH (FT): 328 (M): 100

TARGET DESCRIPTION:

ON BOTTOM LATITUDE: LONGITUDE: DEPTH (FT): (M):

ON BOTTOM (GMT): TIME: HABITAT:

OFF BOTTOM LATITUDE : LONGITUDE: DEPTH (FT): (M):

OFF BOTTOM (GMT): TIME: 7:07:00 AM HABITAT:

DEPTH (Ft-MAX): (M): (Ft-MIN): (M):

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): (MPH): (DIR FROM):

SEAS (FT): SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 12-VII-12-2 **MILSORTCODESITE:** 201207122

METHOD (DIVE #): ROV 16 DEPLOY TIME 7:39:50 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Carolina, Station 23, south and outside the N.C. MPA

DVD: 4 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 33°11.4600'N LONGITUDE: 77°23.8200'W DEPTH (FT): 279 (M): 85

TARGET DESCRIPTION: Low relief hard bottom and sediment

ON BOTTOM LATITUDE: 33°11.4520'N LONGITUDE: 77°23.8280'W DEPTH (FT): 262 (M): 80

ON BOTTOM (GMT): TIME: 7:45 HABITAT: soft bottom; rubble; cobble; Slope- flat;

OFF BOTTOM LATITUDE : 33°11.8690'N LONGITUDE: 77°22.6830'W DEPTH (FT): 220 (M): 67

OFF BOTTOM (GMT): TIME: 11:41:07 AM HABITAT: Soft bottom; flat; patches of pavement; low relief

DEPTH (Ft-MAX): 266 (M): 81 (Ft-MIN): 220 (M): 67

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Overcast (MPH): 3 (DIR FROM): 150

SEAS (FT): Calm SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 16, Site #- 12-VII-12-2. Target Site – ridge outside and south of North Carolina MPA; 33° 11.4600'N; 77°23.8200'W; 85 m. ROV survey outside MPA; ground truth new Pisces multibeam sonar of site. Conduct video/photo transect over four waypoint features from multibeam which indicated a "drop off", "ridge" and a "bumpy zone".

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.6 kn from SW.

Site Description/Habitat/Biota:
Transect over 4 waypoints of multibeam features. Mostly sand bottom with patchy low relief rock rubble/cobble and patches of exposed pavement and low relief ledges <30 cm relief; depth range 81-67 m. Transect to WP 1: 80 m, flat sediment with 10-30% cover rock rubble, shell hash, small cobble, few small 1/2 m diameter boulders (< 20 cm relief). WP 1- 79m, 10-50% rock cobble, pavement, rock outcrops 10-15 cm relief. WP 4 (mound on multibeam) - 67.5 m, small area of exposed hard bottom, rock ledge and outcrops 30 cm relief.

Dominant Benthic Biota: Stichopathes, 10 cm purple gorgonians (Diodogorgia?), and 10 cm yellow gorgonians (Thesea?) are dominant. Gorgonacea- Diodogorgia?, Thesea?, Muricea? (40 cm white fan); Hydroida; Antipatharia- Stichopathes; Demospongiae- Spirastrellidae, Ircinia?, 20 cm cake (encrusted with yellow sponge); Annelida- Filograna; Echinodermata- Astroporpa annulata, Eucidaris?, Narcissia trigonaria; Decapoda- Stenorhynchus seticornis.
Fish: scamp (few), tatler, graysby, reef butterfly, spotfin butterfly, spotfin hogfish, bank butterfly, soapfish, sargassum triggerfish, short bigeye, Calamus porgy, creole fish, squirrelfish, blue angelfish, shortnose puffer, soldier fish, snow bass, moray eel, cowfish, rock hind, sand tilefish, greater amberjack (large school), surgeonfish, hogfish, lionfish (few, 21).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 12-VII-12-3 **MILSORTCODESITE:** 201207123

METHOD (DIVE #): ROV 17 DEPLOY TIME 12:38:37 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

DVD: 3 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 33°15.0000'N LONGITUDE: 77°16.2000'W DEPTH (FT): 279 (M): 85

TARGET DESCRIPTION: Hard bottom from Ross and Quatrinni paper and internet

ON BOTTOM LATITUDE: 33°13.7790'N LONGITUDE: 77°16.2070'W DEPTH (FT): 289 (M): 88

ON BOTTOM (GMT): TIME: 12:43 HABITAT: soft bottom; Slope- flat; rubble; shell hash;

OFF BOTTOM LATITUDE : 33°15.0230'N LONGITUDE: 77°15.1960'W DEPTH (FT): 249 (M): 76

OFF BOTTOM (GMT): TIME: 3:15:47 PM HABITAT: low relief rock pavement knolls

DEPTH (Ft-MAX): 335 (M): 102 (Ft-MIN): 223 (M): 68

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 6 (DIR FROM): 123

SEAS (FT): Calm SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 17, Site #- 12-VII-12-3. Target Site – Steeples Ledges outside and south of North Carolina MPA; 33°15.0000'N; 77°16.2000'W; 85 m. ROV survey outside MPA; no multibeam sonar of site. Conduct video/photo transect over target waypoints from Ross and Quatrini paper.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn from SW.

Site Description/Habitat/Biota:
Transect heading North across several waypoints. Various hard bottom habitats and patch reefs; depth range 76-101 m. Reef 1, WP 1: 85.5 m sand at reef base; top 82 m. Distinct reef edge, linear reef oriented E-W, rock boulders 2-4 m relief. Vertical face of rock with 10-40 cm Madracis myriaster(?) colonies, encrusting demosponges; Leptogorgia hebes and black coral (4 spp. common) on top. Top of reef eroded rock, 1/2 m relief, north side of reef drops off to 100 m in sand. Reef 2: 1-2 m rock slabs or boulders, 1/2 m relief, 50% cover, 100 m base, 98.5 m top. Reef 3: 95-89 m, eroded rock,1/2 m relief, 45o slope at edge; Madracis (15 cm- 100 cm). Reef 4: 78-79 m, rock boulders, slabs, 50 cm relief; 30 cm Madracis; patchy rock 50% cover. Reef 5: 73-74 m, low relief rock knolls, smooth rock, no ledges, 50% cover. Reef 6: 65-67.5 m, smooth rock knolls, like sand dunes on sand bottom; fairly barren. Reef 7: 69.5 m on top, more rugose, but rock knolls. Reef 8: at end WP; 76 m, smooth rock knolls, some rock ledges, 30 cm relief.

Dominant Benthic Biota: Scleractinia- Madracis (myriaster?, 10-100 cm), unid. cup coral; Gorgonacea- Leptogorgia hebes (yellow and orange); Antipatharia- ~4 spp; Hydroida; Demospongiae- Spirastrellidae (encrusting yellow and orange), Astrophorida? (lumpy white); Echinodermata- basket star; Chlorophyta- leafy green.
Fish: scamp, red grouper (1), speckled hind (1), greater amberjack, bank butterfly, reef butterfly, bigeye, blackbar soldierfish, blue angelfish, roughtongue bass (anthiids), graysby, Calamus porgy, hogfish, spotfin hog, rock beauty, sand tilefish, Spanish flag, striped bass, soapfish, tatler, tomtate, vermillion snapper, lionfish (few- 8).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **12-VII-12-4** **MILSORTCODESITE:** **201207124**

METHOD (DIVE #): ROV 18 DEPLOY TIME 4:24:52 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Carolina, Station 25, south and outside the N.C. MPA.

DVD: 1 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 33°21.0000'N LONGITUDE: 77°10.8000'W DEPTH (FT): 279 (M): 85

TARGET DESCRIPTION: Low relief rock outcrops

ON BOTTOM LATITUDE: 33°20.9970'N LONGITUDE: 77°10.8020'W DEPTH (FT): 299 (M): 91

ON BOTTOM (GMT): TIME: 16:31 HABITAT: soft bottom; Slope- flat; shell hash

OFF BOTTOM LATITUDE : 33°21.3400'N LONGITUDE: 77°10.6000'W DEPTH (FT): 249 (M): 76

OFF BOTTOM (GMT): TIME: 5:28:41 PM HABITAT: soft bottom; with small patchy rocks and cobble

DEPTH (Ft-MAX): 299 (M): 91 (Ft-MIN): 256 (M): 78

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 7 (DIR FROM): 191

SEAS (FT): 1-2 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 18, Site #- 12-VII-12-4. Target Site – outside and south of North Carolina MPA; 33°21.0000'N, 77° 10.8000'W; 85 m. ROV survey outside MPA; no multibeam sonar of the site. Conduct single video/photo transect of target waypoints from David and Harter previous dives.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.1 kn from S.

Site Description/Habitat/Biota:
Transect heading northeast across selected waypoints. Various hard bottom habitats and patch reefs; depth range 78-91 m. Flat slope, mostly sand shell hash with patches of scattered rock rubble, cobble and small boulders 0.5-3 m diameter and <30 cm relief. Dense cover of Comactinia? crinoids on all available hard substrate.

Dominant Benthic Biota: Pennatulacea; Antipatharia- Stichopathes; Demospongiae- Verongida?; Arthropoda- Stenorhynchus seticornis, hermit crabs; Echinodermata- Comactinia? crinoids (abundant); Asteroidea; Chlorophyta- leafy green; Rhodophyta- Rhodomenia?.
Fish- scamp grouper, snowy grouper, blue angelfish; butterflyfish, reef butterflyfish, eels (a few spp), high hat, short Bigeye, soapfish, tatler, triggerfish.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **13-VII-12-1** **MILSORTCODESITE:** **201207131**

METHOD (DIVE #): CTD 8 DEPLOY TIME 6:59:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Carolina, N.C. MPA, Station 26

DVD: Hard Drive: HD Cam

TARGET LATITUDE: 33°26.5080'N LONGITUDE: 76°50.3700'W DEPTH (FT): 820 (M): 250

TARGET DESCRIPTION:

ON BOTTOM LATITUDE: LONGITUDE: DEPTH (FT): (M):

ON BOTTOM (GMT): TIME: HABITAT:

OFF BOTTOM LATITUDE : LONGITUDE: DEPTH (FT): (M):

OFF BOTTOM (GMT): TIME: 7:12:00 AM HABITAT:

DEPTH (Ft-MAX): (M): (Ft-MIN): (M):

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): (MPH): (DIR FROM):

SEAS (FT): SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 13-VII-12-2 **MILSORTCODESITE:** 201207132

METHOD (DIVE #): ROV 19 DEPLOY TIME 7:50:16 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 33°26.6170'N LONGITUDE: 76°50.0150'W DEPTH (FT): 820 (M): 250

TARGET DESCRIPTION: Shipwreck, possible WWI barge

ON BOTTOM LATITUDE: 33°26.6240'N LONGITUDE: 76°50.0190'W DEPTH (FT): 801 (M): 244

ON BOTTOM (GMT): TIME: 8:10 HABITAT: Sediment by shipwreck

OFF BOTTOM LATITUDE : 33°26.6190'N LONGITUDE: 76°49.9610'W DEPTH (FT): 830 (M): 253

OFF BOTTOM (GMT): TIME: 9:29:20 AM HABITAT: Shipwreck on sediment

DEPTH (Ft-MAX): 840 (M): 256 (Ft-MIN): 794 (M): 242

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 10 (°F): 50 VIS (Ft): 10-15 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 8.0 (DIR FROM): 149

SEAS (FT): 1 SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 19, Site #- 13-VII-12-2. Target Site – North Carolina MPA, Snowy Wreck Site; actual ROV WP fix- wreck stern: 33°26.6120'N, 76°49.9670'W; port side, maximum depth at sediment- 256 m; deck depth 245-250 m. Conduct video/photo survey of shipwreck and ground truth new Pisces multibeam sonar map.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn; bottom 0 kn; visibility 10-15', dense particulate organic matter.

Site Description/Habitat/Biota:
Transect along port hull from bow to stern and on deck; ship oriented E-W, bow to west. Maximum depth is 256 m on port side at sediment; bow at deck level- 247 m; deck level on port side- 245 m; crane on main deck 242 m. No debris visible on port side on sediment. Port anchor in place. Port hull toward the stern is cracked vertically; does not appear to be bent inward or out. Rounded stern intact; deck plates open; port davits in deployed position over side; two pairs of davits.

Dominant Benthic Biota: Anemones and hydroids cover the wreck, Lophelia coral common but not abundant, mostly 10-50 cm live white colonies; most on vertical mast or pipes; sparse on vertical hull structure; very few on deck. Scleractinia- Lophelia pertusa (10-30 cm, common; 40-50 cm rare); Actiniaria- 3-4 spp, Actinoscyphia (venus fly trap, pink, 10 cm, very common), Sagartiid (pink lip, rare), white (2 cm, abundant); Hydroida; Gorgonacea- Muricea? (white fan, 15 cm), Ellisellidae (sparse eb, white); Demospongiae- yellow-orange encrusting; Decapoda- Galatheidae, Eumunida?.
Fish: snowy grouper (large school on wreck, hundreds?), Laemonema sp.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 13-VII-12-3 **MILSORTCODESITE:** 201207133

METHOD (DIVE #): ROV 20 DEPLOY TIME 1:20:00 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Carolina; N.C. MPA, Station 28, inside near border of MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 33°24.9000'N LONGITUDE: 77°04.6600'W DEPTH (FT): 295 (M): 90

TARGET DESCRIPTION: High relief rock reef; low relief pavement and sediment

ON BOTTOM LATITUDE: 33°24.8780'N LONGITUDE: 77°04.5410'W DEPTH (FT): 341 (M): 104

ON BOTTOM (GMT): TIME: 13:24 HABITAT: soft bottom;Slope- flat; sand and shell hash;

OFF BOTTOM LATITUDE : 33°25.1790'N LONGITUDE: 77°05.1710'W DEPTH (FT): 190 (M): 58

OFF BOTTOM (GMT): TIME: 2:51:22 PM HABITAT: sand

DEPTH (Ft-MAX): 387 (M): 118 (Ft-MIN): 279 (M): 85

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 18 (°F): 64.4 VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 5 (DIR FROM): 130

SEAS (FT): 1-2 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 20, Site #- 13-VII-12-3. Target Site – inside and outside of northwest border North Carolina MPA; 33°24.9000'N, 77°04.6600'W; 90 m. ROV survey inside and outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect of several multibeam features.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn from S; bottom 0.1 kn.

Site Description/Habitat/Biota:
Transect heading northwest across selected waypoints from new multibeam. WP 1 is deep drop-off from multibeam within MPA. Base of reef slope 118 m, top 75 m. 1-2 m rock boulders near base with Madracis coral colonies on vertical faces mostly near base of slope. Reef slope 10-30o, of very eroded rock, rock boulders, outcrops, 1/2 - 1 m relief. 85 m- rounded rock, top of mound, but gradual slope up to 71 m and flat sand. WP 2 to 3 is mostly sand with patchy rock rubble/cobble, and patchy low relief pavement (<30 cm exposed ledges). WP 3 to 4 at end; is outside MPA, 72-62.5 m, flat sand, sparse rubble, exposed pavement, low ledges; sand tilefish burrows common.

Dominant Benthic Biota: Sparse biota on rock, mostly encrusting sponges and hydroids. Madracis coral colonies common near the base of reef 1 (110 m) but not present higher up on reef. Scleractinia- Madracis myriaster? (20 cm diameter, white); Gorgonacea- Diodogorgia? (purple); Hydroida; Antipatharia- Stichopathes; Demospongiae- Spirastrellidae (yellow and red encrusting), Aplysina? (cluster, thick walled hollow tubes).
Fish: scamp grouper (uncommon), red grouper (several); graysby, sand tilefish (common on top in sand), hogfish, amberjack, bigeye, blue angelfish, greenband wrasse, grey trigger, razorfish, reef butterfly, rock beauty, soapfish, Spanish flag, spotfin butterfly, squirrelfish, tatler, tomtate, wrasse, wrasse bass, lionfish (24).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **13-VII-12-4** **MILSORTCODESITE:** **201207134**

METHOD (DIVE #): ROV 21 DEPLOY TIME 3:20:25 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Carolina; N.C. MPA, Station 29, inside MPA near NW border

DVD: 1 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 33°25.6370'N LONGITUDE: 77°03.6660'W DEPTH (FT): 230 (M): 70

TARGET DESCRIPTION: Low relief hard bottom on multibeam

ON BOTTOM LATITUDE: 33°25.6340'N LONGITUDE: 77°03.6680'W DEPTH (FT): 213 (M): 65

ON BOTTOM (GMT): TIME: 15:23 HABITAT: soft bottom; sand; cobble patches of cobble;

OFF BOTTOM LATITUDE : 33°25.8220'N LONGITUDE: 77°03.3140'W DEPTH (FT): 217 (M): 66

OFF BOTTOM (GMT): TIME: 4:03:04 PM HABITAT: soft bottom;

DEPTH (Ft-MAX): 217 (M): 66 (Ft-MIN): 213 (M): 65

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 9.3 (DIR FROM): 151

SEAS (FT): 1-2 SEAS (DIR FROM): SW

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 21, Site #- 13-VII-12-4. Target Site – North Carolina MPA, inside MPA near NW border; 33° 25.6370'N, 77°03.6660'W; 70 m. ROV survey inside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect over multibeam targets.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.0 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Mostly soft bottom sediment; with scattered 2-3 m diameter patches of exposed rock, 10-20 cm relief; appear to be excavated bedrock and cobble.

Dominant Benthic Biota: Sparse fauna on cobble. Each patch of exposed bedrock with short bigeyes and tatlers; no tilefish observed; sparse area of tilefish burrows. Gorgonacea- Diodogorgia? (10 cm purple fan); Hydroida; Antipatharia- Stichopathes; Demospongiae- Aplysina, Geodia; Annelida- Filograna; Echinoidea- Clypeaster; Asteroidea- Narcissia trigonaria; Chlorophyta- stalked blade; Rhodophyta (2 spp); Phaeophyta- Dictyota?.
Fish: red grouper (few), bank seabass, tatler, short bigeye, blue angelfish, wrasse and lionfish (12).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 13-VII-12-5 **MILSORTCODESITE:** 201207135

METHOD (DIVE #): ROV 22 DEPLOY TIME 2:39:14 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

DVD: 1 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 33°24.9610'N LONGITUDE: 77°04.6800'W DEPTH (FT): 295 (M): 90

TARGET DESCRIPTION: deep drop-off; inside the MPA from 1st dive of the day (Dive 20- MSCS# 201207133)

ON BOTTOM LATITUDE: 33°24.9500'N LONGITUDE: 77°04.6630'W DEPTH (FT): 272 (M): 83

ON BOTTOM (GMT): TIME: 16:43 HABITAT: scatter rock boulders; .5 m relief; 50% cover

OFF BOTTOM LATITUDE : 33°25.0900'N LONGITUDE: 77°04.2500'W DEPTH (FT): 322 (M): 98

OFF BOTTOM (GMT): TIME: 5:42:26 PM HABITAT: hard bottom; Rock; large cobble; and boulders .5 m relief

DEPTH (Ft-MAX): 404 (M): 123 (Ft-MIN): 272 (M): 83

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 10 (DIR FROM): 115

SEAS (FT): 1-2 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 22, Site #- 13-VII-12-5. Target Site – North Carolina MPA; 33°24.9610'N; 77°04.6800'W; 90 m. ROV survey inside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect along deep drop-off of new Pisces multibeam sonar. Start at same WP 1 as Dive 20.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.0 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Transect heading northeast parallel to face of deep drop-off of multibeam map; depth range 123-92 m. Base of reef 121 m, top 83 m. WP 1 in cove of multibeam- 83 m, 50% cover with 1/2-1 m diameter rock boulders, 1/2 m relief. Head to northeast along face of deep drop-off of multibeam. 93 m- rock cobble and 1/2 m boulders, 50% rock cover; 97 m- 45o slope. 101 m- flattens out, 10-30% rock cobble, 2 m diameter boulders, 1/2 m relief. 97 m- 20-30o slope, cobble and 1 m boulders; 15-30 cm Madracis coral colonies common. Madracis from 97-112 m. Series of 30-45o drop-offs and terraces on slope down to 110 m where it flattens out. Most of slope is rugged, eroded rock with 1/2-1 m relief. 123 m- flat sand and shell-hash. Lots of fishing line on bottom.

Dominant Benthic Biota: Sparse fauna on rock, mostly encrusting sponges, small orange gorgonians, Ellisella whip gorgonians, Madracis coral, and wire black coral. Scleractinia- Madracis (myriaster?); Gorgonacea- Thesea? (5 cm orange fan), Ellisella (1/.2 m white whip), Diodogorgia? (10 cm purple); Antipatharia- Stichopathes; Hydroida; Decapoda- Panulirus argus.
Fish: gag grouper, scamp (few), red grouper, roughtongue bass, Calamus porgy, red porgy, hogfish, short bigeye, scorpionfish, tatler, cubbyu, eel, short bigeye, roughtongue bass, wrasse bass, tomtate, soapfish, spiny cheek or cardinal soldierfish, reef butterfly, blue angelfish, lionfish (23).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **14-VII-12-1** **MILSORTCODESITE:** **201207141**

METHOD (DIVE #): CTD 9 DEPLOY TIME 7:01:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 31

DVD: _____ Hard Drive: _____ HD Cam _____

TARGET LATITUDE: 32°49.1800'N LONGITUDE: 78°15.7150'W DEPTH (FT): 348 (M): 106

TARGET DESCRIPTION: _____

ON BOTTOM LATITUDE: _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

ON BOTTOM (GMT): TIME: _____ HABITAT: _____

OFF BOTTOM LATITUDE : _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

OFF BOTTOM (GMT): TIME: 7:07:00 AM HABITAT: _____

DEPTH (Ft-MAX): _____ (M): _____ (Ft-MIN): _____ (M): _____

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): _____ (°F): _____ VIS (Ft): _____ SAL (PPT): _____

CURRENT (Kn): _____ (DIRECTION FROM): _____

WEATHER (CLOUD COVER): _____ (MPH): _____ (DIR FROM): _____

SEAS (FT): _____ SEAS (DIR FROM): _____

TOTAL NUMBER OF SAMPLES: _____

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 14-VII-12-2 **MILSORTCODESITE:** 201207142

METHOD (DIVE #): ROV 23 DEPLOY TIME 7:42:09 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 32, inside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°51.3000'N LONGITUDE: 78°15.9600'W DEPTH (FT): 180 (M): 55

TARGET DESCRIPTION: Low to moderate relief hard bottom.

ON BOTTOM LATITUDE: 32°51.0550'N LONGITUDE: 78°16.2610'W DEPTH (FT): 157 (M): 48

ON BOTTOM (GMT): TIME: 7:45 HABITAT: Flat pavement sediment veneer; 50% cover of Sargassum; algal reef

OFF BOTTOM LATITUDE : 32°51.5380'N LONGITUDE: 78°15.8580'W DEPTH (FT): 157 (M): 48

OFF BOTTOM (GMT): TIME: 9:08:50 AM HABITAT: hard bottom; pavement; sediment veneer;Slope- flat;

DEPTH (Ft-MAX): 157 (M): 48 (Ft-MIN): 154 (M): 47

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 23.2 (°F): 73.76 VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 11.3 (DIR FROM): 107

SEAS (FT): 1-2 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 23, Site #- 14-VII-12-2. Target Site – South Carolina, Northern S.C. MPA; 32°51.3000'N; 78° 15.9600'W; 55 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect on low relief features of multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Transect mostly low relief rock pavement with sediment veneer, with 30-50% cover of dense algae dominated by Phaeophyta, mostly Dictyota and some Codium on cobble and exposed rock. Patches of exposed rock, 10 cm relief, probably excavated by fish, most had bigeyes associated. Some areas with sparse 1/2-1 m diameter flat boulders, <1.2 m relief, Near end waypoint appears to be low relief rock ledge, 1/2 m relief, and about 10 m wide, oriented NE-SW which appears faintly on multibeam. Total depth range 47.5-48.5 m

Dominant Benthic Biota: Gorgonacea- Ellisellidae, Nicella, Titanideum frauenfeldii; Hydroida; Demospongiae- Aplysina, Callyspongia vaginalis, Microcionidae?, Geodia; Asteroidea- Narcissia trigonaria; Ascidiacea- Didemnidae, Eudistoma; Chlorophyta- Codium; Phaeophyta- Dictyota, Padina?, Sargassum; Rhodophyta- spp.
Fish: blue angelfish, graysby grouper, red grouper (several), scamp, hogfish, sand diver, red porgy, Calamus porgy, cowfish, puffer, cubbyu, french angelfish (adult and juvenile), goatfish, scorpion fish, short bigeye, spotfin butterflyfish, scorpionfish, spotfin hogfish, tang, tattler, yellowhead wrasse, lionfish (10).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 14-VII-12-3 **MILSORTCODESITE:** 201207143

METHOD (DIVE #): ROV 24 DEPLOY TIME 9:42:39 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 33, inside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°50.9400'N LONGITUDE: 78°15.5400'W DEPTH (FT): 197 (M): 60

TARGET DESCRIPTION: scattered 8-10 ft mounds; with pavement between

ON BOTTOM LATITUDE: 32°50.5780'N LONGITUDE: 78°15.7750'W DEPTH (FT): 171 (M): 52

ON BOTTOM (GMT): TIME: 9:45 HABITAT: hard bottom, low mounds, pavement

OFF BOTTOM LATITUDE : 32°51.1700'N LONGITUDE: 78°15.4260'W DEPTH (FT): 167 (M): 51

OFF BOTTOM (GMT): TIME: 11:16:16 AM HABITAT: sediment with rock mounds

DEPTH (Ft-MAX): 171 (M): 52 (Ft-MIN): 157 (M): 48

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 23.7 (°F): 74.66 VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 10 (DIR FROM): 116

SEAS (FT): 1-2 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 24, Site #- 14-VII-12-3. Target Site – South Carolina, Northern S.C. MPA; 32°50.9400'N; 78° 15.5400'W; 60 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect over rock mound habitat visible on multibeam sonar; lumps on the MB.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Transect starts on flat rock pavement with sediment veneer; with patchy 2-3 m diameter exposed rock patches, excavated pavement with 10 cm relief. Low relief rock knolls on flat bottom dominated by Phaeophyta. The second part of the transect crossed numerous high relief rock mounds that are relatively smooth and rounded, 20-30 m diameter, and 3 m relief with 30-45o slope, but few ledges. Most are about 48 m at the top and 51 m at the base on sediment on pavement. Moderate relief mounds are about 10 m diameter and 1 m relief. All the mounds have nearly 100% cover of algae and epifauna.

Dominant Benthic Biota: Gorgonacea- Briareum?, Diodogorgia, Ellisellidae, Iciligorgia schrammi, Swiftia exserta; Hydroida; Antipathidae- bottle brush, Tanacetipathes, white fan mesh, Stichopathes; Demospongiae- Agelas, Axinellida, Callyspongia vaginalis, Spirastrellidae; Echinodermata- Asteroidea, Gorgonocephalidae; Annelida- Filograna; Ascidiacea - Didemnidae, Eudistoma; Cyanophyta; Chlorophyta; Phaeophyta- Dictyota, Sargassum; Rhodophyta.
Fish: blue angelfish, Calamus porgy, hogfish, graysby, parrotfish, orange back bass, purple reeffish, scamp grouper, sharpnose puffer, snake eel, spotfin butterfly, squirrelfish, sunshine fish, tatler, yellow tail reeffish, lionfish (18).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **14-VII-12-4** **MILSORTCODESITE:** **201207144**

METHOD (DIVE #): ROV 25 DEPLOY TIME 12:02:01 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 34, inside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°50.6860'N LONGITUDE: 78°16.0270'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: low relief hard bottom on multibeam sonar map

ON BOTTOM LATITUDE: 32°50.6870'N LONGITUDE: 78°16.0370'W DEPTH (FT): 161 (M): 49

ON BOTTOM (GMT): TIME: 12:05 HABITAT: hard bottom; Slope- flat; Rock; 0.5 m relief; .5 -1 m relief

OFF BOTTOM LATITUDE : 32°51.4640'N LONGITUDE: 78°15.4420'W DEPTH (FT): 164 (M): 50

OFF BOTTOM (GMT): TIME: 2:01:02 PM HABITAT: rock knolls and pavement

DEPTH (Ft-MAX): 164 (M): 50 (Ft-MIN): 157 (M): 48

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 23.875 (°F): 74.975 VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 9 (DIR FROM): 180

SEAS (FT): 1-2 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 25, Site #- 14-VII-12-4. Target Site – South Carolina, Northern S.C. MPA; 32°50.6860'N, 78° 16.0270'W; 50 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect of new site; very faint, light orange ridge on multibeam.
ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn from S; bottom 0.1.

Site Description/Habitat/Biota:
Transect starts on flat rock pavement and scattered 1/2 m rock boulders with dense Phaeophyta cover. Reef areas with 1/2 - 1 m relief rock and ledges with nearly 100% cover of algae. Part of transect along narrow rock ridge, 1/2 m relief, oriented NE-SW. End of transect on flat sediment and pavement with scattered smooth, rounded rock mounds, 10-20 m diameter, 2 m relief, 48 m at top and 50 m at base.
Dominant Benthic Biota: Gorgonacea- Diodogorgia, Ellisella (whip), Ellisellidae, Leptogorgia, Telesto, Swiftia exserta; Hydroida; Demospongiae- Agelas, Aplysina, Callyspongia vaginalis, Ircinia campana; Annelida- Filograna; Asteroidea- Narcissia trigonaria; Ascidiacea- Didemnidae, Eudistoma; Chlorophyta- Codium, stalk blades; Phaeophyta- Dictyota (abundant), Padina, Sargassum, Spatoglossum; Rhodophyta- stalked blades, Halymenia?, Rhodomenia?.
Fish: bank butterfly, greater amberjack, blue angelfish, cowfish, cubbyu, graysby, hogfish, jackknife fish, parrotfish, reef butterflyfish, rock beauty, rock hind, scamp (few), snowy (1), soapfish, Spanish hogfish, spotfin hogfish, tang, squirrelfish, tatler, tomtate, white grunt (common), wrasse bass, yellowhead wrasse, lionfish (24).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **14-VII-12-5** **MILSORTCODESITE:** **201207145**

METHOD (DIVE #): ROV 26 DEPLOY TIME 2:32:24 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA; Station 35 inside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°51.9990'N LONGITUDE: 78°14.4740'W DEPTH (FT): 213 (M): 65

TARGET DESCRIPTION: Low hard bottom ridge on multibeam, no previous dives

ON BOTTOM LATITUDE: 32°52.0170'N LONGITUDE: 78°14.4690'W DEPTH (FT): 213 (M): 65

ON BOTTOM (GMT): TIME: 14:35 HABITAT: Hard bottom; pavement; sediment veneer; sparse exposed rock

OFF BOTTOM LATITUDE : 32°52.6110'N LONGITUDE: 78°14.1950'W DEPTH (FT): 213 (M): 65

OFF BOTTOM (GMT): TIME: 4:11:25 PM HABITAT: soft bottom; small bits of scattered rubble; base of the reef wall

DEPTH (Ft-MAX): 230 (M): 70 (Ft-MIN): 207 (M): 63

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 20.8 (°F): 69.44 VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.2 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 7 (DIR FROM): 138

SEAS (FT): 1-2 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 26, Site #- 14-VII-12-5. Target Site – South Carolina, Northern S.C. MPA; 32°51.9990'N; 78° 14.4740'W; 65 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect of new site multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from S; bottom 0.2 kn.

Site Description/Habitat/Biota:
Transect starts at 65 m on flat rock pavement with sediment veneer, rubble, and cobble; sparse 1 m diameter exposed rock, excavated by fish, 10 cm relief, about 10-30% exposed rock cover. Few 1/4 m boulders, fairly barren rock. Rock ridge from 65 to 70 m with 10o slope to the east, some 1 m ledges and eroded exposed rock at 69 m. Continue transect parallel to rock slope to the NE. Sediment and rock pavement at the base of the slope at 70 m.

Dominant Benthic Biota: Gorgonacea- Diodogorgia?, Ellisella (whip), Ellisellidae, Titanideum frauenfeldii; Hydroida; Antipatharia- Stichopathes, spp; Actiniaria; Demospongiae- Agelas?, Aplysina, Astrophorida, Cinachyra?, Ircinia campana; Asteroidea- Narcissia trigonaria; Crinoidea; Annelida- Filograna; Chlorophyta; Phaeophyta- unid. spp.
Fish: greater amberjack, bank butterfly, reef butterfly, cubbyu, graysby, hogfish, porgy, scamp (few), short bigeye, spotfin butterfly, tatler, white grunt, wrasse bass, yellowtail reeffish, lionfish (12).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **15-VII-12-1** **MILSORTCODESITE:** **201207151**

METHOD (DIVE #): CTD 10 DEPLOY TIME 7:00:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA

DVD: Hard Drive: HD Cam

TARGET LATITUDE: 32°48.5000'N LONGITUDE: 78°14.7760'W DEPTH (FT): 397 (M): 121

TARGET DESCRIPTION:

ON BOTTOM LATITUDE: LONGITUDE: DEPTH (FT): (M):

ON BOTTOM (GMT): TIME: HABITAT:

OFF BOTTOM LATITUDE : LONGITUDE: DEPTH (FT): (M):

OFF BOTTOM (GMT): TIME: 7:08:00 AM HABITAT:

DEPTH (Ft-MAX): (M): (Ft-MIN): (M):

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): (MPH): (DIR FROM):

SEAS (FT): SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 15-VII-12-2 **MILSORTCODESITE:** 201207152

METHOD (DIVE #): ROV 27 DEPLOY TIME 7:53:22 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°48.1800'N LONGITUDE: 78°08.6400'W DEPTH (FT): 574 (M): 175

TARGET DESCRIPTION: Hard bottom edge of multibeam;

ON BOTTOM LATITUDE: 32°47.5770'N LONGITUDE: 78°08.0410'W DEPTH (FT): 531 (M): 162

ON BOTTOM (GMT): TIME: 8:02 HABITAT: rock pavement, 10-20 cm cobble, flat

OFF BOTTOM LATITUDE : 32°48.0860'N LONGITUDE: 78°08.7070'W DEPTH (FT): 551 (M): 168

OFF BOTTOM (GMT): TIME: 9:35:40 AM HABITAT: rock pavement, 10-30 cm cobble, 30-50% cover, fla

DEPTH (Ft-MAX): 548 (M): 167 (Ft-MIN): 531 (M): 162

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 12.8 (°F): 55.04 VIS (Ft): 15 SAL (PPT):

CURRENT (Kn): 0.2 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 8 (DIR FROM): 137

SEAS (FT): 1 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 27, Site #- 15-VII-12-2. Target Site – outside and south of South Carolina, Northern S.C. MPA; 32° 48.1800'N, 78°08.6400'W; 175 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar map of the site. Conduct video/photo transect on low relief hard bottom of multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.25 kn from S; bottom 0.2.

Site Description/Habitat/Biota:
Rock pavement with sediment veneer, 10 cm cobble, 30-80% cover, 30 cm exposed rock; 162 m at start of transect, 167 m at end.

Dominant Benthic Biota: Gorgonacea- Swiftia; Demospongiae- Astrophorida, Desmacella, Leiodermatium, Pachastrellidae, Spongosorites, Zyzzya; Hexactinellida- Farrea; Annelida- Serpulidae; Echinoidea- Cidaroidea; Holothuroidea: Holothuria lentiginosa enodis?, Paracolochirus mysticus (weenie); Gastropoda- Perotrochus quoyanus?, Volutidae?; Arthropods- Decapoda crabs, hermit crabs, Majidae.
Fish: anthiids, apricot bass, bank butterflyfish, black bellied rosefish, blackbar drum, blueline tilefish, boarfish, French butterflyfish, Gephyroberyx, Laemonema, longspine snipefish, red hogfish, red porgy, saddle bass, saddleback, scorpion fish, sea robin, short bigeye, snipe, snowy grouper, squirrelfish, NO LIONFISH.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 15-VII-12-3 **MILSORTCODESITE:** 201207153

METHOD (DIVE #): ROV 28 DEPLOY TIME 10:07:05 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°47.4600'N LONGITUDE: 78°07.0200'W DEPTH (FT): 574 (M): 175

TARGET DESCRIPTION: Survey along apparent glacial iceberg scour (aprox 142 m wide)

ON BOTTOM LATITUDE: 32°47.1430'N LONGITUDE: 78°08.2690'W DEPTH (FT): 538 (M): 164

ON BOTTOM (GMT): TIME: 10:15 HABITAT: pavement; scattered 5-30 cm cobble; rock outcrop 10 cm relief; rugge

OFF BOTTOM LATITUDE : 32°47.2320'N LONGITUDE: 78°07.5730'W DEPTH (FT): 531 (M): 162

OFF BOTTOM (GMT): TIME: 11:44:51 AM HABITAT: hard bottom; Rock; near base of s rim of glaciar scour

DEPTH (Ft-MAX): 554 (M): 169 (Ft-MIN): 515 (M): 157

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 12.85 (°F): 55.13 VIS (Ft): 10 SAL (PPT):

CURRENT (Kn): 0.5 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 9.8 (DIR FROM): 147

SEAS (FT): 1 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 28, Site #- 15-VII-12-3. Target Site – outside and south of South Carolina, Northern S.C. MPA; 32° 47.4600'N;78°07.0200'W; 175 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transects along apparent glacial iceberg scour (~142 m wide).

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.2 kn from S; bottom 0.2-0.5 kn.

Site Description/Habitat/Biota:
Start transect at 162.5 m on rock pavement with cobble, and 30 cm boulders; begin transect heading east along north rim of E-W oriented ice berg scour. Top of rocky rim 162-157 m, rugged, eroded rock, 30-50 cm boulders; some 1-2 m ledges on upper slope. North rim is ~40 m wide. North slope of rim about 30o down to 167 m at base in sand and cobble. Transect across scour valley: flat, ~80 m wide, maximum depth 169 m, all fine dark sediment. Base of south rim 167 m, slope with 1-2 m ledges and 1 m boulders, rugged 45° slope, eroded rock. Top of south rim 160 m.

Dominant Benthic Biota: Dominant fauna are dense and abundant Leiodermatium sponges, pachastrellid plate sponges, corallistid plate and cup sponges, and small holothurians (sea weenies). Gorgonacea- orange fan; Hydroida; Demospongiae- Corallistidae, Leiodermatium, Lithistida, Pachastrellidae; Echinoidea- Cidaroidea; Holothuroidea- Paracolochirus mysticus; Asteroidea; Gastropoda- Perotrochus quoyanus?, Arthropoda- Cancer, hermit crabs; Annelida- Serpulidae.
Fish: amberjack, apricot bass, bigeye, blackbar drum, blueline tilefish, cardinal soldierfish, French butterflyfish, Gephyroberyx (roughies), Laemonema, scorpion fish, snowy grouper (many), soldierfish, yellowfin bass.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 15-VII-12-4 **MILSORTCODESITE:** 201207154

METHOD (DIVE #): ROV 29 DEPLOY TIME 12:30:58 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 39 inside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°49.3200'N LONGITUDE: 78°06.4800'W DEPTH (FT): 574 (M): 175

TARGET DESCRIPTION:

ON BOTTOM LATITUDE: 32°48.7740'N LONGITUDE: 78°06.9030'W DEPTH (FT): 597 (M): 182

ON BOTTOM (GMT): TIME: 12:37 HABITAT: ıent; Slope- flat; 5-20 cm cobble 10% cover; 10-30 cm relief rock ou

OFF BOTTOM LATITUDE : 32°49.3360'N LONGITUDE: 78°06.5180'W DEPTH (FT): 531 (M): 162

OFF BOTTOM (GMT): TIME: 2:22:40 PM HABITAT: rock rim of ice berg scour

DEPTH (Ft-MAX): 535 (M): 163 (Ft-MIN): 518 (M): 158

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 13.6 (°F): 56.48 VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.2 (DIRECTION FROM):

WEATHER (CLOUD COVER): Sunny (MPH): 9.4 (DIR FROM): 168

SEAS (FT): 1 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 29, Site #- 15-VII-12-4. Target Site – South Carolina, Northern S.C. MPA; 32°49.3200'N; 78° 06.4800'W; 175 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect along N-S oriented iceberg scour of multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn from S; bottom 0.2 kn.

Site Description/Habitat/Biota:
Transect starts on flat pavement and sediment with 10-20 cm cobble, 30 boulders and ledges. Scattered patches of rock piles, 1 m relief (158 m top- 160 m base), with dense Leiodermatium sponges, orange gorgonians, and holothurian (sea weenies). Transect continues along east rim of N-S oriented ice berg scar; top 160 m, valley in scar 163 m sediment. The rim is rugged rock, boulder, cobble, and ledges.

Dominant Benthic Biota: Gorgonacea- Scleracis? (orange fan); Hydroida; Demospongiae- Desmacella, Leiodermatium (abundant), Lithistida, Corallistidae (common), Pachastrellidae, Spongosorites?; Hexactinellida; Arthropoda- hermit crab, Majidae, Parthenope; Echinoidea- Cidaroidea; Holothuroidea- Holothuria lentiginosa, Paracolochirus mysticus; Asteroidea- Narcissia trigonaria; Mollusca- Tonna?, Perotrochus quoyanus (common), Scaphella; Annelida- Serpulidae.
Fish: anthiids (common), apricot bass, Gephyroberyx, bigeye, bigeye soldierfish, blackbar drum, blueline tilefish, boarfish, bulleye, flounder, longspine snipefish, porgy, red hogfish, rough backed batfish, saddle bass, scorpion fish, short bigeye, snowy grouper, wrasse bass, yellowfin bass.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 15-VII-12-5 **MILSORTCODESITE:** 201207155

METHOD (DIVE #): ROV 30 DEPLOY TIME 3:04:12 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 40 inside MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°49.4400'N LONGITUDE: 78°05.1600'W DEPTH (FT): 574 (M): 175

TARGET DESCRIPTION: Rock pavement and cross three ice berg scours

ON BOTTOM LATITUDE: 32°49.4290'N LONGITUDE: 78°05.1620'W DEPTH (FT): 541 (M): 165

ON BOTTOM (GMT): TIME: 15:04 HABITAT: rock pavement, cobble, sediment

OFF BOTTOM LATITUDE : 32°49.9320'N LONGITUDE: 78°05.7480'W DEPTH (FT): 538 (M): 164

OFF BOTTOM (GMT): TIME: 4:38:09 PM HABITAT: in valley of ice berg scour, soft sediment

DEPTH (Ft-MAX): 558 (M): 170 (Ft-MIN): 525 (M): 160

COLLECTORS: Andrew W. David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 14.9 (°F): 58.82 VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 4 (DIR FROM): 195

SEAS (FT): 1-2 SEAS (DIR FROM): SE

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 30, Site #- 15-VII-12-5. Target Site – South Carolina, Northern S.C. MPA; 32°49.4400'N, 78° 05.1600'W; 175 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect perpendicular to three ice berg scars in multibeam.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.2 kn from S; bottom 0.25 kn.

Site Description/Habitat/Biota:
Transect starts at 164 m on flat sediment, with 10-30 cm cobble and small boulders. Transect crosses first ice berg scar; top rim is 165-168 m, sparse cobble and small boulders, then slopes to the sediment covered valley at 170 m. Top of west rim is 163 m, also with sparse 10-30 cm cobble and boulders. Crossing second ice berg scar is 161-163 m along top rims to166 m in the valley; cobble and boulders to 30-50 cm. Flat sand and cobble is between the scars. The third and last scar has 10-50 cm relief along the top rim at 161 m, and slopes to 164 m in the valley which is flat sediment.

Dominant Benthic Biota: Gorgonacea (orange fans common); Actiniaria- Cerianthidae; Demospongiae- Leiodermatium (common); Annelida- Serpulidae; Arthropoda- hermit crab, Majidae, Parthenope ; Asteroidea- 6 arm star; Echinoidea- Cidaroidea; Holothuroidea- Holothuria lentiginosa, Paracolochirus mysticus; Mollusca- Murex, Perotrochus quoyanus, squid; Tonna?.
Fish: anthiids, blackbar drum, blueline tilefish, boarfish, flounder, giant anthiid- longtail bass?, lizardfish, longspine snipefish, red hogfish, red porgy, scorpion fish, short bigeye, Gephyroberyx, snowy grouper.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **16-VII-12-1** **MILSORTCODESITE:** **201207161**

METHOD (DIVE #): CTD 11 DEPLOY TIME 6:59:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 41.

DVD: Hard Drive: HD Cam

TARGET LATITUDE: 32°48.1840'N LONGITUDE: 78°14.0390'W DEPTH (FT): 469 (M): 143

TARGET DESCRIPTION:

ON BOTTOM LATITUDE: LONGITUDE: DEPTH (FT): (M):

ON BOTTOM (GMT): TIME: HABITAT:

OFF BOTTOM LATITUDE : LONGITUDE: DEPTH (FT): (M):

OFF BOTTOM (GMT): TIME: 7:07:00 AM HABITAT:

DEPTH (Ft-MAX): (M): (Ft-MIN): (M):

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): SAL (PPT):

CURRENT (Kn): (DIRECTION FROM):

WEATHER (CLOUD COVER): (MPH): (DIR FROM):

SEAS (FT): SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 16-VII-12-2 **MILSORTCODESITE:** 201207162

METHOD (DIVE #): ROV 31 DEPLOY TIME 7:57:04 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°47.3460'N LONGITUDE: 78°19.9610'W DEPTH (FT): 180 (M): 55

TARGET DESCRIPTION: High relief ridge of multibeam map

ON BOTTOM LATITUDE: 32°47.3300'N LONGITUDE: 78°19.6610'W DEPTH (FT): 171 (M): 52

ON BOTTOM (GMT): TIME: 8:00 HABITAT: ottom; Slope- flat; rock cobble and outcrops; 10-15 cm releif; 80 % c

OFF BOTTOM LATITUDE : 32°47.6130'N LONGITUDE: 78°19.0540'W DEPTH (FT): 174 (M): 53

OFF BOTTOM (GMT): TIME: 9:49:19 AM HABITAT: sediment, off reef

DEPTH (Ft-MAX): 180 (M): 55 (Ft-MIN): 157 (M): 48

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 22.7 (°F): 72.86 VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.25 (DIRECTION FROM): N

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 8.6 (DIR FROM): 135

SEAS (FT): 1 SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 31, Site #- 16-VII-12-2. Target Site – outside of South Carolina, Northern S.C. MPA; 32° 47.3460'N, 78°19.9610'W; 55 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect on E-W oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.4 kn; bottom 0.25 kn.

Site Description/Habitat/Biota:
Transect along E-W oriented ridge of multibeam. Ridge is mostly smooth rock, 30-45o slope on south slope, few ledges, low rugosity; top 49 m, base 52 m. Nearly 100% cover of algae, dense Dictyota, along with green and red algae, large Agelas sponges, hydroids, and black coral. Off ridge is mostly patchy rock cobble and low relief rock knolls of 1/2 to 1 m relief, 5-10 m diameter, covered with similar biota, at depth of 52-54 m. Few large reef fish present.

Dominant Benthic Biota: Gorgonacea- Diodogorgia?, Ellisella (whips, tan), Ellisella barbadensis (orange), Swiftia (uncommon), Telesto; Alcyonacea- Nephtheidae; Hydroida; Antipatharia- Stichopathes, several spp (bottle brush, bushy white); Actiniaria- Condylactis gigantea; Demospongiae- Agelas (10-30 cm orange, thick plates), Aplysina (cluster thick tubes), Aplysina (creeping, branching), Callyspongia vaginalis, Niphates?, Spirastrellidae (orange/red encrusting); Ircinia campana; Asteroidea- Narcissia trigonaria; Ascidiacea- Eudistoma; Phaeophyta- Dictyota (dense, 4 color morphs), Sargassum (attached); Rhodophyta (several spp.), Chlorophyta (several spp.).
Fish: scamp (4), greater amberjack, blue angelfish, blue goby, Calamus porgy, creole fish, doctor fish, french angelfish, hogfish, rock beauty, reef butterfly, sand tile burrow, soapfish, spanish hogfish, spotfin butterfly, squirrelfish, surgeonfish, tomtate, lionfish (common, 30).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 16-VII-12-3 **MILSORTCODESITE:** 201207163

METHOD (DIVE #): ROV 32 DEPLOY TIME 11:33:07 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°43.8600'N LONGITUDE: 78°30.3600'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: N-S oriented mound on new multibeam

ON BOTTOM LATITUDE: 32°43.8520'N LONGITUDE: 78°30.3600'W DEPTH (FT): 151 (M): 46

ON BOTTOM (GMT): TIME: 11:36 HABITAT: along ridge; Slope- flat; pavement;80% algal cover

OFF BOTTOM LATITUDE : 32°44.1330'N LONGITUDE: 78°30.0166'W DEPTH (FT): 154 (M): 47

OFF BOTTOM (GMT): TIME: 1:10:22 PM HABITAT: N. base of the ridge; pavement; rock; sediment

DEPTH (Ft-MAX): 180 (M): 55 (Ft-MIN): 148 (M): 45

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 22.22 (°F): 71.996 VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.5 (DIRECTION FROM): N

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 3.29 (DIR FROM): 199

SEAS (FT): 1 SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 32, Site #- 16-VII-12-3. Target Site – outside and southwest of South Carolina, Northern S.C. MPA; 32°43.8600'N; 78°30.3600'W; 50 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar. Conduct video/photo transect along NE-SW oriented ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn; bottom 0.5. ROV navigation failed- all GPS positions logged from ship GPS position.

Site Description/Habitat/Biota:
Transect starts at WP 1 at depth of 45.5 m on flat pavement with 10-20 cm rock; exposed rock 100% covered with dense algae, mostly Dictyota, along with hydroids, sponges, and few gorgonians. Transect along ridge, moderate relief ledge with 2 m relief, 45-47 m. South escarpment of main ridge is 47 m at top, and 55 m at base. Upper slope is vertical rock 1-2 m relief; below this the lower slope which extends 15-20 m in width are ledges, very rugged and rugose, and a jumble of rock slabs and boulders. Huge schools of tomtate, and reef fish are common. The rock escarpment and boulders has little algae; mostly encrusting sponges and black coral. A transect to the NW crossed the ridge which is flat on top, ~100 m wide, to the north escarpment. Top of ridge, 46 m, is flat rock pavement, low relief rock, with dense brown algae, Dictyota, Sargassum (attached up to 1-2 m long), and hydroids; 50% cover of rock and algal. The north escarpment is 45 m at the top rim and slopes 10-20o to 47.5 m at the base in sand. The width of the drop-off is about 10 m width.

Dominant Benthic Biota: The flat pavement and ridge top is covered nearly completely with dense Dictyota, Sargassum, along with sponges, gorgonians, and black coral. Gorgonacea- Diodogorgia?, Ellisella (whip), Ellisellidae (branched), Nicella (30 cm purple); Hydroida; Antipatharia- Stichopathes, several spp; Demospongiae- Aplysina (thick cluster tubes), Axinellida, Callyspongia vaginalis, Haliclona?, Spirastrellidae, Ircinia campana; Ascidiacea- Didemnidae, Eudistoma; Chlorophyta- Codium, several spp.; Phaeophyta- Dictyota, Sargassum.
Fish: bank butterfly, blue angelfish, Calamus porgy, cowfish, creole fish, French angelfish, gag grouper (1), goatfish, hogfish, queen angelfish, reef butterflyfish, scamp (5), scorpion fish, short bigeye, shortnose puffer, spotted goatfish, tomtate (huge schools on South escarpment), tatler, vermillion snapper, lionfish (common, 37).

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **16-VII-12-3** **MILSORTCODESITE:** **201207163**

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 16-VII-12-4 **MILSORTCODESITE:** 201207164

METHOD (DIVE #): ROV 33 DEPLOY TIME 2:08:04 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 32°41.4000'N LONGITUDE: 78°33.3000'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: Ridge on new multibeam map

ON BOTTOM LATITUDE: 32°40.5262'N LONGITUDE: 78°33.7080'W DEPTH (FT): 141 (M): 43

ON BOTTOM (GMT): TIME: 14:09 HABITAT: Rock; pavementl, 10-20 cm relief' Slope- flat;

OFF BOTTOM LATITUDE : 32°40.9230'N LONGITUDE: 78°33.3600'W DEPTH (FT): 154 (M): 47

OFF BOTTOM (GMT): TIME: 3:37:08 PM HABITAT: rock pavement, low relief ledges, east slope of ridge

DEPTH (Ft-MAX): 157 (M): 48 (Ft-MIN): 141 (M): 43

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 20.6 (°F): 69.08 VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.2 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 6.7 (DIR FROM): 93

SEAS (FT): 1 SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 33, Site #- 16-VII-12-4. Target Site – outside and southwest of South Carolina, Northern S.C. MPA; 32°41.4000'N, 78°33.3000'W; 50 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect along ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn; bottom 0.2. ROV navigation failed- all navigation data is from ship's GPS.

Site Description/Habitat/Biota:
Transect starts along the west escarpment of the ridge, total relief 3 m, 42.5 to 45.8 m at base in sediment. Escarpment is very rugose, with an upper vertical wall 1-2 m, undercut ledge and 1-2 m boulders on lower slope which extends 10-20 m in width. The top of the ridge is flat, low relief pavement, 80-100% cover, and very dense fields of Padina brown algae. The east escarpment of the ridge is less rugged, has a 1 m ledge with 1/2 m rock slabs and boulders at the base which grades into sand at 47.5 m.

Dominant Benthic Biota: Gorgonacea- Diodogorgia?, Ellisella (whips), Ellisellidae (branched), Nicella (30 cm purple fan), Telesto, Titanideum frauenfeldii; Hydroida; Antipatharia- Stichopathes; Demospongiae- Agelas (red plates), Aplysina (cluster hollow tubes), Callyspongia vaginalis, tan cake sponge, Ircinia campana; Arthropoda- slipper lobster; Ascidiacea- Eudistoma; Phaeophyta- Dictyota (dense), Padina (dense), Sargassum (dense).
Fish: greater amberjack, blackbar soldierfish, blue angelfish, Calamus porgy, cornet fish, cubbyu, gray snapper, graysby, hogfish, porcupine fish, rock beauty, rock hind, scamp (few), Spanish hogfish, spotted goatfish, tatler, tomtate, triggerfish, trumpet fish, vermillion snapper, white grunt, wrasse bass, lionfish (common, 34).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **17-VII-12-1** **MILSORTCODESITE:** **201207171**

METHOD (DIVE #): CTD 12 DEPLOY TIME 7:00:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: ~10 nmi north of North Florida MPA; Station 45

DVD: _____ Hard Drive: _____ HD Cam _____

TARGET LATITUDE: 31°10.4100'N LONGITUDE: 79°52.8580'W DEPTH (FT): _____ (M): _____

TARGET DESCRIPTION: _____

ON BOTTOM LATITUDE: _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

ON BOTTOM (GMT): TIME: _____ HABITAT: _____

OFF BOTTOM LATITUDE : _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

OFF BOTTOM (GMT): TIME: 7:07:00 AM HABITAT: _____

DEPTH (Ft-MAX): _____ (M): _____ (Ft-MIN): _____ (M): _____

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): _____ (°F): _____ VIS (Ft): _____ SAL (PPT): _____

CURRENT (Kn): _____ (DIRECTION FROM): _____

WEATHER (CLOUD COVER): _____ (MPH): _____ (DIR FROM): _____

SEAS (FT): _____ SEAS (DIR FROM): _____

TOTAL NUMBER OF SAMPLES: _____

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 17-VII-12-2 **MILSORTCODESITE:** 201207172

METHOD (DIVE #): ROV 34 DEPLOY TIME 11:36:15 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 30°42.2650'N LONGITUDE: 80°06.4240'W DEPTH (FT): 230 (M): 70

TARGET DESCRIPTION: West edge of high relief feature to ground truth the Navy multibeam sonar map

ON BOTTOM LATITUDE: 30°42.2415'N LONGITUDE: 80°06.4240'W DEPTH (FT): 167 (M): 51

ON BOTTOM (GMT): TIME: 11:39 HABITAT: ief rock pavement slabs; <10 -20 cm relief; grades into sed to the eas

OFF BOTTOM LATITUDE : 30°42.9294'N LONGITUDE: 80°06.1368'W DEPTH (FT): 161 (M): 49

OFF BOTTOM (GMT): TIME: 1:43:42 PM HABITAT: west escarpment of the ridge; hard bottom; Rock;

DEPTH (Ft-MAX): 210 (M): 64 (Ft-MIN): 167 (M): 51

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 16.3 (°F): 61.34 VIS (Ft): 50-100 SAL (PPT):

CURRENT (Kn): 0.2 (DIRECTION FROM):

WEATHER (CLOUD COVER): Precipitation (MPH): 7.2 (DIR FROM): 235

SEAS (FT): calm SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES: 2

SITE DESCRIPTION:

Site/Objectives: ROV Dive 34, Site #- 17-VII-12-2. Target Site – ~10 nmi north of North Florida MPA; 30°42.2650'N; 80° 06.4240'W; 70 m. ROV survey outside MPA and ground truth Navy multibeam sonar map of the site. Conduct video/photo transect along N-S oriented ridge of sonar map; multibeam is 15 m resolution.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.5 kn; bottom 0.2.

Site Description/Habitat/Biota:
Ridge on multibeam is extensive N-S oriented. Transect NE across ridge top, ~100 m wide: depth 52 m, rock pavement with sediment, 10-30 cm relief rock and scattered low relief ledges. Dominant fauna- various demosponges, hydroids, gorgonians and black coral. Few fish except on ledges. Eastern escarpment of ridge: transect to the north along the face of the east escarpment- top of edge 56 m, base in sand 60-64 m. Escarpment is 10-20o slope of fractured rock slabs with 30-50 cm relief, jumbled rock slabs and boulders which extend 15-20 m or more from the top edge. Rock slope dominated by back coral, encrusting sponges, Ircinia vase sponges, and gorgonians. Dense schools of tomtate, vermillion snapper, along with gag grouper, numerous scamp grouper, 6 speckled hind, and 3 warsaw grouper. East of the escarpment is flat sand with some low relief rock pavement patches. Transect along western escarpment of ridge: 10o slope of fractured rock slabs, 30-50 cm relief, but not as rugose as the east slope; top edge 49 m, base 52 m.

Dominant Benthic Biota: Gorgonacea- Diodogorgia, Ellisella barbadensis, Nicella; Demospongiae- Aplysina, Callyspongia vaginalis, Cinachyra, Spirastrellidae, Ircinia campana; Antipathidae- Antipathes, Stichopathes; Hydroida; Zoanthidea; Annelida- Filograna; Arthropoda- Panulirus argus; Bryozoa- Horn bryozoa, Schizoporella?; Ascidiacea- Didemnidae; Chlorophyta; Phaeophyta- Sargassum; Rhodophyta.
Fish: scamp grouper (common on east slope), Warsaw grouper (east slope), gag grouper (east slope), speckled hind (4), amberjack, bank butterflyfish, bicolor damselfish, black bar drum, black fin snapper, blue angelfish, Calamus porgy, cowfish, creole fish, cubbyu, hogfish, jackknife, purple reef fish, queen trigger, reef butterflyfish, shortnose puffer, spotfin butterflyfish, squirrelfish, surgeonfish, tatler, tomtate, triggerfish, vermillion snapper, wrasse bass, yellowtail reeffish; lionfish (16).

SITE SKETCH:

001 : SAMPLE # SAMPLE: 17-VII-12-2-001 MILSORTCODE: 201207172001
PHY: Cnidaria FIELD-ID: Stichopathes sp.
LATITUDE: LONGITUDE: TIME COLLECT:
DEPTH (Ft): DEPTH (M) HABITAT:
SUBSTRATE: TEMP (C): CUR (Kn): VIS (Ft): SAL:
MORPH: 2 foot long black unbranched black hard core with small 1-2 mm polyps
COLOR(EXT.): Black with white polyps (INT.):
ODOR: no MUCUS: no CONSIST: no
ABUNDANCE: abundant ASSOC:
U/W PHOTO (TIME): (#): VIDEO (TIME):
BUCKET #: on ROV SIZE (FROZEN): Deck Image: 1
VOUCHER (LG-Y/N) Y (SM-Y/N) N
MIC(ISO): (FREEZ): TLC: HPLC: EXT: CULT: DNA: Portol: RNALater: Other:
Notes:

002 : SAMPLE # SAMPLE: 17-VII-12-2-002 MILSORTCODE: 201207172002
PHY: Cnidaria FIELD-ID: Hydrozoa
LATITUDE: LONGITUDE: TIME COLLECT:
DEPTH (Ft): DEPTH (M) HABITAT:
SUBSTRATE: TEMP (C): CUR (Kn): VIS (Ft): SAL:
MORPH: white erech fine bushy branches
COLOR(EXT.): white (INT.):
ODOR: MUCUS: CONSIST:
ABUNDANCE: ASSOC:
U/W PHOTO (TIME): (#): VIDEO (TIME):
BUCKET #: brought up on ROV SIZE (FROZEN): Deck Image: 1
VOUCHER (LG-Y/N) Y (SM-Y/N) N
MIC(ISO): (FREEZ): TLC: HPLC: EXT: CULT: DNA: Portol: RNALater: Other:
Notes:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **17-VII-12-3** **MILSORTCODESITE:** **201207173**

METHOD (DIVE #): ROV 35 DEPLOY TIME 2:47:11 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 30°36.5020'N LONGITUDE: 80°08.9040'W DEPTH (FT): 164 (M): 50

TARGET DESCRIPTION: Navy multibeam sonar, same ridge as ROV dive 34; few miles south, new site

ON BOTTOM LATITUDE: 30°36.4968'N LONGITUDE: 80°08.9012'W DEPTH (FT): 177 (M): 54

ON BOTTOM (GMT): TIME: 14:50 HABITAT: soft bottom; Slope- flat;

OFF BOTTOM LATITUDE : 30°37.1313'N LONGITUDE: 80°08.5945'W DEPTH (FT): 164 (M): 50

OFF BOTTOM (GMT): TIME: 4:27:25 PM HABITAT: k slabs are rugged 51 m on top 53-55 m on the sand to the west; abr

DEPTH (Ft-MAX): 194 (M): 59 (Ft-MIN): 164 (M): 50

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): (°F): VIS (Ft): 50 SAL (PPT):

CURRENT (Kn): 0.5 (DIRECTION FROM): S

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 5 (DIR FROM): 110

SEAS (FT): calm SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 35, Site #- 17-VII-12-3. Target Site – ~10 nmi north of North Florida MPA; 30°36.5020'N; 80° 08.9040'W; 50 m. ROV survey outside MPA and ground truth Navy multibeam sonar of the site. Conduct video/photo transect along N-S oriented ridge of sonar map; sonar resolution is 15 m.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.75 kn; bottom 0.5.

Site Description/Habitat/Biota:
West escarpment of N-S oriented ridge: low relief slope ~15 m wide and 30-45o, 51m on top to 55 m in sand at the base, with rock slabs and few ledges of 10-30 cm relief; dominated by black corals, purple gorgonians, encrusting sponges, hydroids, and Filograna worm clusters. East slope of the ridge: Fractured rock slabs and low relief boulders on 10o slope, with 30-50 cm ledges; 55 m at top to 59 m on sand and rubble at base. Mostly encrusting sponges, didemnid ascidians, and Filograna worms. Transect NW across the ridge: 54 m, rock pavement and sediment, with scattered 30-50 cm ledges.

Dominant Benthic Biota: Gorgonacea- Diodogorgia, Nicella; Antipathidae- Stichopathes, Hydroida; Demospongiae- Agelas, Aplysina, Cinachyra, Ircinia sp., Ircinia campana, Neofibularia, Spirastrellidae; Arthropoda- Panulirus argus; Annelida- Filograna; Bryozoan- horn Bryozoan, Schizoporella?; Ascidiacea- Didemnidae; Cyanophyta; Rhodophyta.
Fish: amberjack, bank butterflyfish, Calamus porgy, cowfish, creole fish, cubbyu, purple reeffish, reef butterflyfish, rock beauty, sand tilefish, scamp grouper, snake eel, speckled hind, spotfin butterflyfish, spotfin hogfish, squirrelfish, stingray, tatler, tomtate, vermillion snapper, wrasse bass, yellowtail reeffish, sand tilefish burrow, lionfish (6).

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **18-VII-12-1** **MILSORTCODESITE:** **201207181**

METHOD (DIVE #): CTD 13 DEPLOY TIME 6:59:00 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida, North Florida MPA, Station 48, north of MPA

DVD: _____ Hard Drive: _____ HD Cam _____

TARGET LATITUDE: 30°29.1610'N LONGITUDE: 80°10.5560'W DEPTH (FT): _____ (M): _____

TARGET DESCRIPTION: _____

ON BOTTOM LATITUDE: _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

ON BOTTOM (GMT): TIME: _____ HABITAT: _____

OFF BOTTOM LATITUDE : _____ LONGITUDE: _____ DEPTH (FT): _____ (M): _____

OFF BOTTOM (GMT): TIME: 7:07:00 AM HABITAT: _____

DEPTH (Ft-MAX): _____ (M): _____ (Ft-MIN): _____ (M): _____

COLLECTORS: Mike Allen

ON BOTTOM :TEMP(°C): _____ (°F): _____ VIS (Ft): _____ SAL (PPT): _____

CURRENT (Kn): _____ (DIRECTION FROM): _____

WEATHER (CLOUD COVER): _____ (MPH): _____ (DIR FROM): _____

SEAS (FT): _____ SEAS (DIR FROM): _____

TOTAL NUMBER OF SAMPLES: _____

SITE DESCRIPTION:

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: **18-VII-12-2** **MILSORTCODESITE:** **201207182**

METHOD (DIVE #): ROV 36 DEPLOY TIME 10:29:40 AM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida, North Florida MPA, Station 49, south and outside of MPA

DVD: 1 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 30°14.7600'N LONGITUDE: 80°14.8800'W DEPTH (FT): 180 (M): 55

TARGET DESCRIPTION: rock ledge from multibeam sonar map

ON BOTTOM LATITUDE: 30°13.5277'N LONGITUDE: 80°15.0716'W DEPTH (FT): 180 (M): 55

ON BOTTOM (GMT): TIME: 10:40 HABITAT: low rock pavement, rock knolls

OFF BOTTOM LATITUDE : 30°14.5758'N LONGITUDE: 80°14.8220'W DEPTH (FT): 200 (M): 61

OFF BOTTOM (GMT): TIME: 11:15:52 AM HABITAT: low relief, smooth rock pavement

DEPTH (Ft-MAX): 200 (M): 61 (Ft-MIN): 177 (M): 54

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 17.7 (°F): 63.86 VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 2 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 9.3 (DIR FROM): 217

SEAS (FT): 1 SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 36, Site #- 18-VII-12-2. Target Site – outside and south of North Florida MPA; 30°14.7600'N, 80° 14.8800'W; 55 m. ROV survey outside MPA and ground truth Navy multibeam sonar of the site. Conduct video/photo transect along west slope of ridge of multibeam sonar map.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 0.3.0 kn; bottom 2.0. Unable to station keep, drifting 1-2 kn to the north, often pulled off bottom; only on bottom few short periods.

Site Description/Habitat/Biota:
Transect along east and west slope of N-S oriented ridge of multibeam; depth range 55-61 m. West slope: 55 m, sand with 30-50% cover of flat rock slabs, 30 cm relief; slope appeared as 10o jumble of rock slabs, which corresponded to black line of multibeam. East slope: 61 m, series of linear, low relief, smooth rock knolls, <30 cm, separated by rock pavement and sediment. Cover is very sparse and very few fish.

Dominant Benthic Biota: Antipatharia- Stichopathes; Hydroida; Demospongiae- Ircinia campana, encrusting spp; Annelida- Filograna (dense 10 cm colonies); Ascidiacea- Didemnidae (dense 2 cm nubs).
Fish: reef butterfly, spotfin hogfish, tatler.

SITE SKETCH:

HARBOR BRANCH OCEANOGRAPHIC INSTITUTE
COLLECTION SITE

HBOI/DBMR SITE NUMBER: 18-VII-12-3 **MILSORTCODESITE:** 201207183

METHOD (DIVE #): ROV 37 DEPLOY TIME 2:10:20 PM ZONE ESDT - Eastern Daylight Tim

LOCATION: Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

DVD: 2 Hard Drive: 1 HD Cam 0

TARGET LATITUDE: 29°54.7340'N LONGITUDE: 80°17.1680'W DEPTH (FT): 197 (M): 60

TARGET DESCRIPTION: NOAA Regional Bathy map shows possible Oculina mound.

ON BOTTOM LATITUDE: 29°53.8645'N LONGITUDE: 80°17.2909'W DEPTH (FT): 184 (M): 56

ON BOTTOM (GMT): TIME: 14:14 HABITAT: : bottom; Slope- flat; 100 m west of the ridge and 150 m south of the

OFF BOTTOM LATITUDE : 29°54.7730'N LONGITUDE: 80°17.1088'W DEPTH (FT): 180 (M): 55

OFF BOTTOM (GMT): TIME: 4:20:53 PM HABITAT: hard bottom; Rock; pavement;

DEPTH (Ft-MAX): 217 (M): 66 (Ft-MIN): 177 (M): 54

COLLECTORS: Andy David, John Reed, Stacy Harter, Stephanie Farrington

ON BOTTOM :TEMP(°C): 15.4 (°F): 59.72 VIS (Ft): 30 SAL (PPT):

CURRENT (Kn): 0.1 (DIRECTION FROM):

WEATHER (CLOUD COVER): Partly Cloudy (MPH): 15.6 (DIR FROM): 129

SEAS (FT): 1 SEAS (DIR FROM):

TOTAL NUMBER OF SAMPLES:

SITE DESCRIPTION:

Site/Objectives: ROV Dive 37, Site #- 18-VII-12-3. Target Site – 55 nmi east of St. Augustine, 60-m reef line, outside MPA; 29°54.7340'N, 80°17.1680'W; 60 m. ROV survey outside MPA and ground truth Navy multibeam sonar and NOAA Bathymetric chart of the site. Conduct video/photo survey of NOAA Bathymetric Chart which shows high relief features, possibly Oculina coral, and Navy multibeam sonar map (15 m resolution) which shows a linear N-S ridge. A. David's ROV dive in 2007 on the same ridge a few miles north reported a 10-m tall N-S ridge.

ROV Setup/Dive Events: Video time ESDT. Dive Notes depth recorded as total depth (ROV altitude + ROV depth in meters). COG is ROV heading. Events, habitat and fauna are recorded by Reed and Farrington directly into Access database. Fish data recorded by David and Harter in separate Excel spreadsheet to be added to Access database. Quantitative photos taken 90° down; lasers 10 cm; non-transect photos forward. Surface current 1.25 kn; bottom 0 kn.

Site Description/Habitat/Biota:
Transect up west slope of N-S oriented ridge, along top, and along the east escarpment. Feature proves to be a N-S linear rock ridge, 56 m at west base, 54-56 m on top, and 65 m at east base. Appears to be the same continuous ridge system that continues north through the North Florida MPA site. At this site it is not individual Oculina coral mounds, although individual 10-30 cm live white Oculina varicosa coral colonies were common on the vertical rock surfaces along the east escarpment at depths of 58-61. The same ridge system continues south but become individual Oculina coral mounds off of Daytona and continuing south to Fort Pierce. West base, 56 m: sand and shell hash, with several knocked down 30 cm gorgonian colonies. West slope of ridge: 56 to 54 m, 20o slope, jumbled 1-2 m rock slabs, 30-50 cm relief, with black coral, numerous black sea urchins (Arbacia or Centrostephanus), sponges, and 15-30 cm gorgonians. Fairly dense fauna on slope and upper edge of ridge; some scamp. Ridge top; 55-56 m, ~50 m wide, flat pavement consisting of fractured rock slabs, and some ledges, 10-30 cm relief; fairly barren compared to edge zones, black coral, gorgonians, and sponges still common. East edge and escarpment: 30o slope from 56 to 65 m, extending 10-20 m to the base which grades into sand at 64-66 m. Upper slope near vertical rock with 1-2 m relief of rugged rock and the lower slope is a jumble of 1-2 m rock slabs, 1/2-1 m relief.

Dominant Benthic Biota: Antipathidae (3-4 spp.), gorgonacea, demosponges, sea urchins, and Oculina varicosa are dominant. Scleractinia- Oculina varicosa, (live white, 10-20 cm colonies, 13+ colonies); Antipathidae (4 spp)- Stichopathes, 30-40 cm bushy brown, white fans, Australian pine; Gorgonacea- Diodogorgia? (10-15 cm purple), Swiftia exserta (30-40 cm red); Hydroida; Demospongiae- Cinachyra?, Neofibularia, Spirastrellidae, Ircinia campana, other spp; Asteroidea; Echinoidea-

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COLLECTION SITE

HBOI/DBMR SITE NUMBER: 18-VII-12-3 MILSORTCODESITE: 201207183

Arbacia or Centrostephanus, Eucidaris tribuloides; Ascidiacea- Didemnidae; Algae - crustose coralline algae; Rhodophyta. Fish: greater amberjack, bank butterflyfish, bank seabass, blackbar drum, blue angelfish, cowfish, cubbyu, hogfish, red porgy, reef butterflyfish, scamp grouper, sharpnose puffer, short bigeye, spotfin hogfish, squirrelfish, tatler, tomtate (numerous), vermillion snapper (numerous), yellowtail reeffish, lionfish (8).

SITE SKETCH:

HBOI/DBMR SITE NUMBER: 18-VII-12-3 **MILSORTCODESITE:** 201207183

2012 Shelf-Edge MPA Cruise - NOAA Ship Pisces - ROV Dive Annotations

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	**ROV 1**	**7-VII-12-2**	**Florida, Jacksonville, North Florida MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 9:22:35 AM					Launch (start dive); Objectives: ROV Dive 1, Site #- 7-VII-12-2. Target Site - North Florida MPA; 30°27.7200'N, 80°11.9400'W; 70 m. ROV survey inside MPA; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N, zig-zag along main ridge oriented NE-SW.		☐
7/7/2012 9:25:09 AM					Start Video; Diving North FL MPA site. Lance Horne Lead ROV Pilot		☐
7/7/2012 9:27:00 AM	30.440275	-80.206443	-48.9	HB	1m outcrops	scamp	☐
7/7/2012 9:27:20 AM	30.440489	-80.206417	-54.5	HB	Bottom in sight; hard bottom; pavement; Rock; Zooming along at .25 kts; 100 m to the W of the plotted Transect line		☐
					Por - Demospongiae;		
					Fish - tatler;		
					Ann - Filograna;		
					Cni - Gorgonacea; Plexauridae	Plexaurid	
7/7/2012 9:28:00 AM	30.440791	-80.206358	-56.2			pair of reef butterfly fish, yellowtail reeffish	☐
7/7/2012 9:29:00 AM	30.441204	-80.206294	-55.8			reef butterflyfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 9:29:28 AM	30.441413	-80.206242	-55.1	HB	hard bottom; Rock; pavement; .5 to 1 m relief		☐
					Species Observed: Cni - Stichopathes;		
7/7/2012 9:30:00 AM	30.441609	-80.206263	-55.5		off bottom, current is zooming, we are right on the edge of the gulfstream		☐
7/7/2012 9:30:48 AM	30.441951	-80.206228	-42		off bottom by 10 m; unable to station keep - being dragged to the north at a knot+		☐
7/7/2012 9:32:26 AM	30.442205	-80.206358	-22.2		20 m deep		☐
7/7/2012 9:34:24 AM	30.442436	-80.206466	-27.6		reposition ship speed		☐
7/7/2012 9:35:24 AM	30.442714	-80.206442	-32.6		starting decent to bottom. Reposition ship to get ROV to bottom; 150 m west of predicted track line		☐
7/7/2012 9:38:17 AM	30.443470	-80.206485	-29.3		water column		☐
7/7/2012 9:40:50 AM	30.444327	-80.206330	-44.1	HB	bottom in sight; W base of ridge, 150 m west of the transect line; hard bottom - 80%, Rock boulders - 50cm to 1m relief;	dense cover of sponges, hydroids, Ircinia, stichopathes.	☐
					Species Observed: Por - Demospongiae; Ircinia		
					Fish - queen trigger		
					Cni - Stichopathes;		
7/7/2012 9:42:00 AM	30.444656	-80.206261	-50.1		back on bottom; still a few meters off	couple of larger fish, grouper	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 9:43:00 AM	30.444892	-80.206118	-52.8			tomtates, queen triggerfish	☐
7/7/2012 9:43:54 AM	30.445224	-80.206009	-50.8	HB	West base of main ridge; scattered 1-2 m boulders, .5 m relief; Non XS - Random Photos		☐
					Fish - reef butterflyfish		
					Fish - queen trigger		
7/7/2012 9:44:00 AM	30.445254	-80.206003	-49.9			couple of triggers	☐
7/7/2012 9:45:00 AM	30.445687	-80.205805	-46.6			creole-fish, vermilion	☐
7/7/2012 9:45:06 AM	30.445741	-80.205781	-49.1		Off bottom;		☐
7/7/2012 9:45:56 AM	30.445977	-80.205713	-52.4	HB	On bottom; Non XS - Random Photos; Rock; difficulty station keeping		☐
					Ann - Filograna;		
					Cni - Gorgonacea; Plexauridae	plexaurid	
					Cni - Stichopathes;		
					Por - Ircinia campana;		
7/7/2012 9:46:00 AM	30.445988	-80.205699	-52.4			gray snapper?	☐
7/7/2012 9:47:00 AM	30.446335	-80.205623	-50.8			gray trigger?	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 9:48:00 AM	30.446661	-80.205431	-52.2			school of tomtates	☐
7/7/2012 9:48:29 AM	30.446854	-80.205340	-51	SB	patches of soft bottom; west face of the ridge;		☐
7/7/2012 9:49:40 AM	30.447166	-80.205313	-52.8	HB	soft bottom; sand shell hash with patchy rock outcrops; Non XS - Random Photos;		☐
					Fish - Cuban hogfish		
					Fish - spotfin hogfish		
					Cni - Antipathidae;		
					Cni - Stichopathes;		
7/7/2012 9:50:00 AM	30.447310	-80.205292	-53.3			spotfin hogfish	☐
7/7/2012 9:50:00 AM	30.447310	-80.205292	-53.3			off bottom	☐
7/7/2012 9:51:00 AM	30.447751	-80.205039	-47.8			gray triggerfish	☐
7/7/2012 9:51:07 AM	30.447769	-80.205058	-48.3		Off bottom;		☐
					Fish - queen trigger		
7/7/2012 9:51:53 AM	30.447964	-80.204957	-50.3	SB	On bottom; soft bottom; west base of multibeam		☐
					Fish - triggerfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 9:54:00 AM	30.448653	-80.204648	-51.8		back on bottom,	short bigeye, yellowtail reeffish, spotfin hogfish, tattler, spotfin butterflyfish	☐
7/7/2012 9:54:12 AM	30.448705	-80.204608	-52.6	HB	Low relief pavement; Rock Boulders; unable to stay on bottom;		☐
					Fish - short bigeye;		
7/7/2012 9:55:08 AM	30.449019	-80.204383	-52.2	HB	Rock patchy; at the west base at the main ridge; 150 w of the track line, difficult slowing down; pavement; Rock boulders; slabs; too fast to do XS photos; Non XS - Random Photos;		☐
					Cni - Antipathidae;		
					Por - Demospongiae;		
					Por - Ircinia campana;		
					Cni - Stichopathes;		
7/7/2012 9:56:00 AM	30.449322	-80.204210	-52.6			squirrelfish, soldierfish?	☐
7/7/2012 9:58:00 AM	30.449972	-80.203877	-53.5			vermilion snapper	☐
7/7/2012 9:58:30 AM	30.450170	-80.203760	-52	SB	soft bottom; shells, scowering		☐
7/7/2012 10:00:07 AM	30.450739	-80.203447	-55.3	HB	Rock; patchy soft bottom; on the multibeam we are on the western upward part of the ledge; scatter rock; pavement; slabs; .5 m relief;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 10:02:00 AM	30.451316	-80.203332	-55.1			bank sea bass, vermilion snapper, wrasse, yellowtail reeffish, spotfin hogfish, reef butterflyfish, sunshinefish, sharpnose puffer, blackbar soldierfish, blue angelfish	☐
7/7/2012 10:02:04 AM	30.451344	-80.203334	-55.1	HB	XS Photo (1 taken); Rock; 1-1.5 kts speed		☑
					Cni - Hydroidolina;		
					Ann - Filograna;	white colonies	
					Fish - vermilion snapper		
					Cni - Gorgonacea; Plexauridae	Plexaurid	
					Cho - Ascidacea; Didemnidae	spherical	
					Por - Ircinia strobilina;		
					Por - Demospongiae; Spirastrellidae		
					Por - Demospongiae; Axinellidae?	Orange, stalked	
					Cni - Stichopathes;		
					Cni - Tanacetipathes;		
7/7/2012 10:05:46 AM	30.452614	-80.202802	-55.5	HB	.5 m relief; close to the western edge of the main ridge; Rock boulders;		☐
					Cni - Stichopathes;		
					Cni - Tanacetipathes;	bushy	
7/7/2012 10:07:44 AM	30.453307	-80.202509	-55.3	HB	pavement with sediment veneer; western edge of the multibeam;		☐
					Ann - Filograna;		
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Tanacetipathes;	tenaticipathes - large	
7/7/2012 10:10:02 AM	30.454191	-80.202194	-55.3	HB	soft bottom; West of the track line; western edge of the main ridge; Non XS - Random Photos - unable to slow; pavement with sediment veneer; crabbing to the west to get to main top of the ridge		☐
					Cni - Hydroidolina;	black	
					Cni - Antipathidae;	Tanacetipathes	
					Cni - Antipathidae;		
					Por - Ircinia campana;		
					Ann - Filograna;		
					Cni - Gorgonacea; Plexauridae		
					Cho - Ascidacea; Didemnidae		
					Por - Demospongiae; Callyspongia		
					Por - Demospongiae;		
					Por - Demospongiae; Spirastrellidae		
					Por - Demospongiae; Axinellida		
					Por - Demospongiae; Aplysina		
					Por - Ircinia campana;		
7/7/2012 10:12:00 AM	30.454940	-80.201912	-55.3			bicolor damselfish, porgy, tomtate, reef butterflyfish, tattler	☐
7/7/2012 10:14:29 AM	30.455917	-80.201556	-55.5	HB	patchy hard bottom; rick slabs; 90 m west of the track line		☐
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 10:16:55 AM	30.456862	-80.201157	-56.4	HB	soft bottom; with patchy rubble;		☐
7/7/2012 10:17:50 AM	30.457165	-80.201011	-56	HB	multibeam on the ridge; the video shows flat bottom pavement; sediment veneer; rock slabs;		☐
					Cni - Stichopathes;		
					Ann - Filograna;		
					Fish - reef butterflyfish		
					Fish - blue angelfish;		
					Cni - Tanacetipathes;		
7/7/2012 10:18:00 AM	30.457199	-80.200972	-56.2			spotfin butterflyfish, blue angelfish, porgy, spotfin burrfish, burrfish, bank butterfly, grey triggerfish, blackbar soldierfish, bank sea bass	☐
7/7/2012 10:20:08 AM	30.458030	-80.200746	-57	HB	on multibeam - 60 m west of the track; on top of the ridge; low relief rock pavement; .5 rock slabs; boulders;		☐
					Cni - Gorgonacea; Plexauridae	Plexaurid - purple	
					Cni - Stichopathes;		
					Fish - bank butterflyfish	Chaetadon aya	
7/7/2012 10:22:00 AM	30.458662	-80.200516	-56.4			trunkfish, reef butterflyfish, squirrelfish, spotfin hogfish, porgy, grey trifferfish, bank sea bass, vermilion snapper?	☐
7/7/2012 10:22:00 AM	30.458662	-80.200516	-56.4			burrfish, red porgy, blackbar soldierfish, porgy, tattler, new dvd	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 10:23:57 AM	30.459358	-80.200306	-56.8		change DVD -		☐
					Cni - Stichopathes;		
					Ann - Filograna;		
7/7/2012 10:26:09 AM	30.460111	-80.200011	-57	HB	Starting DVD 2; Rock outcrops; patchy hard bottom; sediment; Closer to track line, 60 m west. Rubble;		☐
					Cni - Stichopathes;		
					Por - Ircinia campana;		
					Cni - Tanacetipathes;		
7/7/2012 10:27:00 AM	30.460354	-80.199726	-57.4			spotfin butterflyfish, reef butterflyfish, squirrelfish, wrasses, tattler, rubble pile - sand tilefish mound?	☐
7/7/2012 10:29:37 AM	30.461403	-80.199577	-57.2	HB	working to the east to get over the ledge; about 30 m west of the transect line and almost to the end. We are on top of the ridge; more hard bottom; rock slabs; boulders .5 m relief; dense biota; few big fish; cowfish; crabbing to the east - still Non XS - Random Photos;		☐
7/7/2012 10:31:00 AM	30.462003	-80.199250	-57.6			scrawled cowfish	☐
7/7/2012 10:32:03 AM	30.462468	-80.198962	-59.3	HB	on the transect line 30 m north of the end of it; rubble; sediment;		☐
					Cni - Stichopathes;		
7/7/2012 10:33:33 AM	30.463037	-80.198448	-59.7	HB	series of knolls; soft bottom; patchy rock pavement; linear smooth E/W ridges		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - flying gurnard		
					Ann - Filograna;		
					Cni - Stichopathes;		
7/7/2012 10:34:00 AM	30.463165	-80.198398	-59.7			flying gurnard	☐
7/7/2012 10:35:00 AM	30.463488	-80.198208	-60.1			few squirrelfish, tattler, yellowtail reeffish	☐
7/7/2012 10:35:09 AM	30.463548	-80.198185	-60.1	HB	low relief; shell hash; cobble; rubble; patchy hard bottom;		☐
7/7/2012 10:37:16 AM	30.464246	-80.197910	-59.3	HB	east face if ridge; pavement; soft bottom;		☐
7/7/2012 10:38:00 AM	30.464607	-80.197767	-58.5		went over ledge without realizing it - not very distinct		☐
7/7/2012 10:38:03 AM	30.464640	-80.197758	-58		starting to zag back to the west a bit; 340 degrees - changing course to NW we are going to try to cross to the top of the ridge		☐
					Cni - Stichopathes;		
					Por - Demospongiae; Ircinia	large	
7/7/2012 10:39:00 AM	30.464935	-80.197717	-59.1		heading back west to run over the ledge again		☐
7/7/2012 10:40:04 AM	30.465238	-80.197676	-59.5				☐
					Cho - Ascidacea; Didemnidae		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 10:41:30 AM	30.465739	-80.197590	-59.3	HB	eastern ledge of ridge; pavement; rock cobble		☐
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
					Cho - Ascidacea; Didemnidae		
					Cni - Tanacetipathes;		
					Por - Demospongiae; Ircinia		
7/7/2012 10:44:00 AM	30.466867	-80.197645	-59.1			cubbyu, red porgy, spotfin hogfish, queen angelfish, tattlers, yellowhead wrasse, reefbutterflyfish, yellowtail reeffish, school of red porgys	☐
7/7/2012 10:44:36 AM	30.467091	-80.197642	-57.8	HB	scattered rock slabs; .5 m +; on multibeam we are on main part of ridge; pavement with sediment veneer;		☐
7/7/2012 10:46:32 AM	30.467946	-80.197801	-55.5	HB	hard bottom; difficulty station keeping;	12 Porgies;	☐
					Cni - Gorgonacea; Plexauridae	purple plexaurid	
7/7/2012 10:47:00 AM	30.468127	-80.197853	-55.1			grey triggerfish	☐
7/7/2012 10:49:00 AM	30.469195	-80.198147	-54.1			vermilion snapper, wrasse, spotfin hogfish, tattler, red porgy, grey triggerfish, calamus porgy	☐
7/7/2012 10:49:33 AM	30.469382	-80.198129	-53.5		west edge of main ridge;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 10:51:00 AM	30.469917	-80.198001	-53.5			doctorfish, reef butterfly, spotfin hogfish, yellowtail reeffish, bank sea bass, creole-fish	☐
7/7/2012 10:51:08 AM	30.469961	-80.197980	-53.7	HB	west edge if the ridge; all photos are Non XS - Random Photos; low ledges 30 cm;		☐
					Ann - Filograna;		
					Cni - Hydroidolina;		
					Por - Demospongiae;		
					Cni - Stichopathes;		
7/7/2012 10:53:03 AM	30.470748	-80.198054	-53.3	HB	patchy hard bottom; scattered boulders; slabs; dense covered with sponges and hydroids and black coral.		☐
					Cni - Antipathidae;		
					Por - Demospongiae;		
					Cni - Hydroidolina;		
7/7/2012 10:55:00 AM	30.471600	-80.198200	-54.1	SB	sand, changing course to NE to get closer to ledge again		☐
7/7/2012 10:55:06 AM	30.471640	-80.198207	-54.1	HB	sediment shell hash; rubble; 30 m west of ridge; change course over ground to N NE; soft bottom;		☐
7/7/2012 10:58:00 AM	30.472858	-80.198003	-53.7	HB	low relief outcrops	tomtates, red porgy, bank sea bass, grey triggerfish, spotfin hogfish, reef butterflyfish, wrasse, yellowtail reeffish, bicolor damselfish, sharpnose puffer, tattler	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 10:58:57 AM	30.473149	-80.197617	-53.3	HB	boulders; cobble;		☐
					Species Observed		
					Fish - reef butterflyfish		
					Cni - Hydroidolina;	black stinging	
					Por - Demospongiae; Ircinia		
					Cni - Stichopathes;		
					Cho - Ascidacea; Didemnidae		
					Cni - Gorgonacea;	purple	
					Cni - Stichopathes;		
7/7/2012 11:01:35 AM	30.473791	-80.197222	-53.7	HB	100 percent hard bottom; Non XS - Random Photos;		☐
					Por - Demospongiae; Ircinia		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
7/7/2012 11:02:00 AM	30.473958	-80.197217	-53.3			short bigeye, lots of spotfin hogfish, sharpnose puffer, tattler	☐
7/7/2012 11:04:00 AM	30.474569	-80.196646	-53.1			bank butterflyfish, cowfish, tattler, yellowtail reeffish, wrasse	☐
7/7/2012 11:04:54 AM	30.474820	-80.196354	-55.1	HB	hard bottom; on top or ridge		☐
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Cni - Tanacetipathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207072	ROV 1	7-VII-12-2	Florida, Jacksonville, North Florida MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 11:06:31 AM	30.475410	-80.195866	-56.8	HB	Rock outcrop; still on top of ridge;	Amberjack	☐
7/7/2012 11:07:00 AM	30.475558	-80.195750	-57.4			glasseye snapper?, amberjack, reef butterflyfish, vermilion snapper, reef butterflyfish	☐
7/7/2012 11:08:45 AM	30.476243	-80.195332	-59.5	HB	cobble; rubble; pavement; off ridge; multibeam has us on top of ridge; changing course over ground headed to N NW; east base of ridge; Non XS - Random Photos;		☐
7/7/2012 11:09:00 AM	30.476343	-80.195311	-59.9		changing course to NW		☐
7/7/2012 11:10:00 AM	30.476745	-80.195119	-59.9		back on ridge,	blue angelfish, yellowtail reeffish, tattler	☐
7/7/2012 11:10:48 AM	30.477037	-80.194968	-59.5	HB	rock boulders and slabs;		☐
					Por - Demospongiae; ircinia	40 cm	
					Cni - Stichopathes;		
7/7/2012 11:13:00 AM	30.478327	-80.194835	-59.3			purple reeffish, squirrelfish, bank sea bass, reef butterflyfish	☐
7/7/2012 11:14:00 AM	30.478977	-80.194932	-55.8		end of dive		☐
7/7/2012 11:14:35 AM	30.479384	-80.194952	-55.1		outside MPA; officially off multibeam map by 60 m		☐

Species Observed

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 1:12:43 PM				HB	Objectives: ROV Dive 2, Site #- 7-VII-12-3. Target Site - North Florida MPA; 30°21.3680'N; 80° 13.8060'W; 56-59 m. ROV survey inside MPA; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N on low relief, hard bottom west of main ridge on sonar.		☐
7/7/2012 1:18:00 PM	30.358440	-80.229448	-57.6	HB	undulating hardbottom; small cobble	no fish	☐
7/7/2012 1:19:54 PM	30.359626	-80.229428	-57	HB	XS Photo; hard bottom; pavement; rubble; 5-10 cm rublle; sediment on pavement		☑
					Cni - Tanacetipathes;		
7/7/2012 1:21:00 PM	30.360205	-80.229383	-57			sand tile mound, stichopathes, Yellowtail Reeffish	☐
7/7/2012 1:22:14 PM	30.360508	-80.229274	-58.3		60 m SE of XS line	Fish - Sand Tilefish mound;	☐
					Sed - sand tilefish burrow		
7/7/2012 1:23:00 PM	30.360793	-80.229275	-57.6	HB	2nd downshot, small patches of exposed rock	tattlers	☐
7/7/2012 1:23:46 PM	30.361110	-80.229297	-56.4	HB	XS Photo; soft bottom; pavement; rubble;	Fish - Yellowtail Reeffish; Cni - Stichopathes;	☑
					Fish - yellowtail reeffish;		
					Cni - Stichopathes;		
7/7/2012 1:25:48 PM	30.361795	-80.229496	-58	HB	soft bottom; rubble; piles of rubble and sed		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 1:26:00 PM	30.361867	-80.229580	-58.5	HB	low relief hard bottom	Yellowtail Reeffish, jewel damselfish, tattlers	☐
7/7/2012 1:26:25 PM	30.362032	-80.229484	-57.2	HB	XS Photo; soft bottom; rubble; no ledges; Rock; Slope- flat; patches of rubble sparse rock on sediment	Cni - Stichopathes; Ircinia campana; hydroida; pu plexauridae; unbranched gorgonacea; black hydroida; Fish - Sand Tilefish burrow	☑
					Por - Ircinia campana;		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Plexauridae	pu ;	
					Cni - Gorgonacea;	unbranched	
					Sed - sand tilefish burrow		
					Cni - Hydroidolina;	black	
7/7/2012 1:28:54 PM	30.363157	-80.229491	-57.6	HB	XS Photo; soft bottom; rubble;	barracuda; Fish - Yellowtail Reeffish; Cni - Stichopathes; bigeye; burrow in rock; Ircinia; Fish - Sand Tilefish- observed	☑
					Fish - sand tilefish;	observed;	
					Fish - yellowtail reeffish;		
					Cni - Stichopathes;		
					Fish - short bigeye;		
					Por - Demospongiae; Ircinia		
7/7/2012 1:29:00 PM	30.363173	-80.229476	-56.8			squirrelfish, barracuda, sand tilefish on burrow	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 1:31:00 PM	30.363872	-80.229248	-56.4			bigeye, reef butterfly	☐
7/7/2012 1:32:00 PM	30.364204	-80.229052	-56.6			sand tile in hole, reef fly, greenband wrasse, squirrelfish	☐
7/7/2012 1:33:41 PM	30.364950	-80.228883	-57.4	HB	soft bottom; rubble;		☐
7/7/2012 1:34:00 PM	30.365037	-80.228732	-56.8			Yellowtail Reeffish, blue angel, porgy	☐
7/7/2012 1:34:03 PM	30.365059	-80.228730	-56.8	HB	XS Photo; soft bottom; rubble		☑
					Fish - red porgy		
					Fish - sand tilefish;		
					Fish - short bigeye;		
7/7/2012 1:34:17 PM	30.365105	-80.228670	-57.8	HB	XS Photo; soft bottom; rubble;		☑
					Cni - Hydroidolina;		
7/7/2012 1:34:45 PM	30.365251	-80.228598	-57.2	HB	hard bottom; pavement; rubble; 0.5 m relief rubble;		☐
					Cni - Stichopathes;		
					Fish - yellowtail reeffish;		
					Cni - Hydroidolina;		
					Fish - sand tilefish;		
					Fish - porgy		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 1:35:51 PM	30.365769	-80.228647	-56.4	HB	soft bottom; rubble;		☐
7/7/2012 1:36:55 PM	30.366223	-80.228502	-56.8	HB	hard bottom; rubble; low relief, no ledges; Slope- flat;		☐
					Fish - short bigeye;		
					Por - Demospongiae; Ircinia		
					Cni - Gorgonacea;		
					Cni - Stichopathes;		
					Sed - sand tilefish burrow		
					Fish - yellowtail reeffish;		
					Cni - Hydroidolina;		
7/7/2012 1:37:00 PM	30.366269	-80.228476	-57			bigeyes, Yellowtail Reeffish, squirrelfish, tattlers	☐
7/7/2012 1:39:00 PM	30.366977	-80.228043	-56.4			tilefish burrow, GB wrasse	☐
7/7/2012 1:39:07 PM	30.367006	-80.228027	-56.2	HB	XS Photo; soft bottom; rubble;	Cni - Stichopathes; Cni - Hydroidia; Fish - Sand Tilefish;	☑
					Fish - sand tilefish;		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
7/7/2012 1:40:15 PM	30.367417	-80.227850	-58.3	HB	soft bottom; rubble; patches of cobble		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 1:41:32 PM	30.367933	-80.227625	-58.3	HB	XS Photo; soft bottom; rubble;		☑
7/7/2012 1:41:53 PM	30.368025	-80.227618	-56.8	HB	hard bottom; Rock; narrow ridge about 20 m wide then sediment and rubble		☐
7/7/2012 1:42:00 PM	30.368055	-80.227613	-57			squirrelfish, tattlers, stichopathes, reef butterflies, bigeye, bank seabass	☐
7/7/2012 1:42:58 PM	30.368478	-80.227647	-56.8	HB	hard bottom; rubble;		☐
					Cni - Gorgonacea;		
					Por - Ircinia campana;		
					Cni - Stichopathes;		
					Fish - yellowtail reeffish;		
7/7/2012 1:43:59 PM	30.368790	-80.227544	-56.8	HB	XS Photo; hard bottom; rubble;		☑
7/7/2012 1:44:13 PM	30.368837	-80.227491	-57.4	HB	Fish - Sand Tilefish; soft bottom;rubble;		☐
7/7/2012 1:44:30 PM	30.368929	-80.227449	-57	HB	XS Photo; soft bottom; rubble;		☑
7/7/2012 1:44:44 PM	30.369042	-80.227434	-56.8	HB	hard bottom; rubble; Slope- flat; some burrow in rock;		☐
					Sed - sand tilefish burrow		
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Ircinia campana;		
					Fish - sand tilefish;		
7/7/2012 1:45:00 PM	30.369119	-80.227404	-57			Yellowtail Reeffish, GB wrasses, sand tile	☐
7/7/2012 1:46:56 PM	30.369916	-80.227257	-56.4	HB	XS Photo; soft bottom; rubble;		☑
					Fish - sand tilefish;		
					Fish - red porgy		
7/7/2012 1:49:00 PM	30.370947	-80.226919	-57			reef butterflies, tattlers, squirrelsifh, Yellowtail Reeffish, balloon porcupinefish	☐
7/7/2012 1:49:20 PM	30.371056	-80.226894	-56.6	HB	XS Photo; soft bottom; rubble; series of sand ridges low relief; sparse rubble		☑
7/7/2012 1:49:52 PM	30.371201	-80.226831	-57.2	HB	hard bottom; rubble; Rock;		☐
					Cni - Stichopathes;		
					Cni - Tanacetipathes;		
					Cni - Hydroidolina;		
					Por - Ircinia campana;		
7/7/2012 1:50:38 PM	30.371421	-80.226744	-56.6	HB	soft bottom; rubble; patches of hard bottom		☐
					Fish - porcupine fish		
7/7/2012 1:51:16 PM	30.371563	-80.226705	-56.8	HB	soft bottom; rubble;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 1:52:00 PM	30.371778	-80.226606	-56.8	HB	XS Photo; soft bottom; rubble;		☑
7/7/2012 1:53:00 PM	30.372151	-80.226396	-57.8	HB	patchy reefy outcrops	bigeye, tattle	☐
7/7/2012 1:53:03 PM	30.372152	-80.226374	-57.6	HB	soft bottom; Rock; rubble; 1 m relief; 20 m diam patch reefs; surrounded by sediment and rubble		☐
					Fish - short bigeye;		
					Cni - Tanacetipathes;		
7/7/2012 1:54:04 PM	30.372498	-80.226230	-56.8	HB	XS Photo; hard bottom; pavement;		☑
7/7/2012 1:54:35 PM	30.372671	-80.226315	-56.4	HB	soft bottom; rubble;		☐
7/7/2012 1:54:52 PM	30.372785	-80.226283	-56.8	HB	hard bottom; Rock; rubble;		☐
					Fish - red porgy		
7/7/2012 1:55:00 PM	30.372841	-80.226273	-57			red porgy, blue angels, Yellowtail Reeffish, spotfin hogfish, triggerfish	☐
7/7/2012 1:55:43 PM	30.373086	-80.226181	-57	HB	hard bottom; Rock; rubble;		☐
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
					Por - Demospongiae;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - yellowtail reeffish;		
7/7/2012 1:56:31 PM	30.373343	-80.226097	-58.3	HB	XS Photo; soft bottom; rubble;		☑
7/7/2012 1:57:09 PM	30.373487	-80.225980	-58.3	HB	hard bottom; Rock; rubble; 1/2 m relief; Slope- flat; 1 m relief reef		☐
					Fish - yellowtail reeffish;		
					Por - Ircinia campana;		
					Fish - triggerfish		
					Cni - Stichopathes;		
					Fish - spotfin hogfish		
7/7/2012 1:58:52 PM	30.374015	-80.225722	-56.6	HB	soft bottom; rubble;		☐
7/7/2012 1:59:00 PM	30.374077	-80.225715	-56.2			GB wrasse, squirrelfish, blue angel, gray trigger, bank seabass	☐
7/7/2012 1:59:01 PM	30.374084	-80.225709	-56.2		XS Photo;		☑
					Ann - Filograna;		
7/7/2012 2:00:00 PM	30.374372	-80.225542	-57	HB	hard bottom; Rock; rubble; patch reefs more common;		☐
					Cni - Gorgonacea; Plexauridae	Plexaurid;	
					Cni - Stichopathes;		
					Por - Ircinia campana;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 2:01:00 PM	30.374736	-80.225505	-56.4	HB	rockier	Centropyge?, cowfish, gray trigger, lionfish, red porgy, queen trigger, GBWs bigeyes	☐
7/7/2012 2:01:39 PM	30.374928	-80.225534	-55.8	HB	XS Photo; hard bottom; Rock; rubble;		☑
7/7/2012 2:01:58 PM	30.374971	-80.225481	-54.3	HB	hard bottom; Rock; rubble;		☐
7/7/2012 2:02:42 PM	30.375353	-80.225406	-57	HB	soft bottom; rubble;		☐
					Fish - grey trigger		
7/7/2012 2:03:08 PM	30.375568	-80.225292	-58	HB	hard bottom; rubble; Rock; 1/2 m relief; Hum - Human Debris;		☐
					Fish - short bigeye;		
					Fish - lionfish;		
					Fish - red porgy		
7/7/2012 2:04:13 PM	30.375833	-80.225085	-56.8		Non XS - Random Photos; lionfish		☐
7/7/2012 2:04:34 PM	30.376007	-80.225006	-57.2	HB	hard bottom; Rock; rubble;		☐
					Cni - Gorgonacea;		
					Fish - yellowtail reeffish;		
					Cni - Stichopathes;		
7/7/2012 2:04:58 PM	30.376136	-80.224989	-57.8	HB	soft bottom; rubble; patchy rock		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 2:05:00 PM	30.376156	-80.224975	-57.8		end of line	bigeyes, tattlers, deep hole, snapper w/ spot, gray snapper? Larger to left, high hat	☐
7/7/2012 2:05:29 PM	30.376288	-80.224859	-57.4	HB	soft bottom; rubble; end transect line; con't heading XS Photo;		☑
7/7/2012 2:06:27 PM	30.376557	-80.224706	-57.8	HB	hard bottom; Rock; Non XS - Random Photos;	snapper in rock hole; mahogany? w/ spot;	☐
					Fish - snapper	in rock hole; mahogany? w/ spot;	
7/7/2012 2:07:31 PM	30.376900	-80.224626	-58	HB	soft bottom; rubble;		☐
					Por - Demospongiae; Axinellida		
7/7/2012 2:08:01 PM	30.377082	-80.224586	-56.6	HB	soft bottom; assym ripples; no rubble; ended hard bottom on multibeam; approx 150 m W of main ridge; hd to another patchy hard bottom of multibeam		☐
7/7/2012 2:10:00 PM	30.377944	-80.224438	-56.6	HB	out in the sand; heading ~350 deg for 250m to next rocky patch on MBES, changing DVD		☐
7/7/2012 2:13:08 PM	30.379119	-80.224113	-56.6	SB	soft bottom;		☐
7/7/2012 2:15:11 PM	30.380030	-80.224117	-57	HB	soft bottom; rubble; at edge of hard bottom rubble on multibeam; multibeam and video matched		☐
7/7/2012 2:16:00 PM	30.380295	-80.224105	-58.3	HB	back to low relief hard bottom	many bigeye, moray, squirrelfish, tile burrow	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	ROV 2	7-VII-12-3	North Florida MPA Site, Station 3

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 2:16:15 PM	30.380380	-80.224090	-58.3	HB	soft bottom; rubble; dense ruble patches of cobble;		☐
					Sed - sand tilefish burrow		
					Fish - red porgy		
					Fish - squirrelfish		
					Fish - short bigeye;	Several on rock hole	
					Fish - sand tilefish;		
					Cni - Hydroidolina;		
7/7/2012 2:17:39 PM	30.380706	-80.224282	-58.5	HB	XS Photo; soft bottom; rubble; sand ripples;		☑
7/7/2012 2:19:00 PM	30.381326	-80.224382	-57.8		trying for more west on course, but current still strong		☐
7/7/2012 2:20:01 PM	30.381625	-80.224187	-58	SB	soft bottom; bare; sand ripples; Slope- flat;		☐
7/7/2012 2:20:29 PM	30.381798	-80.224142	-56.2	SB	XS Photo; soft bottom; sand ripples; barren		☑
7/7/2012 2:21:00 PM	30.382024	-80.224100	-56.6	SB	more sand, not making enough west		☐
7/7/2012 2:22:56 PM	30.383245	-80.224432	-56.6	SB	XS Photo; soft bottom; sand ripples; barren; out of hard bottom on multibeam		☑
7/7/2012 2:25:00 PM					end of dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207073	**ROV 2**	**7-VII-12-3**	**North Florida MPA Site, Station 3**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 2:26:47 PM					Off bottom; end dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	**ROV 3**	**7-VII-12-4**	**Florida. North Florida MPA, station 4**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 2:59:02 PM	30.391946	-80.218802	-54.9	HB	Objectives: ROV Dive 3, Site #- 7-VII-12-4. Target Site - North Florida MPA; 30°23.4230'N, 80° 13.1690'W; 56-60 m. ROV survey inside MPA; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N, zig-zag along main ridge oriented NE-SW; continuation of ledge in Dive 1. Bottom in sight; hard bottom; rubble; West of the main ridge ~ 90 m away. Ship heading south.		☐
7/7/2012 3:02:08 PM	30.393746	-80.218466	-54.9	HB	XS Photo; random down photos every 2 minutes. Rubble; hard bottom; soft bottom;		☑
7/7/2012 3:03:00 PM	30.394107	-80.218414	-54.7	HB	1m or less outcrops	reef butterflyfish, blue angelfish, bank sea bass, wrasse, tattler	☐
7/7/2012 3:03:05 PM	30.394125	-80.218385	-54.5	HB	300 meters south of the start transect line; soft bottom; rubble;		☐
7/7/2012 3:03:51 PM	30.394310	-80.218205	-54.7	HB	rocky features. 1-2 m tall .5 m boulders; soft bottom; Rock;		☐
					Cni - Hydroidolina;		
7/7/2012 3:04:28 PM	30.394423	-80.218047	-54.3	SB	XS Photo; soft bottom;		☑
7/7/2012 3:04:50 PM	30.394508	-80.217921	-53.9	HB	boulder field; hard bottom; Rock;		☐
					Por - Demospongiae; Ircinia		
7/7/2012 3:05:00 PM	30.394544	-80.217883	-53.9			grey triggerfish, spotfin hogfish, yellowtail reeffish, tattler, purple reeffish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 3:05:55 PM	30.395033	-80.217842	-54.7	HB	soft bottom; rubble; patchy and scattered Rock;		☐
					Species Observed		
					Cni - Hydroidolina;	Dominate	
					Cni - Stichopathes;		
					Por - Ircinia campana;		
					Fish - vermilion snapper		
7/7/2012 3:06:00 PM	30.395089	-80.217855	-54.5			school of vermilion, amberjack, tomtates, blue anelfish, bigeye, blue angelfish, squirrelfish, blackbar soldierfish, scamp, reef butterflyfish	☐
7/7/2012 3:06:58 PM	30.395486	-80.217721	-52	HB	XS Photo = rock boulders; western portion of the ridge; on the western edge of the ridge on the multibeam		☑
					Cni - Stichopathes;		
					Cni - Gorgonacea; Plexauridae	purple	
7/7/2012 3:08:10 PM	30.396047	-80.217517	-54.7	HB	hard bottom; Rock boulders;		☐
					Cni - Stichopathes;		
					Cni - Tanacetipathes;		
					Cni - Hydroidolina;		
					Fish - scamp grouper;	40 -cm	
7/7/2012 3:09:02 PM	30.396555	-80.217361	-54.3	HB	becomong flatter exposed HB;		☐
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 3:09:32 PM	30.396755	-80.217216	-54.5		XS Photo;		☑
					Cni - Stichopathes;		
					Por - Demospongiae; Ircinia		
7/7/2012 3:10:00 PM	30.396950	-80.217124	-54.9			lionfish, spotfin butterflyfish, tattler, blue angelfish, yellowtail reeffish	☐
7/7/2012 3:10:10 PM	30.397042	-80.217085	-54.7	HB	west edge of multibeam ridge. .5 m relief; Rock boulders		☐
					Por - Demospongiae; Ircinia		
					Fish - lionfish;		
7/7/2012 3:12:00 PM	30.397943	-80.216837	-55.8			porgy (Calamus?), reef butterflyfish	☐
7/7/2012 3:12:13 PM	30.398084	-80.216795	-56	HB	Rock boulders on mostly soft bottom; large isolated .5-1 m wide;		☐
					Cni - Stichopathes;		
7/7/2012 3:13:00 PM	30.398520	-80.216610	-55.8			grey trigger, bank sea bass, spotfin hogfish, reef butterflyfish, yellowtail reeffish, tomtate, short bigeye, bicolor damselfish, spotfin butterflyfish	☐
7/7/2012 3:13:13 PM	30.398585	-80.216539	-54.9	SB	XS Photo soft bottom;		☑
7/7/2012 3:13:41 PM	30.398642	-80.216451	-54.5	HB	Ledge; 50 cm tall		☐
					Cho - Ascidacea; Didemnidae		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ann - Filograna;		
					Cni - Hydroidolina;		
					Cni - Tanacetipathes;		
					Cni - Stichopathes;		
7/7/2012 3:14:39 PM	30.398839	-80.216317	-54.9	HB	Rock Ridge; 50 cm tall		☐
7/7/2012 3:15:06 PM	30.398964	-80.216301	-54.7	HB	hard bottom; Rock; ledges;		☐
7/7/2012 3:15:43 PM	30.399198	-80.216339	-55.5		XS Photo;		☑
					Fish - vermilion snapper		
					Cni - Tanacetipathes;	40 cm	
					Cni - Gorgonacea; Plexauridae	Purple	
					Por - Ircinia campana;		
					Por - Ircinia strobilina;		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
7/7/2012 3:17:00 PM	30.399555	-80.216045	-55.8			school of vermilion, blue angelfish, yellowtail reeffish, spotfin hogfish, sunshinefish, tomtate, scamp, another scamp, blackbar soldierfish, gag grouper	☐
7/7/2012 3:17:28 PM	30.399683	-80.215899	-55.1	HB	hard bottom; Rock 40 cm tall outcrops		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Stichopathes;		
					Cni - Tanacetipathes;	numerous	
7/7/2012 3:18:19 PM	30.399904	-80.215738	-53.9	HB	XS Photo; Top of ridge in MB; exposed rock is many meters wide		☑
					Ann - Filograna;		
					Por - Demospongiae; Ircinia	several speces	
					Cni - Gorgonacea; Plexauridae	Purple plex	
					Cni - Stichopathes;		
					Fish - scamp grouper;		
7/7/2012 3:19:00 PM	30.400166	-80.215550	-56.4			school of vermilion & tomtates	☐
7/7/2012 3:20:00 PM	30.400620	-80.215431	-56.2	HB	large boulders, ledge; ledge drop off,	tomtate, blackbar soldierfish, vermilion, bank butterflyfish, purple reeffish, reef butterfies	☐
7/7/2012 3:20:03 PM	30.400636	-80.215433	-55.5		Non XS - Purposeful Photos;		☐
					Cni - Tanacetipathes;		
7/7/2012 3:20:27 PM	30.400830	-80.215400	-57.2	HB	hard bottom; Rock boulders; 100 % HB; pavement; Slabs;		☐
7/7/2012 3:21:30 PM	30.401275	-80.215246	-57.2	HB	XS Photo; < 2 km from previous site; flat pavement;		☑
					Cni - Tanacetipathes;		
					Cni - Gorgonacea; Plexauridae	Purple	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Stichopathes;		
					Ann - Filograna;		
					Por - Demospongiae; Axinellida	orange	
7/7/2012 3:22:57 PM	30.401946	-80.215201	-57.6	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Tanacetipathes;		
					Cni - Gorgonacea; Plexauridae	purple	
					Cni - Stichopathes;		
					Por - Demospongiae; Ircinia		
					Ann - Filograna;		
7/7/2012 3:24:00 PM	30.402299	-80.215203	-56.6		in between double ledge system;	purple reeffish;	☐
7/7/2012 3:25:01 PM	30.402748	-80.215196	-56.4	HB	in middle of double ledge complex; hard bottom; 100 %pavement with sidement vaneer; XS Photo;		☑
					Ann - Filograna;		
					Cni - Stichopathes;		
					Cni - Tanacetipathes;		
					Por - Demospongiae; Ircinia	Ircinia -3 species	
					Cni - Hydroidolina;		
7/7/2012 3:26:00 PM	30.403067	-80.215351	-55.8			wrasse, tattler, yellowtail reeffish, cowfish, red porgy, spotfin hogfish, reef butterflyfish,	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 3:27:38 PM	30.403624	-80.215349	-55.1	HB	XS Photo; patches of hard rock outcrops and sand;		☑
					Cni - Stichopathes;		
					Cni - Antipathidae;		
					Cni - Hydroidolina;		
					Cni - Tanacetipathes;		
7/7/2012 3:29:00 PM	30.404104	-80.215019	-56.4			school of vermilion, tomtate, lionfish, reef butterflyfish, spotfin hogfish, sharpnose puffer, blackbar soldierfish, bank butterflyfish, hogfish	☐
7/7/2012 3:29:40 PM	30.404230	-80.214839	-57		Non XS - Random Photos;		☐
					Fish - lionfish;		
7/7/2012 3:30:05 PM	30.404264	-80.214871	-56.4	HB	XS Photo; Rocky bottom; 1 m relief on the larger boulders; (purposeful shots of Hogfish Non XS - Random Photos;)	purposeful shots of Hogfish Non XS - Random Photos	☐
					Por - Demospongiae; Axinellida		
					Por - Demospongiae; Ircinia		
					Fish - hogfish	large male	
					Ann - Filograna;		
					Cni - Gorgonacea; Plexauridae	Purple	
7/7/2012 3:33:00 PM	30.404967	-80.214699	-56.8			vermilion snapper, spotfin butterflyfish, sunshinefish, tomtate, tattler, blue angelfish, wrasse	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 3:33:13 PM	30.405015	-80.214708	-56.4		XS Photo;		☑
					Cni - Stichopathes;		
					Fish - vermilion snapper		
					Por - Demospongiae; Spirastrellidae	orange excrusting	
					Fish - sunshine fish		
7/7/2012 3:34:30 PM	30.405512	-80.214788	-55.5		middle of ridge complex		☐
					Cni - Tanacetipathes;		
					Cni - Stichopathes;		
					Cni - Gorgonacea; Plexauridae	Pur	
7/7/2012 3:35:00 PM	30.405725	-80.214791	-54.5			blue angelfish, reef butterflyfish, vermilion snapper, lionfish, sharpnose puffer, wrasse, red porgy	☐
7/7/2012 3:35:08 PM	30.405798	-80.214780	-54.7	HB	hard bottom; Rock;		☐
7/7/2012 3:35:35 PM	30.405958	-80.214724	-54.9		XS Photo;		☑
					Cni - Tanacetipathes;	numerous	
					Por - Demospongiae;	Orange	
					Cni - Gorgonacea; Plexauridae	Pur	
					Cni - Stichopathes;		
					Por - Ircinia strobilina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Hydroidolina;		
7/7/2012 3:36:49 PM	30.406406	-80.214530	-55.8	HB	hard bottom; pavement; less relief		☐
					Cni - Stichopathes;		
					Fish - reef butterflyfish		
					Por - Demospongiae; Ircinia		
					Fish - vermilion snapper		
					Cni - Tanacetipathes;		
7/7/2012 3:37:54 PM	30.406775	-80.214405	-55.5	HB	XS Photo; sponge in random image on HB		☑
					Cni - Tanacetipathes;		
					Cni - Stichopathes;		
					Fish - lionfish;		
7/7/2012 3:39:00 PM	30.407074	-80.214274	-56.6			cubbyu, school of vermilion, spiny lobster, blackbar soldierfish, bicolor damselfish, spotfin hogfish	☐
7/7/2012 3:39:12 PM	30.407129	-80.214269	-56.4	HB	hard bottom; Higher relief Rock - 30 cm high		☐
					Cni - Stichopathes;		
					Cni - Tanacetipathes;		
7/7/2012 3:40:01 PM	30.407386	-80.214194	-57	HB	XS Photo; dense biota; exposed flat rock		☑
					Cni - Gorgonacea;	Sea fan	
					Art - Panularis argus	Photo	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 3:41:00 PM	30.407593	-80.214153	-56.6		starting to go over 2nd ridge,	large school of vermilions, bank sea bass, squirrelfish, tomtates, scamp	☐
7/7/2012 3:41:50 PM	30.407932	-80.214054	-57	HB	on eastern portion of the ridge; hard bottom; Boulders; Increasing relief and rugosity;		☐
					Cni - Tanacetipathes;		
7/7/2012 3:43:00 PM	30.408462	-80.213939	-57	HB	100 % hard bottom; Rock;		☐
					Fish - squirrelfish		
					Fish - blue angelfish;		
					Cni - Stichopathes;		
					Cni - Tanacetipathes;		
					Fish - scamp grouper;		
7/7/2012 3:43:33 PM	30.408588	-80.213857	-57.4	HB	Large black rock broken into cuboidal boulders; dense boulders		☐
					Por - Ircinia campana;		
					Cni - Stichopathes;	many	
					Cni - Tanacetipathes;		
7/7/2012 3:44:23 PM	30.408825	-80.213831	-57	HB	XS Photo; large square rocks; .5 m deep in spots;		☑
7/7/2012 3:45:00 PM	30.408992	-80.213827	-56.8			lionfish, schools of vermilion and tomtate, spotfin hogfish	☐
7/7/2012 3:45:13 PM	30.409101	-80.213829	-57.4	HB	hard bottom; Rock - rugged broken slabs; 1 m relief;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Plexauridae	Pur	
					Por - Ircinia campana;		
					Cni - Tanacetipathes;	Dense	
					Cni - Stichopathes;	Dense	
7/7/2012 3:46:36 PM	30.409696	-80.213609	-58.7		Eastern edge of the feature;		☐
					Cni - Tanacetipathes;		
					Cni - Stichopathes;		
7/7/2012 3:47:47 PM	30.410062	-80.213503	-59.5		XS Photo;		☑
					Cni - Tanacetipathes;		
					Ann - Filograna;		
7/7/2012 3:48:00 PM	30.410125	-80.213478	-59.1			tomtates, yellowtail reeffish, reef butterflyfish, vermilion, lionfish, blue angelfish, striped grunt, blue angelfish, burrfish, lionfish	☐
7/7/2012 3:49:01 PM	30.410574	-80.213454	-58.3	HB	hard bottom; Rock; 100% hardbottom; dense biota		☐
					Cni - Antipathidae; Antipathes	New species; fan shapped	
					Fish - lionfish;		
7/7/2012 3:50:00 PM	30.410885	-80.213411	-56.4			tomtates, purple reeffish, sharpnose puffer, blue angelfish, vermilion snapper, spotfin hogfish, squirrefish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 3:50:13 PM	30.410931	-80.213385	-56.8	HB	XS Photo; Upper eastern edge; 100% HB slabs;		☑
7/7/2012 3:52:16 PM	30.411636	-80.213289	-56.4	HB	XS Photo; hard bottom; Rock; 1 m relief ledges, fissures		☑
7/7/2012 3:53:00 PM	30.411837	-80.213203	-58		changing dvds		☐
7/7/2012 3:53:00 PM	30.411837	-80.213203	-58			red porgy, in between 2 ledges, reef butterflyfish, tomtates, vermilion, scamp x2, grey triggerfish, sharpnose puffer	☐
7/7/2012 3:54:02 PM	30.412190	-80.213158	-58.3	HB	Non XS - Random Photos; hard bottom; Rock; very rugged; 1 m ledges, fissures		☐
					Species Observed: Por - Ircinia strobilina;		
					Por - Ircinia campana;		
					Cni - Stichopathes;		
					Cni - Tanacetipathes;		
7/7/2012 3:55:46 PM	30.412895	-80.213245	-56	HB	hard bottom; Rock; Rock- wall; 1 m;	Non XS - Random Photos- turtle	☐
7/7/2012 3:56:00 PM	30.412959	-80.213218	-55.5			loggerhead turtle, scamp, red porgy, vermilion, reef butt, blue angels, doctorfish, sharpnose puffer, lionfish, squirrelfish, scamp x2, purple reeffish	☐
7/7/2012 3:57:09 PM	30.413182	-80.213113	-55.3	HB	hard bottom; Rock;		☐
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 3:58:45 PM	30.413699	-80.212818	-56.8			Non XS - Random Photos-lionfish	☐
7/7/2012 3:59:27 PM	30.413912	-80.212769	-57	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;	2	
					Cni - Tanacetipathes;		
					Ann - Filograna;		
7/7/2012 4:00:38 PM	30.414380	-80.212721	-57.2	HB	hard bottom; Rock; 100% rock; 1 m relief, fissures;	Non XS - Random Photos- french angel	☐
7/7/2012 4:01:00 PM	30.414529	-80.212710	-57.6			tomtate, vermioion, french angelfish, , spotfin hogfish, reef butterflyfish, spotfin hogfish, squirrelfish, striped grunt, bank butterflyfish, purple reeffish	☐
7/7/2012 4:01:56 PM	30.414793	-80.212649	-57.8	HB	XS Photo; hard bottom; Rock;	large schools tomtates,	☑
					Por - Ircinia campana;		
					Cni - Gorgonacea; Plexauridae	Pu	
					Cni - Tanacetipathes;		
					Cni - Stichopathes;		
					Cho - Ascidacea; Didemnidae		
7/7/2012 4:03:00 PM	30.415208	-80.212546	-58.5			wrasse, squirrelfish, blue angelfish, lionfish x2, purple reeffish, reef butterflyfish, vermilion, grey trigger	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 4:04:09 PM	30.415605	-80.212545	-56.8	HB	XS Photo; hard bottom; Rock;		☑
7/7/2012 4:04:49 PM	30.415816	-80.212503	-56		Non XS - Random Photos;	bank butterfly; 2 lionfish	☐
7/7/2012 4:05:32 PM	30.416108	-80.212470	-55.8	HB	hard bottom; Rock;		☐
7/7/2012 4:06:00 PM	30.416383	-80.212427	-55.1			scamp, few snappers (grays?), lots of vermilion & tomtate, scamp, lionfish, bank butterflyfish, squirrelfish	☐
7/7/2012 4:06:41 PM	30.416536	-80.212385	-55.8	HB	XS Photo; hard bottom; Rock;	scamp; grey snapper; scamp; lots tomtate, vermillion snapper; lionfish	☑
					Fish - vermilion snapper		
					Fish - lionfish;		
					Cni - Tanacetipathes;		
					Fish - scamp grouper;		
					Fish - tomtate;		
					Fish - grey snapper;		
7/7/2012 4:07:59 PM	30.416895	-80.212227	-57.8		end of transect line; cont heading NNE along main ridge		☐
7/7/2012 4:08:49 PM	30.417192	-80.212196	-56.2	HB	XS Photo; hard bottom; Rock;		☑
7/7/2012 4:10:00 PM	30.417644	-80.212086	-56.8	HB	hard bottom; Rock; eastern portion of double ridge	2 scamp; 40 cm scamp	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	**ROV 3**	**7-VII-12-4**	**Florida. North Florida MPA, station 4**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Ircinia campana;		
					Cni - Stichopathes;		
					Ann - Filograna;		
					Cni - Tanacetipathes;		
7/7/2012 4:10:00 PM	30.417644	-80.212086	-56.8			cubbyu, school of vermilion & tomtate, bicolor damselfish, 4 scamp, squirrelfish, reef butterflyfish, snowy grouper, spotfin butterflyfish, blackbar soldierfish, cowfish, vermilion, tomtate, blue angelfish	☐
7/7/2012 4:12:14 PM	30.418447	-80.211945	-56.6		Non XS - Random Photos;		☐
7/7/2012 4:12:53 PM	30.418842	-80.211931	-56	HB	XS Photo; hard bottom; Rock;		☑
					Fish - snowy grouper	50 cm	
					Por - Demospongiae; Spirastrellidae	re	
					Cni - Gorgonacea; Plexauridae	Pu	
7/7/2012 4:15:00 PM	30.419607	-80.211798	-55.3			spotfin hogfish, tomtate, blackbar soldierfish, squirrelfish, lionfish, shaprnose puffer, vermilion, purple reeffish, bicolor damselfish	☐
7/7/2012 4:15:20 PM	30.419677	-80.211771	-56	HB	XS Photo; hard bottom; Rock; 100%; 1m fissures		☑
					Por - Ircinia campana;	50 cm	
7/7/2012 4:17:05 PM	30.420235	-80.211528	-58	HB	Non XS - Random Photos;hard bottom; Rock;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Ircinia campana;		
					Cni - Hydroidolina;	black and white spp;.	
					Cho - Ascidacea; Didemnidae		
7/7/2012 4:17:48 PM	30.420447	-80.211533	-57		XS Photo;		☑
7/7/2012 4:20:00 PM	30.421317	-80.211482	-56.2			school of tomtate & vermilion, purple reeffish, reef butterflyfish, blue angelfish, squirrelfish, soapfish, lionfish x3, yellowtail reeffish, tattler	☐
7/7/2012 4:20:03 PM	30.421326	-80.211476	-56	HB	XS Photo; hard bottom; Rock; 100% cover, rugose, 1 m fissures, squared blocks of limestone		☑
					Fish - vermilion snapper		
					Fish - tomtate;	dense	
7/7/2012 4:22:29 PM	30.422248	-80.211044	-57.4	HB	XS Photo; hard bottom; Rock; change heading to NW; at east edge of ridge, head back across main ridge		☑
7/7/2012 4:23:59 PM	30.422967	-80.211012	-56	HB	hard bottom; Rock; lower ledges 1/2 m; pavement;		☐
					Fish - lionfish;	3	
					Fish - longsnout butterflyfish		
					Ann - Filograna;		
7/7/2012 4:25:00 PM	30.423312	-80.211002	-55.5	HB	low relief outcrops; no more big boulders, small outcrops,	lionfish, spotfin hogfish, lionfish, tattler, blue angel, lionfish, 2 lionfish, lobster under ledge, lionfish, spotfin hogfish, snapper, purple reeffish, bicolor damsels, sunshinefish, wrasse	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/7/2012 4:25:03 PM	30.423321	-80.210986	-55.5	HB	XS Photo; hard bottom; pavement; sediment		☑
					Fish - lionfish;	2	
7/7/2012 4:26:11 PM	30.423653	-80.210929	-55.8	HB	Non XS - Random Photos- ledge; hard bottom; soft bottom; low relief		☐
					Fish - lionfish;	3	
7/7/2012 4:27:10 PM	30.423997	-80.210890	-54.9	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Fish - lionfish;	2	
7/7/2012 4:27:27 PM	30.424117	-80.210854	-54.7	HB	XS Photo; hard bottom; Rock; on top of ridge of multibeam		☑
					Cni - Hydroidolina;		
					Fish - red snapper		
					Ann - Filograna;		
					Por - Demospongiae; Axinellida	orange	
					Cni - Stichopathes;		
					Por - Ircinia campana;		
7/7/2012 4:29:10 PM	30.424795	-80.210739	-55.3	HB	Non XS - Random Photos;hard bottom; Rock; 50 cm ledges; pavement;		☐
7/7/2012 4:29:39 PM	30.424961	-80.210728	-55.1	HB	XS Photo; hard bottom; pavement; Rock;		☑
					Cni - Stichopathes;		
					Cni - Hydroidolina;	white	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 4:30:11 PM	30.425144	-80.210687	-54.7	HB	hard bottom; Rock; soft bottom; low relief; western edge of main ridge		☐
7/7/2012 4:31:00 PM	30.425577	-80.210686	-55.1			wrasse, tattler, bicolor damselfish, yellowtail reeffish, reef butterflyfish	☐
7/7/2012 4:31:57 PM	30.426087	-80.210549	-55.1	HB	XS Photo; less relief	fewer fish schools; less density and diversity of inverts	☑
					Cni - Hydroidolina;	black; white	
					Por - Ircinia campana;		
7/7/2012 4:34:17 PM	30.426972	-80.210440	-55.5	HB	XS Photo; hard bottom; soft bottom;		☑
7/7/2012 4:34:59 PM	30.427227	-80.210400	-55.3	HB	hard bottom; soft bottom; pavement; rubble; low relief; west edge of ridge; Human Debris; fish line		☐
					Cni - Hydroidolina;	black; white	
					Cni - Stichopathes;		
					Por - Ircinia campana;		
7/7/2012 4:36:00 PM	30.427528	-80.210284	-54.9			squirrelfish, reef butterflyfish, wrasse, yellowtail reeffish, blue angelfish, sunshinefish, tattler, bicolor damsels	☐
7/7/2012 4:36:52 PM	30.427977	-80.210214	-55.3	HB	XS Photo; hard bottom; soft bottom;		☑
					Cni - Gorgonacea;	orange	
7/7/2012 4:39:04 PM	30.428863	-80.209767	-54.5	HB	XS Photo; hard bottom; soft bottom; low relief;pavement; rubble;	sparse	☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/7/2012 4:39:50 PM	30.429219	-80.209766	-54.7	HB	Non XS - Random Photos; hard bottom; soft bottom; 50%		☐
7/7/2012 4:40:00 PM	30.429301	-80.209735	-55.8	HB	back to ledge	tomtates, vermilion, squirrelfish, scamp, gag, reef butterflyfish, bank sea bass, blackbar soldierfish, red porgy, another gag or the same one, lionfish, purple reeffish, squirrelfish, yellowtail reeffish, lionfish, blue angelfish, spotfin hogfish	☐
7/7/2012 4:40:38 PM	30.429495	-80.209572	-55.3	HB	hard bottom; soft bottom; Rock; pavement;		☐
7/7/2012 4:41:28 PM	30.429665	-80.209453	-55.5		XS Photo; Non XS - Random Photos;		☐
7/7/2012 4:41:40 PM	30.429705	-80.209423	-56.2	HB	hard bottom; Rock; larger boulders; dropoff to east		☐
					Fish - gag grouper		
					Fish - porgy		
					Fish - lionfish;		
7/7/2012 4:42:45 PM	30.430059	-80.209333	-55.5	HB	Non XS - Random Photos; 1 m relief		☐
7/7/2012 4:43:09 PM	30.430301	-80.209365	-54.9	HB	Non XS - Random Photos;hard bottom; Rock; Non XS - Random Photos;		☐
					Fish - lionfish;		
					Cni - Gorgonacea; Plexauridae		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	ROV 3	7-VII-12-4	Florida. North Florida MPA, station 4

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 4:44:52 PM	30.430802	-80.209238	-56.2	HB	XS Photo; hard bottom; Rock; 1/2 m relief;Non XS - Random Photos		☐
					Fish - gag grouper	2, 50 cm; Non XS - Random Photos	
					Cni - Hydroidolina;		
					Fish - vermillion snapper	school	
					Fish - UNID grouper	2	
					Fish - amberjack		
7/7/2012 4:45:00 PM	30.430815	-80.209222	-54.9			couple of gags, amberjack, vermilion, tomtate, chasing a gag grouper, creole-fish, purple reeffish, tattler, yellowtail reeffish, reef butt, queen trigger, lionfish, lobster, french/gray angel,	☐
7/7/2012 4:47:00 PM	30.431299	-80.208912	-58	HB	hard bottom; Rock boulders 1/2 m relief		☐
7/7/2012 4:47:19 PM	30.431388	-80.209048	-56.2	HB	XS Photo; hard bottom; Rock;		☑
					Por - Ircinia campana;		
					Cni - Tanacetipathes;		
					Cni - Stichopathes;		
					Ann - Filograna;		
					Fish - lionfish		
					Cni - Hydroidolina;	white	
					Art - Panularis argus		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207074	**ROV 3**	**7-VII-12-4**	**Florida. North Florida MPA, station 4**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/7/2012 4:48:55 PM	30.432078	-80.208802	-57	HB	hard bottom; Rock; west edge of main ridge		☐
7/7/2012 4:49:33 PM	30.432256	-80.208712	-58.5	SB	XS Photo; soft bottom; sand; ripples		☑
7/7/2012 4:50:00 PM	30.432368	-80.208626	-59.5	HB	bottom of ledge, small outcrops	spotfin butterflyfish, tattler	☐
7/7/2012 4:50:00 PM	30.432368	-80.208626	-59.5				☐
7/7/2012 4:50:42 PM	30.432561	-80.208493	-58.7	SB	soft bottom; end transect; end dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207082	**ROV 4**	**8-VII-12-2**	**Florida, North Florida MPA site, Station 7, south of MPA, west of main ridge**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/8/2012 9:58:42 AM					Objectives: ROV Dive 4, Site #- 8-VII-12-2. Target Site – outside and south of North Florida MPA; 30° 15.2647'N, 80°15.9359'W; 60 m. ROV survey outside MPA site; ground truth Navy multibeam sonar of site. Conduct video/photo transect S to N, west of main ledge. Starting at photo 637		☐
7/8/2012 10:01:43 AM					Launch (start dive); ADCP shows the surface current 2.8 from SE		☐
7/8/2012 10:03:56 AM					Video Recording Starting		☐
7/8/2012 10:05:46 AM	30.251451	-80.267558	-43.1	HB	Bottom in sight; hard bottom; soft bottom; rubble;		☐
7/8/2012 10:07:48 AM	30.252826	-80.267476	-46.2	HB	Non XS - Random Photos; scatttered cobble and sand; pavement with Sediment vaneer. Attempting to station keep.		☐
					Cni - Gorgonacea;		
					Cni - Antipathidae;		
7/8/2012 10:09:00 AM	30.253593	-80.267450	-47.8	HB	pavement	tattler	☐
7/8/2012 10:09:08 AM	30.253674	-80.267464	-49.1	HB	pavement sediment vaneer; exposed bed rock		☐
					Cni - Gorgonacea; Plexauridae	Purple	
					Fish - tatler;		
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207082	ROV 4	8-VII-12-2	Florida, North Florida MPA site, Station 7, south of MPA, west of main ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes Species Observed	Species Notes	XS Photo
7/8/2012 10:10:00 AM	30.254171	-80.267433	-48.9	SB	sand; west of the transect line		☐
7/8/2012 10:10:04 AM	30.254204	-80.267427	-49.1	HB	according to MB we are ontop of HB feature ~ 90 m to the west of the plotted transect line; rubble; soft bottom with assymetrical sand ripples;		☐
7/8/2012 10:11:20 AM	30.254832	-80.267290	-50.1	HB	Non XS - Random Photos; HD NNE; soft bottom - 100%; some rubble; perpendicular sand waves. According to MB we are along the west side of the ridge ~150 m west of the track line		☐
7/8/2012 10:13:00 AM	30.255714	-80.267008	-43.7		off bottom		☐
7/8/2012 10:13:55 AM	30.256202	-80.266805	-41.4		dificulty station keeping; being pulled up to 10-15 m off bottom; drifting to the north at about 1-1.5 kt. Off bottom;		☐
7/8/2012 10:18:00 AM	30.258353	-80.265395	-47.8		back on bottom		☐
7/8/2012 10:20:00 AM	30.259424	-80.265116	-44.1		off bottom		☐
7/8/2012 10:22:57 AM	30.261444	-80.264517	-41		pulled Off bottom;		☐
7/8/2012 10:26:14 AM	30.263481	-80.263704	-42.2		Bottom in sight; depth read out says 41 and alt is jumping 0-40 m - unsure of actual depth.		☐
7/8/2012 10:27:40 AM	30.264363	-80.263399	-43.9	HB	Non XS - Random Photos; dificulty station keeping ~ 15 m off bottom; 50%Rock; pavement; soft bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207082	ROV 4	8-VII-12-2	Florida, North Florida MPA site, Station 7, south of MPA, west of main ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - gray triggerfish		
7/8/2012 10:28:00 AM	30.264550	-80.263331	-44.1	HB	pavement; back on bottom		☐
7/8/2012 10:28:32 AM	30.264859	-80.263204	-44.9	HB	low relief pavement; Rock; rubble; we are 100 m west of the proposed line and 20 m off the bottom		☐
					Por - Ircinia campana;		
7/8/2012 10:29:00 AM	30.265055	-80.263104	-46.6			yellowtail reeffish, cowfish, tattler, reef butterfly, squirrelfish	☐
7/8/2012 10:29:09 AM	30.265132	-80.263071	-47.4	HB	Non XS - Random Photos; 10-210 cm relief on the Rock boulders		☐
7/8/2012 10:29:59 AM	30.265442	-80.262977	-50.1	HB	On bottom; hard bottom; Rock - 30 cm relief; pavement with sediment veneer	Low density	☐
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Fish - reef butterflyfish		
					Fish - squirrelfish		
7/8/2012 10:31:01 AM	30.265807	-80.262826	-48.7	HB	XS Photo; Slope- flat; rubble; cobble occational 1.5 m exposed Rock; 100 m west of the line.		☑
7/8/2012 10:31:59 AM	30.266195	-80.262789	-50.1	SB	Non XS - Random Photos; soft bottom - sand ripples;		☐
7/8/2012 10:32:00 AM	30.266203	-80.262785	-50.1	SB	sand; current is screaming to the west and we are trying to make eastward movement		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207082	ROV 4	8-VII-12-2	Florida, North Florida MPA site, Station 7, south of MPA, west of main ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes Species Observed	Species Notes	XS Photo
7/8/2012 10:32:55 AM	30.266542	-80.262670	-49.7		Non XS - Random Photos;		☐
7/8/2012 10:33:00 AM	30.266562	-80.262653	-50.1	HB	low relief outcrops; a little off bottom, end dive	grey triggerfish, vermilion?	☐
7/8/2012 10:34:56 AM	30.267696	-80.262253	-46.4	HB	soft bottom; sparce rubble; Non XS - Random Photos;on MB we are ~100 m west of the proposed transect line;		☐
7/8/2012 10:35:00 AM	30.267743	-80.262233	-46	SB	sand		☐
7/8/2012 10:36:33 AM	30.268740	-80.262011	-46.8		Non XS - Random Photos;		☐
7/8/2012 10:37:39 AM	30.269510	-80.261831	-44.9	HB	Non XS - Random Photos;hard bottom; rubble; 8 m off bottom; the altimeter read out is only accurate with in ~5 m of the bottom		☐
7/8/2012 10:39:59 AM	30.271282	-80.261284	-39.7		Öff bottom; according to MB we are ~150 m west of the line;		☐
7/8/2012 10:41:01 AM	30.271991	-80.261050	-38.9		Recover - End dive; Off bottom; Stop Video and DVD		☐
7/8/2012 10:43:32 AM	30.273466	-80.260882	-49.9		Changed! We are continuing the dive On bottom;		☐
7/8/2012 10:45:43 AM	30.274543	-80.260822	-47.4		Off bottom; Recover for real this time; 200 m west of the track line		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207082	**ROV 4**	**8-VII-12-2**	**Florida, North Florida MPA site, Station 7, south of MPA, west of main ridge**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/8/2012 10:49:00 AM							☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/8/2012 4:39:47 PM				HB	Objectives: ROV Dive 5, Site #- 8-VII-12-3. Target Site – outside and SW of Georgia MPA; 31°31.3200'N; 79°43.9800'W; 70 m. ROV survey outside MPA; no multibeam data. Conduct video/photo transect S-N along low relief features. ADCP surface current 0.4; set and drift- 1.2 kn to NE.		☐
7/8/2012 5:04:36 PM					Launch (start dive);		☐
7/8/2012 5:06:17 PM					UNCW Rov Dive 5. Georgia MPA site; target is SW outside of the MPA. No multibeam of the sites. Current 1.2 kts to the NE. Dropping right on the target.		☐
7/8/2012 5:08:07 PM					Lance is piloting; Andy David and Stacy Harter are logging fish; John Reed on mic;		☐
7/8/2012 5:09:36 PM					Particulate organic "marine snot" in the water column.		☐
7/8/2012 5:10:00 PM	31.522832	-79.733156	-71.2		Bottom in sight		☐
7/8/2012 5:10:00 PM	31.522832	-79.733156	-71.2	SB	soft sediment; downshots started,	on bottom, puffer, starfish, small flatfish	☐
7/8/2012 5:10:08 PM	31.522832	-79.733156	-71.2	SB	On bottom; soft bottom; asymetrical ripples; HD northerly;		☐
					Fish - flat fish		
					Ech - Holothuroidea;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/8/2012 5:11:53 PM	31.523360	-79.733030	-72		75 m north of the target site; HD North;		☐
					Ech - Asteroidea;	Luidia?	
					Mol - squid		
7/8/2012 5:13:09 PM	31.523698	-79.732971	-70.1	SB	XS Photo; soft bottom;		☑
					Fish - tonguefish		
					Ech - Asteroidea;		
7/8/2012 5:14:00 PM	31.523930	-79.732964	-71.2			sea pens, flounder, portunid crab, sand diver	☐
7/8/2012 5:14:27 PM	31.523962	-79.732912	-71	SB	soft bottom; slightly west to the transect line;		☐
					Fish - flounder		
					Cni - Pennatulacea; Virgularia		
7/8/2012 5:15:37 PM	31.524321	-79.732825	-71		XS Photo;		☑
					Fish - lizardfish - sanddiver		
					Cni - Pennatulacea		
					Art - Decapoda		
					Ech - Asteroidea;		
					Fish - flounder		
7/8/2012 5:18:00 PM	31.525138	-79.732847	-71.8			starfish, batfish (pancake?), squid, sea pen	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/8/2012 5:18:20 PM	31.525294	-79.732932	-71.4	SB	XS Photo; soft bottom;		☑
					Cni - Pennatulacea		
					Fish - batfish		
					Mol - squid		
					Ech - Asteroidea;	Luidia?	
					Ech - Asteroidea;		
7/8/2012 5:21:00 PM	31.526118	-79.733069	-69.9		XS Photo;		☑
					Fish - bank seabass		
					Fish - lizardfish		
7/8/2012 5:21:00 PM	31.526118	-79.733069	-69.9			bank seabass, lizardfish, shrimp, sea robin, flounder,	☐
7/8/2012 5:21:58 PM	31.526440	-79.733132	-69.9		Non XS - Random Photos;		☐
					Fish - searobin		
					Fish - flounder		
7/8/2012 5:23:19 PM	31.526904	-79.733172	-69.3	SB	XS Photo; soft bottom;		☑
7/8/2012 5:24:00 PM	31.527149	-79.733176	-70.1			sea pens, starfish, flounder, batfish, small flatfish	☐
7/8/2012 5:24:33 PM	31.527314	-79.733270	-69.7	HB	soft bottom; slight rubble		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Pennatulacea		
					Ech - Asteroidea;		
7/8/2012 5:25:32 PM	31.527692	-79.733410	-69.3		Non XS - Random Photos;		☐
7/8/2012 5:26:06 PM	31.527820	-79.733362	-69.1	SB	XS Photo; soft bottom;		☑
					Fish - lizardfish		
					Ech - Asteroidea;		
					Fish - flounder		
					Fish - flounder or batfish		
7/8/2012 5:28:00 PM	31.528411	-79.733303	-69.5			dead sargassum, starfish, sea pens, sand diver,	☐
7/8/2012 5:28:20 PM	31.528465	-79.733292	-69.7	SB	right on the transect line on the MB; soft bottom;		☐
					Cni - Pennatulacea; Virgularia		
					Ech - Asteroidea; Luidia		
7/8/2012 5:30:51 PM	31.529204	-79.733424	-68.9	SB	XS Photo; soft bottom; sparse bioturbation;		☑
					Ech - Asteroidea;		
7/8/2012 5:33:00 PM	31.529885	-79.733377	-69.7			sea pens, sea robins, flatfish, flounder	☐
7/8/2012 5:33:20 PM	31.530027	-79.733358	-69.5	SB	soft bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Pennatulacea; Virgularia		
					Fish - flounder		
7/8/2012 5:34:06 PM	31.530284	-79.733341	-69.3	SB	XS Photo; soft bottom; sparse shell hash		☑
					Fish - flounder		
					Ech - Asteroidea; Luidia		
7/8/2012 5:36:00 PM	31.530794	-79.733258	-69.5			starfish, sea pens, lizardfish, squid	☐
7/8/2012 5:36:07 PM	31.530816	-79.733263	-69.5	SB	Non XS - Random Photos- Luidia starfish; soft bottom;		☐
					Mol - squid		
					Ech - Asteroidea; Luidia		
7/8/2012 5:37:17 PM	31.531005	-79.733289	-68.7	SB	XS Photo; soft bottom; Non XS - Random Photos; Non XS - Random Photos;	Non XS - Random Photos- Luidia	☐
					Ech - Asteroidea; Luidia 2		
7/8/2012 5:40:11 PM	31.531611	-79.733373	-69.5	SB	soft bottom; sparse bioturbation, ripples;	Non XS - Random Photos- asteroid	☐
					Fish - flounder		
					Ech - Asteroidea; Luidia		
					Fish - lizardfish		
7/8/2012 5:41:00 PM	31.531899	-79.733394	-69.5			flounder, lizardfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/8/2012 5:42:01 PM	31.532173	-79.733359	-69.1	SB	XS Photo; soft bottom;		☑
					Ech - Asteroidea; Luidia	2	
7/8/2012 5:43:22 PM	31.532498	-79.733391	-69.3	SB	Non XS - Random Photos- cidaroid; soft bottom;		☐
					Ech - Echinoidea; Cidaroida		
					Ech - Asteroidea; Luidia	2	
7/8/2012 5:44:33 PM	31.532700	-79.733439	-68.3	SB	XS Photo; soft bottom;		☑
					Ech - Asteroidea; Luidia		
7/8/2012 5:45:00 PM	31.532785	-79.733404	-68			flounder, sand diver	☐
7/8/2012 5:45:09 PM	31.532848	-79.733425	-68.3	SB	soft bottom;		☐
					Ech - Asteroidea; Luidia	common	
					Fish - lizardfish		
7/8/2012 5:47:38 PM	31.533631	-79.733651	-69.1	SB	XS Photo; soft bottom; Non XS - Random Photos;		☐
					Fish - batfish		
					Por - Demospongiae;		
7/8/2012 5:49:00 PM	31.534078	-79.733620	-70.1			batfish,	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/8/2012 5:49:51 PM	31.534325	-79.733599	-69.7	SB	XS Photo; soft bottom; dense sea snot, particulates, mucoids, larvacean houses, ctenophores		☑
					Ech - Asteroidea;		
					Por - Demospongiae;	2-3 spp	
7/8/2012 5:50:00 PM	31.534367	-79.733612	-69.3	HB	slightly more rubble	flounder, shell hash, small rocky outcrops	☐
7/8/2012 5:52:07 PM	31.534961	-79.733566	-69.7	SB	XS Photo; soft bottom; visibility 2 m; Non XS - Random Photos;		☐
					Por - Demospongiae;	or-ye	
					Cni - Actiniaria		
7/8/2012 5:54:24 PM	31.535383	-79.733634	-70.8	SB	XS Photo; soft bottom; ripples, no bioturbation, shell hash; Non XS - Random Photos;		☐
					Fish - flounder		
7/8/2012 5:55:52 PM	31.535700	-79.733636	-70.1	HB	soft bottom; rubble; Non XS - Random Photos;		☐
7/8/2012 5:56:59 PM	31.536016	-79.733731	-69.1	HB	XS Photo; soft bottom; rubble; shell,		☑
7/8/2012 5:57:00 PM	31.536022	-79.733733	-68.7	HB	rock pavement	bigeye, high hat, cerianthus, tattler, spotfin & bank butterflies, porgy, lionfish	☐
7/8/2012 5:57:28 PM	31.536126	-79.733723	-68.7	HB	hard bottom; pavement; sediment veneer, Non XS - Random Photos;10-20 cm holes; Non XS - Random Photos;		☐
					Fish - short bigeye;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	2-3 spp	
					Cni - Cerianthidae		
					Fish - tatler;		
7/8/2012 5:59:23 PM	31.536543	-79.733710	-64.5	HB	XS Photo; hard bottom; pavement;		☑
					Cni - Stichopathes;		
					Fish - spotfin butterflyfish		
					Fish - red porgy		
					Cni - Antipathidae;		
					Fish - lionfish;	3	
					Cni - Tanacetipathes;		
7/8/2012 6:00:00 PM	31.536664	-79.733752	-63			porgy, lionfish, tattler, queen angel, bank fly, calamus, hydroids, sharpnose puffer	☐
7/8/2012 6:00:43 PM	31.536808	-79.733840	-62.6	HB	hard bottom; pavement;		☐
					Ech - Echinoidea;		
					Cho - Ascidacea; Didemnidae		
					Ann - Filograna;		
					Fish - lionfish;	2	
7/8/2012 6:01:40 PM	31.537121	-79.733849	-61.6	HB	XS Photo; hard bottom; pavement; small boulders 20-30 cm		☑
					Fish - Chaetodon aya		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	ye lump;	
					Ech - Holothuroidea;		
					Cni - Stichopathes;		
7/8/2012 6:03:19 PM	31.537469	-79.733866	-60.3	HB	hard bottom; pavement; Rock; 30 cm relief		☐
7/8/2012 6:04:00 PM	31.537721	-79.733854	-60.5	HB	XS Photo; hard bottom; Rock; pavement;		☑
					Por - Ircinia campana;		
7/8/2012 6:04:00 PM	31.537721	-79.733854	-60.5		changing DVD		☐
7/8/2012 6:06:00 PM	31.538667	-79.733906	-63.3	SB	back on sand for 4 min	sea pen, porgy, lizardfish - sand diver, bank seabass	☐
7/8/2012 6:07:19 PM	31.539154	-79.733844	-63.7	SB	soft bottom; off reef		☐
7/8/2012 6:08:26 PM	31.539443	-79.733842	-63	SB	XS Photo; soft bottom;		☑
					Cni - Stichopathes;		
7/8/2012 6:09:46 PM	31.539810	-79.733868	-64.3	HB	hard bottom; soft bottom; patchy rock; pavement with sediment veneer		☐
7/8/2012 6:10:00 PM	31.539851	-79.733858	-64.1			stichopathes, tattler, Yellowtail Reeffish, red porgy, calamus, porcupinefish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	ROV 5	8-VII-12-3	Georgia, MPA site, Station 8, SW outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/8/2012 6:10:22 PM	31.539920	-79.733856	-62.8	HB	hard bottom; pavement; Rock;		☐
					Species Observed		
					Cni - Stichopathes;	dense	
7/8/2012 6:10:41 PM	31.539951	-79.733866	-62	HB	XS Photo; hard bottom; pavement; Non XS - Random Photos;on transect line;		☐
					Fish - porcupine fish		
					Fish - lionfish;		
					Cni - Stichopathes;		
					Fish - red porgy		
					Por - Demospongiae;		
7/8/2012 6:12:00 PM	31.540183	-79.733796	-61.2			lionfish, tattler, ursinia sponge, short bigeye, YTF, reef fly	☐
7/8/2012 6:13:05 PM	31.540462	-79.733844	-60.5	HB	XS Photo; soft bottom; pavement;		☑
					Por - Ircinia campana;		
					Fish - short bigeye;		
					Fish - tatler;		
7/8/2012 6:13:57 PM	31.540705	-79.733884	-60.5	HB	hard bottom; pavement; sediment veneer, reef patch		☐
					Fish - short bigeye;		
7/8/2012 6:14:58 PM	31.541035	-79.733881	-61	HB	soft bottom; shells; patchy pavement w/ sediment; Non XS - Random Photos;		☐
					Cni - Cerianthidae		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207083	**ROV 5**	**8-VII-12-3**	**Georgia, MPA site, Station 8, SW outside of MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Pennatulacea		
					Mol - Junonia shell		
7/8/2012 6:15:00 PM	31.541047	-79.733887	-61.2	HB	sporadic rocky outcrops	cerianthid, porgy?, sea pens, junonia, pearly razorfish	☐
7/8/2012 6:17:00 PM	31.541673	-79.733942	-61.8		end of transect	Yellowtail Reeffish, sppotfin slies, porgy,tattler	☐
7/8/2012 6:17:30 PM	31.541855	-79.733976	-61.8	SB	XS Photo; soft bottom; end of transect; on the xs line the entire way		☑
					Fish - lionfish; 1		
					Cni - Tanacetipathes;		
7/8/2012 6:19:13 PM	31.542201	-79.734184	-61.6	HB	hard bottom; pavement; patch reef; end of dive		☐
					Fish - short bigeye;		
7/8/2012 6:19:49 PM	31.542180	-79.734341	-56.8		Off bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 7:43:03 AM				HB	Objectives: ROV Dive 6, Site #- 9-VII-12-2. Target Site – outside South Carolina Edisto MPA, near north border; 32°24.0600'N; 79°00.5400'W; 55 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct two video/photo transects- on low relief pavement and along NE oriented ridge.		☐
7/9/2012 7:49:00 AM	32.401990	-79.010705	-47	SB	sand with algae; water clear, not much current,	microalgae coverage	☐
7/9/2012 7:49:09 AM	32.401990	-79.010705	-47	SB	On bottom; flat soft bottom; sand with dense cover cyanophyta, sparse bioturbation	dense cover cyanophyta	☐
					Alg - Chlorophyta;	blade	
					Alg - Cyanophyta;	blue green mats	
7/9/2012 7:50:57 AM	32.401948	-79.010564	-50.8	SB	landed 100 m to west of the track line; soft bottom with blue green alga on it		☐
					Alg - Chlorophyta; Ulva?		
7/9/2012 7:52:00 AM	32.401975	-79.010486	-49.9		downshots started		☐
7/9/2012 7:53:00 AM	32.401932	-79.010399	-50.6			sea biscuit, Ulva lattuca, filamentous green algae (Derbesia?)	☐
7/9/2012 7:53:18 AM	32.401932	-79.010402	-50.8	SB	course sand;		☐
					Alg - Rhodophyta;	redblade	
					Ech - Echinoidea; Clypeaster		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 7:54:19 AM	32.401848	-79.010320	-49.5	SB	XS Photo; soft bottom; 80 m from start of transect		☑
7/9/2012 7:55:12 AM	32.401727	-79.010156	-50.3	SB	soft bottom; 100% sediment; 80% cover cyanophyta; sparse bioterbation		☐
					Species Observed		
					Art - hermit crab		
					Alg - Rhodophyta; Rhodomenia?		
7/9/2012 7:56:00 AM	32.401675	-79.010013	-49.9	SB	still sand with algal cover,	some hermit crabs, no fish	☐
7/9/2012 7:57:00 AM	32.401649	-79.009738	-49.1	SB	XS Photo; soft bottom; 40-50 m away from transect line		☑
7/9/2012 7:58:00 AM	32.401408	-79.009526	-49.7			bandtail puffer	☐
7/9/2012 7:58:15 AM	32.401297	-79.009511	-49.5		Non XS - Random Photos;		☐
					Fish - bandtail pufferfish		
7/9/2012 7:59:00 AM	32.401114	-79.009398	-49.5			porgies, hardbottom in sight, spotfin butterflies, reef fly, lionfish, yellowtail reef fishs, bigeye	☐
7/9/2012 7:59:05 AM	32.401088	-79.009376	-49.3		small burrow		☐
7/9/2012 7:59:25 AM	32.401041	-79.009317	-48.7	HB	XS Photo; 10-20 cm relief;		☑
					Cni - Gorgonacea; Plexauridae		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;	3	
					Fish - porgy		
					Cni - Gorgonacea; Plexauridae	15 cm	
7/9/2012 8:00:00 AM	32.400937	-79.009292	-48.9			tomtate, lions, blue angel, greenband? wrasse	☐
7/9/2012 8:00:55 AM	32.400943	-79.009183	-48.5	HB	Rock; .5 m ledge		☐
					Alg - Chlorophyta;	leaf algae	
					Cni - Hydroidolina;		
					Fish - lionfish;	3	
					Cho - Ascidacea; Didemnidae		
					Cni - Gorgonacea; Plexauridae	common	
7/9/2012 8:01:44 AM	32.400917	-79.008980	-47.8	HB	XS Photo; pavement w/ sediment veneer; patchy exposed rock; heading east along the transect line		☑
					Cni - Stichopathes;		
					Sed - burrow	.5 m diam	
					Por - Ircinia campana;		
					Alg - Chlorophyta; Codium		
					Alg - Rhodophyta;	branching	
					Alg - Phaeophyta; Sargassum	patch	
					Cni - Hydroidolina;		
7/9/2012 8:02:00 AM	32.400951	-79.008912	-48.5	HB	patchy rock	hydroid, back on sand, stichopathes, reef butterflies,	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 8:04:00 AM	32.400881	-79.008513	-46.4			codium, sargassum, lion, trigger, tattler, reef butterflies	☐
7/9/2012 8:04:04 AM	32.400869	-79.008510	-46.4		XS Photo;		☑
					Fish - lionfish;	2	
					Por - Ircinia strobilina;		
7/9/2012 8:05:02 AM	32.400923	-79.008327	-48.1	HB	Non XS - Random Photos; flat pavement; low relief rock outcrops <50 cm		☐
					Cni - Gorgonacea; Plexauridae	purple plex	
					Fish - lionfish;	2	
					Cni - Hydroidolina;		
7/9/2012 8:06:00 AM	32.401070	-79.008131	-48.5			lions, reef butterflies, Ajs, yellowtail reef fishs, gag, tomtates, calamus, spotfin hogs, bigeye	☐
7/9/2012 8:06:29 AM	32.401042	-79.008050	-48.3	HB	XS Photo; pavement;		☑
					Cni - Stichopathes;		
					Alg - Phaeophyta; Sargassum		
					Fish - lionfish;	1	
					Fish - porgy		
					Fish - tomtate;	school	
					Fish - gag grouper		
					Por - Demospongiae;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - spotfin hogfish		
7/9/2012 8:07:59 AM	32.400705	-79.008021	-47.6	HB	pavement with veneer		☐
					Alg - Phaeophyta; Sargassum		
					Cni - Hydroidolina;		
7/9/2012 8:08:00 AM	32.400715	-79.008027	-47.6	HB	scattered low relief hard bottom	squirrelfish, yellowtail reef fishs, tang, spotfin butterflies & hogs, bigeyes, sharpnose puffer, blue angel, scrawled filefish	☐
7/9/2012 8:08:48 AM	32.400889	-79.008006	-46.6		XS Photo;		☑
					Alg - Phaeophyta; Sargassum		
					Cni - Hydroidolina;		
					Fish - lionfish;	1	
					Por - Demospongiae;	lots	
					Cni - Stichopathes;		
7/9/2012 8:10:02 AM	32.400926	-79.007682	-47.4	HB	hard bottom; sediment; pavement; low relief; rock outcrops <50 cm	dense cover of invetrs, red, brown and green algae	☐
					Cni - Stichopathes;		
					Cni - Gorgonacea; Plexauridae	Purp	
					Por - Demospongiae;	15 cm spherical	
					Cni - Hydroidolina;		
7/9/2012 8:12:00 AM	32.400909	-79.007340	-47.4			gray trigger, lion, blue angel, calamus,	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 8:12:36 AM	32.400804	-79.007332	-47.4	HB	Non XS - Random Photos; rock outcrops		☐
					Fish - lionfish;	2	
7/9/2012 8:13:19 AM	32.400816	-79.007264	-47		XS Photo;		☑
7/9/2012 8:14:00 AM	32.400758	-79.007092	-47.6	HB	small outcrops	brotula, reef & spotfin butterflies, bigeye	☐
7/9/2012 8:14:26 AM	32.400779	-79.007069	-47.6		Non XS - Random Photos;		☐
					Fish - bearded Brotrula		
7/9/2012 8:15:05 AM	32.400792	-79.007060	-47.4	HB	hard bottom; pavement; Rock; low relieve exposed rock - 20-50 cm.	dense cover of fauna	☐
					Alg - Rhodophyta;		
					Cni - Hydroidolina;		
					Por - Demospongiae;	cake	
					Cni - Gorgonacea; Plexauridae	purp	
					Cni - Stichopathes;		
					Alg - Phaeophyta; Sargassum		
					Alg - Chlorophyta; Codium		
7/9/2012 8:16:00 AM	32.400776	-79.006925	-47.2			tomtate schools, yellowtail reef fishs, wrasses, gray trigger, scamp, squirrel, lion, brotula	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 8:17:12 AM	32.400753	-79.006672	-47.4		Non XS - Random Photos;		☐
					Fish - scamp grouper;	50-60 cm	
					Fish - lionfish;	1	
7/9/2012 8:17:48 AM	32.400781	-79.006535	-47.8		XS Photo; right on the transect line;		☑
					Fish - lionfish;	1	
					Fish - Brotula		
					Fish - scrawled cowfish		
7/9/2012 8:19:00 AM	32.400712	-79.006491	-47.8			scrawled cowfish, squirrel, tattler, yellowtail reef fish, bigeye, reef butterflies, wrasse bass	☐
7/9/2012 8:20:08 AM	32.400475	-79.006495	-48.3	HB	XS Photo; soft bottom; pavement;		☑
7/9/2012 8:22:16 AM	32.400546	-79.006266	-48.3		Non XS - Random Photos- wrasse bass		☐
					Fish - wrasse bass		
7/9/2012 8:22:35 AM	32.400558	-79.006251	-47.8		Non XS - Random Photos;		☐
					Fish - wrasse bass	photot	
7/9/2012 8:24:00 AM	32.400588	-79.006261	-47.6	HB	patchy ledges	tomtates, queen angel, bigeye, reef butterflies	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 8:25:05 AM	32.400619	-79.006080	-48.1		having still camera issuse		☐
7/9/2012 8:25:57 AM	32.400572	-79.005661	-48.3		messing around with the automatic mode on the camera 1/60 of a second		☐
					Cni - Stichopathes;		
					Alg - Chlorophyta;		
7/9/2012 8:28:00 AM	32.400651	-79.005104	-46.6			lion, sharpnose puffer, yellowtail reef fish,	☐
7/9/2012 8:28:11 AM	32.400595	-79.005085	-47.8	HB	pavement; Rock; soft bottom; 1 ft outcrops		☐
					Fish - lionfish;	1	
7/9/2012 8:28:53 AM	32.400452	-79.005059	-48.9		Non XS - Random Photos; short nose puffer		☐
					Por - Demospongiae;	chimney pink	
					Cni - Stichopathes;		
					Fish - sharpnose puffer		
					Alg - Phaeophyta; Sargassum		
7/9/2012 8:30:00 AM	32.400420	-79.004924	-48.1		XS Photo;		☑
7/9/2012 8:30:00 AM	32.400420	-79.004924	-48.1			red porgy, bank butterflies, tatler butterflies flies, jackknifes	☐
7/9/2012 8:30:33 AM	32.400406	-79.004742	-48.7	HB	hard bottom; pavement; Rock; 20-30 cm relief;Non XS - Random Photos;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - jackknife fish		
					Fish - lionfish;		
7/9/2012 8:32:41 AM	32.400561	-79.004531	-48.3	HB	XS Photo; soft bottom; pavement;		☑
7/9/2012 8:32:58 AM	32.400565	-79.004474	-48.3	HB	soft bottom; pavement; Rock;		☐
					Ann - Filograna;		
					Cni - Stichopathes;		
					Cni - Gorgonacea; Plexauridae	purple	
					Fish - porgy		
7/9/2012 8:33:00 AM	32.400566	-79.004462	-48.5			porgies, calmaus, wrasses, blue angel, stichopathes, gurnard	☐
7/9/2012 8:35:05 AM	32.400388	-79.004244	-48.3	HB	XS Photo; soft bottom; pavement; Rock; Non XS - Random Photos;		☐
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Fish - reef butterflyfish		
					Cni - Gorgonacea; Plexauridae	purple	
7/9/2012 8:36:00 AM	32.400244	-79.004021	-49.1	HB	more solid flat rock	cowfish, spotfin hogs, tang, bank and reef butterflies, lions, calamus	☐
7/9/2012 8:37:24 AM	32.400197	-79.003774	-47.8	HB	XS Photo; hard bottom; pavement; Rock;		☑
					Alg - Phaeophyta; Sargassum		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
					Cni - Hydroidolina;	wh	
					Alg - Rhodophyta;		
					Fish - Chaetodon aya		
					Fish - lionfish;	5	
					Fish - honeycomb cowfish		
					Fish - blue angelfish;		
7/9/2012 8:39:00 AM	32.400389	-79.003617	-48.7			bandtail puffer, ledge -1m, squirrelfish, silversides?, blue angel, spotfoin hogs, graysby?, sharpnose puffers, cardinals, AJ, spotfin hogs	☐
7/9/2012 8:39:34 AM	32.400429	-79.003537	-49.1	HB	XS Photo; hard bottom; pavement; Rock;		☑
					Cho - Ascidacea; Didemnidae		
7/9/2012 8:40:00 AM	32.400370	-79.003465	-48.7	HB	hard bottom; pavement; Rock; Slope- flat; near 100% cover; 1-2 m ledge, top ledge 47 top 49.5 m bottom		☐
					Fish - blue angelfish;		
					Fish - lionfish;		
7/9/2012 8:42:45 AM	32.400114	-79.003262	-49.1		Non XS - Random Photos;		☐
					Cni - Hydroidolina;		
					Alg - Rhodophyta;		
					Cni - Gorgonacea; Plexauridae	pu plexaurid	
					Fish - lionfish;	photo	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 8:44:00 AM	32.400195	-79.003053	-48.7	HB	Non XS - Random Photos;hard bottom; pavement; Rock;		☐
					Fish - reef butterflyfish		
					Fish - queen angelfish		
					Fish - lionfish;		
					Fish - spotfin hogfish		
7/9/2012 8:45:00 AM	32.400106	-79.002839	-49.9	HB	flat rock	cowfish, reef butterflies, blue angel, squirrelfish, lions,	☐
7/9/2012 8:45:04 AM	32.400080	-79.002826	-50.1	HB	hard bottom; pavement; Rock;		☐
					Fish - lionfish;		
					Cni - Antipathidae;	bushy	
7/9/2012 8:46:33 AM	32.400147	-79.002524	-49.9	HB	XS Photo; hard bottom; pavement;		☑
7/9/2012 8:47:00 AM	32.400135	-79.002507	-50.6		changing DVDs, reached dogleg in transect		☐
7/9/2012 8:47:00 AM	32.400135	-79.002507	-50.6	HB	patchy rock on sand	cowfish, large mound 1x2m, bigeye, reef fly, sharpnose puffer, lions	☐
7/9/2012 8:49:18 AM	32.400120	-79.002284	-50.6	HB	hard bottom; pavement; end E transect; start NE transect		☐
7/9/2012 8:49:49 AM	32.400224	-79.002339	-50.3	HB	XS Photo; hard bottom; pavement;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 8:50:15 AM	32.400118	-79.002279	-49.7	HB	hard bottom; pavement; rubble; Rock;		☐
					Por - Demospongiae; Axinellidae	ye	
					Cni - Gorgonacea; Leptogorgia hebes?		
7/9/2012 8:52:00 AM	32.400257	-79.002294	-50.3			jacknife, hydroids,	☐
7/9/2012 8:52:19 AM	32.400233	-79.002249	-50.1	HB	XS Photo; hard bottom; pavement; Rock; 10-20 cm; 100% cover		☑
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Plexauridae	purple	
					Cni - Stichopathes;		
					Fish - lionfish;	3	
					Cni - Gorgonacea; Titanideum frauenfeldii	or stalk	
					Cni - Gorgonacea;		
7/9/2012 8:54:28 AM	32.400655	-79.001915	-49.3	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/9/2012 8:55:00 AM	32.400669	-79.001830	-49.7			small brown bass, bottom right	☐
7/9/2012 8:55:00 AM	32.400669	-79.001830	-49.7			sharpnose puffers, cowfish, bandtail puffer, blue angel, tattler	☐
7/9/2012 8:55:13 AM	32.400655	-79.001794	-50.3	HB	hard bottom; pavement; Rock;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 8:56:44 AM	32.400576	-79.001542	-49.7		XS Photo;		☑
7/9/2012 8:57:18 AM	32.400603	-79.001488	-50.1	HB	hard bottom; soft bottom; pavement; Rock; more sediment; near east edge of hard bottom on multibeam		☐
					Cni - Gorgonacea; Ellisella?	wh stalk	
					Cni - Gorgonacea; Titanideum frauenfeldii		
					Cni - Gorgonacea; Leptogorgia		
					Fish - cowfish		
7/9/2012 8:59:00 AM	32.400720	-79.001554	-49.5	HB	flat rock	blue angel, tomtate, tangs, squirrelfish, yellowtail reef fish, bigeye, spotfin hogs	☐
7/9/2012 8:59:20 AM	32.400779	-79.001602	-49.9	HB	XS Photo; hard bottom; pavement; Rock; 100%; 1m ledges		☑
					Por - Demospongiae;	or fan	
7/9/2012 9:00:22 AM	32.400958	-79.001413	-49.3	HB	hard bottom; pavement; Rock;		☐
7/9/2012 9:01:20 AM	32.401076	-79.001247	-49.7	HB	XS Photo; hard bottom; pavement; rubble;		☑
					Alg - Phaeophyta; Sargassum		
					Alg - Chlorophyta; Halimeda?		
					Por - Demospongiae;	pu vase	
					Por - Ircinia campana;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 9:02:00 AM	32.401113	-79.001173	-49.9			stichopathes, reef butterflies, porgy, spotfin hog butterflies flies, lion	☐
7/9/2012 9:03:54 AM	32.401339	-79.001189	-48.7	HB	XS Photo; hard bottom; pavement; Rock; 100%; rubble; transect parallel to E edge of multibeam hard bottom		☑
7/9/2012 9:05:34 AM	32.401339	-79.000861	-49.7		Non XS - Random Photos;		☐
					Por - Demospongiae;	photo large fan	
					Fish - lionfish;		
7/9/2012 9:06:00 AM	32.401361	-79.000786	-49.7			reef butterflies, spotfin hog, tomtate, AJ, s butterflies flies	☐
7/9/2012 9:06:06 AM	32.401351	-79.000779	-49.5	HB	XS Photo; hard bottom; pavement; Rock; rubble; Non XS - Random Photos;		☐
					Cni - Gorgonacea; Titanideum frauenfeldii		
					Fish - hogfish	photo	
7/9/2012 9:07:00 AM	32.401411	-79.000711	-50.1			yellowtail reef fish, hogfish, spotfin hogs	☐
7/9/2012 9:08:31 AM	32.401671	-79.000712	-48.5	HB	XS Photo; hard bottom; pavement; Rock;		☑
					Por - Demospongiae;	pu finger	
					Cni - Gorgonacea; Plexauridae	pu	
					Cni - Hydroidolina;		
					Fish - graysby grouper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Stichopathes;		
					Alg - Rhodophyta;	red blade	
7/9/2012 9:10:00 AM	32.401661	-79.000394	-50.3		larger outcrop	reef butterflies, graysby, tang, lions, blue angels, bigeye	☐
7/9/2012 9:11:06 AM	32.401777	-79.000203	-49.7	HB	XS Photo; hard bottom; pavement; Rock; 100%; Slope- flat;		☑
					Cni - Stichopathes;		
					Fish - lionfish;		
					Por - Demospongiae; Axinellidae	re	
7/9/2012 9:12:00 AM	32.401897	-79.000183	-49.7			tang, reef butterflies, tomtate, lion, tattler, porgy, squirrelfish	☐
7/9/2012 9:12:56 AM	32.402045	-79.000313	-49.5	HB	hard bottom; pavement; Rock; 1-2m deep pit in rock		☐
7/9/2012 9:13:27 AM	32.402102	-79.000305	-48.7	HB	XS Photo; hard bottom; pavement; Rock; transect along E edge of multibeam hard bottom		☑
					Fish - lionfish;		
					Por - Ircinia campana;		
					Por - Demospongiae;	re stalk bush	
					Alg - Rhodophyta;		
					Fish - porgy		
7/9/2012 9:14:00 AM	32.402139	-79.000217	-48.9	HB	bigger ledges	lions, calamus, tomtate, graysby, queen trigger	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 9:15:46 AM	32.402272	-78.999942	-49.3	HB	XS Photo; hard bottom; pavement; Rock; large ledge		☑
7/9/2012 9:16:14 AM	32.402283	-78.999933	-49.5	HB	Non XS - Random Photos; 1 m ledge; Non XS - Random Photos;		☐
					Fish - graysby grouper	photo	
					Fish - queen trigger	photo	
7/9/2012 9:18:00 AM	32.402381	-78.999866	-49.1	HB	flat rock	calamus, bank butterflies, spotfin butterflies flies, lion,	☐
7/9/2012 9:18:02 AM	32.402384	-78.999867	-49.1	HB	XS Photo; hard bottom; pavement; Rock;		☑
					Por - Demospongiae;	large sp	
					Ann - Filograna;		
					Cni - Gorgonacea; Titanideum frauenfeldii		
					Cni - Gorgonacea; Leptogorgia		
					Fish - bank butterflyfish		
					Fish - spotfin butterflyfish		
7/9/2012 9:20:00 AM	32.402533	-79.000047	-48.3	HB	patchy rock	reef butterflies, bigeye, s butterflies flies, spotfin hogs	☐
7/9/2012 9:20:17 AM	32.402584	-78.999957	-48.5	HB	XS Photo; hard bottom; pavement;		☑
7/9/2012 9:20:25 AM	32.402592	-78.999944	-48.3	HB	hard bottom; pavement; Rock; 80%; 50 cm relief		☐
					Cni - Gorgonacea; Plexauridae	purple	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Chlorophyta; Codium		
					Por - Demospongiae;	ye eb	
7/9/2012 9:22:34 AM	32.402874	-78.999738	-47.4	HB	XS Photo; hard bottom; pavement;		☑
7/9/2012 9:22:43 AM	32.402909	-78.999717	-46.8	HB	hard bottom; pavement; Rock;		☐
					Alg - Rhodophyta;		
					Por - Demospongiae;	wh tu	
					Alg - Phaeophyta; Sargassum	attached	
					Alg - Chlorophyta; Codium		
7/9/2012 9:23:00 AM	32.402941	-78.999612	-48.5			lots of sargassum, reef butterflies, tattlers, yellowtail reef fish, orangeback bass	☐
7/9/2012 9:24:31 AM	32.403071	-78.999587	-48.5		Non XS - Random Photos;		☐
					Fish - orange back bass	photo	
7/9/2012 9:25:22 AM	32.403067	-78.999598	-48.3	HB	hard bottom; pavement; Rock; XS Photo;		☑
7/9/2012 9:26:00 AM	32.403225	-78.999584	-48.1			tattler, calamus, blue angels, yellowtail reef fish, lions, bigeyes	☐
7/9/2012 9:26:05 AM	32.403243	-78.999572	-47.8	HB	hard bottom; pavement; Rock; 80%; Non XS - Random Photos;		☐
					Fish - short bigeye;		
					Fish - lionfish;	photo	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 9:27:00 AM	32.403317	-78.999404	-48.3			sharpnose puffer, yellowtail reef fish, purple reeffish, wrasses, reef butterflies	☐
7/9/2012 9:27:43 AM	32.403356	-78.999286	-47.6	HB	XS Photo; hard bottom; pavement; Rock;		☑
					Por - Demospongiae;	ta cake	
					Ann - Filograna;		
					Cni - Hydroidolina;		
					Ech - Holothuroidea;		
					Cni - Gorgonacea;	ye	
					Fish - lionfish;		
					Fish - yellowtail reeffish;		
					Cni - Stichopathes;		
7/9/2012 9:29:00 AM	32.403516	-78.999155	-47.8			strange gorgo, lion, reef butterflies, spotfin hogs, squirrelfish, tangs,	☐
7/9/2012 9:30:01 AM	32.403565	-78.999127	-47.8	HB	hard bottom; pavement; Rock; Non XS - Random Photos; 80%; 0.5 m relief		☐
					Fish - lionfish;	2	
					Cni - Hydroidolina;	wh	
					Fish - spotfin hogfish		
					Por - Ircinia campana;		
					Cni - Stichopathes;		
7/9/2012 9:31:00 AM	32.403643	-78.999001	-48.5	HB	ledges	tomtate, reef butterflies, cubbyu, blue angel butterflies flies, purple reeffsih, lion	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 9:32:31 AM	32.403747	-78.998872	-48.7	HB	XS Photo; hard bottom; Rock; pavement; Non XS - Random Photos;		☐
					Fish - tomtate;		
					Art - Panularis argus	photo	
					Fish - graysby grouper		
					Fish - queen angelfish		
					Fish - lionfish;		
7/9/2012 9:33:00 AM	32.403793	-78.998869	-48.9			graysby, lobster, rock beauty, sharpnose puffer, calamus	☐
7/9/2012 9:34:07 AM	32.403867	-78.998760	-48.9	HB	hard bottom; pavement; Rock; 50 cm ledges; Non XS - Random Photos;		☐
					Fish - rock beauty	photo	
7/9/2012 9:35:00 AM	32.403875	-78.998732	-48.3	HB	overhanging ledges	lion, reef butterflies,	☐
7/9/2012 9:35:07 AM	32.403876	-78.998726	-47.8	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/9/2012 9:36:11 AM	32.403964	-78.998648	-48.9	HB	hard bottom; pavement; Rock; 50%; soft bottom; rubble; still on transect		☐
7/9/2012 9:37:00 AM	32.404181	-78.998531	-49.3			graysby, spotfin hogs, yellowtail reef fish, spotfin butterflies, blue angel, tattler, bigeye, lion	☐
7/9/2012 9:37:26 AM	32.404176	-78.998455	-48.5	HB	XS Photo; hard bottom; pavement; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 9:37:36 AM	32.404191	-78.998421	-48.9	HB	hard bottom; pavement; Rock; 50 cm; rock boulders on sediment		☐
					Cni - Hydroidolina;		
					Fish - graysby grouper		
					Cni - Stichopathes;		
					Cni - Gorgonacea; Plexauridae	purple	
7/9/2012 9:39:37 AM	32.404398	-78.998393	-47.4	HB	XS Photo; hard bottom; soft bottom; Rock;		☑
7/9/2012 9:39:55 AM	32.404391	-78.998368	-48.3	HB	hard bottom; soft bottom; Rock; rubble; 50% boulders on sediment		☐
					Fish - lionfish;		
7/9/2012 9:40:00 AM	32.404397	-78.998375	-48.3			large red sea fan, french angels	☐
7/9/2012 9:41:14 AM	32.404571	-78.998228	-45.8	HB	Non XS - Random Photos;hard bottom; pavement; Rock; 80%; Non XS - Random Photos;		☐
					Cni - Gorgonacea; Swiftia?	photo re 1 m, Swiftia?	
					Alg - Phaeophyta; Sargassum		
					Fish - hogfish	photo	
7/9/2012 9:43:00 AM	32.404707	-78.998151	-47.8	HB	partchy rock on low relief hard bottom	hogfish, blue angel	☐
7/9/2012 9:44:25 AM	32.404860	-78.998105	-47.2	HB	XS Photo; hard bottom; pavement; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 9:44:57 AM	32.404907	-78.998081	-47.4	HB	hard bottom; pavement; Rock;		☐
					Species Observed		
					Fish - lionfish;		
					Por - Demospongiae; Spirastrellidae		
7/9/2012 9:46:00 AM	32.404968	-78.997804	-47.8			bigeye, lions, reef butterflies, wrasses, sharpnose puffer, bandtail puffer	☐
7/9/2012 9:46:51 AM	32.405047	-78.997751	-47.2	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/9/2012 9:47:02 AM	32.405074	-78.997770	-47.8	HB	hard bottom; pavement; Rock; 80%; 50 cm relief		☐
					Cni - Stichopathes;		
					Alg - Rhodophyta;		
					Cni - Gorgonacea; Titanideum frauenfeldii		
					Alg - Cyanophyta;	thin encrusting	
7/9/2012 9:49:15 AM	32.405247	-78.997610	-47.4		change DVD 11 to 12		☐
7/9/2012 9:50:00 AM	32.405276	-78.997615	-47.6		DVD 12 loaded,	vermilion snapper (vermilion snapper), tomtate, scamp	☐
7/9/2012 9:50:51 AM	32.405290	-78.997609	-47.4	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/9/2012 9:51:19 AM	32.405415	-78.997583	-47.4	HB	hard bottom; pavement; Rock; 100%; on west side of ridge of multibeam; to 1 m ledges		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;	2	
7/9/2012 9:52:00 AM	32.405562	-78.997689	-47	HB	larger ledges	scamp, lions, big cable grabing overhangs, queen angel, blue angel, tang	☐
7/9/2012 9:53:50 AM	32.405649	-78.997566	-44.9	HB	XS Photo; hard bottom; Rock;		☑
7/9/2012 9:54:02 AM	32.405666	-78.997598	-46.4	HB	hard bottom; pavement; Rock; ledge 2 m; west edge of NE-SW ridge; very rugose; 47.7 m on top of ledge		☐
					Cni - Hydroidolina;		
					Fish - scamp grouper;	4	
					Por - Ircinia campana;		
					Cni - Gorgonacea; Leptogorgia		
					Fish - tomtate;	school	
					Fish - scamp grouper;		
					Cni - Gorgonacea; Plexauridae	purple	
					Fish - vermilion snapper	big school	
					Fish - amberjack		
7/9/2012 9:56:00 AM	32.405739	-78.997460	-46.8			vermilion snapper, Ajs, tomtates, squirrelfish, reef butterflies, creolefish, lion	☐
7/9/2012 9:59:00 AM	32.406010	-78.997395	-47.2		4m deep hole	spotfin hogs, tomtates, vermilion snapper, spanish hog?, squirrelfish	☐
7/9/2012 9:59:54 AM	32.406086	-78.997339	-46.8	HB	hard bottom; Rock; 1-2 m ledges; west side of ridge		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 10:01:00 AM	32.406173	-78.997296	-47.6	HB	flat rock w/ holes	reef butterflies, spotfin hog, queen trigger, yellowhead wrasse, goatfish, trunkfsih	☐
7/9/2012 10:01:12 AM	32.406180	-78.997259	-47	HB	XS Photo; hard bottom; Rock;		☑
7/9/2012 10:01:24 AM	32.406191	-78.997217	-47.2	HB	hard bottom; Rock; pavement; rubble;		☐
					Ann - Filograna;		
					Por - Demospongiae;	spp	
					Alg - Rhodophyta;		
					Cni - Gorgonacea; Plexauridae	purple	
					Alg - Chlorophyta; Codium		
					Cni - Stichopathes;		
7/9/2012 10:03:22 AM	32.406335	-78.997068	-46.8	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/9/2012 10:03:31 AM	32.406334	-78.997081	-47.6	HB	hard bottom; pavement; Rock; 100%; Non XS - Random Photos;		☐
					Fish - queen trigger		
					Fish - yellowhead wrasse	photo	
					Fish - goatfish		
					Por - Ircinia campana;		
7/9/2012 10:05:00 AM	32.406532	-78.997173	-47.8			bigeye, yellowtail reef fish, lion, reef butterflies, sporfin hog butterflies flies, calamus	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 10:05:10 AM	32.406541	-78.997170	-47.8	HB	hard bottom; pavement; Rock;		☐
					Species Observed: Fish - lionfish;		
					Species Observed: Cni - Gorgonacea; Ellisella		
7/9/2012 10:07:30 AM	32.406923	-78.996971	-48.3	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/9/2012 10:08:00 AM	32.406921	-78.996955	-48.9			queen angel, spotted goatfish, squirrelfish, spotfin hog	☐
7/9/2012 10:09:58 AM	32.407134	-78.996820	-48.9	HB	hard bottom; pavement; Rock;		☐
7/9/2012 10:11:00 AM	32.407185	-78.996803	-48.7			lion, spotfin butterflies, bigeye butterflies flies, tang, graysby, calamus	☐
7/9/2012 10:11:53 AM	32.407281	-78.996705	-48.5	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/9/2012 10:12:51 AM	32.407374	-78.996676	-48.5	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/9/2012 10:13:41 AM	32.407469	-78.996675	-48.9	HB	hard bottom; pavement; Rock; 50 to 100 cm		☐
					Species Observed: Por - Ircinia campana;		
					Species Observed: Cni - Gorgonacea; Ellisella		
					Species Observed: Fish - graysby grouper		
					Species Observed: Alg - Phaeophyta; Sargassum		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	ta cake	
					Fish - lionfish;		
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
					Fish - lionfish;		
					Fish - cubyu		
7/9/2012 10:16:00 AM	32.407611	-78.996549	-49.3	HB	boulders	graysby, squirrelfish, calamus, cubbyu, tomtate, reef butterflies, purple reeffish	☐
7/9/2012 10:17:36 AM	32.407673	-78.996259	-48.9	HB	XS Photo; hard bottom; Rock;		☑
7/9/2012 10:18:00 AM	32.407669	-78.996249	-48.7	HB	patchy flatter rocks	calamus, yellowtail reef fish,	☐
7/9/2012 10:18:22 AM	32.407661	-78.996179	-48.1	HB	hard bottom; Rock; 50 cm, 50% cover; hd NE along W edge of ridge of multibeam		☐
7/9/2012 10:19:47 AM	32.407891	-78.996004	-48.3	HB	XS Photo; hard bottom; Rock;		☑
7/9/2012 10:19:57 AM	32.407891	-78.995995	-47.2	HB	hard bottom; pavement; Rock; 50%; 50 cm relief;Non XS - Random Photos;		☐
					Cni - Gorgonacea; Plexauridae	purple	
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207092	ROV 6	9-VII-12-2	South Carolina, Edisto MPA, Station 10, outside MPA, near north border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 10:20:00 AM	32.407888	-78.995976	-47.4			reef butterflies, calamus, blue angel, bigeye	☐
7/9/2012 10:22:00 AM	32.408054	-78.995804	-48.7	HB	more sand, ~50% rock	scamp, squirrelfish, tomtate, cubbyu, cornetfish	☐
7/9/2012 10:24:10 AM	32.408356	-78.995853	-47.4		Non XS - Random Photos;		☐
					Fish - bluespotted cornetfish	photo	
7/9/2012 10:25:02 AM	32.408422	-78.995785	-49.3	HB	XS Photo; hard bottom; soft bottom; Rock; 50% cover; off ridge, west base of ridge		☑
7/9/2012 10:26:00 AM	32.408501	-78.995757	-49.3			reef butterflies, sharpnose puffer, cubbyu, tomtate	☐
7/9/2012 10:27:40 AM	32.408621	-78.995656	-48.7	HB	XS Photo; hard bottom; Rock;		☑
7/9/2012 10:27:57 AM	32.408595	-78.995620	-48.3	HB	hard bottom; Rock; end of dive; off bottom		☐
7/9/2012 10:28:00 AM					ending dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 11:56:02 AM					Objectives: ROV Dive 7, Site #- 9-VII-12-3. Target Site – South Carolina Edisto MPA; 32°23.2200'N; 79° 02.5200'W; 50 m. ROV survey inside MPA; ground truth multibeam sonar of site. Conduct video/photo transects on north ridge, oriented NE-SW; Transect 4 and 5 along west edge of ridge, Transect 6 along east edge.		☐
7/9/2012 12:03:25 PM					Launch (start dive);		☐
7/9/2012 12:05:58 PM	32.378308	-79.048584	-47	HB	On bottom; Rock; large boulders 50-100cm relief		☐
					Fish - scamp grouper; 4		
					Por - Ircinia campana;		
					Fish - triggerfish		
					Fish - snapper		
					Fish - lionfish; 1		
					Cni - Stichopathes;		
					Fish - french angelfish		
7/9/2012 12:06:00 PM	32.378311	-79.048585	-47	HB	big boulders 2-3m	Calamus, school of tomtates, couple of scamp while descending, spotfin hogfish, lionfish, 3-4 big scamp, grey snapper	☐
7/9/2012 12:08:18 PM	32.378356	-79.048608	-47.8		XS Photo;		☑
7/9/2012 12:08:54 PM	32.378293	-79.048616	-48.3	HB	Rock; 100 feet to start of xs		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish; 2		
					Por - Demospongiae; Spirastrellidae		
					Fish - scamp grouper;		
					Cni - Hydroidolina;		
7/9/2012 12:09:00 PM	32.378287	-79.048620	-47.8			spotfin hogfish, blue angelfish, 2 lionfish, scamp, spotfin butterflyfish, purple reeffish, 2 scamp, lionfish, tomtates, sunshinefish, wrasse, bandtail puffer	☐
7/9/2012 12:10:21 PM	32.378373	-79.048663	-47.2	HB	large Rock boulders; with small patches of sediment between		☐
7/9/2012 12:10:47 PM	32.378440	-79.048656	-46.8		XS Photo;		☑
					Cni - Hydroidolina;		
					Fish - scamp grouper; 2		
					Fish - lionfish; 1		
					Cni - Gorgonacea; Plexauridae purp		
7/9/2012 12:11:46 PM	32.378505	-79.048582	-48.7	HB	Non XS - Random Photos; John on the mic; HD NE down the ridge toward the beginning of the XS. Moderate relief hard bottom; dense biota 100% ccover of sessile inverts;		☐
					Fish - lionfish; 2		
					Ech - Crinoidea		
					Fish - fan tail puffer		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 12:12:00 PM	32.378507	-79.048549	-48.5			orangeback bass, 2 lionfish, scamp, 2 lionfish, lionfish, lionfish, vermilion, purple reeffish, lionfish, reef butterflyfish	☐
7/9/2012 12:13:04 PM	32.378577	-79.048510	-48.1	HB	XS Photo; Rock;		☑
					Cni - Stichopathes;		
					Fish - lionfish; 4		
					Cni - Hydroidolina;		
7/9/2012 12:13:51 PM	32.378661	-79.048475	-48.1	HB	Rock; over the sediment @ 50 m to the bottom on top of the rock 49m		☐
					Fish - lionfish; 1		
7/9/2012 12:15:00 PM	32.378794	-79.048480	-48.9			sharpnose puffer, spotfin hogfish, scamp, blue angelfish, Ajs, lionfish under ledge, scamp, lionfish, bank butterfly, 2 scamp, tomtate school, lionfish, sharpnose puffer, purple reeffish, calamus, blue angelfish	☐
7/9/2012 12:15:15 PM	32.378803	-79.048469	-48.9	HB	XS Photo; very rugose with undercuts and ledges;		☑
					Cni - Gorgonacea; Diodogorgia		
					Fish - scamp grouper;		
					Fish - amberjack		
7/9/2012 12:16:19 PM	32.378911	-79.048381	-49.1		Non XS - Random Photos;		☐
					Fish - scamp grouper; 2		
					Fish - lionfish; 1		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - Chaetodon aya		
7/9/2012 12:17:29 PM	32.379141	-79.048300	-48.9	HB	XS Photo; Rock;		☑
					Cni - Gorgonacea; Ellisellidae	Nicella?	
					Por - Demospongiae;	dense diverse	
7/9/2012 12:19:00 PM	32.379370	-79.048163	-48.9			scamp in the distance before downshot, tomtate, 4-6 scamp, grey snapper, reef butterfly, doctorfish, blue angelfish, 5 scamp, calamus,4 lionfish	☐
7/9/2012 12:19:12 PM	32.379373	-79.048153	-48.1	HB	Non XS - Random Photos; Rock;		☐
					Cni - Gorgonacea; Telesto		
7/9/2012 12:19:53 PM	32.379405	-79.048074	-47.8		XS Photo;		☑
					Fish - gray snapper	1	
					Fish - reef butterflyfish		
					Fish - scamp grouper;	4	
					Fish - spotfin hogfish		
					Fish - amberjack		
7/9/2012 12:21:43 PM	32.379648	-79.047985	-48.3	HB	Rock - boulders		☐
					Cni - Antipathidae; Antipathes?	White fan	
7/9/2012 12:22:06 PM	32.379717	-79.047966	-48.1	HB	XS Photo; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;	5	
					Fish - scamp grouper;		
					Fish - porgy		
7/9/2012 12:23:00 PM	32.379738	-79.047848	-46.8			tomtates, reef butterflyfish, blue angelfish, spotfin hogfish, Calamus, lionfish, bluespotted cornetfish, sharpnose puffer, lionfish, purple reeffish, lionfish, sunshinefish	☐
7/9/2012 12:23:28 PM	32.379803	-79.047821	-47	HB	Rock; Non XS - Random Photos; large boulders with interdispersed sediment between		☐
					Cni - Hydroidolina;	white bushes - photo	
					Fish - tomtate;		
7/9/2012 12:24:22 PM	32.379905	-79.047732	-46.6			Non XS - Random Photos; white hydriod	☐
7/9/2012 12:24:38 PM	32.379899	-79.047717	-46.2	HB	XS Photo; Rock;		☑
					Cni - Gorgonacea; Diodogorgia		
					Cni - Gorgonacea; Plexauridae	Pu	
7/9/2012 12:25:43 PM	32.380132	-79.047579	-46.6	HB	Rock; Non XS - Random Photos; 100 m north of the start of the xs line;		☐
					Fish - lionfish;	4	
					Fish - scamp grouper;		
					Fish - porgy		
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - cornet fish	photo	
7/9/2012 12:26:00 PM	32.380159	-79.047491	-47.4			Calamus, doctorfish, sunshinefish, yellowhead wrasse, sharpnose puffer, purple reeffish, AJ, yellowmouth?,	☐
7/9/2012 12:27:59 PM	32.380421	-79.047283	-45.8	HB	XS Photo; Rock;		☑
					Alg - Chlorophyta;		
					Por - Demospongiae; Aplysina	purple tube	
7/9/2012 12:28:49 PM	32.380544	-79.047221	-46.2	HB	Non XS - Random Photos;Rock;		☐
					Fish - scamp grouper;	2	
					Fish - amberjack		
7/9/2012 12:30:04 PM	32.380696	-79.047105	-44.5	HB	Rock; XS Photo; hard bottom; 80-100% cover; middle of the ridge of the multibeam		☑
					Fish - french angelfish		
					Fish - triggerfish	2	
					Fish - white grunt	large	
					Fish - grey triggerfish	3	
					Fish - scamp grouper;	2	
7/9/2012 12:31:00 PM	32.380764	-79.047035	-46			french angelfish, 2 big scamp, grey trigger, white grunt, sharpnose puffer, cornetfish, yellowtail reeffish, orangeback bass	☐
7/9/2012 12:32:44 PM	32.380955	-79.046779	-48.1	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Plexauridae	purp	
					Alg - Chlorophyta; Dictyota?		
					Por - Ircinia campana;		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Fish - cornet fish		
7/9/2012 12:34:37 PM	32.381149	-79.046593	-46.8	HB	Non XS - Random Photos;hard bottom; Rock;		☐
					Fish - orange back bass		
					Por - Demospongiae; Aplysina	purple rope sponge	
7/9/2012 12:35:00 PM	32.381184	-79.046560	-46.2			tattler, aggregation of about 50 scamp, lionfish, snapper, gag, rock beauty, lionfish, tomtate, lionfish?, sharpnose puffer, spotted goatfish, lionfish, purple reeffish	☐
7/9/2012 12:35:09 PM	32.381189	-79.046560	-46.2	HB	XS Photo; hard bottom; Rock; large boulders and rock pavement with small patches of sediment		☑
7/9/2012 12:36:28 PM	32.381262	-79.046464	-46.6		Non XS - Random Photos	spawning aggrigation of scamp groupers	☐
					Cni - Gorgonacea; Nicella?	Red fan	
					Fish - scamp grouper;	50+	
					Fish - gag grouper	1	
					Fish - lionfish;	1	
7/9/2012 12:39:43 PM	32.381390	-79.046234	-47.6	HB	Rock; XS Photo; 1 m blocks of rock. More of a sand opening in between the rocks		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;	1	
					Fish - lionfish;	in xs photo	
					Cni - Gorgonacea; Nicella?	- up photo	
7/9/2012 12:41:48 PM	32.382007	-79.046097	-46.4	HB	Non XS - Random Photos;Rock;		☐
7/9/2012 12:41:56 PM	32.382038	-79.046085	-46.6	HB	XS Photo; Rock;		☑
					Fish - blue angelfish;		
					Fish - white spotted soapfish		
					Por - Demospongiae;	tan cake	
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Plexauridae	purple	
					Alg - Chlorophyta; Codium		
					Fish - lionfish;	2	
7/9/2012 12:42:00 PM	32.382046	-79.046082	-46	HB	less relief, almost pavement like	Calamus, 2lionfish, sharpnose puffer, blue angel, tomtate, whitespotted soapfish, reef butterflyfish	☐
7/9/2012 12:44:00 PM	32.382246	-79.046009	-46.4			cowfish, sharpnose puffer	☐
7/9/2012 12:44:07 PM	32.382268	-79.046007	-45.3	HB	XS Photo; Rock boulders;		☑
					Fish - cowfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 12:45:00 PM	32.382414	-79.045795	-46	HB	2-3 m boulders	blue angelfish, tomtate, purple reeffish, lionfish, AJ, 2 scamp, rock beauty, Calamus, spotfin hogfish, squirrelfish, lionfish under overhang	☐
7/9/2012 12:45:44 PM	32.382491	-79.045678	-46.4	HB	Non XS - Random Photos;Rock; 1-2 m tall relief between the sand and rock; large blocks and slabs are 2-3 m diam		☐
7/9/2012 12:46:40 PM	32.382499	-79.045483	-48.3	HB	XS Photo; Rock;		☑
					Fish - tomtate;		
					Fish - lionfish;		
					Fish - scamp grouper;		
					Fish - amberjack		
7/9/2012 12:48:27 PM	32.382730	-79.045296	-48.5	HB	bottom in sand 49.5 - top is 47 m deep = 2.5 m relief; on MB we are right in the middle of the ridge - its 150 m wide in the MB; Human Debris - fishing line		☐
					Fish - lionfish; 1		
					Fish - scamp grouper;		
7/9/2012 12:50:00 PM	32.382840	-79.045403	-47.4			sharpnose puffer, squirrelfish, cowfish, spotfin hogfish, reef butterflyfish, lionfish, tomtates, scamp, grey trigger, spotfin hogfish, lionfish, Calamus, cubbyu, tattler, 3 scamp, blue angel, reef butterflyfish, squirrelfish, lionfish, Ajs, spotfin hogfish	☐
7/9/2012 12:50:24 PM	32.382950	-79.045402	-47.6	HB	hard bottom; Rock; soft bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 12:51:07 PM	32.383013	-79.045253	-47.6	HB	XS Photo; Rock;		☑
					Species Observed: Fish - scamp grouper;		
					Cni - Gorgonacea; Nicella		
					Fish - cowfish		
					Fish - lionfish;		
7/9/2012 12:53:30 PM	32.383370	-79.045000	-46.6	HB	XS Photo; Rock; 2m boulders, 1 m relief; occassional long ledge 1-2 m relief.		☑
					Fish - lionfish;		
7/9/2012 12:55:46 PM	32.383571	-79.044653	-47	HB	XS Photo; Rock;		☑
					Por - Demospongiae;	spp	
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
7/9/2012 12:56:00 PM	32.383574	-79.044659	-45.6			about 15-20 scamp, lionfish, reef butterflyfish, squirrelfish, 2lionfish, Calamus, tomtate, lionfish, greater AJ, wrasse, sharpnose puffer, reef butterflyfish, lionfish	☐
7/9/2012 12:56:34 PM	32.383621	-79.044627	-48.3	HB	hard bottom; Rock;		☐
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Nicella		
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
					Fish - scamp grouper;	10	
7/9/2012 12:58:03 PM	32.383795	-79.044582	-47.8	SB	XS Photo; soft bottom;		☑
7/9/2012 12:58:20 PM	32.383844	-79.044553	-47.8	HB	hard bottom; Rock; pavement; Non XS - Random Photos;		☐
					Fish - amberjack		
					Por - Demospongiae; Callyspongia		
					Por - Ircinia campana;		
					Cni - Gorgonacea; Nicella?	50 cm pu; photo	
7/9/2012 1:00:00 PM	32.384178	-79.044571	-45.8			lionfish, sharpnose puffer, blue angelfish, lionfish, reef butterflyfish, tomtates, purple reeffish, tattler, blue angelfish, hogfish, cowfish, squirrelfish	☐
7/9/2012 1:00:07 PM	32.384199	-79.044563	-46	HB	hard bottom; Rock; XS Photo; Non XS - Random Photos;		☐
					Fish - lionfish;	2	
					Art - Panularis argus	photo	
7/9/2012 1:02:31 PM	32.384398	-79.044146	-47.2	HB	XS Photo; hard bottom; Rock;		☑
					Cho - Ascidacea; Eudistoma?		
					Cni - Antipathidae;	lg bu wh	
					Alg - Phaeophyta; Dictyota		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 1:05:42 PM	32.384679	-79.043965	-46.8	HB	hard bottom; Rock; pavement; 1 m relief; 100% cover; at large ledge dropoff to the west.		☐
7/9/2012 1:06:00 PM	32.384752	-79.043897	-47.2			balloonfish/porcupinefish, spotfin hogfish, blue angel, grey angelfish, tomtate, reef butterflyfish, scamp, vermilion	☐
7/9/2012 1:07:26 PM	32.384952	-79.043857	-46.6	HB	XS Photo; hard bottom; Rock; top of west edge of ridge; drop off 2-3 m, undercut ledges		☑
					Por - Ircinia campana;		
					Cni - Gorgonacea; Nicella	several 50 cm	
7/9/2012 1:09:44 PM	32.385153	-79.043776	-46	HB	XS Photo; hard bottom; Rock; top of west dropoff; top edge 46.5 m; Non XS - Random Photos;		☐
					Fish - lionfish;	4	
					Fish - gag grouper		
					Art - Panularis argus	photo	
7/9/2012 1:10:00 PM	32.385167	-79.043790	-46.6	HB	going over 5m ledge	2 lionfish, sharpnose puffer, blue angelfish, lionfish, purple reeffish, 3 lionfish, gag, lionfish, short bigeye, spotfin hogfish, scorpionfish	☐
7/9/2012 1:12:08 PM	32.385409	-79.043559	-46.2	HB	XS Photo; hard bottom; Rock; Non XS - Random Photos; transect along top of dropoff		☐
					Fish - lionfish;	2	
					Fish - vermilion snapper	dozens	
					Fish - scorpion fish	photo	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 1:13:00 PM	32.385438	-79.043654	-46.4			lionfish, reef butterflyfish, lionfish, vermilion, blue angel, , scamp x2, sharpnose puffer, cowfish, lionfish, purple reeffish, graysby, eel under ledge, Calamus, tomtates, doctorfish, squirrelfish	☐
7/9/2012 1:14:26 PM	32.385560	-79.043506	-46.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
					Fish - scamp grouper; 2		
					Cni - Gorgonacea; Telesto		
					Fish - graysby grouper		
7/9/2012 1:16:01 PM	32.385753	-79.043360	-47	HB	hard bottom; Rock; transect hd N along west edge of ridge		☐
7/9/2012 1:16:55 PM	32.385838	-79.043214	-44.5	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish; 2		
					Fish - scamp grouper;		
					Fish - hogfish		
7/9/2012 1:17:00 PM	32.385836	-79.043216	-45.8			blue angels, sunshinefish, lionfish x2, scamp, hogfish, squirrelfish, lionfish, lionfish x2, tomtate, school of vermilion, french angelfish, grouper below us	☐
7/9/2012 1:18:30 PM	32.386002	-79.043163	-47.8	HB	hard bottom; Rock; 1-2 m ledges, undercuts, west edge		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 1:19:18 PM	32.386047	-79.043095	-46.6	HB	XS Photo; hard bottom; Rock;		☑
					Species Observed: Fish - vermilion snapper	100s	
7/9/2012 1:20:40 PM	32.386262	-79.042947	-46.2	HB	hard bottom; Rock; transect N along west edge of ridge		☐
					Species Observed: Cni - Antipathidae;		
7/9/2012 1:21:00 PM	32.386299	-79.042895	-45.8			scamp, doctorfish, Calamus, YTR, tattler, wrasse, lionfish, blue angelfish, sharpnose puffer, scamp	☐
7/9/2012 1:21:27 PM	32.386352	-79.042837	-45.3	HB	XS Photo; hard bottom; Rock; 100% cover; dense diverse cover of invert; Non XS - Random Photos;		☐
					Species Observed: Fish - scamp grouper;		
7/9/2012 1:23:38 PM	32.386578	-79.042629	-46	HB	XS Photo; hard bottom; Rock;		☑
					Species Observed: Alg - Rhodophyta;		
					Species Observed: Fish - scamp grouper;		
					Species Observed: Cni - Hydroidolina;		
7/9/2012 1:25:00 PM	32.386695	-79.042541	-47			scamp, lionfish, scamp, tomtate, bank sea bass, blue angels, Calamus, short bigeye, lionfish x4, spotfin hogfish, AJ	☐
7/9/2012 1:25:02 PM	32.386707	-79.042555	-47.2	HB	hard bottom; Rock; Rock- wall; base of wall 52m; top 46 m; 6 m relief		☐
					Species Observed: Fish - scamp grouper;		
					Species Observed: Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 1:28:27 PM	32.387128	-79.042485	-51.2	HB	XS Photo; Rock; base of wall; base of wall on multibeam also		☑
					Species Observed		
					Fish - lionfish;	2	
7/9/2012 1:30:06 PM	32.387231	-79.042104	-47.2	HB	hard bottom; Rock- wall; west edge of ridge		☐
7/9/2012 1:30:52 PM	32.387278	-79.042025	-45.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	2	
					Cni - Antipathidae;	bu wh	
					Cni - Gorgonacea; Telesto		
					Fish - scamp grouper;	3	
7/9/2012 1:31:00 PM	32.387285	-79.042023	-45.1	HB	Human Debris - fishing line; top of ledge is about 46 m and bottom is 52 m.		☐
7/9/2012 1:31:00 PM	32.387285	-79.042023	-45.1			spotted goatfish, 2 big scamp, lionfish, 3 scamp, tomtate, Calamus, spotfin hogfish, lionfish, scamp?, grey angelfish, blue angelfish, sharpnose puffer, lionfish, squirrelfish, 4 scamp	☐
7/9/2012 1:33:01 PM	32.387625	-79.041805	-49.7	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
7/9/2012 1:35:18 PM	32.387776	-79.041589	-45.1	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish; 1		
					Fish - scamp grouper; 3		
7/9/2012 1:36:00 PM	32.387869	-79.041533	-46.6			18 lionfish, sharpnose puffer, purple reeffish, squirrelfish, sharpnose puffer, tomtate, spotfin butterfly, spotfin hogfish, possible longsnout butterfly, lionfish	☐
7/9/2012 1:37:39 PM	32.388103	-79.041301	-45.8	HB	XS Photo; hard bottom; Rock; end of transect line 4 start transect line 5 to N		☑
					Fish - lionfish; 20		
7/9/2012 1:40:03 PM	32.388243	-79.041056	-46.4	HB	XS Photo; hard bottom; Rock; on west edge of ridge; top; 47 m; Non XS - Random Photos; 2 m ledges, undercut slabs		☐
					Cni - Gorgonacea;		
					Fish - lionfish; 2		
					Alg - Phaeophyta;		
7/9/2012 1:42:29 PM	32.388587	-79.040924	-47.2	HB	XS Photo; hard bottom; Rock; Non XS - Random Photos;		☐
					Cni - Gorgonacea; Swiftia photo		
					Fish - graysby grouper		
					Fish - lionfish;		
7/9/2012 1:43:00 PM	32.388627	-79.040873	-47.2			graysby, lionfish, cubbyu, grey trigger, scamp, lionfish x2, Calamus, blue angel, graysby, 5-6 scamp, spotfin hogfish, shortbigeye, school of tomtates	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 1:43:59 PM	32.388697	-79.040825	-46.6	HB	hard bottom; Rock; west wall		☐
					Fish - scamp grouper;		
					Fish - lionfish;		
7/9/2012 1:44:48 PM	32.388739	-79.040781	-47.4	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;	4	
7/9/2012 1:46:00 PM	32.388787	-79.040782	-47.8			scamp, bigeye, lionfish, sharpnose puffer, lionfish, spotfin butt, lionfishx3, snowy grouper with yellow tail, lionfish x3, scamp, grey triggers, lionfish, scamp, lionfishx3, gag, lionfish, scampx3, spotfin butt, squirrelfish, cowfish	☐
7/9/2012 1:46:26 PM	32.388907	-79.040803	-49.1	HB	hard bottom; Rock; base of wall		☐
					Fish - scamp grouper;		
					Fish - lionfish;		
7/9/2012 1:47:33 PM	32.388937	-79.040671	-48.5	HB	XS Photo; hard bottom; Rock; cont transect along west wall		☑
					Fish - snowy grouper		
					Fish - lionfish;	4	
					Cni - Antipathidae;	dead	
7/9/2012 1:49:48 PM	32.389241	-79.040259	-46.6	HB	XS Photo; hard bottom; Rock; west wall; 1-2 m ledges		☑
					Fish - lionfish;	3	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - gag grouper		
7/9/2012 1:52:02 PM	32.389638	-79.039894	-46	HB	XS Photo; hard bottom; Rock; top edge, west wall; large rock slabs broken off edge of wall		☑
					Fish - lionfish;	3	
7/9/2012 1:53:00 PM	32.389750	-79.039822	-45.6			lionfish x3, blackbar soldierfish, graysby, scamp	☐
7/9/2012 1:54:19 PM	32.389865	-79.039679	-46.2	HB	XS Photo; hard bottom; Rock; west wall hd N; dropoff about 20 m wide		☑
					Por - Demospongiae; Callyspongia		
					Cni - Gorgonacea; Nicella	fan	
					Fish - scamp grouper;		
					Fish - tomtate;		
7/9/2012 1:56:36 PM	32.389982	-79.039320	-46.4	HB	XS Photo; hard bottom; Rock; top west wall		☑
					Fish - scamp grouper;	most 30-40 cm	
					Fish - lionfish;	3	
7/9/2012 1:57:00 PM	32.390084	-79.039279	-46.4			lionfish, yellowtail reeffish, lionfish x3, doctorfish, scamp, school of tomtates, lionfish x3, scamp, blue angelfish, lionfish	☐
7/9/2012 1:58:57 PM	32.390358	-79.039261	-47.2	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 1:59:42 PM	32.390492	-79.039171	-46.2	HB	hard bottom; Rock; top edge west wall; 47 m top		☐
7/9/2012 2:01:12 PM	32.390556	-79.038877	-46.2	HB	XS Photo; hard bottom; Rock; middle of ridge, hd across		☑
					Fish - lionfish;		
					Alg - Rhodophyta;		
					Cni - Gorgonacea; Nicella		
7/9/2012 2:03:00 PM	32.390798	-79.038689	-46.8			squirrelfish, sharpnose puffer, lionfish, school of tomtates, porgy, lionfish, red porgys, vermilion	☐
7/9/2012 2:03:24 PM	32.390877	-79.038686	-46	HB	XS Photo; hard bottom; Rock; back on top of west wall; Non XS - Random Photos;		☐
					Fish - lionfish;		
7/9/2012 2:05:17 PM	32.390990	-79.038480	-46.8	HB	hard bottom; Rock; Non XS - Random Photos; change DVD		☐
					Cni - Gorgonacea; Diodogorgia		
7/9/2012 2:07:00 PM	32.391005	-79.038489	-46.8			yellowtail reeffish, 2 lionfish, school of vermilion, lionfish, spotfin hogfish, squirrelfish, lionfish, blackbar soldierfish, school of tomtates, cowfish, lionfish x4, graysby, lionfishx2, porgy, puffer, lionfish, calamus, lionfish x3	☐
7/9/2012 2:07:48 PM	32.391175	-79.038492	-46.8	HB	hard bottom; Rock; top west wall; Non XS - Random Photos;		☐
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tomtate;		
					Fish - lionfish;	6	
7/9/2012 2:10:02 PM	32.391483	-79.038232	-46.8	HB	hard bottom; Rock; top of west wall; XS Photo; 47 m top; 3 m relief, rock slabs		☑
					Fish - graysby grouper		
					Fish - lionfish;	4	
					Fish - tomtate;		
7/9/2012 2:12:39 PM	32.391763	-79.037832	-47	HB	XS Photo; hard bottom; Rock; west wall		☑
					Fish - lionfish;	3	
7/9/2012 2:13:00 PM	32.391777	-79.037832	-47.4			french angelfish, 2lionfish, red porgy, 2 lionfish, balloonfish/porcupineifhs, banded butterflyfish, white grunt, 10 scamp, graysby, 2 lionfish	☐
7/9/2012 2:13:24 PM	32.391888	-79.037844	-47.6	SB	soft bottom; 50..5 m at base; sand		☐
7/9/2012 2:14:11 PM	32.391925	-79.037740	-49.5	HB	hard bottom; Rock; Non XS - Random Photos;		☐
					Fish - banded butterflyfish	photo	
					Fish - lionfish;	5	
7/9/2012 2:15:36 PM	32.392020	-79.037662	-47.2	HB	XS Photo; hard bottom; Rock; west wall; 47-50 m		☑
					Fish - white grunt		
					Fish - scamp grouper;	9	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 2:16:53 PM	32.392062	-79.037690	-48.7	HB	hard bottom; Rock; base of wall, sand, slabs; Non XS - Random Photos;		☐
					Fish - banded butterflyfish	photos	
7/9/2012 2:18:16 PM	32.392110	-79.037577	-45.8	HB	XS Photo; hard bottom; Rock; top west wall		☑
					Fish - lionfish;		
7/9/2012 2:19:00 PM	32.392291	-79.037396	-47.4			snowy?, blackbar soldierfish, lionfish, spotted goatfish, school of tomtates, lionfish, calamus porgy	☐
7/9/2012 2:20:33 PM	32.392490	-79.037181	-48.3	HB	XS Photo; hard bottom; Rock; west wall; Non XS - Random Photos; 50 m base of wall		☐
					Fish - lionfish;		
					Fish - tomtate;		
7/9/2012 2:22:51 PM	32.392644	-79.036935	-46.2	HB	XS Photo; hard bottom; Rock; wall, single ledge top 47, base 50		☑
					Fish - lionfish;	4	
					Fish - graysby grouper		
					Fish - tomtate;		
					Cni - Gorgonacea; Telesto		
7/9/2012 2:25:09 PM	32.392954	-79.036525	-46.6	HB	XS Photo; hard bottom; Rock;		☑
7/9/2012 2:26:53 PM	32.393117	-79.036283	-46.2	HB	hard bottom; Rock; end of transect Line 5 on west side of ridge; transect across ridge to Line 6 along the east side of ridge		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 2:28:27 PM	32.393060	-79.036098	-45.3	HB	pavement; hard bottom; middle of ridge; flat pavement; Non XS - Random Photos; 1 m ledge outcrop		☐
					Species Observed		
					Fish - scamp grouper;	2	
					Cni - Gorgonacea; Nicella	photo	
7/9/2012 2:30:31 PM	32.393191	-79.035916	-46.2	HB	hard bottom; pavement; middle of ridge on multibeam		☐
					Fish - lionfish;	2	
7/9/2012 2:32:25 PM	32.393271	-79.036053	-46.2	HB	XS Photo; hard bottom; Rock; still on west side of ridge		☑
					Fish - lionfish;	6	
7/9/2012 2:33:00 PM	32.393207	-79.035888	-47.2	HB	working our way over to the east side fo the ledge		☐
7/9/2012 2:33:44 PM	32.393194	-79.035672	-47.6	HB	hard bottom; pavement; sediment veneer; top of ridge		☐
7/9/2012 2:34:00 PM	32.393250	-79.035609	-47.8			cubbyu, filefish, puffer, scamp, lionfish x3, sharpnose puffer, school of grey triggerfish, lobster, doctorfish, school of tomtates, lionfish, blue angel, tattler	☐
7/9/2012 2:34:39 PM	32.393245	-79.035447	-48.1	HB	XS Photo; soft bottom; near east side of ridge; flat, 50 cm rock slabs on sediment		☑
					Fish - scamp grouper;		
					Art - Panularis argus		
					Fish - grey triggerfish	10+	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;	3	
7/9/2012 2:36:29 PM	32.393400	-79.035212	-48.1	HB	hard bottom; pavement; XS Photo; start transect Line 6 heading NE along east side of ridge; rock pavement on top, rock slabs, less relief than west side; Non XS - Random Photos; 1-2 m relief		☐
					Cni - Gorgonacea; Nicella	photo	
7/9/2012 2:39:00 PM	32.393699	-79.034876	-46.6			scamp, AJ, reef butt, spotfin hogfish, lionfish, Calamus, 2 gag, lionfish, squirrelfish	☐
7/9/2012 2:39:17 PM	32.393716	-79.034894	-47.4	HB	XS Photo; hard bottom; east side; Non XS - Random Photos;		☐
					Por - Demospongiae; Callyspongia		
					Fish - gag grouper	2	
					Alg - Chlorophyta; Caulerpa?		
					Cni - Gorgonacea; Nicella		
7/9/2012 2:41:32 PM	32.393923	-79.034605	-47.4	HB	XS Photo; hard bottom; Non XS - Random Photos;		☐
					Por - Demospongiae; Spirastrellidae		
					Fish - lionfish;	photo	
					Alg - Phaeophyta; Sargassum		
					Fish - gag grouper	1	
					Cni - Gorgonacea; Diodogorgia		
7/9/2012 2:43:45 PM	32.394112	-79.034454	-46.6	HB	XS Photo; hard bottom; Rock; east wall		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	**ROV 7**	**9-VII-12-3**	**South Carolina, Edisto MPA, Station 11, inside MPA, north ridge**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Phaeophyta; Sargassum		
					Fish - tomtate;	lg schools	
					Fish - gag grouper		
7/9/2012 2:45:00 PM	32.394260	-79.034343	-44.7			lionfish x3, red porgy, lionfish, scamp, reef butterflyfish, scorpionfish, scamp, YTR, tomtate, lionfish, short bigeye, sharpnose puffer, graysby	☐
7/9/2012 2:45:39 PM	32.394235	-79.034193	-47.6	HB	hard bottom; Rock; near base east wall; 49 m		☐
					Fish - lionfish;	2	
7/9/2012 2:46:07 PM	32.394231	-79.034128	-47.4	HB	XS Photo; hard bottom; Rock; Non XS - Random Photos;		☐
					Cni - Stichopathes;		
					Fish - tomtate;		
					Alg - Chlorophyta; Codium		
					Fish - lionfish;	2	
					Cni - Gorgonacea; Nicella		
7/9/2012 2:48:21 PM	32.394500	-79.034034	-45.8	HB	XS Photo; hard bottom; Rock; west slope; 1 m ledges, low relief slabs, Non XS - Random Photos		☐
					Fish - tomtate;		
					Fish - lionfish;		
					Fish - scamp grouper;		
7/9/2012 2:50:04 PM	32.394547	-79.033651	-47.8	HB	hard bottom; Rock; pavement; base of east slope; top 47 m, base 50 m		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 2:51:03 PM	32.394585	-79.033413	-47.4	HB	XS Photo; Non XS - Random Photos;Rock; hard bottom; sediment at base of wall		☐
					Fish - graysby grouper		
					Fish - lionfish;	3	
					Por - Demospongiae; Agelas?		
7/9/2012 2:52:00 PM	32.394774	-79.033458	-49.3			lionfish x4, red porgy, bicolor damselfish, lionfish	☐
7/9/2012 2:52:47 PM	32.394882	-79.033366	-47.2	HB	XS Photo; hard bottom; Rock; east slope; low relief slabs <1 m		☑
					Fish - lionfish;	2	
					Fish - tomtate;		
7/9/2012 2:54:00 PM	32.394871	-79.033084	-47.8	HB	total relief of east ridge is 2 m.		☐
7/9/2012 2:55:00 PM	32.394955	-79.032917	-48.7			scamp, squirrelfish, tomtate, spotfin hogfish, blue angelfish, lionfish, Calamus, red porgy, grey trigger, white grunt, 3 scamp	☐
7/9/2012 2:55:04 PM	32.394966	-79.032927	-48.5	HB	XS Photo; hard bottom; Rock; near base		☑
					Fish - lionfish;		
					Fish - porgy		
					Por - Demospongiae;	tan cake	
					Fish - tomtate;		
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes		Species Notes	XS Photo
					Species Observed			
7/9/2012 2:57:17 PM	32.395304	-79.032842	-46.8	HB	XS Photo; hard bottom; Rock; top of east ridge; 47 m			☑
					Fish - scamp grouper;	3		
					Fish - lionfish;	2		
7/9/2012 2:58:00 PM	32.395364	-79.032835	-47.4				2 lionfish,	☐
7/9/2012 2:59:35 PM	32.395547	-79.032600	-46.4	HB	XS Photo; hard bottom; Rock; east side; slabs < 1m relief			☑
					Fish - scamp grouper;			
					Fish - lionfish;	2		
					Fish - graysby grouper			
7/9/2012 3:01:00 PM	32.395552	-79.032459	-47.6				graysby, lionfish, red porgy, Calamus, school of tomtate, cubbyu, about 10 scamp	☐
7/9/2012 3:01:56 PM	32.395480	-79.032390	-49.3	HB	XS Photo; hard bottom; Rock;			☑
					Fish - cubyu			
					Cni - Hydroidolina;			
					Fish - tomtate;			
					Cni - Stichopathes;			
					Fish - lionfish;			
					Por - Ircinia campana;			

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 3:03:35 PM	32.395511	-79.032331	-48.5	HB	hard bottom; Rock;		☐
					Fish - scamp grouper;	8	
7/9/2012 3:04:00 PM	32.395520	-79.032337	-48.5			3 lionfish, scamp, 2 cornetfish, cubbyu, school of vermilion & tomtate, 4 lionfish, 3scamp	☐
7/9/2012 3:04:17 PM	32.395575	-79.032344	-47.6	HB	XS Photo; hard bottom; Rock; east slope		☑
					Fish - lionfish;		
					Fish - scamp grouper;		
					Fish - vermilion snapper	dense	
7/9/2012 3:06:27 PM	32.396051	-79.031989	-48.1	HB	XS Photo; hard bottom; Rock; new DVD		☑
					Fish - lionfish;	4	
					Fish - scamp grouper;	3	
7/9/2012 3:08:00 PM	32.396140	-79.031595	-47.4			lionfish, squirrelfish, bandtail puffer, 3 scamp, Calamus, spotfin hogfish, tomtate, short bigeye, scamp, Ajs, scamp, squirrelfish, blackbar soldierfish, lionfish, cubbyu, lionfishx2, bandtail puffer, lionfishx3, cowfish, scampx2, lionfish	☐
7/9/2012 3:10:32 PM	32.396238	-79.031518	-48.7	HB	XS Photo; hard bottom; Rock; east slope		☑
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 3:10:49 PM	32.396203	-79.031442	-49.7	HB	hard bottom; Rock; east slope;Non XS - Random Photos;		☐
					Fish - scamp grouper;	30 cm	
7/9/2012 3:11:50 PM	32.396311	-79.031399	-47.8	HB	XS Photo; hard bottom; Rock; east slope;Non XS - Random Photos;		☐
					Fish - lionfish;		
					Ech - Holothuroidea;	white ~20 cm	
					Fish - scamp grouper;	50 cm	
					Fish - amberjack		
					Fish - tomtate;		
7/9/2012 3:14:06 PM	32.396517	-79.031188	-48.3	HB	XS Photo; hard bottom; Rock; Non XS - Random Photos;		☐
					Por - Demospongiae;	orange EB	
					Cni - Stichopathes;		
					Fish - lionfish;	3	
7/9/2012 3:15:03 PM	32.396630	-79.031240	-48.1	HB	hard bottom; Rock; large boulders 3 m relief		☐
					Fish - amberjack		
					Fish - lionfish;	2	
					Fish - scamp grouper;	2	
7/9/2012 3:16:22 PM	32.396727	-79.030845	-46	HB	XS Photo; hard bottom; Rock; inbetween crevises of 2 rocks		☑
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tomtate;		
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Plexauridae	purp plex	
					Fish - lionfish;	1	
7/9/2012 3:17:50 PM	32.396900	-79.030805	-46.8	HB	hard bottom; Rock; flat pavement low relief with patches of sand; on the east ridge of the MB		☐
					Fish - tomtate;		
7/9/2012 3:18:51 PM	32.397158	-79.030847	-46.8	HB	XS Photo; hard bottom; Rock; soft bottom - 50%;		☑
					Fish - scorpion fish	red - photo	
7/9/2012 3:20:00 PM	32.397144	-79.030581	-48.1			scorpionfish, puffer, lionfish, cubbyu	☐
7/9/2012 3:20:52 PM	32.397167	-79.030490	-48.7	HB	XS Photo; hard bottom; soft bottom; Rock;		☑
					Cni - Gorgonacea; Nicella?		
					Cni - Gorgonacea; Plexauridae	purple	
					Alg - Phaeophyta; Sargassum		
					Fish - puffer		
7/9/2012 3:23:07 PM	32.397443	-79.030405	-47.6	HB	XS Photo; soft bottom; rubble; Non XS - Random Photos;		☐
					Cni - Gorgonacea; Ellisella	whips - YE	
					Fish - graysby grouper		
					Fish - reef butterflyfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	ROV 7	9-VII-12-3	South Carolina, Edisto MPA, Station 11, inside MPA, north ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - red porgy		
					Fish - spotfin hogfish		
					Cni - Stichopathes;		
					Fish - lionfish;		
					Fish - tatler;		
7/9/2012 3:24:00 PM	32.397434	-79.030220	-48.9			yellowhead wrasse, sharpnose puffer	☐
7/9/2012 3:25:24 PM	32.397516	-79.029998	-48.1	HB	XS Photo; hard bottom; East base of the ridge; east base is 50 m; scattered rock slabs; .3 m total relief, mostly sediment		☑
					Fish - lionfish;	3	
					Fish - filefish		
					Fish - yellowhead wrasse		
					Fish - tomtate;		
					Fish - doctorfish?	or surgeonfish	
7/9/2012 3:27:24 PM	32.397816	-79.029775	-48.9	SB	Non XS - Random Photos;soft bottom;		☐
					Cni - Stichopathes;		
7/9/2012 3:27:39 PM	32.397859	-79.029767	-47.8	SB	XS Photo; soft bottom; off ledge on the east side of the ridge		☑
					Ech - Holothuroidea;	white - barbles around outside	
					Fish - tatler;		
					Cni - Gorgonacea; Nicella		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207093	**ROV 7**	**9-VII-12-3**	**South Carolina, Edisto MPA, Station 11, inside MPA, north ridge**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Phaeophyta; Sargassum		
					Fish - lionfish;		
					Por - Demospongiae;	yellow erect branching	
7/9/2012 3:29:56 PM	32.398149	-79.029493	-47.4	SB	XS Photo; east base soft bottom; Recover; Off bottom;		☑
7/9/2012 3:30:00 PM					end dive		☐
7/9/2012 3:34:18 PM					stop DVD and HD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/9/2012 4:15:28 PM					Objectives: ROV Dive 8, Site #- 9-VII-12-4. Target Site – outside and north of South Carolina Edisto MPA; 32°25.9200'N; 78°57.9000'W; 50 m. ROV survey outside MPA site; ground truth multibeam sonar of site. Conduct one video/photo transect along west edge of NE-SW oriented ridge of multibeam map.		☐
7/9/2012 4:26:00 PM					Launch (start dive);		☐
7/9/2012 4:27:00 PM					Start Tape;		☐
7/9/2012 4:28:00 PM	32.431799	-78.964958	-31	HB	On bottom; Rock pavement; large slabs low relief <50 cm; 100% cover HB		☐
					Fish - blue angelfish;		
					Cni - Hydroidolina;		
					Fish - hogfish		
					Fish - yellowtail reeffish;		
					Fish - lionfish;		
					Cni - Stichopathes;		
7/9/2012 4:29:00 PM	32.431547	-78.964987	-50.1	HB	flat hardbottom	blue angel, hogfish, lions, stichopathes	☐
7/9/2012 4:30:38 PM	32.431734	-78.965059	-49.5	HB	on transect line HD NE; hard bottom;		☐
					Cni - Gorgonacea;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 4:31:00 PM	32.431786	-78.965033	-50.1			reef butterflies, yellowtail reef fish, purple reeffsih, sargassum, sharpnose puffer	☐
7/9/2012 4:31:29 PM	32.431818	-78.964989	-49.5	HB	XS Photo; hard bottom; pavement; Low relief outcrops Slope- flat;		☑
					Cni - Gorgonacea;	purple	
					Alg - Phaeophyta; Sargassum		
					Cni - Hydroidolina;		
7/9/2012 4:33:00 PM	32.431906	-78.964698	-50.3			tomtate, blue angel, calamus, lion, spotfin hog, reef butterflies	☐
7/9/2012 4:33:24 PM	32.431911	-78.964587	-50.3	HB	Non XS - Random Photos; 50% cover of HB		☐
					Cni - Gorgonacea;	purple; small; numerous	
					Cni - Antipathidae;	bushy white	
					Por - Ircinia campana;		
7/9/2012 4:34:09 PM	32.431873	-78.964512	-49.9	HB	XS Photo; hard bottom; Rock;		☑
					Fish - blue angelfish;		
7/9/2012 4:34:38 PM	32.431894	-78.964412	-49.7	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Fish - spotfin hogfish		
7/9/2012 4:35:00 PM	32.431919	-78.964358	-50.3			lion, purple reeffish, sharpnose puffer, tattler, bigeye, blue angel	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 4:35:54 PM	32.432092	-78.964338	-48.9	HB	XS Photo; hard bottom; Rock; 1-2 m scattered boulders, .5m relief		☑
					Species Observed		
					Por - Demospongiae;	tan cake	
					Por - Ircinia campana;		
					Por - Demospongiae; Aplysina	lace sponges	
					Fish - short bigeye;		
					Fish - blue angelfish;	2	
					Fish - lionfish;	1	
7/9/2012 4:37:00 PM	32.432260	-78.964456	-49.9			purple reeffish, wrasse bass?, SNP, calamus, green ban wrasse, reef butterflies, tattlers	☐
7/9/2012 4:38:07 PM	32.432346	-78.964397	-49.5	HB	XS Photo; hard bottom; Rock;		☑
7/9/2012 4:39:05 PM	32.432299	-78.964215	-50.1	HB	Non XS - Random Photos; hard bottom; rubble;		☐
					Cni - Gorgonacea;	red EB	
7/9/2012 4:40:01 PM	32.432378	-78.964072	-50.1	HB	hard bottom; pavement; Low relief outcrops ,50cm; rubble; 80% cover of HB; MB shows us along the east edge of the ridge; 30 m E of the XS line	Dominate species are: Cni - Stichopathes; Cni - Hydroidia; Por - Demospongiae;	☐
					Cni - Hydroidolina;		
					Cni - Gorgonacea;	sm purp	
					Fish - porgy		
7/9/2012 4:41:00 PM	32.432545	-78.964029	-49.9	HB	more relief	SNPs, bicolor damsel, 10+ scamp, lions, tomtates, blue angel, sunshinefish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 4:42:13 PM	32.432797	-78.963986	-49.5	HB	hard bottom; pavement; XS Photo; Non XS - Random Photos;		☐
					Fish - scamp grouper;	10; Random Photos	
					Fish - reef butterflyfish		
7/9/2012 4:44:50 PM	32.433078	-78.963875	-48.7	HB	XS Photo; hard bottom; pavement; scattered boulders; on transect line		☑
					Por - Demospongiae;	50 cm; flat top vase sponge	
					Por - Demospongiae; Axinellida	orange	
					Cho - Ascidacea; Eudistoma		
					Fish - lionfish;	3	
7/9/2012 4:46:00 PM	32.433236	-78.963795	-49.1			reef butterflies, tattler, scamp, calamus, lion, purple reeffish, bigeye, spotfin hogs, stichopathes	☐
7/9/2012 4:46:00 PM	32.433236	-78.963795	-49.1	HB	moderate relief hard bottom	spotted goatfish, tomtate, squirrelfish, SNPs, purple reeffish, scamp, spotfin hog, reef butterflies	☐
7/9/2012 4:47:07 PM	32.433277	-78.963647	-49.3	HB	XS Photo; hard bottom; pavement;		☑
					Fish - lionfish;	1	
					Fish - scamp grouper;	40 cm x2	
7/9/2012 4:47:59 PM	32.433425	-78.963581	-49.3	HB	Non XS - Random Photos; hard bottom; pavement;		☐
					Fish - short bigeye;		
					Fish - scamp grouper;	5	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 4:49:47 PM	32.433596	-78.963562	-48.5	HB	XS Photo; hard bottom; Rock; pavement; low relief ledges and scattered boulders;		☑
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
					Cni - Gorgonacea;		
					Fish - scamp grouper;		
7/9/2012 4:52:00 PM	32.434021	-78.963238	-48.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - purple reeffish		
					Por - Demospongiae; Callyspongia vaginalis		
					Fish - scamp grouper;	catspaw	
					Fish - tomtate;		
7/9/2012 4:53:00 PM	32.434114	-78.963156	-51			vermilions, squirrelfish, lion, tomtate, spotfin hogs, scamp, purple reeffish, blue angel	☐
7/9/2012 4:53:02 PM	32.434123	-78.963162	-50.6	HB	Non XS - Random Photos; hard bottom; Rock; boulders >.5 m tall		☐
					Fish - scamp grouper;		
					Fish - lionfish;	5	
7/9/2012 4:54:37 PM	32.434284	-78.962953	-48.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	1	
					Fish - tomtate;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 4:55:00 PM	32.434336	-78.962903	-49.1	HB	moderat-high relief hard bottom	bigeye, tomtates, spotfin hogs, reef butterflies, scamp, lions, blue & queen angels	☐
7/9/2012 4:55:47 PM	32.434441	-78.962792	-49.9	HB	Non XS - Random Photos; hard bottom; Rock; slabs and boulders; ~1m relief 48.5 m on top		☐
					Species Observed		
					Fish - scamp grouper;		
					Fish - blue angelfish;		
					Fish - lionfish;	2	
7/9/2012 4:57:04 PM	32.434558	-78.962689	-47.2	HB	XS Photo; hard bottom; Rock; MB shows narrow ridge on the HB were on the west side ~100 m wide;		☑
					Fish - scamp grouper;		
					Fish - queen angelfish		
7/9/2012 4:59:00 PM	32.434838	-78.962403	-48.9			tomtates, spotfin hogs, french angels, blue angels, gag, AJ, sand tile, calamus, purple reeffish,	☐
7/9/2012 4:59:16 PM	32.434841	-78.962355	-48.9	HB	XS Photo; hard bottom; Rock;		☑
7/9/2012 5:00:03 PM	32.434908	-78.962261	-51	HB	hard bottom; Rock; West side of the ridge; rock slabs that have broken off the slope. ~3m relief base of slope at 52 m		☐
7/9/2012 5:01:54 PM	32.435240	-78.962070	-49.3	HB	XS Photo; soft bottom; MB shows the west edge of the reef; xs along west face; flat sand with rock slabs;		☑
					Fish - sand tilefish;	live	
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 5:03:49 PM	32.435593	-78.961435	-51.4	HB	XS Photo; soft bottom; Rock; along the base of the slope		☑
7/9/2012 5:04:00 PM	32.435626	-78.961436	-49.1	HB	broken low to moderate relief HB	calamus, vermilion snapper	☐
7/9/2012 5:05:00 PM	32.435697	-78.961322	-51.8	HB	Non XS - Random Photos; soft bottom; Rock; high relief face of rock piles		☐
					Ann - Filograna;		
					Cni - Stichopathes;		
					Cni - Antipathidae;	fans	
					Fish - lionfish;	2	
					Fish - blue angelfish;		
7/9/2012 5:05:00 PM	32.435697	-78.961322	-51.8	HB	high relief HB	lions, blue angels, purple reeffish, scamps, calamus, AJ, spotfin hogs, bigeye	☐
7/9/2012 5:07:02 PM	32.435893	-78.961012	-48.3	HB	Non XS - Random Photos; high relief HB		☐
					Fish - scamp grouper;		
					Cni - Gorgonacea;		
					Cni - Hydroidolina;	white feathery	
					Fish - amberjack		
7/9/2012 5:08:00 PM	32.435971	-78.961010	-50.3	HB	high relief hard bottom	gag, SNPs, scamp, lion, tomtates, spotted goatfish, real bigeye (not short)	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 5:08:00 PM	32.435971	-78.961010	-50.3	HB	high relief hard bottom	scrawled cowfish, tomtates, silversides, calamus, squirrelfish, lions, graysby, real bigeye, blue angel, spotfin hog, scamp, calamus, tomtates,	☐
7/9/2012 5:08:18 PM	32.436031	-78.960974	-51.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;		
					Fish - spotfin hogfish		
					Fish - tomtate;		
7/9/2012 5:09:06 PM	32.436134	-78.960936	-50.8	HB	Non XS - Random Photos; hard bottom; Rock;		☐
7/9/2012 5:09:40 PM	32.436117	-78.960910	-50.3	HB	Non XS - Random Photos; gag; 2-3 m relief		☐
					Fish - lionfish;		
					Fish - gag grouper	60 cm; photos	
					Fish - scamp grouper;		
7/9/2012 5:10:31 PM	32.436221	-78.960853	-51.2	HB	XS Photo; hard bottom; Rock; right on the transect line HD NE along west edge of ridge		☑
					Fish - lionfish;	5	
					Cho - Ascidacea; Didemnidae	didemnid	
					Fish - bigeye	not short	
7/9/2012 5:13:09 PM	32.436508	-78.960390	-49.3		XS Photo;		☑
					Fish - bigeye	not short	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;	5	
					Fish - graysby grouper		
7/9/2012 5:15:04 PM	32.436759	-78.960047	-49.9	HB	XS Photo; hard bottom; Rock; west face of ridge		☑
					Fish - scamp grouper;	2	
7/9/2012 5:17:00 PM	32.437117	-78.959681	-52.6	HB	patchy rocks	lion, goatfish, purple reeffish, spotfin hogs, SNPs, reef butterflies, porgies, calamus	☐
7/9/2012 5:17:18 PM	32.437148	-78.959652	-52.8	SB	XS Photo; soft bottom; base of wall		☑
7/9/2012 5:18:00 PM	32.437229	-78.959559	-52.2		west edge of feature	hogfish, spotfin hogs, reef butterflies, calamus, red porgy, scamp, tomtates	☐
7/9/2012 5:18:31 PM	32.437353	-78.959529	-51	HB	Non XS - Random Photos; soft bottom; Rock; base of wall; boulders rock slabs and sediment in between;		☐
					Fish - hogfish	Non XS - Random Photos;	
7/9/2012 5:19:38 PM	32.437437	-78.959485	-52.2	HB	XS Photo; soft bottom; Rock;		☑
7/9/2012 5:20:00 PM	32.437444	-78.959456	-52.6		back on wall	gag, tomtates, scamp, graysby?, tomtates, 4 hogs, lions, vermilion snapper	☐
7/9/2012 5:20:17 PM	32.437457	-78.959404	-51.6	HB	hard bottom; Rock; base of wall; on MB at the west face of the ridge; ~30 m east of line; line is taking us to the west of the ridge;		☐
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	ROV 8	9-VII-12-4	South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/9/2012 5:21:57 PM	32.437672	-78.958897	-50.6	HB	XS Photo; hard bottom; Rock; 48.5 - 52 at bottom		☑
					Fish - hogfish	4	
					Fish - blue angelfish;		
					Fish - scamp grouper;		
					Fish - lionfish;		
7/9/2012 5:23:00 PM	32.437709	-78.958843	-48.3			tomtates, lions, blue angels, tomtates,	☐
7/9/2012 5:23:21 PM	32.437772	-78.958741	-48.7	HB	Non XS - Random Photos; hard bottom; Rock; off the transect line we are going to continue same line to end of DVD 1… then pulling up.		☐
					Fish - lionfish;		
7/9/2012 5:24:00 PM	32.437864	-78.958608	-48.5		on top of ridge	scamp, lions, tomtates,	☐
7/9/2012 5:24:42 PM	32.437880	-78.958505	-47.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;		
					Cni - Stichopathes;		
					Por - Demospongiae;	bright yelow large on bottom	
					Cni - Gorgonacea; Nicella		
7/9/2012 5:25:00 PM	32.437935	-78.958568	-51.2		west edge of feature	sand tile, calamus, tomtates, reef butterflies, hydroids,	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207094	**ROV 8**	**9-VII-12-4**	**South Carolina, Edisto MPA, Station 12, outside and north of MPA, NE-SW oriented ridge**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/9/2012 5:25:36 PM	32.438183	-78.958651	-52	HB	soft bottom; rubble; base of wall; Non XS - Random Photos;		☐
					Species Observed: Por - Demospongiae; Axinellida	red	
7/9/2012 5:26:42 PM	32.438303	-78.958431	-52.6	HB	XS Photo; soft bottom; Rock; base of ridge on west side;		☑
7/9/2012 5:27:00 PM	32.438358	-78.958390	-52		end of dive		☐
7/9/2012 5:27:37 PM	32.438445	-78.958295	-52.4		Recover; End dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	**ROV 9**	**10-VII-12-2**	**South Carolina, Edisto MPA, Station 14, south ridge inside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 7:20:22 AM					Objectives: ROV Dive 9, Site #- 10-VII-12-2. Target Site – South Carolina, Edisto MPA; Target: 32° 20.5800'N; 79°03.1200'W; 60 m. ROV survey inside MPA; ground truth multibeam sonar of site. Conduct two S to N video/photo transects along middle and edge of south ridge.		☐
7/10/2012 7:50:40 AM					Launch (start dive);		☐
7/10/2012 7:53:20 AM				HB	starting DVD and Harddrive; On the Edisto MPA off SC.		☐
7/10/2012 7:54:54 AM					bottom; water column is clear - no nephloid layer; Non XS - Random Photos;		☐
7/10/2012 7:55:30 AM	32.335920	-79.052508	-53.7	HB	On bottom; hard bottom; patchy low relief pavement; rubble; 50% cover; ledge: 30 cm		☐
					Cni - Gorgonacea;	10 cm purple	
					Fish - lionfish;	2	
					Alg - Cyanophyta;		
					Por - Demospongiae;		
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
7/10/2012 7:56:00 AM	32.335864	-79.052737	-54.3	HB	pavement	tattler	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 7:57:00 AM	32.335971	-79.052998	-54.9		1-2m ridges	2 lionfish, spotfin hogfish, reef butterflyfish, Calamus, sharpnose puffer, queen angel, soldierfish, greenband wrasse, purple reeffish, 5 lionfish	☐
7/10/2012 7:57:28 AM	32.336001	-79.052979	-53.9	HB	XS Photo; Starting xs 1; we are on the xs line heading north; hard bottom; 50 cm relief; Rock; 70 % cover; 54.25 m on top of ledge		☑
					Por - Ircinia strobilina;		
					Fish - cardinal soldierfish		
					Cho - Ascidacea; Didemnidae	- encrusting	
					Alg - Phaeophyta; Sargassum		
7/10/2012 7:59:53 AM	32.336247	-79.052984	-52.4	HB	XS Photo; 50 cm ledges; 80 % cover of rock		☑
					Cni - Gorgonacea; Plexauridae	purp plex	
					Fish - squirrelfish		
					Fish - cowfish		
					Fish - lionfish;	3	
					Cho - Ascidacea; Didemnidae	dense cover, small knobby white	
					Ann - Filograna;		
					Cni - Gorgonacea; Ellisellidae	whips	
					Cni - Stichopathes;		
7/10/2012 8:00:00 AM	32.336263	-79.052986	-53.1			2 cowfish, squirrelfish, wrasses, Calamus, scrawled ? Cowfish, sharpnose puffer	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 8:01:43 AM	32.336597	-79.052897	-52.4	SB	more sandy here; according to MB we are east base of the ledge		☐
					Alg - Cyanophyta;		
					Cni - Gorgonacea;	small	
7/10/2012 8:02:14 AM	32.336673	-79.052899	-50.6		XS Photo;		☑
					Cni - Stichopathes;		
					Fish - Calamus porgy		
					Cni - Gorgonacea; Ellisella	whips white - EB	
					Cni - Gorgonacea; Ellisella	whips orange - EB	
					Fish - sharpnose puffer		
					Cni - Gorgonacea; Nicella	purple red 20 cm	
7/10/2012 8:04:00 AM	32.337018	-79.052830	-50.6			bank butterfly, sharpnose puffer, blue angel, short bigeye, Ajs, Calamus, squirrelfish, doctorfish, blue angelfish, reef butterflyfish, 2 lionfish, 2 Calamus, reef butterflyfish	☐
7/10/2012 8:04:32 AM	32.337022	-79.052728	-49.7	HB	XS Photo; hard bottom; pavement; the south east slope of the HB on the MB		☑
					Fish - blue angelfish;		
					Fish - sharpnose puffer	a couple	
					Fish - short bigeye;		
					Cni - Tanacetipathes;		
					Cni - Hydroidolina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - Chaetodon aya		
7/10/2012 8:06:48 AM	32.337334	-79.052735	-49.7	HB	XS Photo; hard bottom; pavement;		☑
					Cni - Stichopathes;		
					Fish - Calamus porgy		
7/10/2012 8:07:55 AM	32.337497	-79.052664	-50.6	HB	soft bottom sand patch with rubble; and 50% cover of low relief HB		☐
					Alg - Cyanophyta;		
					Fish - greater amberjack		
					Fish - Calamus porgy		
7/10/2012 8:09:02 AM	32.337606	-79.052656	-49.7		XS Photo;		☑
					Por - Demospongiae; Callyspongia vaginalis		
7/10/2012 8:09:56 AM	32.337822	-79.052634	-50.3		Non XS - Random Photos;		☐
					Cni - Gorgonacea; Nicella?	red purple; 30 cm Non XS - Random Photos; fan	
					Fish - reef butterflyfish		
7/10/2012 8:10:23 AM	32.337826	-79.052611	-50.3	HB	hard bottom; Rock; Low relief pavement; no ledges; 70% cover		☐
					Fish - lionfish;	2	
7/10/2012 8:11:17 AM	32.337921	-79.052588	-49.5		XS Photo; on transect HD North;		☑
					Ann - Filograna;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 8:12:50 AM	32.338085	-79.052589	-51	SB	soft bottom; sand patch; 51.5 m in the SB 30-80% low relief knolls		☐
7/10/2012 8:13:00 AM	32.338100	-79.052574	-51.4	HB	low relief knolls	yellowtail reeffish, sharpnose puffer, wrasses, tattler, Calamus	☐
7/10/2012 8:13:45 AM	32.338196	-79.052554	-49.3	HB	XS Photo; soft bottom; rubble;		☑
					Cni - Hydroidolina;	white feathery	
					Sed - triggerfish nest		
7/10/2012 8:14:47 AM	32.338404	-79.052466	-49.3		Non XS - Random Photos;		☐
					Cni - Gorgonacea; Ellisella	sparsley branched; light pink	
					Fish - wrasse	small	
					Ann - Filograna;	encrusted with Alg - Cyanophyta;	
					Cni - Stichopathes;		
					Fish - tatler;		
7/10/2012 8:16:31 AM	32.338572	-79.052471	-50.3	SB	XS Photo; soft bottom;	Alg - Cyanophyta;	☑
					Fish - porgy		
7/10/2012 8:18:14 AM	32.338898	-79.052506	-50.1	HB	hard bottom; pavement; low relief; soft bottom;		☐
7/10/2012 8:19:00 AM	32.338879	-79.052533	-49.9			lionfish, reef butterfly, spotfin butterflyfish, wrasse	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 8:19:09 AM	32.338939	-79.052477	-48.9	HB	XS Photo; hard bottom; pavement; with sand veneer		☑
					Species Observed		
					Fish - lionfish;	1	
7/10/2012 8:20:46 AM	32.339302	-79.052507	-49.5	HB	soft bottom; multibeam middle section of the low relief HB; pavement; soft bottom; <.5 m relief; rounded knolls of HB. 20-50% cover	dominated by pink EB Elisellidae; Cni - Stichopathes; Alg - Cyanophyta; and Cni - Gorgonacea Nicella fans; Cni - Hydroidia; sparse fish;	☐
					Alg - Phaeophyta; Sargassum		
7/10/2012 8:23:47 AM	32.339629	-79.052593	-50.1	SB	XS Photo; soft bottom; Alg - Cyanophyta; middle of low relief HB on MB;		☑
					Ann - Filograna;		
					Cni - Stichopathes;		
					Por - Demospongiae;		
					Cni - Gorgonacea; Ellisellidae		
					Alg - Cyanophyta;		
7/10/2012 8:26:00 AM	32.339944	-79.052537	-50.1			tattler, hogfish, spotfin hogfish, blue angels, lionfish, squirrelfish, reef butterflyfish, YTR, Calamus, wrasse, sharpnose puffer	☐
7/10/2012 8:26:02 AM	32.339943	-79.052537	-49.7	HB	XS Photo; soft bottom; pavement; Middle of MB		☑
					Cni - Gorgonacea; Plexauridae	purple	
7/10/2012 8:28:08 AM	32.340244	-79.052329	-49.7				☐
					Fish - hogfish	30 cm Non XS - Random Photos;	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Rhodophyta;	leafy	
7/10/2012 8:29:14 AM	32.340328	-79.052345	-49.7	SB	XS Photo; soft bottom; Alg - Cyanophyta; small ledge;		☑
					Fish - squirrelfish		
					Fish - porgy		
					Fish - lionfish;	1	
7/10/2012 8:30:03 AM	32.340498	-79.052318	-50.3	HB	hard bottom; soft bottom; lowe relief; rock knolles. Sparse ledges; 50% cover; middle of LR HB on MB		☐
					Art - hermit crab		
7/10/2012 8:31:25 AM	32.340679	-79.052306	-49.3	HB	XS Photo; 30 cm ledges; <.25 kt current		☑
					Fish - reef butterflyfish		
					Cni - Stichopathes;		
					Fish - jackknife fish		
					Fish - lionfish;	3	
7/10/2012 8:32:00 AM	32.340819	-79.052294	-49.7			lionfish, reef butterflyfish, squirrelfish, YTR, spotfin butterflyfish, lionfish, jack-knife fish, tattler	☐
7/10/2012 8:33:37 AM	32.340942	-79.052292	-50.3	HB	XS Photo; Rock; soft bottom; western edge of the HB in the MB		☑
					Cni - Gorgonacea; Plexauridae		
					Alg - Phaeophyta; Sargassum		
					Alg - Rhodophyta;	red leafy spindly	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 8:35:36 AM	32.341223	-79.052181	-49.7		Non XS - Random Photos;		☐
7/10/2012 8:35:59 AM	32.341238	-79.052201	-48.9	SB	XS Photo; soft bottom	Alg - Cyanophyta;	☑
					Fish - porgy		
7/10/2012 8:37:00 AM	32.341395	-79.052257	-50.1	HB	pavement	Calamus, squirrelfish	☐
7/10/2012 8:37:44 AM	32.341555	-79.052350	-50.1	HB	soft bottom; scattered patches of HB; on MB we are on the eastern ledge of the HB; may be sediment veneered pavement;		☐
7/10/2012 8:38:24 AM	32.341600	-79.052351	-49.1	HB	XS Photo; soft bottom; few patches of hard bottom - 10-20%		☑
7/10/2012 8:40:17 AM	32.341913	-79.052375	-50.3		100 yds away from xs end		☐
7/10/2012 8:42:38 AM	32.342203	-79.052298	-50.1		Non XS - Random Photos;		☐
7/10/2012 8:43:03 AM	32.342253	-79.052295	-50.3	SB	XS Photo; soft bottom; Alg - Cyanophyta;		☑
					Fish - cowfish		
					Fish - reef butterflyfish		
7/10/2012 8:44:00 AM	32.342368	-79.052209	-50.1			cowfish, wrasse	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 8:45:15 AM	32.342449	-79.052091	-49.5	SB	XS Photo; soft bottom; Alg - Cyanophyta;		☑
					Alg - Chlorophyta; Codium		
7/10/2012 8:47:33 AM	32.342794	-79.052085	-49.5	SB	XS Photo; soft bottom; Alg - Cyanophyta;		☑
7/10/2012 8:48:25 AM	32.342944	-79.052088	-49.7	HB	end of transect 1; soft bottom; sand sparse low relief pavement; going to transect N to the northern portion of the MB which shows higher relief HB	Ellisellidae and hydroids are dominate	☐
7/10/2012 8:50:00 AM	32.343191	-79.052262	-48.5			Ajs, wrasses	☐
7/10/2012 8:50:08 AM	32.343216	-79.052283	-48.9	HB	start of XS 2; soft bottom; rubble covered in Alg - Cyanophyta;	Alg - Cyanophyta	☐
7/10/2012 8:52:00 AM	32.343394	-79.052111	-47.6	SB	XS Photo; soft bottom;		☑
					Alg - Phaeophyta; Sargassum		
					Por - Ircinia campana;	Non XS - Random Photos;	
7/10/2012 8:53:43 AM	32.343506	-79.051936	-48.7		changing DVD fom 18 to 19		☐
7/10/2012 8:54:10 AM	32.343550	-79.051928	-48.7	SB	XS Photo; soft bottom; 100 m south of higher relief HB		☑
					Alg - Chlorophyta;	Leafy green	
7/10/2012 8:55:00 AM	32.343662	-79.051899	-48.7			possible flying gurnard, Ajs, wrasses, lionfish, reef butterfly, Ajs, Calamus, cowfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 8:55:09 AM	32.343691	-79.051873	-48.5		start of DVD 19		☐
					Species Observed		
					Fish - flying gurnard		
7/10/2012 8:56:37 AM	32.343922	-79.051842	-47.4	SB	soft bottom; XS Photo;		☑
					Alg - Chlorophyta;		
					Alg - Phaeophyta; Sargassum		
					Alg - Rhodophyta;		
					Fish - lionfish;	1	
					Fish - reef butterflyfish		
7/10/2012 8:58:51 AM	32.344145	-79.051698	-47.8	SB	XS Photo; soft bottom; Alg - Cyanophyta;		☑
					Fish - amberjack		
					Cni - Stichopathes;		
7/10/2012 8:59:52 AM	32.344341	-79.051778	-47.6	HB	hard bottom; with small patches of soft bottom; changed from soft bottom to a HB rock pavement; sediment veneer; 50 % cover HB	10-15 cm purple plexaurids; Alg - Cyanophyta;	☐
					Alg - Phaeophyta; Sargassum		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Plexauridae	purple	
7/10/2012 9:02:00 AM	32.344534	-79.051777	-47.6	HB	higher relief, rockier	squirrelfish, Calamus, reef butterflyfish, lionfish, burrfish, tomtate, 6 lionfish, blue angelfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 9:02:04 AM	32.344554	-79.051770	-47.6		Non XS - Random Photos;		☐
7/10/2012 9:02:33 AM	32.344631	-79.051742	-47.8	HB	hard bottom; pavement; Rock; more relief 30 cm outcrops; Non XS - Random Photos;		☐
					Fish - lionfish;	photo	
7/10/2012 9:03:29 AM	32.344704	-79.051772	-47.8	HB	XS Photo; hard bottom; pavement; Rock; 50% cover; in red zone of multibeam		☑
7/10/2012 9:04:18 AM	32.344794	-79.051713	-48.3	HB	hard bottom; pavement; Rock; low relief patchy; 49 m on top of rock; 80% cover; Non XS - Random Photos; 50 cm ledge	lionfish schooled on 50 cm ledge	☐
					Fish - lionfish;	6	
7/10/2012 9:07:22 AM	32.345046	-79.051672	-47.4	HB	XS Photo; hard bottom; pavement; sediment veneer		☑
					Por - Demospongiae;	tan cake	
					Por - Ircinia campana;		
					Fish - cowfish		
					Alg - Chlorophyta; Ulva?		
					Cni - Stichopathes;		
7/10/2012 9:08:00 AM	32.345160	-79.051598	-47.6	HB	pavement	sharpnose puffer, cowfish - honeycomb?	☐
7/10/2012 9:09:27 AM	32.345334	-79.051460	-47.2	HB	XS Photo; hard bottom; pavement; sediment veneer		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 9:10:00 AM	32.345446	-79.051418	-47.4			sharpnose puffer, tattler, wrasse	☐
7/10/2012 9:10:06 AM	32.345455	-79.051414	-47.6	HB	hard bottom; pavement;		☐
7/10/2012 9:11:46 AM	32.345607	-79.051299	-46.6	HB	XS Photo; hard bottom; pavement; soft bottom; low relief pavement and sediment 50% cover		☑
7/10/2012 9:12:21 AM	32.345692	-79.051280	-47.8	HB	hard bottom; soft bottom; pavement;		☐
					Cni - Gorgonacea; Ellisella		
					Alg - Phaeophyta; Sargassum		
					Cni - Hydroidolina;		
					Por - Demospongiae;	or, eb	
					Alg - Chlorophyta; Codium		
7/10/2012 9:13:53 AM	32.345844	-79.051202	-47.8		XS Photo; Non XS - Random Photos; pixels of Multibeam 20 m;		☐
					Alg - Phaeophyta; Sargassum	photo	
7/10/2012 9:15:01 AM	32.345962	-79.051099	-47.6	HB	hard bottom; soft bottom; pavement; no ledges;Slope- flat;	very sparse fish;	☐
7/10/2012 9:16:32 AM	32.346157	-79.051109	-46.6	SB	XS Photo; soft bottom;		☑
					Fish - hogfish		
					Fish - amberjack		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Rhodophyta;	frilly red	
					Ann - Filograna;		
					Alg - Cyanophyta;		
					Alg - Chlorophyta; Codium		
7/10/2012 9:17:00 AM	32.346202	-79.051108	-47.2			hogfish, Ajs,	☐
7/10/2012 9:18:38 AM	32.346350	-79.051013	-47.4	HB	XS Photo; pavement;		☑
7/10/2012 9:20:13 AM	32.346526	-79.050933	-47.8		Non XS - Random Photos;		☐
7/10/2012 9:21:14 AM	32.346610	-79.050956	-47	HB	XS Photo; in middle of red zone of multibeam; low relief pavement; no ledges; sediment veneer; change heading more to western edge of hard bottom zone		☑
					Cho - Ascidacea; Didemnidae		
					Cni - Gorgonacea; Plexauridae	pu	
					Fish - lionfish;		
7/10/2012 9:22:00 AM	32.346751	-79.050892	-47			greater AJ, blue angel, reef butterflyfish, lionfish, jack-knife fish, tattler, wrasse	☐
7/10/2012 9:23:45 AM	32.346898	-79.050907	-47.4	HB	XS Photo; hard bottom; pavement; sediment veneer		☑
					Cni - Gorgonacea; Ellisella	eb	
					Cni - Gorgonacea; Nicella	pu	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 9:25:17 AM	32.347095	-79.050831	-47.2	HB	hard bottom; pavement;	more HB fauna; gorgonians	☐
7/10/2012 9:26:00 AM	32.347192	-79.050770	-46.4			reef butterflyfish	☐
7/10/2012 9:26:06 AM	32.347197	-79.050765	-47.2	HB	XS Photo; hard bottom; pavement;		☑
					Ann - Filograna;		
					Alg - Rhodophyta;	frilly	
					Cni - Gorgonacea;		
7/10/2012 9:27:01 AM	32.347306	-79.050680	-47.2		Non XS - Random Photos;		☐
7/10/2012 9:28:00 AM	32.347417	-79.050596	-47.4			cornetfish, lionfish, yellowtail reeffish, tattler, reef butterflyfish, sharpnose puffer	☐
7/10/2012 9:28:03 AM	32.347419	-79.050591	-47.2	HB	XS Photo; hard bottom; pavement; veneer;		☑
7/10/2012 9:29:13 AM	32.347504	-79.050496	-47.8	HB	hard bottom; pavement;	denser cover of sessile biota	☐
					Por - Ircinia campana;		
					Por - Demospongiae;	tan cake	
7/10/2012 9:30:26 AM	32.347627	-79.050451	-47	HB	XS Photo; hard bottom; pavement; Rock; 80% cover rock; no ledges;Non XS - Random Photos;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 9:31:30 AM	32.347726	-79.050355	-47	HB	hard bottom; pavement; Rock; 80% cover rock;	denser sessile fauna;	☐
7/10/2012 9:32:00 AM	32.347802	-79.050395	-47.4			spotfin hogfish, reef butterflyfish, YTR	☐
7/10/2012 9:32:57 AM	32.347912	-79.050369	-47.6		XS Photo;		☑
					Cho - Ascidacea; Didemnidae	te	
7/10/2012 9:33:00 AM	32.347911	-79.050372	-47.6	HB	higher relief, rockier, 1-2m, western edge of ledge	school of tomtates, barracuda, lionfish, squirrelfish, spotfin hogfish, lobster, wrasse, spotfin butterflyfish, yellowhead wrasse, squirrelfish, blue angelfish, lionfish, sharpnose puffer, graysby?	☐
7/10/2012 9:33:20 AM	32.347992	-79.050415	-47.2	HB	Rock; hard bottom; 50 cm ledges; 100% HB; first moderate relief reef of dive; near west edge of ridge[Non XS - Random Photos;		☐
					Fish - tomtate;	many	
					Cni - Stichopathes;		
					Fish - lionfish;		
					Por - Ircinia campana;		
7/10/2012 9:35:59 AM	32.348183	-79.050547	-47.6				☐
7/10/2012 9:36:05 AM	32.348188	-79.050569	-47.4	HB	hard bottom; Rock; 1m ledge; 100% HB		☐
					Cho - Ascidacea; Eudistoma		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Ircinia campana;		
					Fish - tomtate;		
					Fish - lionfish;		
7/10/2012 9:37:17 AM	32.348416	-79.050553	-46.8	HB	hard bottom; Rock; XS Photo;	very dense fauna	☑
					Por - Demospongiae; Aplysina	cl fingers	
					Fish - lionfish;		
					Alg - Phaeophyta; Dictyota		
					Por - Demospongiae; Agelas?	or	
7/10/2012 9:38:56 AM	32.348643	-79.050417	-48.5	HB	hard bottom; Rock; very rugose bottom; west edge of ridge	dense schools fish	☐
7/10/2012 9:39:46 AM	32.348659	-79.050367	-47	HB	hard bottom; Rock;		☐
					Fish - grouper		
					Fish - tomtate;	dense schools	
7/10/2012 9:40:00 AM	32.348686	-79.050348	-48.7			graysby, sharpnose puffer, squirrelfish, Ajs, , rock beauty, purple reeffish, spotfin hogfish, wrasse, school of tomtates, reef butterflyfish, doctorfish	☐
7/10/2012 9:40:11 AM	32.348732	-79.050342	-48.9	HB	hard bottom; Rock; large rock outcrop; Non XS - Random Photos;		☐
					Por - Demospongiae;	te, or, ye	
					Cni - Gorgonacea; Nicella	40 cm	
					Cni - Antipathidae;	bu wh	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 9:41:59 AM	32.348814	-79.050372	-48.9	HB	hard bottom; Rock; XS Photo; west edge of reef		☑
7/10/2012 9:43:29 AM	32.349051	-79.050226	-48.9	HB	hard bottom; Rock; Non XS - Random Photos; west edge of ridge on multibeam		☐
7/10/2012 9:44:00 AM	32.349170	-79.050166	-49.7	HB	rock outcrops 1' or less	Ajs, hogfish, school of tomtates, cubbyu, blue angelfish, vermilion, scamp, lionfish x4, squirrelfish, school of tomtates, spotfin hogfish, scamp x2, another scamp?	☐
7/10/2012 9:44:28 AM	32.349260	-79.050219	-48.7	HB	hard bottom; Rock; XS Photo; west dropoff gentle slope of rugged rock; 1m ledges		☑
					Fish - hogfish		
					Fish - amberjack		
7/10/2012 9:46:38 AM	32.349401	-79.050054	-48.3	HB	hard bottom; Rock;		☐
					Fish - scamp grouper;		
					Fish - lionfish;	4	
7/10/2012 9:47:43 AM	32.349531	-79.049989	-48.3	HB	hard bottom; Rock; XS Photo; Non XS - Random Photos;		☐
					Por - Ircinia campana;	common	
					Fish - spotfin hogfish		
					Fish - scamp grouper;	3	
7/10/2012 9:49:00 AM	32.349723	-79.050004	-47.4			4 scamp, school of tomtates, lobster, spotfin hogfish, squirrelfish, lionfish, 3 scamp, gag, AJ, scamp	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 9:49:44 AM	32.349814	-79.049971	-48.9	HB	hard bottom; Rock;		☐
					Species Observed: Fish - scamp grouper;	3	
7/10/2012 9:49:56 AM	32.349842	-79.049959	-48.3	HB	hard bottom; Rock; XS Photo; reef edge; 1 m ledges; Non XS - Random Photos; lower part of slope; on west edge of ridge of multibeam		☐
					Species Observed: Fish - scamp grouper;	several	
					Species Observed: Fish - gag grouper		
					Species Observed: Fish - lionfish;		
7/10/2012 9:52:06 AM	32.350076	-79.049948	-49.3	HB	hard bottom; Rock; Non XS - Random Photos;		☐
7/10/2012 9:52:16 AM	32.350102	-79.049933	-49.1	HB	hard bottom; Rock; XS Photo; lower slope		☑
7/10/2012 9:53:00 AM	32.350208	-79.049977	-49.9	HB	hard bottom; Rock; near base, scattered boulders, sediment		☐
7/10/2012 9:53:00 AM	32.350208	-79.049977	-49.9			tomtates, squirrelfish, Calamus, cubbyu, vermilion, cowfish, blue angelfish, grunt?, AJ, sharpnose puffer, reef butterfly	☐
7/10/2012 9:53:46 AM	32.350282	-79.049852	-50.6				☐
7/10/2012 9:54:18 AM	32.350376	-79.049845	-49.3	HB	hard bottom; Rock; Slope- moderate (<35o); 1 m		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	**ROV 9**	**10-VII-12-2**	**South Carolina, Edisto MPA, Station 14, south ridge inside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 9:54:44 AM	32.350394	-79.049695	-49.1	HB	hard bottom; Rock; XS Photo; 1m ledge		☑
7/10/2012 9:55:49 AM	32.350494	-79.049621	-50.6	HB	hard bottom; Rock; edge of slope; top 1 m ledge, then slope of rock slabs and boulders to sediment base		☐
7/10/2012 9:56:56 AM	32.350519	-79.049585	-49.9	HB	hard bottom; Rock; XS Photo; west edge of ridge on multibeam		☑
					Por - Ircinia campana;		
					Cni - Hydroidolina;		
7/10/2012 9:58:17 AM	32.350703	-79.049495	-50.3	HB	at base of wall off ledge on MB; rocky/bouldery bottom with patches soft bottom; 10-50 cm relief		☐
7/10/2012 9:59:00 AM	32.350857	-79.049506	-50.6			lionfish, squirrelfish, spotfin butterflyfish, Calamus, school of tomtates, scamp, spotfin hogfish, sharpnose puffer, 2 scamp, greater AJ, vermilion, another scamp?, scamp x2, bank butterfly, blue angelfish	☐
7/10/2012 9:59:07 AM	32.350855	-79.049480	-49.9	HB	XS Photo; hard bottom; Rock; Non XS - Random Photos (lionfish);		☐
					Cni - Stichopathes;		
					Fish - lionfish;	1	
					Fish - squirrelfish		
7/10/2012 10:00:59 AM	32.351179	-79.049334	-50.8		XS Photo; heading back up; 47.5 - 51.5 depth range from top of ridge to bottom of base of ridge = 4 m		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 10:03:04 AM	32.351271	-79.049191	-50.8		Non XS - Random Photos;		☐
					Species Observed: Fish - scamp grouper;	Non XS - Random Photos;	
7/10/2012 10:03:41 AM	32.351297	-79.049220	-50.3	HB	XS Photo; base of ridge on west side; hard bottom; soft bottom; Rock;		☑
					Fish - scamp grouper;	2	
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Por - Demospongiae; Aplysina	smooth chimney sponge	
7/10/2012 10:05:12 AM	32.351369	-79.049004	-50.1	HB	Non XS - Random Photos; large rock outcrop 50 - 100 cm ledge; rock boulders at the base		☐
					Fish - scamp grouper;		
7/10/2012 10:05:55 AM	32.351496	-79.048984	-49.7	HB	XS Photo; base of ridge on west side; small rock boulders grades into flat sediment to the west of the reef.		☑
					Fish - spotfin hogfish		
7/10/2012 10:07:00 AM	32.351713	-79.048870	-50.6			scamp x3, cowfish, squirrelfish, tomtate, scamp x2, cornetfish, spotfin hogfish, AJ,	☐
7/10/2012 10:07:09 AM	32.351726	-79.048859	-50.6	HB	Non XS - Random Photos; large rock slabs;	dense cover of Por - Demospongia; Spirostrelidae	☐
					Por - Demospongiae; Spirastrellidae		
					Cni - Antipathidae; Antipathes	Bottle brush	
7/10/2012 10:08:22 AM	32.351779	-79.048855	-51.4	HB	XS Photo; hard bottom; Rock; … now off the base of the ledge;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper; 3		
7/10/2012 10:09:31 AM	32.352000	-79.048733	-49.3		Non XS - Random Photos;		☐
					Fish - cornet fish		
7/10/2012 10:10:23 AM	32.352177	-79.048743	-48.7	HB	XS Photo; hard bottom; Rock; rubble; soft bottom; - on western slope of the ridge on the MB		☑
7/10/2012 10:11:00 AM	32.352261	-79.048810	-49.5	HB	low relief outcrops 1'or less	grey angelfish	☐
7/10/2012 10:11:01 AM	32.352265	-79.048810	-49.7	HB	base of the wall; Slope- flat; rock boulder; slabs; <0.5 m relief; on MB we are on the western edge of the dark red zone.		☐
					Fish - squirrelfish		
7/10/2012 10:12:00 AM	32.352311	-79.048612	-50.3	HB	larger outcrops ~1m	school of tomtates, AJ, Calamus, sharpnose puffer, yellowtail puffer, reef butterflyfish, spotfin butterflyfish, lionfish, bluespotted cornetfish, blue angelfish	☐
7/10/2012 10:12:48 AM	32.352304	-79.048486	-50.1	HB	XS Photo; hard bottom; boulder top		☑
					Fish - cornet fish		
					Cho - Ascidacea; Eudistoma		
					Fish - lionfish; 1		
					Fish - reef butterflyfish		
					Fish - spotfin butterflyfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 10:14:30 AM	32.352550	-79.048339	-49.7	HB	Non XS - Random Photos; boulders and sand patches		☐
					Fish - tomtate;	school	
					Fish - greater amberjack		
					Fish - almaco jack		
7/10/2012 10:15:13 AM	32.352675	-79.048239	-49.7	HB	XS Photo; pavement; with lots of Alg - Phaeophyta - Dictyota;	Alg - Phaeophyta - Dictyota	☑
					Cni - Antipathidae;	white xmas tree	
7/10/2012 10:16:16 AM	32.352735	-79.048302	-49.9		Non XS - Random Photos;		☐
					Cni - Antipathidae;	bottle brush	
					Fish - almaco jack		
					Fish - greater amberjack		
					Ann - Filograna;		
					Por - Ircinia campana;		
					Fish - scamp grouper;	2	
7/10/2012 10:17:00 AM	32.352872	-79.048255	-50.1	HB	western part of ledge	2 scamp, reef butt, squirrelfish, scamp, lionfish, cubbyu, lionfish, blue angelfish, scamp, 5-6 scamp, AJ, lionfish, possible gag in the distance, another scamp x3, lionfish	☐
7/10/2012 10:17:29 AM	32.352806	-79.048262	-50.1	HB	base of reef; low relief battom with outcrops ~ 1m tall;		☐
7/10/2012 10:18:10 AM	32.352835	-79.048199	-49.1	HB	XS Photo; Rock; soft bottom;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;		
					Fish - tomtate;		
					Fish - squirrelfish		
					Fish - lionfish;	2	
					Fish - greater amberjack		
					Fish - scamp grouper;	5	
7/10/2012 10:20:19 AM	32.353033	-79.048141	-50.3	HB	hard bottom; west base of the ridge; flat rock boulders; outcrops <0.5 m patches of soft bottom;		☐
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Fish - blue angelfish;		
					Cni - Gorgonacea; Ellisella	EB	
					Fish - scamp grouper;	4	
					Cni - Antipathidae;		
					Por - Ircinia campana;		
					Por - Demospongiae; Spirastrellidae	orange encrusting	
					Fish - tomtate;		
					Fish - lionfish;	2	
7/10/2012 10:22:00 AM	32.353261	-79.048069	-51.4			4 scamp, school of tomtates, , vermilion, spotfin hogfish, reef butterflyfish, Calamus, short bigeye, lionfish, blue angels, squirrelfish, sharpnose puffer, scamp	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 10:22:55 AM	32.353248	-79.048017	-51.8	HB	XS Photo; top of rocl boulder; on western ledge of the ridge; end of the western side of the rock, fades into sandy bottom to the west.		☑
					Fish - scamp grouper;	3	
					Cni - Antipathidae;	white bush	
					Fish - tomtate;		
7/10/2012 10:24:25 AM	32.353426	-79.047934	-52	HB	Non XS - Random Photos; rock boulders low relief; small patches of sand betweenthe rocks		☐
					Fish - vermilion snapper	large school	
7/10/2012 10:25:10 AM	32.353440	-79.047805	-51.2	HB	XS Photo; hard bottom; soft bottom; Rock; base of reef is 53;		☑
					Fish - lionfish;	1	
					Cni - Gorgonacea; Plexauridae	purple	
					Fish - greater amberjack		
					Fish - blue angelfish;		
7/10/2012 10:27:25 AM	32.353452	-79.047579	-49.9	HB	XS Photo; Rock - top of boulder; on western ledge; overhangs and rock outcrops		☑
					Fish - spanish hogfish		
					Fish - squirrelfish		
					Fish - porgy		
					Fish - scamp grouper;		
					Fish - lionfish;	1	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 10:28:00 AM	32.353485	-79.047587	-49.9	HB	moderate relief outcrops	spanish hogfish, school of tomtates, vermilion, Calamus, reef butterflyfish, squirrelfish, spotted goatfish, cornetfish, lionfish, spotfin hogfish	☐
7/10/2012 10:29:43 AM	32.353788	-79.047464	-51.2	HB	XS Photo; boulders; just off western ledge/"slope"; transecting along the base of the western edge of the ridge; Rock rubble <1 m relief		☑
7/10/2012 10:31:15 AM	32.353765	-79.047213	-50.6		Non XS - Random Photos;		☐
					Fish - vermilion snapper		
					Cni - Stichopathes;		
					Fish - tomtate;		
7/10/2012 10:32:00 AM	32.353777	-79.047203	-50.6	HB	lower portion of ledge, small outcrops 1m or less relief	graysby x2, 4scamp, reef butterflyfish, another scamp, Calamus, wrasse, 4 scamp	☐
7/10/2012 10:32:01 AM	32.353777	-79.047203	-50.6	HB	XS Photo; hard bottom; pavement; about another 100 m to the elbow in the MB		☑
					Fish - graysby grouper		
					Fish - porgy		
					Cni - Gorgonacea; Swiftia?	40 cm orange	
					Cni - Antipathidae; Antipathes	white fine mesh	
					Cni - Gorgonacea;	purple; common	
7/10/2012 10:34:26 AM	32.354113	-79.047078	-51	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea; Ellisella barbadensis	orange whip	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;		
					Cni - Gorgonacea; Swiftia exerta	Non XS - Random Photos; possibly 2	
					Cni - Gorgonacea; Swiftia exerta?	maybe with polyps out Non XS - Random Photos;	
7/10/2012 10:36:34 AM	32.354141	-79.046846	-51.6	HB	Non XS - Random Photos; large rock		☐
7/10/2012 10:37:04 AM	32.354168	-79.046805	-51	HB	XS Photo; hard bottom;		☑
7/10/2012 10:37:37 AM	32.354256	-79.046725	-52.2	SB	soft bottom;		☐
7/10/2012 10:37:46 AM	32.354244	-79.046670	-51.6	HB	Rock boulders; Non XS - Random Photos - ircinia		☐
					Fish - scamp grouper;	5	
7/10/2012 10:39:00 AM	32.354290	-79.046595	-51.2	HB	some higher outcrops 1-2m	cowfish, squirrelfish, graysby, purple reeffish, spotfin hogfish, tomtates, sharpnose puffer, lionfish x2	☐
7/10/2012 10:39:19 AM	32.354324	-79.046547	-50.8	HB	XS Photo; boulder and soft bottom; in elbow of MB; boittom is rock boulders with sand beween		☑
					Fish - cowfish		
					Fish - squirrelfish		
7/10/2012 10:40:07 AM	32.354403	-79.046387	-49.9	HB	hard bottom; base of reef at the end of the main ridge; directly in the elbow of the MB;		☐
					Fish - graysby grouper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	ROV 9	10-VII-12-2	South Carolina, Edisto MPA, Station 14, south ridge inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - sharpnose puffer		
					Cni - Antipathidae;	white bush	
7/10/2012 10:41:34 AM	32.354467	-79.046214	-49.5	HB	XS Photo; pavement; low relief 10 cm tall;		☑
					Cni - Gorgonacea;	purple	
					Cni - Gorgonacea; Ellisellidae		
					Fish - lionfish;	2	
					Fish - yellowtail reeffish;		
					Cni - Gorgonacea; Swiftia		
7/10/2012 10:42:00 AM	32.354523	-79.046204	-49.5	HB	pavement, off ridge	lionfish, scorpionfish, reef butterflyfish, YTR, tattler, sharpnose puffer, blue angelfish	☐
7/10/2012 10:42:50 AM	32.354542	-79.046090	-49.7	HB	off the ridge in the MB ; flat sediment pavement with veneer; Slope- flat; off reef		☐
					Cho - Ascidacea; Didemnidae		
7/10/2012 10:43:50 AM	32.354607	-79.045892	-49.5	HB	XS Photo; soft bottom; off reef in sand veneered pavement;		☑
					Cni - Gorgonacea; Nicella		
					Fish - blue angelfish;		
					Por - Ircinia campana;	Non XS - Random Photos;	
7/10/2012 10:45:19 AM	32.354575	-79.045680	-50.6	HB	Light orange area of MB; flat pavement; sediment veneer	dominated by Cni - Gorgonacea; Cni - Hydroidia;	☐
					Cni - Gorgonacea; Plexauridae	Non XS - Random Photos;	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207102	**ROV 9**	**10-VII-12-2**	**South Carolina, Edisto MPA, Station 14, south ridge inside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 10:46:00 AM	32.354575	-79.045659	-49.7		end of dive		☐
7/10/2012 10:46:06 AM	32.354570	-79.045648	-49.7	SB	XS Photo; soft bottom;		☑
7/10/2012 10:46:28 AM	32.354552	-79.045621	-49.5		Off bottom; end dive		☐
7/10/2012 10:50:25 AM				HB	end DVD and Harddrive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 11:53:22 AM					Objectives: ROV Dive 10, Site #- 10-VII-12-3. Target Site – outside and southwest of South Carolina Edisto MPA; 32°16.3800'N; 79°09.8400'W; 55 m. ROV survey outside MPA site; ground truth multibeam sonar of site. Conduct video/photo transect along ridge; narrow ridge, 50 m wide, oriented SE-NW. Multibeam pixel resolution of sonar map is ~20 m.		☐
7/10/2012 12:06:12 PM					Launch (start dive);		☐
7/10/2012 12:08:54 PM	32.266902	-79.168909	-43.1		Bottom in site		☐
7/10/2012 12:09:27 PM	32.266832	-79.169033	-53.7	HB	On bottom; Rock; hard bottom; we are about 50 m from the start of the proposed transect line; high relief; 1-2 m relief;	sesslie fauna spase	☐
					Cni - Hydroidolina;		
					Fish - lionfish; 4		
					Por - Demospongiae; Spirastrellidae		
					Fish - cornet fish		
7/10/2012 12:10:00 PM	32.266767	-79.168984	-51.8	HB	moderate relief outcrops 2-3m	cornetfish, tomtates, sharpnose puffer, 3 lionfish, school of Ajs, scamp, lionfish, spotfin hogfish, spadefish, reef butterflyfish, blue angelfish, lionfish x2, scamp, lionfish	☐
7/10/2012 12:11:26 PM	32.266826	-79.168829	-52.6	HB	rugged hard bottom; Rock; 1-2 m undercut ledges; base is 53 m deep		☐
					Fish - lionfish; 1		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - amberjack		
					Fish - scamp grouper;		
7/10/2012 12:12:01 PM	32.266820	-79.168811	-50.6	HB	XS Photo; MB on west of narrow 50 m wide ridge		☑
					Fish - spadefish		
					Fish - tomtate;		
7/10/2012 12:12:59 PM	32.266742	-79.168917	-52.2	HB	Non XS - Random Photos; hard bottom; Rock; 2-3 m rock slabs		☐
					Cni - Gorgonacea;	20 cm purple	
					Fish - lionfish;	4	
					Cni - Gorgonacea; Nicella?		
7/10/2012 12:14:00 PM	32.266762	-79.169038	-52.6			lionfish, spotfin hogfish, reef butterflyfish, school of tomtates, 2 lionfish	☐
7/10/2012 12:14:02 PM	32.266780	-79.169032	-52.8	HB	XS Photo;hard bottom; Rock; sediment with Alg - Cyanophyta; west base of the ridge 53-54 m; flat large 3-4 m diam rock slabs; .5 m relief	sparse sessile biota	☑
					Fish - spadefish	again	
					Fish - spotfin hogfish		
					Fish - tomtate;		
					Fish - lionfish;	2	
7/10/2012 12:15:49 PM	32.266838	-79.168843	-51.8	HB	hard bottom; Rock;		☐
					Fish - amberjack	school	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 12:16:00 PM	32.266812	-79.168866	-51.4		starting to move up the transect line		☐
7/10/2012 12:16:00 PM	32.266812	-79.168866	-51.4			scamp x2, school of tomtates, lionfish, blue angelfish, spotted goatfish, purple reeffish, vermilion, cowfish, 2 lionfish	☐
7/10/2012 12:16:26 PM	32.266869	-79.168860	-51.4	HB	XS Photo; hard bottom; Rock; West of reef is flat sediment		☑
					Fish - scamp grouper;	3	
					Fish - lionfish;	2	
					Fish - tomtate;		
					Fish - blue angelfish;		
					Cni - Stichopathes;		
7/10/2012 12:17:30 PM	32.266946	-79.168855	-52.8	HB	hard bottom; Rock;		☐
					Fish - spotted goatfish		
7/10/2012 12:17:57 PM	32.266974	-79.168841	-53.1	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Cho - Ascidacea; Eudistoma	Non XS - Random Photos;	
					Fish - lionfish;	1	
					Fish - blue angelfish;		
					Fish - tomtate;		
					Por - Demospongiae; Astrophorida?	possible astrophorida	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 12:20:26 PM	32.267094	-79.168854	-53.5	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	2	
					Por - Demospongiae; Spirastrellidae	orange and yellow encrusting	
					Por - Demospongiae;	lumpy tan	
					Fish - tomtate;		
					Por - Demospongiae;	yellow ZE	
7/10/2012 12:21:00 PM	32.267190	-79.168825	-53.1	HB	low relief outcrops ~1m	bank butterfly, doctorfish, school of tomtates, filefish, cornetfish, spotfin hogfish, sharpnose puffer, purple reeffish, bank butterflyfish, school of Ajs, lionfish, short bigeye	☐
7/10/2012 12:21:43 PM	32.267284	-79.168722	-52.8	HB	hard bottom; Rock; west base of the ridge		☐
					Fish - tomtate;		
7/10/2012 12:22:42 PM	32.267412	-79.168551	-52.4	HB	XS Photo; hard bottom; Rock; Human Debris;		☑
7/10/2012 12:23:15 PM	32.267398	-79.168496	-51.8	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Por - Demospongiae;	several new species	
					Por - Demospongiae;	whitefan	
					Cni - Antipathidae; Antipathes		
					Por - Demospongiae;	yellow fan	
					Fish - cornet fish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 12:24:06 PM	32.267499	-79.168431	-53.5	HB	hard bottom; Rock;		☐
					Fish - bank butterflyfish		
					Fish - amberjack		
					Fish - lionfish;	1	
					Por - Demospongiae; Aplysina	Pink CB	
7/10/2012 12:24:54 PM	32.267650	-79.168387	-53.1	HB	XS Photo; hard bottom; Rock; soft bottom;		☑
					Fish - sharpnose puffer		
					Fish - tomtate;		
					Fish - short bigeye;		
7/10/2012 12:25:00 PM	32.267643	-79.168395	-52.8	HB	moderate to high relief	lionfish, school of tomtates, lionfish, blue angelfish, spotfin hogfish, lionfish, blackbar soldierfish, vermilion, lionfish, Calamus, lionfish	☐
7/10/2012 12:25:59 PM	32.267647	-79.168255	-51.8	HB	hard bottom; Rock; High relief; Non XS - Random Photos; Rock on the wall is eroded; 1-2 m ledges and undercuts		☐
					Fish - lionfish;	2	
					Fish - blue angelfish;	3	
					Fish - vermilion snapper		
					Fish - tomtate;		
7/10/2012 12:27:11 PM	32.267699	-79.168149	-50.8	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	pink ZE	
					Fish - tomtate;		
7/10/2012 12:28:05 PM	32.267752	-79.168131	-51.8	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Por - Ircinia campana;		
					Fish - tomtate;		
7/10/2012 12:28:51 PM	32.267856	-79.168054	-52	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Fish - lionfish;	2	
					Fish - spotfin hogfish		
7/10/2012 12:29:00 PM	32.267876	-79.168040	-51.8			scamp, slipper lobster, schools of tomtates & vermilion, bank butt, sharpnose, scamp	☐
7/10/2012 12:29:35 PM	32.267940	-79.168003	-52.6	HB	XS Photo; hard bottom; Rock; soft bottom;		☑
					Fish - vermilion snapper		
					Art - Scyllarides	Non XS - Random Photos;	
					Cho - Ascidacea; Eudistoma		
7/10/2012 12:30:36 PM	32.268031	-79.167961	-50.8	HB	Non XS - Random Photos; hard bottom; Rock; setdown on top of rock 51 at the top of ridge		☐
					Fish - scamp grouper;		
7/10/2012 12:31:00 PM	32.268023	-79.167926	-50.1	HB	50.5 m on top of ledge, total relief 3.5m		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 12:31:50 PM	32.268092	-79.167857	-51.4	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	3	
					Fish - orange back bass		
					Fish - tomtate;		
					Fish - scamp grouper;		
					Fish - vermilion snapper		
					Fish - tomtate;		
7/10/2012 12:32:00 PM	32.268099	-79.167843	-51.2			lionfish, red porgy, lionfish, scamp x2, cubbyu, lionfish x2, tomtates, vermilion, bank butt, filefish, Ajs, spotfin hogfish, scamp, lionfish under ledge, short bigeye, purple reeffish, 4 lionfish, reef butt, scamp x2, lionfish x2, 6 lionfish	☐
7/10/2012 12:33:37 PM	32.268339	-79.167823	-52.2	HB	Non XS - Random Photos; hard bottom; Rock;		☐
7/10/2012 12:34:03 PM	32.268401	-79.167835	-52.8				☐
7/10/2012 12:34:20 PM	32.268491	-79.167822	-52.8	HB	XS Photo; soft bottom; Rock;		☑
					Fish - scamp grouper;	2	
					Fish - spotfin hogfish		
					Fish - bank butterflyfish		
					Fish - purple reeffish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - short bigeye;		
7/10/2012 12:35:12 PM	32.268602	-79.167739	-52.2	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Fish - lionfish;	2	
7/10/2012 12:36:31 PM	32.268694	-79.167591	-52.8	HB	XS Photo; hard bottom; Rock; soft bottom;		☑
					Fish - blue angelfish;		
					Fish - scamp grouper;		
					Fish - tomtate;		
					Fish - lionfish;	4	
7/10/2012 12:38:05 PM	32.268767	-79.167395	-51.4	HB	hard bottom; Rock; Non XS - Random Photos - lionfish;		☐
					Fish - lionfish;	8	
7/10/2012 12:38:56 PM	32.268854	-79.167387	-51.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - cowfish		
					Fish - blue angelfish;		
					Fish - lionfish;	1	
7/10/2012 12:39:00 PM	32.268871	-79.167375	-51.6	HB	moderate relief outcrops 2-3m	lionfish, cowfish, tomtates, blue angelfish,gag grouper, lionfish, cowfish, balloonfish/porcupinefish, sharpnose puffer, lionfish x2	☐
7/10/2012 12:40:03 PM	32.269035	-79.167277	-52.4	HB	West side of the ridge; hard bottom; Rock; pavement; slabs; 2-4 m 1-2 m relief;	dense cover of sponges	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Fish - purcupine or balloonfish	large	
7/10/2012 12:41:43 PM	32.269070	-79.167043	-49.9	HB	XS Photo; hard bottom; Rock; top of reef		☑
					Cni - Gorgonacea; Plexauridae	10 cm purple	
					Fish - tomtate;		
					Fish - gag grouper		
					Fish - lionfish;	1	
					Cni - Gorgonacea;	several large; red purple; XB	
7/10/2012 12:43:26 PM	32.269312	-79.167005	-52.6	HB	hard bottom; Rock; Non XS - Random Photos;		☐
					Fish - blue angelfish;		
					Fish - lionfish;	2	
7/10/2012 12:43:59 PM	32.269291	-79.167027	-53.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	1	
					Por - Demospongiae;	tan cake	
					Fish - tomtate;		
					Fish - french angelfish	2 Non XS - Random Photos;	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 12:44:00 PM	32.269303	-79.167025	-53.3			french angels, scamp x2, cowfish, bank butt, lionfish,blackbar soldierfish, scamp, vermilion, yellowtail reeffish, short bigeye, spotfin hogfish, reef butt, lionfish	☐
7/10/2012 12:44:52 PM	32.269417	-79.166936	-53.3	HB	hard bottom; Rock; small patches of sedimnet between; alon west side of the narrow ridge on Mb; Non XS - Random Photos;		☐
					Species Observed		
					Fish - scamp grouper;	2 -40 cm	
					Fish - lionfish;		
					Fish - tomtate;		
7/10/2012 12:46:16 PM	32.269555	-79.166806	-53.3	HB	XS Photo; hard bottom; Rock; soft bottom;		☑
					Por - Demospongiae; Cinachyra?	orange sphere	
					Fish - lionfish;	1	
					Fish - reef butterflyfish		
					Fish - spotfin hogfish		
					Fish - short bigeye;		
7/10/2012 12:47:02 PM	32.269668	-79.166759	-52.8	HB	Non XS - Random Photos; hard bottom; soft bottom; Rock;		☐
					Fish - blue angelfish;		
					Fish - tomtate;		
					Fish - reef butterflyfish		
					Fish - lionfish;	1	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 12:48:00 PM	32.269719	-79.166673	-52.2			lionfish, scamp/gag?, tomtate, spotfin butterflyfish, blue angelfish, vermilion, Calamus, lionfish, purple reeffish, reef butterflyfish, scamp x2, 6 lionfish, cowfish, lionfish, bigeye, lionfish, sharpnose puffer, lionfish	☐
7/10/2012 12:48:42 PM	32.269797	-79.166596	-51.2	HB	XS Photo; hard bottom; Rock;		☑
					Por - Demospongiae; Erylus?	dripping sponge	
					Fish - hogfish		
7/10/2012 12:50:14 PM	32.269895	-79.166514	-50.8	HB	on the west slope of the ridge; hard bottom; Rock; rugged high relief boulders and rock slabs		☐
					Fish - scamp grouper;		
					Fish - lionfish;		
					Fish - blue angelfish;		
7/10/2012 12:51:08 PM	32.269978	-79.166506	-50.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	3	
					Por - Demospongiae;	enctusting	
					Por - Demospongiae; Spirastrellidae		
					Cho - Ascidacea; Didemnidae		
7/10/2012 12:51:46 PM	32.270040	-79.166529	-51.6	HB	hard bottom; Rock;		☐
					Fish - vermilion snapper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Plexauridae	20 cm purple	
					Fish - tomtate;		
					Fish - cowfish		
					Fish - lionfish;	1	
7/10/2012 12:52:43 PM	32.270150	-79.166414	-52.8	HB	hard bottom; Rock;		☐
					Fish - bigeye	not short	
					Fish - lionfish;	2	
7/10/2012 12:53:00 PM	32.270182	-79.166399	-52.4			scamp, bigeye, short bigeye, 2 scamp, Calamus, lionfish, balloon/porcupinefish, lionfish x2, squirrelfish, scamp, lionfish, reef butterflyfish, tomtates, vermilion, lionfish x2, scamp, blackbar soldierfish	☐
7/10/2012 12:53:21 PM	32.270207	-79.166364	-52	HB	XS Photo; hard bottom; Rock;		☑
					Fish - short bigeye;		
					Por - Demospongiae; Spheciospongia?		
					Fish - scamp grouper;	4	
					Fish - bigeye	not short	
7/10/2012 12:54:19 PM	32.270312	-79.166339	-52.4	HB	hard bottom; Rock;		☐
					Fish - puffer		
					Fish - porgy		
					Fish - lionfish;	3	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;		
					Fish - short bigeye;		
7/10/2012 12:55:41 PM	32.270425	-79.166198	-53.1	HB	XS Photo; hard bottom; Rock; soft bottom;		☑
					Fish - tomtate;		
					Fish - vermilion snapper		
					Fish - lionfish;	1	
7/10/2012 12:56:52 PM	32.270473	-79.166065	-51.2	HB	hard bottom; Rock; Non XS - Random Photos;		☐
					Fish - lionfish;	6	
					Fish - scamp grouper;		
					Fish - scamp grouper;		
					Por - Demospongiae; Holopsamma?	pink	
7/10/2012 12:57:00 PM	32.270481	-79.166060	-51			6 lionfish, scamp, lionfish, scamp x2, tomtates, sharpnose puffer, cornetfish, scamp, tomtates, spotfin hogfish, lionfish x3, scamp x2, gag, scamp, spotfin butt, possible yellowtail snapper, 2 lionfish, bank butt	☐
7/10/2012 12:57:58 PM	32.270514	-79.165971	-49.9	HB	XS Photo; hard bottom; Rock; Top of ridge		☑
					Cni - Hydroidolina;		
					Fish - scamp grouper;		
					Fish - blue angelfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Nicella	large purple - Non XS - Random Photos;	
7/10/2012 12:59:17 PM	32.270706	-79.165853	-50.1	HB	hard bottom; Rock;		☐
					Por - Demospongiae; Callyspongia vaginalis		
					Fish - spotfin hogfish		
					Fish - lionfish;	1	
					Fish - blue angelfish;		
7/10/2012 1:00:00 PM	32.270793	-79.165764	-50.1	HB	hard bottom; Rock; top of the ridge		☐
7/10/2012 1:00:34 PM	32.270789	-79.165745	-49.7	HB	XS Photo; hard bottom; Rock; top of ridge is rock pavement less rugose	dense cover of pink TE sponge;	☑
					Cni - Hydroidolina;		
					Fish - scamp grouper;	3	
					Fish - cornet fish		
					Fish - lionfish;		
					Cni - Stichopathes;		
7/10/2012 1:02:35 PM	32.270979	-79.165640	-50.6	HB	hard bottom; Rock;		☐
					Fish - lionfish;	2	
7/10/2012 1:02:50 PM	32.271031	-79.165623	-51.6	HB	XS Photo; hard bottom; Rock; Human Debris - line;		☑
					Fish - lionfish;	1	
					Fish - scamp grouper;	3	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Mol - spiny oysters	under ledge	
					Fish - gag grouper		
7/10/2012 1:04:31 PM	32.271200	-79.165503	-51.6	HB	hard bottom; Rock; very rugose; line		☐
7/10/2012 1:05:13 PM	32.271279	-79.165482	-52	HB	XS Photo; hard bottom; Rock;		☑
					Fish - tomtate;		
					Fish - lionfish;	3	
					Fish - vermilion snapper		
					Fish - spotfin hogfish		
7/10/2012 1:06:00 PM	32.271393	-79.165393	-51.6			school of vermilion, lionfish, tomtates, porgy, lionfish x2, purple reeffish, sharpnose puffer, 2 scamp, 2 more scamp, red porgy	☐
7/10/2012 1:06:54 PM	32.271473	-79.165393	-51.8	HB	hard bottom; Rock;		☐
					Fish - lionfish;		
					Fish - tomtate;		
7/10/2012 1:07:33 PM	32.271490	-79.165246	-51.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;	2	
					Fish - lionfish;	2	
					Fish - tomtate;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 1:09:51 PM	32.271594	-79.165153	-51	HB	XS Photo; hard bottom; Rock; change to DVD 22		☑
7/10/2012 1:10:20 PM	32.271586	-79.165122	-51.4	HB	hard bottom; Rock; of the west slope of MB; base of reef is .5-1 m relief; fades to the sediment at 54 m deep;		☐
					Cni - Gorgonacea; Nicella	purple - very common	
					Fish - lionfish;	2	
7/10/2012 1:11:00 PM	32.271789	-79.165085	-52.6			lionfish, blue angelfish, tomtates, filefish purple reeffish, graysby, short bigeye, spotfin hogfish, sharpnose puffer, lionfish x2, bank butt, filefish, vermilion, french angelfish, lobster, red porgy, scamp x2, blue angel, scamp	☐
7/10/2012 1:12:07 PM	32.271896	-79.164957	-53.1	HB	XS Photo; hard bottom; Rock;		☑
					Por - Demospongiae; Erylus?	gray lobate	
					Fish - tomtate;		
					Fish - filefish		
					Fish - graysby grouper		
					Fish - blue angelfish;		
7/10/2012 1:13:08 PM	32.271941	-79.164899	-53.1	HB	hard bottom; Rock;		☐
					Fish - lionfish;		
					Fish - blue angelfish;		
					Fish - spotfin hogfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 1:14:22 PM	32.272110	-79.164809	-52	HB	XS Photo; hard bottom; Rock;		☑
					Species Observed		
					Fish - french angelfish		
					Bry - Bryozoa?		
					Art - Panularis argus		
					Fish - filefish		
7/10/2012 1:16:57 PM	32.272182	-79.164673	-52.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;		
					Fish - lionfish;		
					Fish - tomtate;		
					Fish - short bigeye;		
7/10/2012 1:19:00 PM	32.272457	-79.164510	-52.8			scorpionfish, scamp, lionfish, red porgies, lionfish x3, lionfish, tomtates, vermilion, graysby, yellowtail reeffish	☐
7/10/2012 1:19:21 PM	32.272503	-79.164488	-52.2	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scorpion fish		
					Fish - scamp grouper; 2		
7/10/2012 1:20:04 PM	32.272525	-79.164504	-52.4	HB	west slope of the ridge; 50 m from the ending WP of the XS line; rock slabs; 1-2 m relief; hard bottom; Rock;	dense cover of 30 cm Nicella	☐
					Fish - lionfish; 1		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 1:21:37 PM	32.272736	-79.164264	-52.8	HB	changing heading moving across the ridge toward the E slope; XS Photo; hard bottom; Rock;		☑
					Fish - graysby grouper		
7/10/2012 1:22:00 PM	32.272722	-79.164212	-52		on east slope now, very narrow ridge		☐
7/10/2012 1:22:16 PM	32.272729	-79.164142	-51	HB	hard bottom; Rock; Top of ridge; heading to east slope		☐
7/10/2012 1:22:29 PM	32.272738	-79.164004	-50.8	HB	10 m width to the east side; rock slabs to sediment; sand depth is		☐
					Fish - scamp grouper;		
7/10/2012 1:23:00 PM	32.272740	-79.164035	-51.8			scamp, red porgy, grey triggerfish, lionfish, grouper?, lionfish, scamp, lionfish x2, reef butt, squirrelfish, lionfish, blackbar soldierfish, scorpionfish, wrasse, scamp x2	☐
7/10/2012 1:23:37 PM	32.272874	-79.164140	-53.3	HB	hard bottom; Rock; on the top of the ridge; east side; at the end of the porposed xs line; XS Photo; the MB shows it fading to a deeper are but there is still HB; .5 m relief rock pavement		☑
7/10/2012 1:24:50 PM	32.273097	-79.163964	-51.4	HB	3-4 m diam rock slabs; 0.5 m relief; less rugose; .5-1m ledges; end of proposed xs line. We are continuing NE along the ridge		☐
					Fish - tomtate;		
					Fish - scamp grouper;		
					Fish - lionfish;	3	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 1:26:20 PM	32.273178	-79.163869	-52.8	HB	XS Photo; hard bottom; Rock boulder;		☑
					Fish - lionfish;	1	
					Fish - scorpion fish	Non XS - Random Photos;	
					Fish - scamp grouper;	colorchanger	
7/10/2012 1:29:50 PM	32.273373	-79.163794	-53.5	HB	XS Photo; hard bottom; Rock; rubble; soft bottom; east slope of the ridge		☑
					Fish - lionfish;	4	
					Por - Ircinia campana;		
					Por - Ircinia strobilina;		
7/10/2012 1:30:47 PM	32.273500	-79.163674	-52.8	HB	hard bottom; Rock; slab and pavement;		☐
					Fish - blue angelfish;		
					Fish - scorpion fish		
					Cni - Gorgonacea; Nicella	large	
					Por - Demospongiae; Callyspongia		
					Fish - tomtate;		
7/10/2012 1:31:40 PM	32.273623	-79.163604	-53.3	HB	hard bottom; Rock;		☐
					Fish - short bigeye;		
					Fish - blue angelfish;	2	
					Fish - scamp grouper;		
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 1:32:15 PM	32.273673	-79.163549	-53.1	HB	XS Photo; hard bottom; Rock;		☑
7/10/2012 1:33:00 PM	32.273753	-79.163484	-53.1		end of the dark orange part of the ridge on the MB but the ridge contiues as a lighter orange color to the NE		☐
					Species Observed		
					Fish - scamp grouper;		
					Fish - lionfish;	3	
					Fish - ocean surgeonfish		
					Fish - gray angelfish- juvenille	Non XS - Random Photos;	
7/10/2012 1:33:00 PM	32.273753	-79.163484	-53.1			sharpnose puffer, lionfish, ocean surgeonfish, school of tomtates, vermilion, AJ, juvenile grey or french angelfish, scamp, purple reeffish, stingray, lionfish, blue angelfish	☐
7/10/2012 1:35:49 PM	32.273981	-79.163291	-53.5	HB	hard bottom; Rock; Non XS - Random Photos;		☐
					Fish - stingray - southern?	no tail	
					Fish - spotfin hogfish		
					Fish - lionfish;	1	
					Fish - vermilion snapper		
7/10/2012 1:38:00 PM	32.274275	-79.163129	-52.8	HB	mostly low relief outcrops at base of ridge	lionfish, red porgy, lionfish, tomtates, reef butt, vermilion, cowfish, scamp	☐
7/10/2012 1:38:21 PM	32.274316	-79.163126	-53.3	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - blue angelfish;		
					Fish - lionfish;	2	
					Fish - red porgy		
7/10/2012 1:40:14 PM	32.274452	-79.162911	-52.4	HB	hard bottom; Rock; on main ridge; fractured rock slabs; 100 % cover; 0.5 m relief	same	☐
					Ech - Crinoidea		
					Fish - scamp grouper;		
					Fish - lionfish;		
					Cni - Gorgonacea; Diodogorgia	10 cm purple; knobby short branches	
					Fish - tomtate;		
7/10/2012 1:42:00 PM	32.274567	-79.162836	-52.6			squirrelfish, spotfin hogfish, school of tomtates, bluespotted cornetfish, scamp, red porgy, lionfish, Calamus, scamp, blue angelfish, wrasse, spotted goatfish, lionfish	☐
7/10/2012 1:42:31 PM	32.274598	-79.162746	-53.1	HB	hard bottom; Rock;		☐
					Fish - cornet fish		
					Fish - scamp grouper;		
7/10/2012 1:43:14 PM	32.274654	-79.162731	-52.4	HB	XS Photo; hard bottom; Rock;		☑
					Fish - tomtate;		
					Fish - spotted goatfish		
					Fish - blue angelfish;		
					Fish - Calamus porgy		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;		
7/10/2012 1:44:34 PM	32.274780	-79.162615	-53.5	HB	hard bottom; Rock; Non XS - Random Photos;		☐
					Fish - tomtate;		
					Cni - Stichopathes;		
					Fish - lionfish;		
7/10/2012 1:45:00 PM	32.274828	-79.162578	-52.8			lionfish, doctorfish, scamp, lionfish x3, sharpnose puffer, bank butterfly, spotfin hogfish, lionfish, purple reeffish, spotfin butt, 10 scamp, lionfish, 2 graysbys, lionfish, short bigeye, lionfish x2, school of tomtate, spotfin butt, lionfish x2, wrasse	☐
7/10/2012 1:45:25 PM	32.274870	-79.162546	-53.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - blue angelfish;		
					Fish - scamp grouper;	2	
					Fish - lionfish;		
					Fish - tomtate;		
					Fish - short bigeye;		
7/10/2012 1:46:47 PM	32.274954	-79.162466	-53.1	HB	hard bottom; Rock; Non XS - Random Photos;		☐
					Fish - lionfish;	3	
7/10/2012 1:47:41 PM	32.275081	-79.162366	-53.1	HB	XS Photo; hard bottom; Rock; Non XS - Random Photos;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
7/10/2012 1:49:55 PM	32.275335	-79.162208	-53.7	HB	XS Photo; hard bottom; soft bottom; Rock; on ridge; rock slabs; fractured; .5 m relief		☑
					Fish - graysby grouper	2	
					Fish - scamp grouper;	12+	
					Fish - reef butterflyfish		
					Fish - tomtate;		
					Fish - lionfish;	3	
7/10/2012 1:52:57 PM	32.275588	-79.162066	-53.9	HB	hard bottom; Rock;		☐
					Fish - lionfish;	6	
					Fish - short bigeye;		
					Fish - tomtate;		
					Fish - vermilion snapper		
7/10/2012 1:55:01 PM	32.275795	-79.161761	-52.2	HB	hard bottom; Rock; becoming more rugose; aproaching a darker red are on the MB		☐
					Fish - scamp grouper;	4	
					Fish - lionfish;	2	
					Fish - Calamus porgy		
7/10/2012 1:56:00 PM	32.275831	-79.161688	-52.4			lionfish, 3 lions, same group of scamp as before - 1 greyhead phase, filefish, 2 lionfish, tomtates, vermilion school, scorpionfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 1:56:32 PM	32.275895	-79.161624	-53.7	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	5	
					Fish - scamp grouper;	4	
					Fish - greyhaed scamp		
					Fish - blue angelfish;	2	
7/10/2012 1:58:42 PM	32.276116	-79.161466	-53.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - vermilion snapper		
					Fish - scorpion fish	Non XS - Random Photos;	
					Cni - Antipathidae;	bottle brushes	
					Fish - vermilion snapper		
					Fish - amberjack		
7/10/2012 2:00:00 PM	32.276110	-79.161369	-54.5	HB	hard bottom; Rock; fractured rock slabs; .5 m relief;	same;	☐
					Fish - lionfish;	4	
					Por - Demospongiae;	many spp	
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Nicella		
					Cho - Ascidacea; Didemnidae		
					Cni - Stichopathes;		
					Fish - scamp grouper;	12	
					Fish - vermilion snapper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	ROV 10	10-VII-12-3	South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Antipathidae; Antipathes	small white	
					Cni - Gorgonacea; Diodogorgia		
7/10/2012 2:00:00 PM	32.276110	-79.161369	-54.5			sharpnose puffer, lionfish, cornetfish, cubbyu, short bigeye, 2 scamp, 3 more scamp - probably following the ROV, sunshinefish, at least 20 scamp	☐
7/10/2012 2:01:48 PM	32.276326	-79.161347	-53.9	HB	hard bottom; Rock;		☐
					Fish - vermilion snapper		
					Por - Demospongiae;	tan cake	
					Fish - tomtate;		
					Fish - cornet fish		
					Fish - scamp grouper;	2	
					Fish - gray angelfish- juvenille		
7/10/2012 2:03:26 PM	32.276459	-79.161230	-53.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;	5	
					Fish - lionfish;	2	
					Fish - hamlet?	yellow unid?	
					Fish - spotfin butterflyfish		
7/10/2012 2:05:35 PM	32.276602	-79.161156	-52.4	HB	XS Photo; hard bottom; Rock; large rock outcrops; .5 m relief		☑
					Fish - scamp grouper;	20+	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207103	**ROV 10**	**10-VII-12-3**	**South Carolina, Edisto MPA, Station 15, ridge southwest and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 2:07:00 PM	32.276710	-79.161015	-53.9		end of dive		☐
7/10/2012 2:07:04 PM	32.276717	-79.161017	-53.9	SB	Recover (on deck); Off bottom; sandy bottom		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 3:45:29 PM					Objectives: ROV Dive 11, Site #- 10-VII-12-4. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°28.3200'N; 78°54.8400'W; 52 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect S to N along ridge oriented NE-SW, ~75 m wide. Multibeam pixel resolution ~20 m.		☐
7/10/2012 3:54:10 PM					Launch (start dive);	Dolphins and AJ;s are in the water column	☐
7/10/2012 3:57:15 PM	32.471844	-78.913806	-47.4		bottom in site; transect along narrow ridge; on MB apears to be ~50 m wide;		☐
7/10/2012 3:57:47 PM	32.471844	-78.913806	-47.4	HB	On bottom; flat pavement; low relief; 1-2 m ledge at the dropoff; west slope of ridge	dense cover of algae;	☐
					Alg - Chlorophyta;		
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
					Cni - Antipathidae; Antipathes		
7/10/2012 3:58:00 PM	32.471851	-78.913789	-47.2	HB	pavement on top		☐
7/10/2012 3:58:00 PM	32.471851	-78.913789	-47.2	HB	moderate relief outcrops, 3m relief	school of tomtates, vermilion, couple of grouper (scamp or gag), cornetfish, AJ, barracuda, queen angelfish, red porgy, lionfish, reef butterflyfish, bicolor damselfish, purple reeffish, sharpnose puffer	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 4:00:24 PM	32.472020	-78.913775	-49.5	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Swiftia		
					Fish - barracuda		
7/10/2012 4:00:49 PM	32.472015	-78.913781	-48.1	HB	XS Photo; hard bottom; Rock; base of drop off grades to sediment to west; top of wall 48 m; rugged drop off is rock slabs and boulders broken off the slope scattered over 15 m width. Top ledge is 2 m relief		☑
					Fish - tomtate;		
					Fish - lionfish;		
7/10/2012 4:02:21 PM	32.472005	-78.913663	-47.8	HB	hard bottom; Rock;		☐
7/10/2012 4:03:00 PM	32.472008	-78.913666	-47.2	HB	XS Photo; hard bottom; Rock; down shot of top edge of the drop off; xs along top edge of wall; 48 m;		☑
					Cni - Stichopathes;		
					Cni - Gorgonacea;	purple	
					Fish - sharpnose puffer		
					Cni - Gorgonacea; Swiftia	20 cm	
					Cni - Gorgonacea; Diodogorgia?		
					Alg - Phaeophyta; Sargassum		
					Cni - Hydroidolina;		
7/10/2012 4:03:00 PM	32.472008	-78.913666	-47.2	HB	pavement on top	sharpnose puffer, tattler, doctorfish, spotfin hogfish, purple reeffish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 4:04:37 PM	32.471835	-78.913388	-48.5	HB	hard bottom; Rock; east edge of the ridge; smooth flat rock; no ledges 100% cover of fauna; east side slopes off and is less rigose then the west		☐
					Cni - Gorgonacea;	purple 10 cm tall	
					Cni - Gorgonacea; Swiftia		
7/10/2012 4:06:00 PM	32.472140	-78.913457	-47.6	HB	moderate relief outcrops	red porgy, spotfin hogfish, 4 lionfish, tomtates, vermilion, 2 scamp, blue angelfish, snowy, squirrelfish, purple reeffish	☐
7/10/2012 4:06:04 PM	32.472149	-78.913451	-47.4	HB	hard bottom; Rock- wall; Non XS - Random Photos; west slope		☐
					Fish - lionfish;	4	
					Fish - tomtate;		
					Fish - vermilion snapper		
7/10/2012 4:06:55 PM	32.472380	-78.913438	-50.8	HB	soft bottom; Rock; west face; off ledge in sediment		☐
7/10/2012 4:07:34 PM	32.472382	-78.913332	-49.5	HB	XS Photo; hard bottom; Rock; large boulders and broken slabs		☑
					Fish - snowy grouper		
					Cni - Antipathidae;	white mesh fan	
					Fish - tomtate;	school	
					Fish - scamp grouper;	2	
					Fish - spotfin hogfish		
					Fish - blue angelfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 4:09:16 PM	32.472435	-78.913192	-49.5	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Cni - Stichopathes;		
7/10/2012 4:09:48 PM	32.472468	-78.913130	-48.7	HB	XS Photo; hard bottom; Rock;		☑
					Alg - Phaeophyta; Dictyota		
7/10/2012 4:10:00 PM	32.472475	-78.913125	-48.5			lionfish, bank butterfly, lionfish, blue angelfish, lionfish, reef buts, scamp, graysby, scamp, graysby, Calamus	☐
7/10/2012 4:10:11 PM	32.472481	-78.913099	-49.1	HB	hard bottom; transeting along west slope of ridge; 1-2 m relief on upp part of slope		☐
					Fish - blue angelfish;		
					Fish - lionfish;	2	
					Fish - tomtate;		
7/10/2012 4:11:08 PM	32.472618	-78.912973	-49.9	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Fish - lionfish;		
					Fish - blue angelfish;		
					Fish - tomtate;		
7/10/2012 4:11:52 PM	32.472735	-78.912882	-50.3	HB	Rock; slabs. .5 m relief; boulders		☐
7/10/2012 4:12:07 PM	32.472731	-78.912857	-49.5	HB	XS Photo; hard bottom;Rock;		☑
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - graysby grouper	2	
7/10/2012 4:14:00 PM	32.472749	-78.912703	-49.3	HB	low relief outcrops at base of ridge	lionfish	☐
7/10/2012 4:14:34 PM	32.472765	-78.912646	-46.8	HB	XS Photo; hard bottom; Rock;		☑
7/10/2012 4:14:57 PM	32.472699	-78.912632	-47	HB	along NW edge of the MB on top of the ledge		☐
					Fish - lionfish;		
					Cni - Gorgonacea; Nicella	40 cm, purple	
					Alg - Phaeophyta; Sargassum		
					Por - Demospongiae; Aplysina	cluster tube sponge	
					Por - Demospongiae; Axinellida	orange	
7/10/2012 4:15:00 PM	32.472683	-78.912617	-47.4	HB	pavement on top		☐
7/10/2012 4:16:00 PM	32.472811	-78.912497	-47.4	HB	moderate relief outcrops	scamp, school of tomtate, spotfin hogfish, sharpnose puffer, parrotfish, lionfishx2, scamp, vermilion, graysby, lionfish x4, banded butterflyfish, queen angelfish, reef butterfly, lionfish	☐
7/10/2012 4:16:26 PM	32.472883	-78.912502	-47	HB	hard bottom; Rock;		☐
					Fish - scamp grouper;	4	
7/10/2012 4:16:51 PM	32.472906	-78.912468	-47.4	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - sharpnose puffer		
					Fish - lionfish;		
7/10/2012 4:18:06 PM	32.473061	-78.912200	-47.4		top of terrace;	dense and diverse sponges, algae and gorgs	☐
					Mol - helmit conch	dead	
					Fish - lionfish;		
					Fish - tomtate;		
					Fish - vermilion snapper		
7/10/2012 4:19:21 PM	32.473185	-78.912054	-48.7	HB	XS Photo; hard bottom; Rock;		☑
					Fish - graysby grouper		
					Fish - tomtate;		
					Fish - vermilion snapper		
					Fish - lionfish;		
					Fish - scamp grouper;		
7/10/2012 4:20:05 PM	32.473241	-78.911979	-48.9	HB	hard bottom; Rock; xs along top and part way down the west side		☐
					Fish - banded butterflyfish	2	
					Por - Ircinia campana;		
					Fish - lionfish;		
					Cni - Antipathidae;	white fan	
7/10/2012 4:21:39 PM	32.473394	-78.911742	-49.3	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
					Fish - tomtate;		
					Fish - vermilion snapper		
7/10/2012 4:23:00 PM	32.473478	-78.911619	-49.5			lionfish, burrfish	☐
7/10/2012 4:23:54 PM	32.473581	-78.911423	-48.7	HB	XS Photo; hard bottom; Rock; ridge >60 m wide;		☑
					Cni - Gorgonacea; Swiftia	a bunch	
7/10/2012 4:24:00 PM	32.473584	-78.911402	-49.1	HB	pavement on top	parrotfish	☐
7/10/2012 4:24:59 PM	32.473690	-78.911141	-49.5	HB	hard bottom; Rock; on west slope; Slope- moderate (<35o); jumbled rock slabs;		☐
					Fish - gag grouper		
					Fish - lionfish;		
7/10/2012 4:25:00 PM	32.473691	-78.911142	-49.3	HB	moderate relief outcrops	lionfish, gag	☐
7/10/2012 4:26:28 PM	32.473954	-78.910660	-48.5	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	4	
					Fish - blue angelfish;		
					Fish - cornet fish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 4:27:00 PM	32.473910	-78.910548	-46.4			4 lionfish, spotfin butterflyfish, tomtate school, cornetfish x2, lionfish, hogfish x2, vermilion, blue angel, lionfish, spotfin hogfish, lionfish, bank butterflyfish, yellow wrasse, spanish hogfish, Calamus, graysby, lionfish, blackbar soldierfish	☐
7/10/2012 4:28:44 PM	32.474185	-78.910374	-49.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - hogfish		
					Fish - hogfish	dark phase	
					Fish - lionfish;	2	
7/10/2012 4:30:32 PM	32.474304	-78.910124	-48.3	HB	hard bottom; Rock; west slope of ridge;		☐
					Cho - Ascidacea; Didemnidae		
					Fish - blue angelfish;		
					Fish - lionfish;		
					Fish - spanish hogfish		
					Fish - tomtate;		
7/10/2012 4:32:42 PM	32.474496	-78.909843	-47.2	HB	hard bottom; Rock;		☐
					Fish - blue angelfish;		
					Fish - graysby grouper		
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/10/2012 4:33:26 PM	32.474604	-78.909677	-47.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - blackbar soldierfish		
					Fish - gag grouper		
					Fish - squirrelfish		
					Fish - spotfin hogfish		
					Fish - lionfish;		
					Fish - squirrelfish		
7/10/2012 4:34:00 PM	32.474675	-78.909617	-48.5			gag, scamp, graysby or cubbyu, spotfin hogfish, tomtates, purple reeffish, vermilion, squirrelfish, lionfish, reef butt, lionfish, graysby?	☐
7/10/2012 4:34:24 PM	32.474743	-78.909527	-47.6	HB	hard bottom; Rock;		☐
					Fish - reef butterflyfish		
					Fish - lionfish;		
					Fish - graysby grouper?	maybe a cubyiu	
					Fish - scamp grouper;	3	
					Fish - Calamus porgy		
7/10/2012 4:35:53 PM	32.474879	-78.909335	-49.3	HB	XS Photo; hard bottom; Rock; at the base of the wall;		☑
					Cni - Corallimorpharia		
7/10/2012 4:36:44 PM	32.475006	-78.909186	-49.9	HB	soft bottom; Rock; .5 m relief; base of wall; 15 m from the base of the wall to the top of the wall;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
					Fish - reef butterflyfish		
					Cni - Gorgonacea; Nicella	Purple	
					Cni - Gorgonacea; Swiftia		
					Fish - tomtate;		
7/10/2012 4:38:13 PM	32.475146	-78.908941	-47.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
					Fish - graysby grouper		
7/10/2012 4:39:00 PM	32.475204	-78.908821	-47.4			blackbar soldierfish, lionfish, tomtate school , grey snapper, scamp, AJ, bicolor damsel, spotfin butterflyfish, vermilion	☐
7/10/2012 4:40:03 PM	32.475310	-78.908673	-48.7	HB	hard bottom; Rock; lower slope on west side of ridge		☐
					Fish - gray snapper		
7/10/2012 4:40:41 PM	32.475403	-78.908529	-47.2	HB	XS Photo; hard bottom; Rock; Slope- moderate (<35o);		☑
					Cni - Gorgonacea; Swiftia	6- cm tall Non XS - Random Photos;	
					Cni - Gorgonacea; Ellisella	EB	
7/10/2012 4:42:46 PM	32.475487	-78.908479	-49.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - spotfin butterflyfish		
					Fish - scamp grouper;		
					Alg - Cyanophyta;	on sedimnet	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - Calamus porgy		
					Fish - lionfish;		
7/10/2012 4:43:00 PM	32.475523	-78.908450	-49.3			lionfish, Calamus, school of tomtates, vermilion, blue angelfish, lionfish, spotfin hogfish, bigeye, squirrelfish, YTR, blackbar soldierfish, sharpnose puffer, grey trigger, scamp?	☐
7/10/2012 4:44:20 PM	32.475700	-78.908161	-48.5	HB	hard bottom; Rock;		☐
					Fish - tomtate;		
					Fish - lionfish;		
7/10/2012 4:45:15 PM	32.475762	-78.908069	-48.1	HB	XS Photo; hard bottom; Rock; west slope; Non XS - Random Photos;		☐
					Fish - bigeye	not short	
					Fish - blue angelfish;		
7/10/2012 4:46:04 PM	32.475846	-78.908036	-47.4	HB	hard bottom; Rock; on transect line ontop of the ridge; top of the edge is dense cover of fauna	purple gorgs; hydroids; dense cover of fauna	☐
					Fish - lionfish;		
					Fish - tomtate;		
					Alg - Phaeophyta; Dictyota		
7/10/2012 4:47:38 PM	32.475964	-78.907885	-45.3	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea; Swiftia		
					Fish - gray triggerfish	6	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Ircinia campana;		
					Fish - scamp grouper;		
7/10/2012 4:48:00 PM	32.476007	-78.907880	-47	HB	pavement on top	lionfish, parrotfish, sharpnose puffer	☐
7/10/2012 4:48:33 PM	32.476002	-78.907685	-47.4	HB	soft bottom; pavement; ol flat pavement		☐
					Cni - Hydroidolina;		
					Alg - Phaeophyta; Dictyota		
					Por - Demospongiae; Aplysina	cluster HT	
7/10/2012 4:49:43 PM	32.476170	-78.907488	-46.6	HB	XS Photo; hard bottom; Rock;	zoom on algae - photo of Dictyota	☑
					Alg - Rhodophyta;	bifurcate blades	
7/10/2012 4:51:15 PM	32.476238	-78.907402	-47.4	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Diodogorgia		
					Por - Demospongiae;	encrusting yellow	
7/10/2012 4:52:00 PM	32.476269	-78.907384	-46.2	HB	moderate relief outcrops, going over ledge	scorpionfish, spotfin hogfish, tomtates, purple reeffish, vermilion, lionfish, bank butt, juvenile blue/queen angelfish, AJ, yellow wrasse	☐
7/10/2012 4:52:04 PM	32.476286	-78.907376	-46	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
					Cni - Gorgonacea; Ellisellidae	sparse EB white	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tomtate;		
					Fish - scorpion fish	in xs photo	
					Fish - spotfin hogfish		
					Por - Demospongiae;	sherical orange - 5 cm	
7/10/2012 4:53:31 PM	32.476494	-78.907062	-46.8	HB	hard bottom; Rock;		☐
					Fish - blue angelfish	juvenile	
					Fish - bank butterflyfish		
7/10/2012 4:54:40 PM	32.476541	-78.907031	-47.2	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;		
7/10/2012 4:55:40 PM	32.476752	-78.906783	-47.2	HB	west slope; Hard bottom;		☐
					Fish - blue angelfish;		
					Fish - short bigeye;	3	
					Por - Demospongiae;	yellow EB	
7/10/2012 4:56:00 PM	32.476721	-78.906717	-46.8	HB	pavement on top	sunshinefish, sharpnose puffer, short bigeye, blue angelfish, tattler, spotfin hogfish, parrotfish, scamp	☐
7/10/2012 4:56:52 PM	32.476710	-78.906512	-47	HB	XS Photo; hard bottom; Rock; xs across the ridge to the east slope;		☑
					Cni - Gorgonacea; Swiftia		
					Cni - Gorgonacea; Diodogorgia		
					Por - Demospongiae; Axinellida		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae; Aplysina		
7/10/2012 4:57:54 PM	32.476894	-78.906126	-47.4	HB	crossing over the top of the ridge; hard bottom; with sediment veneer		☐
					Fish - short bigeye;		
					Por - Demospongiae;	tan cake	
					Por - Demospongiae; Aplysina	cluster of finger tubes	
					Alg - Phaeophyta; Sargassum		
7/10/2012 4:59:46 PM	32.476976	-78.905824	-47		changing DVD		☐
					Alg - Rhodophyta;	flat blade; bifurcate	
7/10/2012 5:00:49 PM	32.476989	-78.905762	-46.6		XS Photo;		☑
7/10/2012 5:00:59 PM	32.477009	-78.905778	-47.4		changing back towards the west; there was a boat in the way;		☐
					Fish - cowfish		
					Cni - Gorgonacea; Swiftia		
					Fish - scamp grouper;		
7/10/2012 5:01:50 PM	32.477089	-78.905802	-47.2		start DVD 24		☐
7/10/2012 5:02:16 PM	32.477018	-78.905686	-47.2	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 5:02:37 PM	32.477002	-78.905638	-47		heading east side again; going to see if the tether will let us get that far since the boat drifted a bit the the east		☐
					Por - Demospongiae;	purple	
					Por - Demospongiae;	tan cake sponge	
7/10/2012 5:03:37 PM	32.477070	-78.905432	-45.8	HB	top of ridge; hard bottom; rock pavemetn low relief;		☐
7/10/2012 5:04:39 PM	32.477127	-78.905287	-48.1	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea; Titanideum frauenfeldii?	tube - Non XS - Random Photos;	
7/10/2012 5:05:00 PM	32.477114	-78.905258	-47.8			reef butterflyfish, blue angelfish, YTR, bank butt, sharpnose puffer, tattler, cowfish, bandtail puffer, porgy, wrasse	☐
7/10/2012 5:06:58 PM	32.477013	-78.904947	-47.8	HB	XS Photo; hard bottom;		☑
					Por - Demospongiae; Astorphorida; Geodia?	20-30 cm hemispherical white	
					Por - Ircinia campana;		
					Cni - Gorgonacea; Diodogorgia	dense	
7/10/2012 5:09:14 PM	32.477256	-78.904692	-48.7	HB	XS Photo; hard bottom; at the east fase of the ridge on the MB;		☑
					Fish - cowfish		
7/10/2012 5:09:57 PM	32.477446	-78.904642	-48.3	HB	Hard bottom; 100% pavement; no relief; smooth rock; flat bottom;	swiftia, Eudistoma; finger aplysina; dictyota; sparse fish; little habitat; tan cake sponge	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/10/2012 5:11:00 PM	32.477720	-78.904327	-47.8	HB	going over southeast ledge, low relief outcrops	spotfin butterflyfish, spotfin hogfish, bandtail puffer, reef butt, lionfish, blue angel, Calamus	☐
7/10/2012 5:11:33 PM	32.477740	-78.904223	-47.2	HB	XS Photo; hard bottom; 30-50 m east of the transect line ontop of the ridge; few rock boulders and slabs		☑
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Alg - Phaeophyta; Dictyota		
7/10/2012 5:12:45 PM	32.477720	-78.904061	-47.6	HB	hard bottom; boat is heading northeast; we are at the end of the xs line; we are changing from heading e to the NE parallel to the base of the E slope; 100 % rock pavement		☐
					Por - Demospongiae;	globby brown sponges	
7/10/2012 5:14:02 PM	32.477870	-78.904057	-48.1	HB	XS Photo; hard bottom;		☑
					Cni - Gorgonacea; Swiftia	photo	
					Cni - Gorgonacea; Swiftia	white polyps - photo	
					Fish - lionfish;		
					Por - Demospongiae;	flat topped orange	
7/10/2012 5:16:00 PM	32.478187	-78.903749	-47	HB	pavement on top	balloon/porcupinefish	☐
7/10/2012 5:16:04 PM	32.478190	-78.903758	-47	HB	XS Photo; hard bottom; middle of the ridge; rock pavement;		☑
					Alg - Phaeophyta; Sargassum		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	ROV 11	10-VII-12-4	South Carolina, Edisto MPA, Station 16, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - puffer		
7/10/2012 5:18:00 PM	32.478407	-78.903404	-47.2	HB	going over southeast ledge, low relief outcrops	scamp, grey snapper x3, scamp, grey trigger, red porgy, Calamus, rock beauty, scamp, reef butterflyfish, sharpnose puffer, cowfish, lionfish, spotfin hogfish, lionfish, purple reeffish	☐
7/10/2012 5:18:18 PM	32.478398	-78.903422	-47.4	HB	XS Photo; hard bottom; pavement;		☑
					Fish - gray snapper 4		
					Fish - scamp grouper;		
7/10/2012 5:19:59 PM	32.478595	-78.903211	-46.6	HB	hard bottom; pavement; top of ridge aproaching the western ledge; near the track line;		☐
7/10/2012 5:20:51 PM	32.478672	-78.903088	-47.4	HB	XS Photo; hard bottom; pavement;		☑
					Fish - scamp grouper;		
					Fish - cowfish		
7/10/2012 5:23:24 PM	32.478856	-78.902826	-47.2	HB	XS Photo; hard bottom; on top of ridge; near transect line;		☑
					Fish - lionfish; 2		
7/10/2012 5:25:00 PM	32.479105	-78.902651	-45.8		end of dive		☐
7/10/2012 5:25:25 PM	32.479139	-78.902588	-46.6	HB	hard bottom; on track line; rock pavement low relief		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207104	**ROV 11**	**10-VII-12-4**	**South Carolina, Edisto MPA, Station 16, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/10/2012 5:25:44 PM	32.479162	-78.902563	-46.2	HB	XS Photo; hard bottom;		☑
7/10/2012 5:25:52 PM	32.479165	-78.902560	-46	HB	End dive hard bottom; on track line; rock pavement low relief		☐
7/10/2012 5:27:26 PM	32.479207	-78.902589	-41		Off bottom;		☐
7/10/2012 5:30:07 PM					stopping DVD and HD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	**ROV 12**	**11-VII-12-2**	**South Carolina, Edisto MPA, Station 18, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012					Objectives: ROV Dive 12, Site #- 11-VII-12-2. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°28.6200'N, 78°55.0200'W; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect along ridge, oriented SW-NE.		☐
7/11/2012 7:57:00 AM					Launch (start dive);		☐
7/11/2012 7:59:00 AM				HB	moderate relief outcrops, 1-2m , going over ledge	scamp, lionfish, school of tomtate & vermilion, lionfish, short bigeye, reef butt, scamp on top of ledge, scorpionfish, 2 lionfish, purple reeffish, blackbar soldierfish, sharpnose puffer, graysby	☐
7/11/2012 7:59:34 AM				HB	On bottom; Rugged moderate relief; rock slabs; undercut 1-2 m relief; multibeam shows a narrow ridge; orented NE to SW		☐
7/11/2012 8:00:00 AM	32.477005	-78.916883	-46.6	HB	On bottom; Time aporoximate; west slope of ridge; base 48 m top 45 m fractured rock slabs; upper slope 1-2 m relief; 20 degree slope; lower slope 2-4 m diam rock slabs .5 m reliefl slope width 10 -15 m; sediment west of slope		☐
					Cni - Gorgonacea; Nicella	20 cm purple	
					Cni - Stichopathes;		
					Cni - Gorgonacea; Swiftia		
					Cni - Antipathidae;	bushy white	
					Por - Demospongiae; Spirastrellidae		
					Cni - Hydroidolina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Diodogorgia	10 cm purple	
					Ech - Holothuroidea;		
					Alg - Phaeophyta; Dictyota		
7/11/2012 8:02:03 AM	32.477141	-78.916821	-44.7	HB	.5 m relief at the base; grades into sand; 45 m ontop of the ridge; upper slope; rock slabs fracture; 1-2 m relief;		☐
7/11/2012 8:03:00 AM	32.477076	-78.916712	-44.1		top of ridge is 45m	lionfish	☐
7/11/2012 8:03:00 AM	32.477076	-78.916712	-44.1	HB	moderate relief outcrops, 1-2m	4 lionfish, scamp, red porgy, Calamus, blue angelfish, bluespotted cornetfish, scamp, sharpnose puffer, lionfish, spotfin hogfish, bicolor damselfish, lobster x2, graysby, spotfin butt	☐
7/11/2012 8:03:39 AM	32.477078	-78.916683	-44.7	HB	hard bottom; Rock;		☐
7/11/2012 8:05:12 AM	32.477212	-78.916602	-44.1	HB	hard bottom; pavement;	lobster; grasby;	☐
7/11/2012 8:07:00 AM	32.477222	-78.916554	-44.7			lionfish x3, short bigeye, graysby, scorpionfish, red porgy, grey triggerfish, scamp x2, greater AJ, lionfish, tomtate, vermilion, grey angel, lionfish, scamp, scamp, lionfish x3, scamp x2	☐
7/11/2012 8:09:28 AM	32.477318	-78.916371	-45.1				☐
					Cni - Hydroidolina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 8:10:05 AM	32.477277	-78.916305	-45.6				☐
					Species Observed		
					Fish - vermilion snapper		
7/11/2012 8:12:07 AM	32.477344	-78.916118	-47.2	HB	East wall; east slope of the ridge rock slabs; 1-2 m relief; at base we are at 48.5 m; in the sand; rock boulders .5 m relief; 30 cm relief		☐
7/11/2012 8:14:00 AM	32.477447	-78.915797	-46	HB	base of the ridge is low relief outcrops		☐
7/11/2012 8:14:00 AM	32.477447	-78.915797	-46	HB	moderate relief outcrops	grey angel, red porgy, lionfish x2, cowfish, spotfin hogfish, tomtates, bank butt, spotfin butt, lionfish, cowfish	☐
7/11/2012 8:14:52 AM	32.477600	-78.915921	-45.8	HB	hard bottom; Rock; Top of east wall 45 m fractured rocl slabs	dense cover fauna	☐
					Fish - lionfish;		
					Alg - Phaeophyta; Dictyota		
					Cni - Gorgonacea; Nicella		
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Telesto		
7/11/2012 8:15:57 AM	32.477673	-78.916035	-42.4	HB	hard bottom; Rock; soft bottom; at base of wall		☐
					Cni - Gorgonacea; Swiftia		
7/11/2012 8:16:30 AM	32.477659	-78.915825	-45.6	HB	hard bottom; Rock; Back on west slope		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 8:16:43 AM	32.477687	-78.915753	-46.4	HB	soft bottom; patch of sand between rock ridge; ridge is narrow; maybe 50 m wide; base of the west side; 48.5 m		☐
7/11/2012 8:17:00 AM	32.477840	-78.915713	-46.8	HB	mostly sand, litle pavement	moray eel, 2 spot cardinalfish	☐
7/11/2012 8:17:30 AM	32.477877	-78.915556	-48.5	HB	hard bottom; 40 cm relief rock slabs;		☐
					Species Observed		
					Por - Demospongiae;	pink fingers	
					Cni - Gorgonacea; Diodogorgia	10 cm purple	
					Fish - moray eel		
7/11/2012 8:18:00 AM	32.477895	-78.915560	-47.8	HB	moderate relief outcrops	lionfish x2, lobster, lionfish, cowfish, bandtail puffer, spotfin hogfish, blue angelfish, lionfish, whitespotted soapfish, purple reeffish, Calamus	☐
7/11/2012 8:18:12 AM	32.477894	-78.915556	-47.8	HB	XS Photo; soft bottom; Rock; transecting base of the wall; Slope- moderate (<35o) - 20 degrees; extends over ~ 15 m on the lip;		☑
					Art - Panularis argus		
					Fish - short bigeye;		
					Fish - tomtate;		
					Cni - Hydroidolina;		
					Fish - cowfish		
					Fish - lionfish;	3	
					Cni - Gorgonacea; Diodogorgia		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 8:20:02 AM	32.478002	-78.915259	-44.5	SB	XS Photo; top of the west wall; transect to the NE; base of west wall transitions to sand very quickly;		☑
					Cni - Antipathidae;	Australian pinetree - new this area	
					Fish - soapfish		
					Fish - lionfish;	2	
7/11/2012 8:22:00 AM	32.478075	-78.915128	-44.9		NW side of ridge		☐
7/11/2012 8:22:15 AM	32.478082	-78.915067	-44.9	HB	XS Photo; hard bottom; Rock;		☑
					Alg - Rhodophyta;		
					Cni - Hydroidolina;		
					Por - Demospongiae;	pink lobate	
					Fish - sharpnose puffer		
					Fish - short bigeye;		
					Fish - tomtate;		
7/11/2012 8:23:00 AM	32.478069	-78.914999	-44.1		SW side of ridge		☐
7/11/2012 8:23:00 AM	32.478069	-78.914999	-44.1			school of tomtates, lionfish, short bigeye, scamp, blue angelfish, purple reeffish, reef butterflyfish, lobster, scamp, sharpnose puffer, graysby, blackbar soldierfish	☐
7/11/2012 8:23:19 AM	32.478028	-78.914946	-45.1	HB	hard bottom; Rock; large slabs of rock overlaying each other		☐
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Swiftia	40 cm Non XS - Random Photos;	
					Cni - Stichopathes;		
					Fish - blue angelfish;		
7/11/2012 8:24:34 AM	32.478064	-78.914803	-45.8	HB	XS Photo; hard bottom; Rock;		☑
					Por - Demospongiae;	thick walled vase sponge; Non XS - Random Photos;	
					Art - Panularis argus		
					Fish - scamp grouper;		
					Por - Ircinia campana;		
7/11/2012 8:26:03 AM	32.478217	-78.914508	-44.9	HB	hard bottom; Rock; ridge is bearly 20 m wide		☐
					Fish - UNID	small orange	
7/11/2012 8:26:45 AM	32.478317	-78.914381	-45.3	HB	XS Photo; hard bottom; Rock;		☑
					Ann - Filograna;		
					Fish - lionfish;		
7/11/2012 8:27:00 AM	32.478349	-78.914329	-47	SB	sand		☐
7/11/2012 8:27:03 AM	32.478369	-78.914336	-47.4	SB	soft bottom; on the sand between features;		☐
7/11/2012 8:28:00 AM	32.478556	-78.914399	-47.4	HB	low relief outcrops	scamp, grey triggers, red porgy	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 8:29:00 AM	32.478522	-78.914407	-46.4	SB	sand	razorfish, Calamus	☐
7/11/2012 8:29:04 AM	32.478521	-78.914422	-46.4	SB	XS Photo; soft bottom; Marsha is driving… don't judge		☑
7/11/2012 8:30:25 AM	32.478648	-78.914447	-46.4	SB	soft bottom; west of the ridge; on MB looks like there is a gap in the ridge - about 100 m long; 100% sediment; spase bioturbation		☐
					Fish - porgy		
7/11/2012 8:31:00 AM	32.478757	-78.914296	-48.1	HB	moderate relief outcrops	scamp, spotfin hogfish, Calamus, spotfin hogfish, gag, lionfish x5, grey trigger, lionfish	☐
7/11/2012 8:31:31 AM	32.478792	-78.914139	-47.6	SB	XS Photo; soft bottom;		☑
					Fish - scamp grouper;		
7/11/2012 8:32:17 AM	32.478730	-78.914001	-47.8	HB	Rock; soft bottom; XS along the base of the wall; rock boulders; low relief rock slabs		☐
					Fish - grouper		
					Fish - gag grouper		
					Fish - lionfish; 5		
7/11/2012 8:33:38 AM	32.478889	-78.913721	-45.1	HB	XS Photo; hard bottom; Rock; on MB we are back on the reef again after the gap; large overhangs;		☑
					Fish - lionfish; 3		
					Fish - spotfin hogfish		
					Fish - triggerfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - graysby grouper		
7/11/2012 8:34:00 AM	32.478944	-78.913664	-45.3			graysby, lionfish x3, grey trigger, red porgy, spotfin hogfish, tomtates, bandtail puffer, lionfish, scamp	☐
7/11/2012 8:35:53 AM	32.479065	-78.913521	-45.3	HB	XS Photo; hard bottom; Rock; west slope single ledge with a 2m tall undercut;		☑
					Fish - scamp grouper;		
					Por - Demospongiae; Axinellida	orange - EB	
7/11/2012 8:37:00 AM	32.479109	-78.913166	-44.7	SB	sand		☐
7/11/2012 8:37:36 AM	32.479212	-78.913181	-45.3	SB	soft bottom; multibeam shows ridge ending in a 50 m gap;		☐
7/11/2012 8:38:05 AM	32.479291	-78.913248	-47.6	SB	soft bottom; XS Photo;		☑
					Fish - red porgy		
					Fish - blue angelfish;		
					Ann - worm tubes	in the sediment	
7/11/2012 8:40:00 AM	32.479390	-78.913055	-47.2	HB	moderate relief outcrops	lionfish, reef butt, fishing line on bottom, lionfish, grey trigger, tomtates, spotfin hogfish, blue angelfish, lionfish, scamp, Ajs	☐
7/11/2012 8:40:21 AM	32.479385	-78.912960	-46.8	HB	XS Photo; soft bottom; Rocks; base of west slope; scattered rock slabs; 30 cm relief; Human Debris; fishing line or anchor line?		☑
					Cni - Hydroidolina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cho - Ascidacea; Eudistoma	grey	
					Fish - lionfish;	2	
					Cni - Gorgonacea; Diodogorgia		
7/11/2012 8:42:34 AM	32.479476	-78.912727	-45.1	HB	XS Photo; hard bottom; Rock; top of ledge		☑
					Por - Demospongiae; Aplysina?	yellow lobate conulose Non XS - Random Photos;	
					Cni - Gorgonacea; Telesto		
					Cni - Stichopathes;		
					Cni - Gorgonacea; Nicella	Purple	
7/11/2012 8:43:00 AM	32.479498	-78.912676	-44.5			scamp, lionfish, cowfish, running over to east slope, graysby, school of tomtates, reef butt, spotfin butt, lionfish, short bigeye, lionfish	☐
7/11/2012 8:44:24 AM	32.479585	-78.912558	-45.3	HB	hard bottom;		☐
					Cni - Antipathidae;	white bush	
7/11/2012 8:44:45 AM	32.479544	-78.912448	-45.6	HB	on the east slope of the feature; hard bottom; Rock;		☐
7/11/2012 8:45:10 AM	32.479540	-78.912376	-46	HB	XS Photo; hard bottom; Rock; east slop; spread over about 20 m; rock slabs; 10 degree slope; 1-2 m series of ledges on the slope; 3-4 m rock slabs on the base		☑
					Fish - tomtate;		
					Fish - short bigeye;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	**ROV 12**	**11-VII-12-2**	**South Carolina, Edisto MPA, Station 18, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 8:46:39 AM	32.479736	-78.912245	-44.7	HB	hard bottom; soft bottom; Rock; ridge ends in the video and on the MB; lowrelief rock slabs; .5 m relief;		☐
7/11/2012 8:47:00 AM	32.479765	-78.912153	-44.5			scamp, purple reeffish, lionfish, blackbar soldierfish, purple reeffish, sharpnose puffer, lionfish x8, bank butt, short bigeye, lionfish, graysby, lionfish, spotfin hogfish	☐
7/11/2012 8:47:22 AM	32.479805	-78.912074	-45.6	HB	XS Photo; hard bottom; Rock;		☑
7/11/2012 8:47:51 AM	32.479880	-78.912043	-42.2	SB	soft bottom; in between rocl features on the MB;		☐
					Fish - reef butterflyfish		
					Fish - lionfish;		
7/11/2012 8:49:03 AM	32.479778	-78.911945	-46	HB	hard bottom; Rock;		☐
					Fish - lionfish;	8 Non XS - Random Photos;	
7/11/2012 8:49:40 AM	32.479810	-78.911931	-45.1	HB	XS Photo; hard bottom; Rock;		☑
7/11/2012 8:50:03 AM	32.479868	-78.911883	-44.9	HB	hard bottom; west slope; rock feature is about 20 wide;		☐
					Ann - Filograna;		
					Cho - Ascidacea; Eudistoma	gray	
					Fish - lionfish;	3	
					Fish - graysby grouper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 8:52:00 AM	32.480075	-78.911517	-44.3			scamp, bandtail puffer, parrotfish?, lionfish, lionfish, Ajs, spotfin hogfish, doctorfish, Calamus, scamp x2, 5 lionfish, white grunt, graysby? Lionfish x3	☐
7/11/2012 8:52:18 AM	32.480073	-78.911507	-43.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;		
					Fish - blue angelfish;		
7/11/2012 8:53:07 AM	32.480028	-78.911363	-44.7	HB	hard bottom; Rock; top of ridge; flat pavement; eastern side of the top; low relief;		☐
7/11/2012 8:53:43 AM	32.480020	-78.911267	-44.5	HB	hard bottom; Rock; east slope; rocks trail off to the east into sediment;		☐
					Fish - grouper		
7/11/2012 8:54:28 AM	32.480103	-78.911164	-44.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - spotfin hogfish		
7/11/2012 8:55:13 AM	32.480246	-78.911097	-44.3	HB	hard bottom; soft bottom; Rock; back on the west side;		☐
					Fish - vermilion snapper		
					Fish - tomtate;		
					Fish - scamp grouper;		
7/11/2012 8:56:46 AM	32.480313	-78.911166	-45.6	HB	XS Photo; hard bottom; Rock; MB morphing into the ledge; 1 m relief ledges		☑
					Fish - white grunt		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;	8	
					Fish - spotfin butterflyfish		
					Fish - scamp grouper;		
7/11/2012 8:58:00 AM	32.480406	-78.910962	-46.8	SB	sand		☐
7/11/2012 8:58:06 AM	32.480425	-78.910946	-47	HB	hard bottom; soft bottom; Rock;		☐
					Fish - amberjack		
7/11/2012 8:58:29 AM	32.480462	-78.910863	-47.2	SB	soft bottom; changing DVD		☐
7/11/2012 8:59:32 AM	32.480586	-78.910863	-47.6	SB	soft bottom;		☐
7/11/2012 9:00:03 AM	32.480526	-78.910780	-47.6	SB	soft bottom; Human Debris - anchor		☐
					Mol - Cassius	20 cm helmit conch	
7/11/2012 9:01:55 AM	32.480750	-78.910719	-46.6	SB	soft bottom;	barren	☐
7/11/2012 9:03:00 AM	32.480682	-78.910476	-47.4	HB	moderate relief outcrops	lionfish x2, reef butterflyfish, lionfish, spotfin butterflyfish, sharpnose puffer, tomtates, lionfish, spotin hogfish, scamp, short bigeye,, lionfish x2, 7-8 lionfish, soapfish, scamp, lionfish, graysby?, lionfish, blackbar soldierfish, lionfish x2, Calamus, spotfin hog	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 9:03:23 AM	32.480611	-78.910429	-47.6	HB	hard bottom; Rock; starting reef again; low relief rock slabs;		☐
					Fish - soapfish		
					Fish - lionfish; 7		
7/11/2012 9:05:55 AM	32.480767	-78.910120	-45.6		XS Photo;		☑
					Fish - blackbar soldierfish		
					Fish - lionfish; 1		
7/11/2012 9:07:23 AM	32.480864	-78.909969	-47.2	HB	hard bottom; Rock; Non XS - Random Photos; rock outcrops		☐
					Fish - lionfish; 2		
					Fish - short bigeye;		
7/11/2012 9:08:00 AM	32.480899	-78.909903	-46			lionfish x7, scamp x4, lionfish, bigeye, lionfish, bigeye, grey snapper, 4 scamp (may be the same as before), bigeye, lionfish, cubbyu, school of tomtates, lionfish, gag, red porgy	☐
7/11/2012 9:08:03 AM	32.480889	-78.909899	-46	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish; 8		
					Fish - scamp grouper; 3		
					Fish - reef butterflyfish		
7/11/2012 9:10:02 AM	32.480939	-78.909676	-46.2	HB	hard bottom; Rock; low relief rock slabs; .5 m relief scattered; reef is ~15 m wide and 1 m tall		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;	4	
					Fish - bigeye	not short -3	
					Fish - snapper	3	
					Fish - lionfish;		
					Fish - porgy		
					Fish - tomtate;		
7/11/2012 9:12:02 AM	32.481079	-78.909569	-46.6	HB	hard bottom; soft bottom; Rock;		☐
					Fish - lionfish;		
					Fish - tomtate;		
					Por - Demospongiae;	orange balls	
					Fish - blackbar soldierfish		
					Cni - Hydroidolina;		
7/11/2012 9:12:38 AM	32.481162	-78.909490	-46	HB	XS Photo; hard bottom; Rock;		☑
7/11/2012 9:13:07 AM	32.481203	-78.909448	-45.8	HB	hard bottom; Rock;		☐
					Por - Demospongiae;	tan cake	
					Fish - goatfish		
					Fish - tomtate;		
					Fish - gag grouper		
7/11/2012 9:14:54 AM	32.481313	-78.909294	-47.4	SB	XS Photo; soft bottom; off west side of reef in sediment	sparse bioturbation	☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Cyanophyta;	on sed	
7/11/2012 9:15:00 AM	32.481348	-78.909276	-47	SB	sand		☐
7/11/2012 9:17:00 AM	32.481620	-78.909076	-46.6	HB	moderate relief outcrops	short bigeye, tomtate, purple reeffish, lionfish x3, reef butt, sharpnose puffer, lionfish, red porgies, lionfish, scamp, wrasse, grey snapper x8, lionfish, purple reeffish, sharpnose puffer, lionfish x2, school of tomtates, lionfish x2, scorpionfish, cal	☐
7/11/2012 9:17:01 AM	32.481617	-78.909076	-46.8	SB	XS Photo; soft bottom;		☑
7/11/2012 9:17:44 AM	32.481528	-78.908865	-47	HB	hard bottom; Rock; 1 m relief; on the west slope; 2-3 m rock slabs and 1 m relief		☐
					Fish - lionfish;	2	
					Cni - Antipathidae;	gray fan	
					Cni - Hydroidolina;		
					Por - Demospongiae;	pink encrusting	
					Por - Demospongiae; Axinellida		
					Cni - Stichopathes;		
					Fish - short bigeye;		
7/11/2012 9:18:45 AM	32.481587	-78.908805	-46.8				☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 9:18:45 AM	32.481587	-78.908805	-46.8	HB	hard bottom; soft bottom; Rock; undercut ledge on sand;		☐
7/11/2012 9:19:20 AM	32.481610	-78.908773	-46.4	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea; Telesto	Non XS - Random Photos;	
					Fish - lionfish;	2	
7/11/2012 9:20:02 AM	32.481627	-78.908736	-46.8	HB	west fast of the ridge; hard bottom; soft bottom; Rock;		☐
					Fish - scamp grouper;		
					Fish - lionfish;	1	
7/11/2012 9:21:31 AM	32.481665	-78.908583	-45.3	HB	XS Photo; hard bottom; in top of the ridge ~46.5 m		☑
					Cni - Gorgonacea; Swiftia	Non XS - Random Photos;	
					Fish - lionfish;		
					Cni - Gorgonacea; Ellisella	sparse EB	
					Fish - gray snapper	8	
					Cni - Stichopathes;		
7/11/2012 9:23:47 AM	32.481741	-78.908334	-46	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	4	
					Fish - short bigeye;		
					Fish - tomtate;		
					Fish - Calamus porgy		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	ROV 12	11-VII-12-2	South Carolina, Edisto MPA, Station 18, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - blackbar soldierfish		
7/11/2012 9:25:00 AM	32.481895	-78.908230	-46.6			nurse shark, lionfish x12 - 1 juvenile, lionfish x3, reef butterflyfish, 3 lionfish	☐
7/11/2012 9:25:32 AM	32.481969	-78.908128	-47.2	HB	hard bottom;		☐
					Fish - nurse shark	3 foot	
7/11/2012 9:26:19 AM	32.481989	-78.908131	-46.6	HB	XS Photo; hard bottom;		☑
					Fish - lionfish;	10	
7/11/2012 9:27:13 AM	32.482059	-78.907956	-47.6		Non XS - Random Photos;		☐
					Fish - Calamus porgy		
					Fish - lionfish;	baby - Non XS - Random Photos;	
					Fish - lionfish;	4	
7/11/2012 9:28:41 AM	32.482145	-78.907853	-45.3	HB	Rock; soft bottom;		☐
					Fish - lionfish;	3	
					Cni - Stichopathes;		
					Cni - Gorgonacea; Swiftia		
7/11/2012 9:29:50 AM	32.482088	-78.907604	-44.9	HB	top edge of reef 46 m low relief .5 m tall; XS Photo;		☑
7/11/2012 9:30:00 AM	32.482061	-78.907566	-45.1		end dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207112	**ROV 12**	**11-VII-12-2**	**South Carolina, Edisto MPA, Station 18, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 9:30:34 AM	32.482041	-78.907554	-43.9		Recover; Off bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	**ROV 13**	**11-VII-12-3**	**South Carolina, Edisto MPA, Station 19, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 10:16:00 AM					Objectives: ROV Dive 13, Site #- 11-VII-12-3. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°29.8200'N, 78°51.9600'W; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect along ridge to NE.		☐
7/11/2012 10:17:00 AM					Launch (start dive);		☐
7/11/2012 10:21:00 AM	32.496969	-78.866274	-44.7	HB	moderate relief outcrops, 2m outcrops, going over ledge	lionfish x3, graysby, 2 scamp, Calamus, reef butterflyfish, red porgy, tomtates, sharpnose puffer, purple reeffish, scampx3, lionfish x2, spotfin hogfish	☐
7/11/2012 10:21:03 AM	32.496969	-78.866274	-44.7	HB	On bottom; hard bottom; Rock; Non XS - Random Photos; 46.5 m top; rock slabs fractured, 1-2 m relief;		☐
					Cni - Hydroidolina;		
7/11/2012 10:22:36 AM	32.497029	-78.866191	-44.5	HB	hard bottom; Rock; top of reef		☐
					Cni - Hydroidolina;		
					Fish - scamp grouper;		
					Fish - lionfish; 4		
					Cni - Stichopathes;		
					Alg - Cyanophyta;		
7/11/2012 10:23:17 AM	32.497108	-78.866164	-46	HB	hard bottom; Rock; XS Photo; ridge on MB narrow 60 m wide NE-SW		☑
					Fish - porgy		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Nicella		
					Fish - lionfish;	1	
					Fish - scamp grouper;		
7/11/2012 10:24:37 AM	32.497088	-78.866098	-44.3	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Telesto		
					Fish - short bigeye;		
					Cni - Gorgonacea;		
					Alg - Phaeophyta; Dictyota		
					Fish - scamp grouper;	2	
7/11/2012 10:25:25 AM	32.497082	-78.866146	-45.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	2	
					Por - Ircinia campana;		
					Fish - tomtate;		
7/11/2012 10:26:00 AM	32.497053	-78.866064	-43.9			lionfish, school of tomtates, scamp x4, lionfishx3, graysby, squirrelfish, AJ, scamp, lobster x2, blue angelfish, lionfish, Calamus, scamp x2, cubbyu, short bigeye, big school of grey snapper, scamp, french angelfish	☐
7/11/2012 10:26:32 AM	32.496965	-78.865969	-45.8	HB	hard bottom; Rock; east slope; rock slabs 2-3 m diam, 1 m relief at top, 1/2 m at base; 15 m wide slope 10o; then sand		☐
					Fish - scamp grouper;	5	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 10:27:48 AM	32.497016	-78.865790	-47	HB	XS Photo; hard bottom; Rock;		☑
					Art - Panularis argus	2Non XS - Random Photos;	
					Fish - lionfish;	2	
					Cni - Gorgonacea; Swiftia		
					Cni - Stichopathes;		
					Cho - Ascidacea; Eudistoma		
7/11/2012 10:30:24 AM	32.497128	-78.865553	-44.5	HB	hard bottom; Rock; low relief slabs, 1/2 m, east slope		☐
					Fish - grey snapper	40+	
					Cni - Gorgonacea; Nicella		
					Fish - french angelfish		
7/11/2012 10:32:00 AM	32.497361	-78.865516	-44.5			doctorfish, scamp x3, sharpnose puffers, scamp x3, lionfish, school of tomtates, red porgy, lionfish, spotfin hogfish, line, lionfish x2, scamp, lionfish x2, 2 scamp, lionfish, sunshinefish, lionfish x2, 5 scamp, lionfish x6, scamp, lionfish, blackbar soldier	☐
7/11/2012 10:32:01 AM	32.497363	-78.865515	-44.7	HB	hard bottom; Rock; west slope;XS Photo;		☑
					Por - Ircinia campana;		
					Fish - scamp grouper;	2	
					Cni - Gorgonacea; Ellisellidae	eb	
					Por - Demospongiae; Axinellida	eb, or	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 10:33:27 AM	32.497278	-78.865531	-44.1	HB	hard bottom; rubble; pavement;		☐
					Fish - lionfish;		
7/11/2012 10:34:06 AM	32.497208	-78.865468	-45.3	HB	hard bottom; Rock; east slope, 1 m relief slabs		☐
					Fish - lionfish;		
7/11/2012 10:34:35 AM	32.497258	-78.865351	-44.9	HB	XS Photo; hard bottom; Rock;		☑
7/11/2012 10:34:56 AM	32.497249	-78.865299	-45.6	HB	hard bottom; Rock; Human Debris; anchor line?		☐
					Fish - lionfish;	7	
					Fish - scamp grouper;	3	
					Cni - Gorgonacea; Swiftia		
					Por - Demospongiae; Axinellida		
7/11/2012 10:36:44 AM	32.497329	-78.864927	-45.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;	5	
					Cni - Corallimorpharia		
					Fish - lionfish;	3	
					Cho - Ascidacea; Eudistoma		
7/11/2012 10:38:27 AM	32.497394	-78.864883	-45.1	HB	hard bottom; Rock;		☐
					Fish - lionfish;	1	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	pi ze	
					Fish - scamp grouper;		
7/11/2012 10:39:00 AM	32.497432	-78.864757	-45.8			lionfish x2	☐
7/11/2012 10:39:23 AM	32.497489	-78.864768	-45.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	3	
7/11/2012 10:39:57 AM	32.497511	-78.864737	-46.2	SB	soft bottom; end of reef on MB and video;	moderate bioturbation,	☐
					Alg - Phaeophyta;		
7/11/2012 10:40:00 AM	32.497542	-78.864710	-46.6	SB	sand		☐
7/11/2012 10:41:30 AM	32.497587	-78.864223	-46.2	SB	XS Photo; soft bottom; approx 200 m gap in reef on MB; Stacey driving		☑
7/11/2012 10:43:51 AM	32.497633	-78.864006	-46.8	SB	XS Photo; soft bottom;		☑
					Alg - Cyanophyta;		
7/11/2012 10:46:17 AM	32.497577	-78.863649	-45.8	SB	XS Photo; soft bottom;		☑
					Alg - Cyanophyta;		
7/11/2012 10:47:09 AM	32.497593	-78.863521	-43.7	HB	hard bottom; Rock; patch reef 48 m on sand at west base		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	**ROV 13**	**11-VII-12-3**	**South Carolina, Edisto MPA, Station 19, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 10:48:34 AM	32.497771	-78.863568	-46	SB	XS Photo; soft bottom;		☑
7/11/2012 10:50:04 AM	32.497871	-78.863756	-46.6	SB	soft bottom;		☐
					Alg - Cyanophyta;		
7/11/2012 10:50:50 AM	32.497894	-78.863651	-46	SB	XS Photo; soft bottom; about 50 m from reef on MB		☑
7/11/2012 10:52:00 AM	32.497774	-78.863393	-46.6	HB	hard bottom; Rock; start reef; base of reef; 46 m top of rock boulders,		☐
					Fish - scamp grouper; 3		
7/11/2012 10:52:00 AM	32.497774	-78.863393	-46.6	HB	moderate relief outcrops, 2m outcrops, going over ledge	scamps, spotfin hogfish, blue angelfish, purple reeffish, scamp x2, lionfish, Calamus, lionfish x3, sunshinefish, stingray, red porgy, purple reeffish, blue angelfish, gag, lionfish x2, vermilion	☐
7/11/2012 10:53:09 AM	32.497752	-78.863262	-44.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
					Cho - Ascidacea; Didemnidae		
					Cni - Gorgonacea; Telestacea		
					Cni - Hydroidolina;		
					Ann - Filograna;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 10:53:59 AM	32.497745	-78.863071	-44.5	HB	hard bottom; Rock; slabs 1-2 m relief;		☐
					Fish - southern stingray	Non XS - Random Photos;	
					Fish - lionfish;	3	
					Cni - Stichopathes;		
7/11/2012 10:55:12 AM	32.497917	-78.863025	-46	SB	XS Photo; soft bottom;		☑
7/11/2012 10:55:45 AM	32.497886	-78.862915	-44.9	HB	Rock; hard bottom; 1-2 m ledge		☐
					Cni - Gorgonacea; Telesto	Non XS - Random Photos;	
					Cni - Gorgonacea; Nicella		
					Por - Demospongiae; Spirastrellidae		
					Fish - gag grouper		
7/11/2012 10:57:00 AM	32.497890	-78.862876	-45.3			short bigeye, lionfish, blackbar soldierfish, lionfish x2	☐
7/11/2012 10:57:17 AM	32.497931	-78.862790	-44.7	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Swiftia		
					Fish - lionfish;	3	
					Por - Demospongiae;	tan cake	
					Cni - Hydroidolina;	2 spp	
7/11/2012 10:58:00 AM	32.497924	-78.862698	-45.3	SB	sand		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 10:58:30 AM	32.497904	-78.862571	-44.5	HB	hard bottom; Rock; low relief <1m		☐
7/11/2012 10:58:52 AM	32.498013	-78.862472	-44.9	SB	soft bottom, west of reef		☐
					Species Observed		
					Fish - lionfish;		
					Fish - scamp grouper; 3		
7/11/2012 10:59:00 AM	32.498009	-78.862476	-44.5	HB	moderate relief outcrops, 2m outcrops, going over ledge	scamp, red porgy, tomtate, spotfin hogfish, scamp x3, lionfish, scamp, line, reef butterflyfish, wrasse	☐
7/11/2012 10:59:48 AM	32.497963	-78.862497	-44.9	SB	XS Photo; soft bottom;		☑
					Alg - Cyanophyta;		
7/11/2012 11:00:02 AM	32.497959	-78.862509	-44.3	HB	Rock; hard bottom; low relief reef, <1m; MB very pale orange		☐
7/11/2012 11:02:01 AM	32.497964	-78.862448	-45.3	HB	XS Photo; hard bottom; Rock; base of reef		☑
					Fish - scamp grouper; 4		
					Fish - lionfish; 2		
7/11/2012 11:03:00 AM	32.497863	-78.862434	-45.8			Calamus, lionfish x3, scamp, blue angel, school of tomtates, lionfish, sharpnose puffer, reef butterflyfish, scamp x2, lionfish x4	☐
7/11/2012 11:04:13 AM	32.497910	-78.862211	-45.1	HB	XS Photo; hard bottom; Rock; low relief reef <1m; 10 m wide		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;	2	
					Fish - scamp grouper;	2	
					Alg - Phaeophyta; Sargassum		
7/11/2012 11:06:26 AM	32.497988	-78.861936	-45.1	SB	XS Photo; soft bottom; at base of reef		☑
					Fish - graysby grouper	Non XS - Random Photos;	
					Fish - cubyu	Non XS - Random Photos;	
					Fish - lionfish;	2	
7/11/2012 11:07:00 AM	32.497996	-78.861900	-46			2 graysbys, sharpnose puffer, cubbyu, lionfish, blue angelfish, spotfin butt, scamp, wrasse, scampx3, lionfish, red porgy, tattler, lionfish, scamp x3 (may be the same as before), lionfish x2, scamp	☐
7/11/2012 11:08:48 AM	32.498028	-78.861917	-45.3	HB	XS Photo; hard bottom; soft bottom; Rock;		☑
					Fish - scamp grouper;	4	
					Fish - lionfish;		
7/11/2012 11:10:02 AM	32.497994	-78.861770	-46.2	HB	hard bottom; Rock; west base of reef, low slabs, 1//2 m		☐
					Fish - lionfish;		
					Fish - scamp grouper;		
7/11/2012 11:11:03 AM	32.497975	-78.861740	-45.8	HB	XS Photo; soft bottom; hard bottom; Rock; photos off the reef in sand		☑
					Fish - amberjack	school	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Cyanophyta;		
					Fish - lionfish;	2	
7/11/2012 11:12:00 AM	32.498008	-78.861721	-46.4	SB	sand	school of greater Ajs	☐
7/11/2012 11:13:10 AM	32.497940	-78.861594	-46.6	SB	XS Photo; soft bottom; off reef; Stephanie at the wheel. Light orange in MB, no HB		☑
7/11/2012 11:15:32 AM	32.498043	-78.861337	-44.7	SB	XS Photo; soft bottom; off reef		☑
7/11/2012 11:17:50 AM	32.497869	-78.861376	-46.8	SB	XS Photo; soft bottom;		☑
7/11/2012 11:20:05 AM	32.497979	-78.861070	-46.6	SB	XS Photo; soft bottom; off reef		☑
					Fish - amberjack	school	
					Alg - Phaeophyta;		
7/11/2012 11:21:58 AM	32.498085	-78.860739	-47.4	HB	soft bottom; patch reef, low relief rock; 1-2 m diam boulders, 20 cm relief		☐
					Fish - scrawled cowfish		
					Cni - Gorgonacea; Nicella		
					Cni - Hydroidolina;		
					Fish - porgy		
7/11/2012 11:22:00 AM	32.498083	-78.860734	-47.2	HB	low relief outcrops	lionfish, red porgies, red porgies, spotfin hogfish, scrawled cowfish, blue angelfish, anchor, lionfish, scamp x2	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 11:24:03 AM	32.498046	-78.860463	-45.8	SB	soft bottom; Human Debris; cross bar anchor;		☐
7/11/2012 11:24:53 AM	32.498070	-78.860400	-45.8	SB	XS Photo; soft bottom;		☑
					Fish - lionfish;		
7/11/2012 11:25:00 AM	32.498111	-78.860389	-46.6	HB	moderate relief outcrops, 2m outcrops, going over ledge	school of tomtates, spotfin hogfish	☐
7/11/2012 11:25:07 AM	32.498126	-78.860364	-47	HB	hard bottom; Rock; 1 m slabs; 45 m on top; small patch; barely visible on MB		☐
					Por - Demospongiae; Spirastrellidae		
					Cni - Hydroidolina;	black sting	
					Cni - Gorgonacea;	pu	
7/11/2012 11:27:00 AM	32.498105	-78.860179	-46.6	SB	sand		☐
7/11/2012 11:27:39 AM	32.498044	-78.860153	-47.2	SB	soft bottom; off reef; flat	moderate bioturbation	☐
					Alg - Cyanophyta;		
7/11/2012 11:28:00 AM	32.497931	-78.860025	-47.6	HB	low relief outcrops	spotfin hogifsh, yellowtail reeffish, AJ	☐
7/11/2012 11:28:37 AM	32.497784	-78.860026	-46.2	HB	Rock; hard bottom; small low relief rock slabs 30 cm relief		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 11:29:00 AM	32.497791	-78.859923	-44.9	SB	sand	red porgy, Calamus	☐
7/11/2012 11:29:15 AM	32.497831	-78.859865	-47	SB	XS Photo; soft bottom; west of reef		☑
7/11/2012 11:30:00 AM	32.498116	-78.859656	-47.4	HB	low relief outcrops	reef butterfly, lionfish, short bigeye, tomtate, grey triggerfish, sharpnose puffer, spotfin butt, blue angelfish, wrasses	☐
7/11/2012 11:30:12 AM	32.498154	-78.859592	-47	HB	Rock; hard bottom; small patches, low relief rock slabs		☐
					Por - Demospongiae; Spirastrellidae		
					Fish - lionfish;		
					Cni - Hydroidolina;	2 spp	
7/11/2012 11:31:34 AM	32.498345	-78.859464	-46.8	HB	Rock; hard bottom; XS Photo; small patches of reef		☑
7/11/2012 11:32:00 AM	32.498441	-78.859495	-47.4	SB	sand		☐
7/11/2012 11:32:57 AM	32.498440	-78.859320	-46.4	HB	hard bottom; Rock; low relief rock slabs; start reef, light or on MB; 50 cm		☐
7/11/2012 11:33:00 AM	32.498440	-78.859314	-46	HB	moderate relief outcrops, 2m outcrops, going over ledge	doctorfish, spotfin hogfish, school of tomtates, Calamus, lionfish, reef butt, lionfish, scamp, rock beauty, lionfish x2, hogfish, AJ, scamp	☐
7/11/2012 11:34:05 AM	32.498471	-78.859088	-45.8	HB	XS Photo; hard bottom; Rock; 1m relief fractured slabs; 15 m wide		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - rock beauty	Non XS - Random Photos;	
					Fish - short bigeye;		
					Fish - scamp grouper;	2	
					Fish - hogfish	Non XS - Random Photos;	
					Fish - lionfish;	3	
7/11/2012 11:35:00 AM	32.498520	-78.859028	-45.3			4 scamp, lionfish x2, vermilion school, blue angelfish, lionfish x8, purple reeffish, lionfish x3	☐
7/11/2012 11:35:54 AM	32.498550	-78.858993	-45.1	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea; Swiftia		
					Cni - Hydroidolina;		
					Fish - scamp grouper;		
7/11/2012 11:36:40 AM	32.498573	-78.858928	-45.3	HB	hard bottom; Rock;		☐
					Cni - Hydroidolina;		
					Fish - lionfish;	10	
					Cni - Gorgonacea; Swiftia		
					Por - Demospongiae;	pink tubes	
7/11/2012 11:38:07 AM	32.498602	-78.858745	-43.9	HB	XS Photo; hard bottom; flat pavement; and boulders dropping into sand the SE.		☑
					Fish - spotfin hogfish		
					Fish - reef butterflyfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Phaeophyta; Dictyota		
					Fish - lionfish;	1	
					Por - Demospongiae;	bright red orange short lobate	
					Fish - tomtate;		
7/11/2012 11:39:00 AM	32.498613	-78.858506	-44.1			lionfish, school of tomtates, lionfish x2, reef butt	☐
7/11/2012 11:40:00 AM	32.498305	-78.858364	-46.6	SB	sand		☐
7/11/2012 11:40:17 AM	32.498205	-78.858366	-47.6	HB	XS Photo; hard bottom pavement;		☑
7/11/2012 11:40:41 AM	32.498201	-78.858330	-47	SB	soft bottom;		☐
					Alg - Cyanophyta;		
7/11/2012 11:41:00 AM	32.498316	-78.858158	-46.6	HB	low relief outcrops	toadfish, tattler, Calamus, blue angelfish, spotfin butterflyfish, reef butterflyfish,	☐
7/11/2012 11:41:04 AM	32.498330	-78.858135	-47.2	HB	hard bottom; Rock; loan rock in the middle of SB field; coming back onto rock;		☐
					Cni - Hydroidolina;		
					Cni - Gorgonacea;		
					Fish - toadfish	Non XS - Random Photos;	
7/11/2012 11:42:00 AM	32.498460	-78.858069	-46.8	HB	low relief hard bottom	queen & blue angels, lions, tomtates, calamus	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 11:42:13 AM	32.498514	-78.858006	-47.2	HB	hard bottom; Rock;		☐
					Species Observed		
					Fish - lionfish;		
					Fish - blue angelfish;		
7/11/2012 11:42:31 AM	32.498534	-78.858009	-46.6	HB	XS Photo; hard bottom; Rock; 50 cm relief patchy boudlers with sediment between the north side of the transect line;		☑
					Fish - lionfish;		
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
					Alg - Phaeophyta; Dictyota		
					Fish - gray angelfish		
					Fish - scamp grouper; 2		
7/11/2012 11:43:00 AM	32.498581	-78.857974	-46.6	HB	High relief hard bottom	scamp x3, tomtate, gray/french angels to left, spotfin hog, short bigeye, YTR	☐
7/11/2012 11:44:00 AM	32.498695	-78.857896	-44.9	SB	mostly sand	AJ, bank seabass. Blue angel, reef butterflies	☐
7/11/2012 11:44:46 AM	32.498613	-78.857669	-46.6	HB	XS Photo; hard bottom; Rock;		☑
7/11/2012 11:44:54 AM	32.498617	-78.857658	-44.5	SB	soft bottom; crossing over a sediment patch reef behind us small patches of larger boulders as the reef tapers out to the south;		☐
					Alg - Cyanophyta;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 11:46:21 AM	32.498525	-78.857694	-47.2	HB	Non XS - Random Photos; small patch of sed covered HB;		☐
					Cni - Gorgonacea;		
					Alg - Chlorophyta;		
7/11/2012 11:46:45 AM	32.498453	-78.857718	-47.8	SB	soft bottom;		☐
7/11/2012 11:47:02 AM	32.498366	-78.857751	-47.2	SB	XS Photo; soft bottom;		☑
7/11/2012 11:47:48 AM	32.498575	-78.857439	-47.2	HB	hard bottom; soft bottom; soft bottom; patches of small boulders is a field of sediment.		☐
					Alg - Chlorophyta;		
					Fish - bank seabass		
					Fish - blue angelfish;		
					Fish - reef butterflyfish		
					Cni - Gorgonacea;		
					Por - Demospongiae;		
7/11/2012 11:49:00 AM	32.498666	-78.857133	-47.6	HB	field of boulders	lions x8+,	☐
7/11/2012 11:49:08 AM	32.498644	-78.857106	-47	HB	hard bottom; soft bottom; larger boulders; increase;		☐
					Por - Ircinia campana;		
					Cni - Gorgonacea; Nicella		
					Fish - lionfish;	13	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 11:51:00 AM	32.498675	-78.856939	-47.2	SB	sand		☐
7/11/2012 11:51:14 AM	32.498599	-78.856942	-46.6	SB	soft bottom;		☐
7/11/2012 11:51:31 AM	32.498598	-78.856821	-47	SB	XS Photo; soft bottom;		☑
					Alg - Cyanophyta;		
7/11/2012 11:52:00 AM	32.498589	-78.856648	-46.6	HB	boulders	blue angels, YTR, tomtate, spotfin hogs	☐
7/11/2012 11:52:50 AM	32.498410	-78.856792	-46.8	HB	hard bottom; Rock; large patches of low relief <.5 m tall slabs; and 2-3 m diam; on mostly sandy bottom		☐
7/11/2012 11:53:50 AM	32.498389	-78.856563	-46.8	SB	XS Photo; soft bottom;		☑
7/11/2012 11:54:00 AM	32.498429	-78.856529	-47.2	SB	sand		☐
7/11/2012 11:54:00 AM	32.498429	-78.856529	-47.2	HB	large boulders	scamp, porgies, blue angels, lion, tang, calamus, reef butterflies, short bigeye	☐
7/11/2012 11:55:00 AM	32.498765	-78.856221	-46.4	HB	hard bottom; Rock slabs - 2-3 diam <.5 m relief patchy; Non XS - Random Photos;		☐
					Fish - scamp grouper;		
					Cni - Stichopathes;		
					Fish - lionfish;		

Species Observed

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	ROV 13	11-VII-12-3	South Carolina, Edisto MPA, Station 19, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 11:56:00 AM	32.498868	-78.856123	-46.4	HB	very lg rocks	tomtates, gray trigger, graysby, spotfin hogs, blue angel, sh bigeye	☐
7/11/2012 11:56:10 AM	32.498879	-78.856101	-46.4	HB	XS Photo; hard bottom; soft bottom; Rock; Human Debris; 46 m on top = 47.5 in the sand		☑
					Fish - graysby grouper	Non XS - Random Photos;	
					Alg - Phaeophyta; Dictyota		
					Fish - tomtate;		
					Fish - lionfish;		
					Por - Demospongiae; Axinellida	orange EB	
					Fish - triggerfish		
7/11/2012 11:58:00 AM	32.499001	-78.855914	-46.4	SB	end of boulder field; mono line, back out into sand	tomtates, graysby,	☐
7/11/2012 11:58:30 AM	32.498995	-78.855857	-45.8	HB	XS Photo; hard bottom; Rock; Human Debris - fishing line;		☑
					Fish - lionfish;		
7/11/2012 11:59:38 AM	32.499052	-78.855637	-47	SB	soft bottom; student driving lesson;		☐
					Fish - amberjack		
7/11/2012 12:00:41 PM	32.499123	-78.855587	-45.8	SB	XS Photo; soft bottom;		☑
7/11/2012 12:02:11 PM	32.499195	-78.855278	-44.5	HB	Rock; hard bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207113	**ROV 13**	**11-VII-12-3**	**South Carolina, Edisto MPA, Station 19, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 12:02:27 PM	32.499185	-78.855246	-42.8		Recover; Off bottom;		☐
7/11/2012 12:10:03 PM				HB	stop hard drive ; stop DVD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 12:45:07 PM					Objectives: ROV Dive 14, Site #- 11-VII-12-4. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°30.6600'N, 78°48.9600'W; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Single transect along NE-SW oriented ridge.		☐
7/11/2012 12:47:20 PM							☐
7/11/2012 12:47:25 PM					start DVD		☐
7/11/2012 12:47:59 PM					bottom in sight;		☐
					Cni - Stichopathes;		
					Cni - Gorgonacea; Swiftia	Non XS - Random Photos;	
7/11/2012 12:48:00 PM				HB	low relief outcrops	hogfish & jack swimming together, 2 rock hinds, squirrelfish, wrasse, spotfin hogfish, lionfish, tomtates, cubbyu, lionfish, sunshinefish, Calamus, sharpnose puffer, french angelfish, graysbys x2, soapfish, lionfish	☐
7/11/2012 12:49:07 PM	32.510778	-78.816043	-49.3	HB	On bottom; flat rock pavement; rubble; low relief <.5 m ; boulders < 1 m		☐
					Por - Demospongiae; Spirastrellidae		
					Fish - lionfish;		
					Cni - Stichopathes;		
					Fish - rock hind	2	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Ircinia campana;		
7/11/2012 12:50:24 PM	32.510880	-78.815888	-48.1	HB	hard bottom; Rock;		☐
					Alg - Chlorophyta;		
					Alg - Chlorophyta; Codium		
7/11/2012 12:50:51 PM	32.510900	-78.815960	-48.3	HB	XS Photo; low relief rock pavement; fracture		☑
					Fish - cubyu		
					Alg - Phaeophyta; Dictyota		
					Por - Demospongiae;	couple spp	
					Fish - lionfish;		
					Cni - Gorgonacea;	purple	
7/11/2012 12:51:46 PM	32.511011	-78.816102	-48.7	HB	hard bottom; soft bottom; Rock; pavement; start of xs line; rubble; low relief <.5 m; multibeam in the light orange;		☐
					Fish - graysby grouper	2	
					Fish - soapfish	Non XS - Random Photos;	
					Fish - lionfish;		
					Cni - Gorgonacea; Nicella		
					Por - Demospongiae; Axinellida		
					Alg - Phaeophyta; Sargassum		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 12:55:00 PM	32.511082	-78.816000	-48.9			tattler, graysby under rock?, spotfin butterflyfish, lionfish, scorpionfish hiding under coral, graysby, reef butterflyfish, purple reeffish, blue angelfish	☐
7/11/2012 12:55:17 PM	32.511130	-78.816026	-49.1	HB	hard bottom; Rock; pavement; soft bottom; cobble		☐
					Cni - Gorgonacea; Swiftia	40 cm	
					Alg - Chlorophyta;	leafy	
					Cho - Ascidacea; Eudistoma		
7/11/2012 12:56:54 PM	32.511330	-78.815921	-47.6	HB	XS Photo; pavement; hard bottom; Rock;		☑
					Fish - scorpion fish		
					Cni - Gorgonacea; Swiftia?	knocked over Non XS - Random Photos;	
					Fish - graysby grouper	2	
					Fish - blue angelfish;		
					Fish - lionfish;		
7/11/2012 12:58:00 PM	32.511447	-78.815862	-48.1			bicolor damselfish, graysby, tattler, bunch of bigeyes, purple reeffish, scamp x2, small school of greater AJ, , school of tomtates, scamp	☐
7/11/2012 12:59:06 PM	32.511521	-78.815596	-47	HB	XS Photo; pavement; Rock;		☑
					Cni - Gorgonacea; Swiftia	common	
7/11/2012 1:00:03 PM	32.511675	-78.815493	-47.6	HB	hard bottom; pavement; flat rock with sed veneer; no relief< .25 m	dominated by swiftia; stichopathes; dictyota; leafy greem and hydroids	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae; Aplysina	tube	
7/11/2012 1:01:19 PM	32.511775	-78.815441	-47.4	HB	XS Photo; pavement; Rock; .5 m relief; rock boulders;		☑
					Fish - amberjack		
					Fish - tomtate;		
					Por - Demospongiae; Callyspongia vaginalis		
7/11/2012 1:03:00 PM	32.511998	-78.815217	-47.2	HB	more relief now	bank butterfly, spotfin butterfly, sharpnose puffer, line, 6 scamp, school of tomtates, squirrelfish, blue angelfish, scorpionfish, spotfin hogfish	☐
7/11/2012 1:03:29 PM	32.512017	-78.815232	-47.2	HB	XS Photo; hard bottom; Rock; 1-2 m diam boulders. .5 m relief; ledge;		☑
					Cni - Gorgonacea; Diodogorgia		
					Fish - scamp grouper;	7	
					Alg - Phaeophyta; Dictyota		
7/11/2012 1:05:17 PM	32.512045	-78.815073	-47.8	HB	.5 to 1 m ledges		☐
					Fish - scorpion fish	2	
					Fish - squirrelfish		
					Fish - tomtate;	shitload	
					Fish - blue angelfish;		
					Fish - lionfish;		
7/11/2012 1:06:54 PM	32.512275	-78.814905	-49.3	HB	hard bottom; multibeam = on northwest side of the ledge		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Nicella		
					Por - Demospongiae; Aplysina	lobate purple and yellow	
7/11/2012 1:07:00 PM	32.512304	-78.814901	-49.7			lionfish, 10 scamp, shitloads of tomtates, spotfin hogfish, doctorfish, trumpetfish, rock beauty, lionfish, reef butterflyfish, blue angelfish	☐
7/11/2012 1:07:58 PM	32.512484	-78.814950	-50.3	HB	XS Photo; soft bottom; pavement;		☑
					Fish - lionfish;		
					Fish - scamp grouper;	10	
7/11/2012 1:09:18 PM	32.512460	-78.814809	-49.9	HB	hard bottom;		☐
					Fish - surgeonfish		
					Fish - trumpetfish		
					Fish - spotfin hogfish		
					Fish - tomtate;	many	
7/11/2012 1:10:16 PM	32.512507	-78.814667	-50.6	HB	hard bottom; Rock; patch low relief rock;	Non XS - Random Photos; (trumpetfish);	☐
					Alg - Chlorophyta;	leaft green	
					Alg - Rhodophyta;	flat CB	
7/11/2012 1:11:55 PM	32.512572	-78.814647	-50.8	HB	Rock; soft bottom;		☐
					Por - Demospongiae;	tan cake	
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - rock beauty		
7/11/2012 1:12:38 PM	32.512782	-78.814610	-50.3	HB	soft bottom; Rock; pavement; veenered; low relief; 30 m west of the feature on the MB		☐
					Fish - graysby grouper	3	
					Fish - lionfish;	2	
					Cni - Hydroidolina;	tall white pinnate	
7/11/2012 1:13:00 PM	32.512837	-78.814500	-51	HB	low relief outcrops	graysby x3, lionfish, reef butterflyfish, lionfish, purple reeffish, ~25 scamp, bank butterflyfish, graysby, lionfish	☐
7/11/2012 1:14:23 PM	32.513057	-78.814358	-50.3	HB	soft bottom; Rock; low relief boulders and soft bottom; sccattered slabs 1-2 m diam 30 cm tall		☐
					Fish - lionfish;		
					Fish - scamp grouper;	20+	
7/11/2012 1:17:00 PM	32.513184	-78.814255	-49.7	HB	moderate relief outcrops	school of tomtates, lionfish, aggregation of scamp following the ROV, bank butterflyfish, white grunt, bluespotted cornetfish	☐
7/11/2012 1:17:24 PM	32.513180	-78.814172	-48.7	HB	hard bottom; Rock; higher relief; just west of the wall 2 m ledge undercut		☐
					Fish - lionfish;		
					Fish - tomtate;		
7/11/2012 1:19:06 PM	32.513345	-78.813931	-48.3	HB	XS Photo; hard bottom; Rock; 46 m on top = 5 meter relief from sand to top of reef		☑
					Por - Demospongiae;	orange	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - cornet fish		
					Fish - lionfish;		
7/11/2012 1:21:07 PM	32.513845	-78.813797	-49.3	HB	XS Photo; Rock; soft bottom;		☑
					Alg - Phaeophyta; Sargassum		
					Fish - lionfish;		
7/11/2012 1:22:00 PM	32.513926	-78.813725	-48.1			lionfish, purple reeffish	☐
7/11/2012 1:22:57 PM	32.514080	-78.813829	-48.3	SB	soft bottom; 30 m west of track		☐
7/11/2012 1:23:36 PM	32.514122	-78.813867	-49.1	SB	XS Photo; soft bottom;		☑
7/11/2012 1:24:00 PM	32.514142	-78.813802	-48.3			line, scamp, tons of tomtates, lionfish x3, scamp, bicolor damselfish, spotted goatfish, 4 scamp, spotfin hogfish, squirrelfish, blackbar soldierfish, blue angelfish, sharpnose puffer	☐
7/11/2012 1:24:27 PM	32.514186	-78.813645	-49.3	HB	hard bottom; soft bottom; scattered boulders to large boulders and outcrops; Human Debris line; on reef on MB		☐
					Fish - tomtate;		
					Fish - scamp grouper;		
					Fish - lionfish;	3	
					Fish - blue angelfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 1:25:41 PM	32.514165	-78.813439	-49.3	HB	Non XS - Random Photos; Rock; hard bottom;		☐
7/11/2012 1:25:56 PM	32.514176	-78.813424	-49.5	HB	XS Photo; soft bottom; Rock; large rock outcrops; 50.5 m at the bottom on the sand; and 47. on top of the reef = 3.5 m relief		☑
					Fish - spotted goatfish		
					Fish - scamp grouper;	4	
					Fish - blue angelfish;		
					Por - Ircinia campana;		
7/11/2012 1:27:53 PM	32.514303	-78.813277	-46.6	HB	hard bottom; top of reef		☐
					Alg - Rhodophyta;	EB	
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Diodogorgia		
					Cho - Ascidacea; Didemnidae		
					Cni - Gorgonacea; Swiftia		
					Alg - Phaeophyta; Sargassum		
					Fish - spotfin hogfish		
					Fish - short bigeye;		
7/11/2012 1:28:00 PM	32.514305	-78.813272	-47			scamp x6, grey trigger, lionfish x2, jack-knife fish, lionfish x3, soapfish, goatfish, scamp, bank butterflyfish, spotfin butterflyfish, lionfish x3, graysby	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 1:28:41 PM	32.514358	-78.813275	-47.2	HB	hard bottom; Rock; large rock boulders with high relief		☐
					Fish - tomtate;		
					Fish - blue angelfish;		
					Por - Demospongiae;	orange small lumpy	
					Fish - scamp grouper;	5	
					Fish - sharpnose puffer		
					Fish - lionfish;		
					Fish - jackknife fish		
7/11/2012 1:30:17 PM	32.514684	-78.813099	-47.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;	2	
					Cni - Stichopathes;		
					Fish - soapfish		
					Fish - goatfish		
					Fish - scamp grouper;		
7/11/2012 1:31:12 PM	32.514796	-78.812995	-47	HB	hard bottom; Rock; high relief		☐
					Fish - bank butterflyfish		
7/11/2012 1:31:56 PM	32.514866	-78.812965	-46.6	HB	XS Photo; hard bottom; Rock; Human Debris; beer can		☑
					Fish - lionfish;	4	
					Alg - Phaeophyta; Sargassum		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Swiftia		
					Art - Panularis argus	2	
					Fish - graysby grouper		
7/11/2012 1:33:00 PM	32.514907	-78.812981	-47.4			2 lobster, lionfish x2, blackbar soldierfish, scamp, Calamus, doctorfish, scamp x2, gag, spotted goatfish, sharpnose puffer, lionfish, hogfish, ~ 8 scamp, vermilion, short bigeye, scamp, doctorfish, lionfish, scamp x2, bicolor damselfish, scamp x2	☐
7/11/2012 1:33:51 PM	32.514981	-78.812946	-47.6	HB	hard bottom; Rock;		☐
					Fish - lionfish;	5	
					Fish - tomtate;		
					Fish - squirrelfish		
7/11/2012 1:34:18 PM	32.514999	-78.812885	-45.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - short bigeye;		
					Fish - goatfish		
					Fish - blue angelfish;		
					Fish - gag grouper		
					Fish - scamp grouper;		
7/11/2012 1:35:10 PM	32.515198	-78.812778	-46.6	HB	hard bottom; Rock; reef maybe ending; lower relief; across the reef		☐
					Alg - Phaeophyta; Sargassum		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
					Fish - scamp grouper;	8	
					Fish - short bigeye;		
7/11/2012 1:36:25 PM	32.515278	-78.812736	-46.6	HB	XS Photo; hard bottom; Rock; Human Debris; line		☑
					Por - Demospongiae; Axinellida	orange EB	
					Fish - scamp grouper;	3	
					Fish - tomtate;		
					Por - Ircinia campana;		
7/11/2012 1:37:38 PM	32.515520	-78.812534	-47.2	HB	hard bottom; Rock;		☐
					Fish - triggerfish		
					Fish - soptfin hogfish		
					Fish - scamp grouper;		
7/11/2012 1:38:00 PM	32.515529	-78.812562	-46.4			scamp x4, grey triggers, lionfish x2, graysby?, scamp, soapfish, doctorfish, blue angels, tomtate heaven, squirrelfish, lionfish x9, scamp x6, white grunt, lionfish, purple reeffish, graysby, lionfish,	☐
7/11/2012 1:38:45 PM	32.515573	-78.812497	-46.8	HB	XS Photo; hard bottom; Rock; deep overhang		☑
					Fish - scamp grouper;	60-70 m	
					Fish - soapfish		
					Fish - blackbar soldierfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - gray triggerfish		
					Fish - Calamus porgy		
					Fish - lionfish;		
7/11/2012 1:40:08 PM	32.515779	-78.812400	-47	HB	hard bottom; Rock; 47 me on top of the reef - working along the west ledge; single ledge; very sharp		☐
					Fish - lionfish;	2	
7/11/2012 1:41:11 PM	32.515926	-78.812346	-48.1	HB	XS Photo; soft bottom; Rock; 40 m deep on sediment		☑
					Fish - scamp grouper;	3	
					Fish - grunt		
					Fish - lionfish;	3	
					Fish - amberjack?	darker phase	
7/11/2012 1:42:59 PM	32.516037	-78.812225	-47	HB	hard bottom; Rock;		☐
					Fish - graysby grouper		
7/11/2012 1:43:16 PM	32.516074	-78.812192	-46.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - spotfin butterflyfish		
					Cni - Hydroidolina;		
					Por - Demospongiae; Axinellida	orange branching erect	
					Fish - blue angelfish;		
					Fish - lionfish;	4	
					Fish - tomtate;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - spotfin hogfish		
7/11/2012 1:44:58 PM	32.516351	-78.811930	-46.6	HB	hard bottom; Rock- wall; soft bottom; 2 m relief wall 47-49 m difference	dominated by hydroids; Swifita and purple Diodogorgia	☐
7/11/2012 1:45:00 PM	32.516351	-78.811933	-46.4			lionfish, graysby, rock hind, lionfish, spotfin hogfish, squirrelfish, lionfish x11, Calamus, reef butt, lionfish x3, tomtates, scamp, spotfin butterflyfish, scamp in water column, lionfish, bank butt	☐
7/11/2012 1:45:37 PM	32.516420	-78.811902	-48.3	HB	hard bottom; Rock;		☐
					Fish - speckled hind	Non XS - Random Photos;	
					Fish - lionfish;	3	
					Fish - tomtate;	Fish - Blue Angelfish;	
7/11/2012 1:46:44 PM	32.516555	-78.811854	-48.3	HB	hard bottom; Rock;		☐
					Fish - scamp grouper;		
					Fish - cowfish		
					Fish - tomtate;		
					Cni - Stichopathes;		
					Fish - lionfish;	13	
7/11/2012 1:48:00 PM	32.516669	-78.811710	-47.6	HB	less relief, maybe just over 1m	cubbyu, lionfish, grey trigger, Calamus, school of tomtates, blue angel, lionfish, spotfin hogfish, scamp in water column, graysby, doctorfish, lionfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 1:48:14 PM	32.516742	-78.811669	-48.3	HB	hard bottom; Rock; off the west side of the reef on the ledge		☐
					Fish - lionfish;		
7/11/2012 1:48:32 PM	32.516787	-78.811635	-47.4	HB	XS Photo; soft bottom; Rock;		☑
					Fish - cubyu		
					Fish - bank butterflyfish		
					Fish - lionfish;		
					Fish - blackbar soldierfish		
7/11/2012 1:49:21 PM	32.516861	-78.811556	-48.1	HB	hard bottom; soft bottom; rubble; mainledge has tettered out; scattered rock slabs 1 m relief		☐
					Fish - lionfish;		
7/11/2012 1:50:40 PM	32.517164	-78.811315	-45.6	HB	XS Photo; hard bottom; Rock;		☑
7/11/2012 1:50:55 PM	32.517109	-78.811297	-46.2		changing DVD		☐
					Fish - lionfish;	2	
					Cni - Gorgonacea; Swiftia		
					Cni - Antipathidae;	white fan	
7/11/2012 1:52:35 PM	32.517364	-78.811108	-46.4		starting DVD number 30		☐
					Fish - tomtate;		
					Cni - Gorgonacea; Nicella	red fan; Non XS - Random Photos;	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	**ROV 14**	**11-VII-12-4**	**South Carolina, Edisto MPA, Station 20, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
7/11/2012 1:53:00 PM	32.517357	-78.811093	-46.8			Calamus, lionfish, tomtates, doctorfish, blue angelfish, squirrelfish, 2 spot cardinalfish, reef butt, spotfin butt, lionfish, spotfin hogfish	☐
7/11/2012 1:54:08 PM	32.517532	-78.810973	-46.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish; 2		
					Fish - squirrelfish		
					Fish - blue angelfish;		
7/11/2012 1:54:57 PM	32.517684	-78.810924	-47	HB	hard bottom; Rock; 2 m ledge is undercut on the west side and grades into sediment on the east;		☐
					Fish - tomtate;		
					Fish - lionfish; 3		
					Fish - graysby grouper		
					Fish - short bigeye;		
7/11/2012 1:55:00 PM	32.517687	-78.810933	-47.4			lionfish x2, short bigeye, cubbyu, cowfish, wrasse, graysby, lionfish, tomtate, AJ, vermilion, grayby x2, jackknife fish, lionfish x2, cubbyu, soapfish, white grunt, blackbar squirrelfish	☐
7/11/2012 1:56:30 PM	32.517800	-78.810704	-46.2	HB	XS Photo; hard bottom; Rock; top of the ridge 47 m rock pavement ; 10 m wide grades into sand on the east; west is undercut bottom 49 m		☑
					Fish - graysby grouper 2		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cho - Ascidacea; Eudistoma		
					Fish - lionfish;		
					Fish - cowfish		
					Fish - jackknife fish		
7/11/2012 1:58:32 PM	32.518094	-78.810466	-47.2	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
					Fish - soapfish	Non XS - Random Photos;	
					Fish - tomtate;		
					Cni - Gorgonacea; Swiftia		
					Fish - cubyu		
7/11/2012 1:59:37 PM	32.518166	-78.810410	-47.8	HB	hard bottom; Rock; Non XS - Random Photos;		☐
					Por - Demospongiae;	tan cake	
					Ech - Crinoidea; Comatulida		
					Fish - lionfish;		
					Cni - Scleractinia; Solitary cup coral	cluster Non XS - Random Photos;	
7/11/2012 2:02:00 PM	32.518234	-78.810455	-47			lionfish x5, graysby, lionfish, stingray, french angel, gag, lionfish, school of tomtates, rock hind, graysby looking out from under rock?,	☐
7/11/2012 2:02:13 PM	32.518232	-78.810454	-46	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Swiftia		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Holothuroidea;	white	
					Fish - lionfish;	2	
					Fish - southern stingray		
					Fish - graysby grouper		
7/11/2012 2:03:45 PM	32.518686	-78.810068	-48.3	HB	hard bottom; Rock;		☐
					Fish - rock hind		
					Fish - gag grouper		
					Fish - tomtate;		
7/11/2012 2:04:24 PM	32.518718	-78.809956	-47.4	SB	XS Photo; soft bottom;		☑
7/11/2012 2:04:34 PM	32.518722	-78.809948	-46.4	HB	hard bottom; Rock;		☐
					Alg - Chlorophyta;		
					Fish - blackbar soldierfish		
7/11/2012 2:05:00 PM	32.518712	-78.809942	-46.2			hogfish, lionfish x3, school of tomtates, graysby, squirrelfish, blackbar soldierfish, yellowtail reeffish, grey trigger, graysby x2, lionfish, Calamus, slipper lobster, soapfish, lionfish, spotfin butterflyfish	☐
7/11/2012 2:05:02 PM	32.518710	-78.809927	-46	SB	soft bottom; off reef flat sediment;		☐
					Fish - lionfish;		
					Cni - Hydroidolina?	black	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	ROV 14	11-VII-12-4	South Carolina, Edisto MPA, Station 20, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - hogfish		
7/11/2012 2:06:16 PM	32.518855	-78.809875	-46.8	HB	hard bottom; Rock; back on reef; west ledge, narrow 10 m wide		☐
					Fish - graysby grouper	3	
					Fish - lionfish;	3	
					Cni - Stichopathes;		
7/11/2012 2:08:07 PM	32.519128	-78.809694	-47.2	HB	hard bottom; Rock; ledge down to 1m on west side, 5 m wide		☐
					Fish - lionfish;		
					Art - Scyllarides	Slipper lobster	
7/11/2012 2:08:52 PM	32.519149	-78.809713	-48.3	SB	XS Photo; soft bottom; base of reef		☑
7/11/2012 2:09:00 PM	32.519141	-78.809709	-47			reef butterflyfish, squirrelfish, yellowtail reeffish, lionfish x6, school of greater Ajs, grey trigger	☐
7/11/2012 2:09:34 PM	32.519178	-78.809629	-47.6	HB	Rock; hard bottom; 1 m ledge, narrow; 49 m base, 48 m top; 5 m wide		☐
					Fish - lionfish;	8	
					Por - Demospongiae; Geodia?	30 cm cake	
					Cni - Gorgonacea; Telesto		
					Cni - Hydroidolina;		
7/11/2012 2:11:00 PM	32.519455	-78.809367	-47	HB	low relief outcrops	lionfish x2, Calamus, reef butterflyfish, squirrelfish, blue angels, hogfish, cubbyu, bank butt	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207114	**ROV 14**	**11-VII-12-4**	**South Carolina, Edisto MPA, Station 20, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 2:12:01 PM	32.519664	-78.809218	-47.6	HB	XS Photo; hard bottom; Rock; west ledge, 1 m		☑
					Species Observed		
					Fish - scamp grouper;		
					Fish - lionfish;	7	
					Fish - gag grouper		
7/11/2012 2:13:00 PM	32.519775	-78.809092	-47.6			gag, lionfish	☐
7/11/2012 2:13:00 PM	32.519775	-78.809092	-47.6		end of dive		☐
7/11/2012 2:13:24 PM	32.519775	-78.808957	-47	SB	XS Photo; soft bottom;		☑
7/11/2012 2:13:39 PM	32.519824	-78.808912	-46.8	SB	soft bottom; end of dive; end of transect; reef ended at 1/2 m relief		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 2:50:29 PM	32.515142	-78.798770	-42.8		Objectives: ROV Dive 15, Site #- 11-VII-12-5. Target Site – ridge outside and north of South Carolina Edisto MPA; 32°30.9000'N, 78°47.9400'; 50 m. ROV survey outside MPA; ground truth multibeam sonar of site. Conduct video/photo transect along SW-NE oriented ridge.		☐
7/11/2012 2:50:30 PM	32.515142	-78.798770	-42.8		Launch (start dive);		☐
7/11/2012 2:50:53 PM	32.515142	-78.798770	-42.8		bottom in sight; on bottom		☐
7/11/2012 2:51:00 PM	32.515136	-78.798755	-46	HB	high relief ledge	scamp, striped grunt, reef butterfly, lionfish, scamp, lionfish, tattler, sharpnose puffer	☐
7/11/2012 2:53:54 PM	32.515127	-78.798502	-48.7	HB	XS Photo; hard bottom; Rock; top of ridge; undercut ledge on the west side; rock slabs at the base		☑
					Fish - amberjack		
					Fish - tomtate;		
					Fish - scamp grouper; 3		
					Fish - lionfish; 5		
7/11/2012 2:54:00 PM	32.515128	-78.798477	-48.5			lionfish, blue angel, purple reeffish, scamp, short bigeye, Ajs, 5 scamp, 2 lionfish, spotfin hogfish, Calamus, cubbyu darting under ledge?, lionfish x2, scamp, blackbar soldierfish, scamp x8, tomtates	☐
7/11/2012 2:56:21 PM	32.515357	-78.798447	-51.4	HB	hard bottom; Rock; large boulders; high relief		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Telesto		
					Cni - Hydroidolina;		
7/11/2012 2:57:12 PM	32.515393	-78.798341	-49.3	HB	XS Photo; hard bottom; Rock; upper edge of the ledge; west wall - upper slope has a 2 m ledge and uppercut; bottom of the ridge 2-4 m diameter rock slabs. .5 m relief at the bottom. Grades into sand		☑
					Fish - blue angelfish;		
					Fish - lionfish;		
					Fish - spotfin hogfish		
7/11/2012 2:58:44 PM	32.515541	-78.798260	-50.1	HB	hard bottom; Rock; visibility has dropped		☐
					Fish - scamp grouper;	3	
7/11/2012 2:59:00 PM	32.515583	-78.798247	-51		visibility has dropped		☐
7/11/2012 2:59:00 PM	32.515583	-78.798247	-51			lionfish x2, scamp x5, doctorfish, Calamus, lionfish, scamp, blue angel, spotfin hogfish, scamp, lionfish x3	☐
7/11/2012 2:59:26 PM	32.515607	-78.798177	-48.7	HB	XS Photo; hard bottom; Rock; top is low ledges; flat rock xs to east side.		☑
					Cni - Hydroidolina;		
					Fish - sharpnose puffer		
					Alg - Phaeophyta; Dictyota		
					Fish - lionfish;		
					Por - Demospongiae; Axinellida		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Stichopathes;		
7/11/2012 3:00:22 PM	32.515674	-78.797970	-47.8	HB	hard bottom; Rock; Non XS - Random Photos;		☐
					Fish - lionfish;		
					Alg - Phaeophyta; Sargassum		
7/11/2012 3:00:59 PM	32.515618	-78.797867	-50.6	HB	hard bottom; Rock; at the east ledge; 50 m on the top; east slope similar to the west slope; upper sharp edge under cut; large rock slabs scattered over a wide zone; 50 m wide ridge;		☐
					Fish - lionfish;		
7/11/2012 3:02:27 PM	32.515700	-78.797770	-50.8	HB	hard bottom; Rock;		☐
					Fish - spotfin hogfish		
					Cni - Gorgonacea; Swiftia		
					Fish - scamp grouper;	5	
					Fish - lionfish;	4	
7/11/2012 3:03:15 PM	32.515748	-78.797660	-49.7	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Nicella		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Fish - lionfish;		
					Alg - Chlorophyta;	green leafy	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 3:04:00 PM	32.515916	-78.797565	-48.9			lionfish x3, graysby, sharpnose puffer, short bigeye, bandtail puffer, scamp x3, lionfish x2	☐
7/11/2012 3:04:10 PM	32.515956	-78.797607	-48.5	HB	hard bottom; Rock; XS Photo;		☑
					Fish - graysby grouper		
					Alg - Phaeophyta; Dictyota		
					Fish - lionfish; 3		
7/11/2012 3:05:40 PM	32.516129	-78.797464	-49.1	HB	hard bottom; Rock; top of ridge; on track 50 m depth		☐
					Cni - Hydroidolina;		
7/11/2012 3:06:29 PM	32.516198	-78.797449	-48.9	HB	XS Photo; hard bottom; Rock; sand is in 54 meters		☑
					Fish - blue angelfish;		
					Fish - scamp grouper; 4		
					Fish - lionfish; 3		
7/11/2012 3:08:00 PM	32.516310	-78.797491	-52.2	HB	on bottom of ledge, total relief 4-5m		☐
7/11/2012 3:08:00 PM	32.516310	-78.797491	-52.2			vermilion, tomtates, short bigeye, lionfish x4, scamp, lionfish x3, spotfin hogfish, blue angels, lionfish, sharpnose puffer, scorpionfish	☐
7/11/2012 3:08:16 PM	32.516332	-78.797447	-53.3	HB	hard bottom; Rock; large outcropped boulder/slabs 3-4 m .5 m relief;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Swiftia		
					Fish - scamp grouper;		
					Fish - vermilion snapper		
7/11/2012 3:09:05 PM	32.516398	-78.797371	-52.2	HB	XS Photo; hard bottom; Rock;		☑
					Por - Demospongiae; Astrophorida	lumpy white	
					Fish - lionfish;	7	
					Por - Demospongiae; Axinellida		
					Fish - short bigeye;		
					Por - Demospongiae; Spirastrellidae		
7/11/2012 3:10:23 PM	32.516441	-78.797244	-49.9	HB	hard bottom; Rock; deep overhangs 49 meters on top		☐
					Fish - scorpion fish		
					Fish - lionfish;		
7/11/2012 3:11:00 PM	32.516507	-78.797166	-51.4			cowfish, scamp x9, reef butterflyfish, tomtates, bigeye, lionfish x2, short bigeyes, yellowhead wrasse, scamp, Calamus	☐
7/11/2012 3:11:14 PM	32.516510	-78.797160	-51.2	HB	XS Photo; hard bottom; Rock;	photo of scorpion fish;	☑
					Fish - scamp grouper;	4	
					Fish - blue angelfish;		
7/11/2012 3:11:50 PM	32.516575	-78.797177	-51.6	HB	hard bottom; Rock; rock slabs 20 m wide;		☐
					Fish - bigeye		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - short bigeye;	2	
					Fish - yellowhead wrasse		
					Fish - scamp grouper;		
					Fish - lionfish;	2	
7/11/2012 3:12:56 PM	32.516755	-78.797105	-51.8	HB	hard bottom; Rock;		☐
7/11/2012 3:13:29 PM	32.516748	-78.797021	-51.4	HB	XS Photo; hard bottom; Rock; Human Debris; fabric		☑
					Fish - scamp grouper;		
					Fish - short bigeye;		
					Fish - tomtate;		
					Cni - Antipathidae;	white fan	
					Por - Demospongiae; Axinellida	stalked EB orange	
7/11/2012 3:14:00 PM	32.516737	-78.796965	-51.6			~20 scamp - 1 in greyhead phase, bandtail puffer, Calamus, cubbyu, lionfish, sharpnose puffer, lionfish x2, sharpnose puffer, short bigeye, angelfish, lionfish	☐
7/11/2012 3:14:46 PM	32.516855	-78.796999	-51.2	HB	hard bottom; Rock;		☐
					Fish - scamp grouper;	12+	
					Fish - blue angelfish;		
7/11/2012 3:15:57 PM	32.516855	-78.796979	-51.4	HB	XS Photo; hard bottom; Rock;		☑
					Por - Demospongiae; Aplysina	Cl Hollow tubes	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tomtate;		
					Alg - Phaeophyta; Sargassum		
					Cni - Hydroidolina; + zoanthids		
					Fish - blue angelfish;		
					Fish - lionfish;		
7/11/2012 3:17:23 PM	32.516872	-78.796814	-48.9	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Diodogorgia		
					Cni - Gorgonacea; Telesto		
					Fish - scamp grouper;	4	
					Por - Ircinia campana;		
7/11/2012 3:18:14 PM	32.516909	-78.796706	-48.5	HB	XS Photo; hard bottom; Rock; top of the ridge		☑
					Fish - sharpnose puffer		
7/11/2012 3:19:00 PM	32.516904	-78.796524	-49.1			doctorfish, scorpionfish, lionfish x3, blue angelfish, spotfin hogfish, bigeye, graysby x2, blackbar soldierfish	☐
7/11/2012 3:19:10 PM	32.516892	-78.796506	-49.5	HB	hard bottom; Rock; East side of ridge		☐
					Fish - lionfish;	4	
					Cho - Ascidacea; Eudistoma		
					Fish - tang		
					Fish - scorpion fish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 3:20:34 PM	32.516985	-78.796069	-49.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - blue angelfish;		
					Fish - bigeye	real one	
7/11/2012 3:21:56 PM	32.517257	-78.795775	-48.7	HB	hard bottom; Rock; ledge- fast drop off on east side		☐
					Fish - rock hind		
					Fish - graysby grouper		
7/11/2012 3:22:48 PM	32.517383	-78.795724	-50.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - graysby grouper		
					Cho - Ascidacea; Eudistoma		
					Art - Portunidae	crab	
					Fish - tomtate;		
7/11/2012 3:23:00 PM	32.517404	-78.795719	-49.9			purple reeffish, squirrelfish, vermilion, tomtates, bigeyes, graysby, sharpnose puffer, lionfish x5, fishing line, scorpionfish, reef butt, cubbyu	☐
7/11/2012 3:24:19 PM	32.517559	-78.795717	-51.6	HB	hard bottom; Rock;		☐
					Fish - lionfish;		
					Mol - oyster shell		
7/11/2012 3:25:02 PM	32.517609	-78.795666	-49.5	HB	XS Photo; hard bottom; Rock; top of ridge; feature ends in 50 m on the MB		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;	2	
					Fish - trumpetfish		
7/11/2012 3:26:07 PM	32.517624	-78.795539	-51.2	HB	hard bottom; Rock; Slope- steep (>35o); eastern slope		☐
					Fish - tomtate;		
					Fish - lionfish;		
					Fish - scorpion fish		
					Cni - Gorgonacea; Swiftia		
7/11/2012 3:26:52 PM	32.517704	-78.795451	-51.2	HB	hard bottom; Rock; eastern wall		☐
					Fish - reef butterflyfish		
7/11/2012 3:27:00 PM	32.517707	-78.795419	-51.6			lionfish, burrfish, Calamus, scamp, blue angel, reef butterflyfish, tomtate, scamp x2, lionfish x2, bank butt, scamp x2, AJ	☐
7/11/2012 3:27:22 PM	32.517759	-78.795394	-50.6	HB	XS Photo; hard bottom; Rock; the ledge is going to end and drop off into the sand according to the MB; lower relief flattening out		☑
					Fish - lionfish;		
7/11/2012 3:28:14 PM	32.517928	-78.795440	-49.3	HB	hard bottom; Rock; west face of ridge		☐
					Fish - blue angelfish;		
					Fish - scamp grouper;		
					Cho - Ascidacea; Didemnidae	white blobs	
					Cni - Hydroidolina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - Calamus porgy		
7/11/2012 3:29:04 PM	32.518040	-78.795436	-50.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - spotfin hogfish		
7/11/2012 3:29:21 PM	32.518056	-78.795426	-49.3	HB	hard bottom; Rock; northen end of ridge on the MB; 50 m on top; reef tapers off into a series of rock slabs;		☐
					Fish - scamp grouper;		
7/11/2012 3:30:00 PM	32.518134	-78.795255	-49.1	HB	low relief outcrops	scamp, AJ, lionfish x2, school of grunts - maybe striped mixed in with tomtates, vermilion, bigeye, cubbyu, bandtail puffer, lionfish, scamp x2, spotted goatfish	☐
7/11/2012 3:30:44 PM	32.518213	-78.795184	-49.5	HB	soft bottom; hard bottom; Rock boulders on sediment at the north end of the ridge; transversing over SB		☐
7/11/2012 3:31:20 PM	32.518289	-78.795130	-51.6	SB	XS Photo; soft bottom; trasnversing to next section of the ridge; break in the ridge is sand		☑
					Cni - Stichopathes;		
					Fish - tomtate;		
					Fish - lionfish;		
7/11/2012 3:32:18 PM	32.518338	-78.794967	-50.8	HB	100 m gap between 2 ridges on the MB; there is still moderate relief rock slabs		☐
					Cni - Antipathidae;	bushy tan	
					Fish - bigeye		
					Cni - Hydroidolina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 3:33:32 PM	32.518405	-78.794811	-51.6	HB	hard bottom; soft bottom; Rock;		☐
					Species Observed		
					Fish - goatfish		
					Fish - scamp grouper;		
					Fish - tomtate;		
7/11/2012 3:34:52 PM	32.518579	-78.794813	-51.4	HB	hard bottom; Rock; back on the mb high relief		☐
					Fish - UNID	small reef fish; gray striped	
					Fish - scamp grouper;		
7/11/2012 3:35:57 PM	32.518562	-78.794729	-49.9	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scorpion fish		
					Fish - lionfish;		
7/11/2012 3:36:00 PM	32.518560	-78.794727	-49.5	HB	high relief ledge	reef butterflyfish, purple reeffish, sharpnose puffer, Calamus, short bigeye, lionfish x2, scamp, spotfin hogfish, lionfish x3, gag, lionfish x2, squirrelfish, cubbyu, lionfish x3	☐
7/11/2012 3:36:22 PM	32.518620	-78.794666	-49.1		slope on main ridge; 50 m		☐
					Cni - Hydroidolina;		
					Fish - lionfish;		
					Cni - Gorgonacea; Telesto		
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Cyanophyta;		
7/11/2012 3:37:14 PM	32.518709	-78.794394	-49.9	HB	hard bottom; Rock; rock slabs low relief; east wall; outcrops		☐
7/11/2012 3:38:09 PM	32.518675	-78.794341	-50.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - short bigeye;	2	
					Fish - lionfish;	4	
					Fish - gag grouper		
7/11/2012 3:39:21 PM	32.518718	-78.794136	-52	HB	hard bottom; Rock; Slope- steep (>35o); top is 1-2 m undercut; base is .5-1m rise.		☐
					Fish - lionfish;	6	
					Fish - graysby grouper		
					Fish - tomtate;	school	
					Fish - short bigeye;	2	
7/11/2012 3:40:00 PM	32.518757	-78.794063	-52.4			graysby, lionfish, blue angel, lionfish x2, spotfin hogfish, scorpionfish, lionfish x3, tomtate, graysby under ledge?, lionfish x2, scamp x3	☐
7/11/2012 3:40:35 PM	32.518811	-78.793998	-49.9	HB	XS Photo; hard bottom; Rock; large overhangs;		☑
					Fish - scorpion fish		
					Cho - Ascidacea; Eudistoma		
					Fish - blue angelfish;		
					Fish - lionfish;	4	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - purple reeffish		
7/11/2012 3:41:56 PM	32.518901	-78.793863	-50.8	HB	hard bottom; Rock;		☐
					Alg - Chlorophyta;	flat blade	
					Fish - lionfish;	2	
7/11/2012 3:42:45 PM	32.518991	-78.793753	-50.3	HB	XS Photo; hard bottom; Rock; easter wall of the ridge; Slope- steep (>35o);		☑
					Ech - Crinoidea; Comatulida		
					Fish - lionfish;	4	
					Cni - Gorgonacea; Telesto		
7/11/2012 3:44:19 PM	32.519152	-78.793605	-52	HB	hard bottom; Rock;		☐
					Fish - tomtate;		
7/11/2012 3:44:49 PM	32.519287	-78.793611	-50.6	HB	hard bottom; Rock; off the ridge on the MB to the North of last ledge; still large boulders and outcrops present; to the north it tapers into sediment		☐
7/11/2012 3:45:00 PM	32.519328	-78.793628	-51.6	HB	low relief outcrops	scorpionfish, short bigeye, spotfin hogfish, graysby, lionfish x8, bank butt, tattler, blue angel, scamp, Calamus, lionfish x3, reef butt, lionfish	☐
7/11/2012 3:45:21 PM	32.519399	-78.793654	-50.1	HB	XS Photo; hard bottom; Rock;		☑
7/11/2012 3:45:33 PM	32.519396	-78.793621	-50.6	HB	soft bottom; hard bottom; Rock; slabs; off ridge to the north of last feature; 53 m		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scorpion fish		
					Fish - lionfish;	5	
					Cni - Stichopathes;		
7/11/2012 3:47:12 PM	32.519429	-78.793129	-53.7	HB	hard bottom; soft bottom; gap between reefs in MB; patchy .5 m slabs;		☐
7/11/2012 3:47:40 PM	32.519501	-78.793127	-52.4	HB	XS Photo; soft bottom; Rock;		☑
					Fish - scamp grouper;		
					Fish - lionfish;	4	
					Cni - Hydroidolina;		
7/11/2012 3:49:47 PM	32.519720	-78.792920	-52.8	HB	XS Photo; hard bottom; soft bottom;		☑
					Fish - lionfish;	3	
7/11/2012 3:50:18 PM	32.519819	-78.792950	-50.6	HB	soft bottom; patchy rock slabs on soft;		☐
7/11/2012 3:50:57 PM	32.519909	-78.793077	-51.4		change DVD		☐
					Fish - scamp grouper;	9	
					Fish - hogfish		
					Fish - lionfish;	5	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 3:51:00 PM	32.519940	-78.793081	-51.6	HB	larger relief, moderate to high relief	9 scamp, hogfish, lionfish, reef butterflyfish, lionfish x2, spotfin hogfish, lionfish, wrasse bass, graysby darting into hole?, blackbar soldierfish, gag?, cubbyu, greyhead scamp	☐
7/11/2012 3:51:52 PM	32.519971	-78.792888	-50.6	HB	hard bottom; Rock; high relief ridge - on MB after the ~150 m gap betweeen sites; Human Debris; line		☐
7/11/2012 3:52:16 PM	32.519957	-78.792820	-50.1	HB	XS Photo; hard bottom; Rock; starting DVD 32		☑
7/11/2012 3:53:52 PM	32.520085	-78.792664	-50.3	HB	hard bottom; Rock;		☐
					Fish - scamp grouper;	3	
					Cni - Gorgonacea;	dead	
7/11/2012 3:54:46 PM	32.520167	-78.792610	-48.1	HB	XS Photo; hard bottom; Rock; east slope of ridge 3		☑
					Cni - Antipathidae;	bushy	
					Fish - graysby grouper		
					Fish - trumpetfish		
					Fish - lionfish;		
					Fish - scamp grouper;	12	
7/11/2012 3:55:00 PM	32.520187	-78.792587	-48.5			bunch of scamp in the water column ~12, trumpetfish, lionfish, graysby, lionfish x2, scamp, bluespotted cornetfish, vermilion	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 3:57:46 PM	32.520313	-78.792300	-49.1	HB	XS Photo; hard bottom; Rock; Human Debris; anchor line		☑
					Por - Demospongiae; Spirastrellidae		
					Cni - Antipathidae;	bushy tanXS Photo;	
					Cni - Hydroidolina;		
					Fish - lionfish;	3	
					Cni - Stichopathes;		
					Por - Demospongiae;		
7/11/2012 3:59:24 PM	32.520449	-78.792216	-47.6	HB	hard bottom; Rock;		☐
					Fish - cornet fish		
7/11/2012 4:00:00 PM	32.520491	-78.792047	-50.6			grey angelfish, lionfish x3, small school of vermilion, tomtates, purple reeffish, scorpionfish, spotfin butterflyfish, bank butt, blue angels, lionfish, scamp, sunshinefish	☐
7/11/2012 4:00:02 PM	32.520488	-78.792033	-50.3	HB	XS Photo; hard bottom; Rock; upper ledge is a meter undercut ledge with fractured rock slabs beneith it.		☑
					Cni - Gorgonacea; Diodogorgia		
					Fish - lionfish;	3	
					Fish - tomtate;		
7/11/2012 4:01:45 PM	32.520567	-78.791732	-51.2	HB	hard bottom; Rock; 2m ledge;		☐
					Fish - bank butterflyfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 4:02:17 PM	32.520684	-78.791682	-52.2	HB	XS Photo; hard bottom; Rock;		☑
					Species Observed		
					Fish - lionfish;		
					Fish - graysby grouper		
					Por - Demospongiae;	20 cm yellow sphere	
					Por - Ircinia campana;		
					Por - Demospongiae; Axinellida		
7/11/2012 4:03:00 PM	32.520664	-78.791671	-51.4	HB	hard bottom; Rock; Human Debris; fishing line		☐
					Fish - scamp grouper;		
					Fish - lionfish;	2	
					Fish - trumpetfish		
7/11/2012 4:03:00 PM	32.520664	-78.791671	-51.4			trumpetfish, school of tomtates, lionfish, blackbar soldierfish, wrasse, soapfish, scamp	☐
7/11/2012 4:04:33 PM	32.520813	-78.791502	-50.8	HB	XS Photo; hard bottom; soft bottom; Rock;		☑
					Fish - scamp grouper;		
					Por - Demospongiae;	30 white sphere	
					Por - Demospongiae; Geodia	tan cake	
					Fish - lionfish;		
					Fish - blue angelfish;		
7/11/2012 4:06:43 PM	32.520922	-78.791255	-51.6	HB	hard bottom; Rock; on eastern ledge of ridge		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 4:07:09 PM	32.520916	-78.791178	-51	HB	XS Photo; hard bottom; Rock; Human Debris; anchor line		☑
					Fish - vermilion snapper		
					Cni - Antipathidae;		
					Por - Demospongiae;		
					Fish - lionfish;	3	
7/11/2012 4:08:00 PM	32.520928	-78.791098	-50.1			sharpnose puffer, line, harlequin bass?, lionfish x3, reef butt, tomtates, vermilion, lionfish x4, purple reeffish, blackbar soldierfish, squirrelfish, scamp, rock beauty, short bigeye, cornetfish, graysby	☐
7/11/2012 4:08:57 PM	32.520953	-78.790966	-52.2	HB	hard bottom; Rock; base of east wall		☐
					Fish - lionfish;	5	
7/11/2012 4:09:21 PM	32.520951	-78.790867	-52.2	HB	hard bottom; XS Photo; Rock;		☑
					Fish - rock beauty		
					Fish - scamp grouper;		
7/11/2012 4:10:07 PM	32.521032	-78.790833	-50.6	HB	hard bottom; Rock; east slope of ridge; rock slabs; Human Debris; line		☐
					Art - hermit crab	Non XS - Random Photos;	
					Fish - hogfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 4:11:00 PM	32.521178	-78.790996	-51			hogfish, gag? Darting out from under rock, scamp, purple reeffish, AJ, lionfish x2, short bigeye, tomtate, lionfish x2, reef butterflyfish, grey angels, gag, bank butt, scamp	☐
7/11/2012 4:11:36 PM	32.521213	-78.790942	-51	HB	XS Photo; soft bottom; hard bottom;		☑
7/11/2012 4:11:49 PM	32.521258	-78.790876	-49.9	SB	soft bottom; between ridges		☐
7/11/2012 4:12:02 PM	32.521283	-78.790820	-49.5	HB	hard bottom; Rock; back on ridge; west face of next reef; 1 m undercut ledge; slabs below;		☐
					Fish - scamp grouper; 2		
					Fish - lionfish; 2		
					Fish - tomtate;		
					Fish - gag grouper		
7/11/2012 4:13:37 PM	32.521432	-78.790560	-49.7	HB	hard bottom; Rock;		☐
					Fish - tomtate;		
7/11/2012 4:13:52 PM	32.521469	-78.790527	-50.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
					Fish - gag grouper		
					Fish - short bigeye;		
					Fish - tomtate;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/11/2012 4:14:36 PM	32.521560	-78.790415	-49.7	HB	hard bottom; Rock; reef is 2 m relief; zone of slabs in narrow; xs to the other side		☐
					Species Observed		
					Fish - short bigeye;		
					Cni - Gorgonacea; Nicella		
7/11/2012 4:15:32 PM	32.521549	-78.790119	-49.5	HB	hard bottom; Rock; xs to eastern side;		☐
7/11/2012 4:16:00 PM	32.521481	-78.790032	-51.6	HB	hard bottom; Rock; eastern slope;		☐
7/11/2012 4:16:00 PM	32.521481	-78.790032	-51.6			lionfish, purple reeffish, sharpnose puffer, scamp, graysby darting under rock?, graysby, short bigeye, rock beauty, graysby, queen angel, tomtates, spotfin hogfish, 2 trumpetfish, lionfish x6	☐
7/11/2012 4:16:14 PM	32.521476	-78.789997	-51.2	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish; 5		
					Fish - short bigeye;		
					Cni - Stichopathes;		
					Fish - graysby grouper		
					Fish - tomtate;		
7/11/2012 4:18:04 PM	32.521627	-78.789866	-52.6	HB	hard bottom; Rock; east side is a braud zone of rock slabs; extending from base of the reef; Human Debris; anchor line		☐
					Fish - lionfish; 2		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - trumpetfish	2 - eating something	
					Fish - short bigeye;		
7/11/2012 4:20:53 PM	32.521864	-78.789578	-52.8	HB	XS Photo; hard bottom; Rock;		☑
					Ech - Crinoidea; Comatulida		
7/11/2012 4:21:00 PM	32.521871	-78.789566	-52.8			lobster, slipper lobster, lionfish, reef butt, lionfish x2, short bigeye, lionfish, cowfish, doctorfish, scamp	☐
7/11/2012 4:21:21 PM	32.521862	-78.789548	-52.8	HB	hard bottom; Rock; in eastern slope		☐
					Art - Panularis argus		
7/11/2012 4:22:52 PM	32.522007	-78.789262	-50.3	HB	XS Photo; hard bottom; Rock;		☑
					Art - Scyllarides	slipper lobster	
					Fish - short bigeye;		
					Fish - lionfish;	3	
7/11/2012 4:25:11 PM	32.522137	-78.788983	-49.9	HB	XS Photo; hard bottom; Rock;		☑
					Por - Demospongiae; Aplysina		
					Fish - lionfish;		
					Fish - scamp grouper;		
					Fish - cowfish		
7/11/2012 4:26:57 PM	32.522284	-78.788797	-48.9	HB	hard bottom; Rock; MB is at the end of reef number 3		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	ROV 15	11-VII-12-5	South Carolina, Edisto MPA, Station 21, ridge north and outside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 4:27:00 PM	32.522274	-78.788791	-48.9	HB	lower relief - moderate	cowfish, lionfish x3, tomtate, spotfin hogfish, tattler, lionfish x3, cornetfish, burrfish	☐
7/11/2012 4:27:12 PM	32.522323	-78.788781	-48.9	HB	XS Photo; hard bottom; Rock; LR rock slabs; on the west side; fades to sand; 2 m relief; current has become 1 kt from the west		☑
					Fish - lionfish;	2	
7/11/2012 4:29:44 PM	32.522527	-78.788524	-48.9	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea; Swiftia		
					Fish - lionfish;	5	
					Fish - cornet fish		
7/11/2012 4:31:00 PM	32.522596	-78.788300	-50.8	SB	sand		☐
7/11/2012 4:31:11 PM	32.522653	-78.788308	-51.2	SB	soft bottom; at the end of the last reef travleing NE in the gap between ridges		☐
7/11/2012 4:31:54 PM	32.522719	-78.788127	-51.4	SB	XS Photo; soft bottom;		☑
					Ech - Holothuroidea;	chocholate chip white cucumber	
7/11/2012 4:34:19 PM	32.523147	-78.788252	-50.8		XS Photo;		☑
7/11/2012 4:35:00 PM	32.523273	-78.788063	-50.3				☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207115	**ROV 15**	**11-VII-12-5**	**South Carolina, Edisto MPA, Station 21, ridge north and outside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/11/2012 4:36:37 PM	32.523251	-78.788085	-50.6	SB	XS Photo; soft bottom;		☑
7/11/2012 4:38:56 PM	32.523576	-78.787656	-48.9	SB	XS Photo; soft bottom;		☑
7/11/2012 4:41:05 PM	32.523366	-78.787124	-50.8	HB	end of dive; hard bottom; Off bottom; 1-2 m, ledge on soft bottom		☐
7/11/2012 4:45:24 PM					end DVD and HD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 7:29:22 AM					Objectives: ROV Dive 16, Site #- 12-VII-12-2. Target Site – ridge outside and south of North Carolina MPA; 33°11.4600'N; 77°23.8200'W; 85 m. ROV survey outside MPA; ground truth new Pisces multibeam sonar of site. Conduct video/photo transect over four waypoint features from multibeam which indicated a "drop off", "ridge" and a "bumpy zone".		☐
7/12/2012 7:40:04 AM					Launch (start dive);		☐
7/12/2012 7:42:19 AM					start tape		☐
7/12/2012 7:45:41 AM	33.190842	-77.397330	-78.7	HB	On bottom; soft bottom; rubble; cobble; Slope- flat;		☐
					Cni - Gorgonacea; Plexauridae	10 cm yellow Non XS - Random Photos;	
					Fish - tatler;		
					Cni - Stichopathes;		
					Fish - sharpnose puffer		
7/12/2012 7:46:00 AM	33.190881	-77.397314	-78.9	HB	pavement, low relief outcrops	sharpnose puffer, tattler, hogfish in the distance?, scamp, lionfish facing head down into a rock, another scamp	☐
7/12/2012 7:48:00 AM	33.191026	-77.397106	-79.3	HB	XS Photo; pavement; about 300 m SW of the starting transect waypoint on the Tracpoint; few scattered 0.5 m boulders; 10 cm relief		☑
					Fish - hogfish		
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;		
7/12/2012 7:50:24 AM	33.190992	-77.396961	-79.3	HB	XS Photo; soft bottom; rubble; Slope- flat;		☑
					Cni - Gorgonacea; Plexauridae	10 cm ellow	
					Cni - Gorgonacea; Plexauridae	10 cm yellow	
					Fish - lionfish;	Non XS - Random Photos;	
7/12/2012 7:52:35 AM	33.191014	-77.396947	-79.7	HB	XS Photo; soft bottom; pavement;		☑
					Fish - spotfin butterflyfish		
					Fish - soapfish		
7/12/2012 7:53:00 AM	33.190984	-77.396969	-79.9			spotfin butterflyfish, soapfish, wrasses, snow bass, baby reef butterfly, tattler	☐
7/12/2012 7:54:31 AM	33.190986	-77.396849	-80.1	HB	Non XS - Random Photos; hard bottom;		☐
					Cni - Gorgonacea; Plexauridae	yellow	
					Cni - Stichopathes;		
					Fish - snowbass		
					Fish - unid butterflyfish	juvenile	
7/12/2012 7:55:32 AM	33.191014	-77.396795	-78.7	HB	XS Photo; hard bottom; soft bottom; 10-30 % rock cobble and small boulders; 0.5 m 10-30 cm relief		☑
7/12/2012 7:57:33 AM	33.191139	-77.396626	-79.1	HB	XS Photo; soft bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 7:59:00 AM	33.191156	-77.396553	-79.1			snow bass, sharpnose puffers, tattler, Calamus, lionfish, rock hind just sitting on the bottom	☐
7/12/2012 7:59:55 AM	33.191157	-77.396538	-78	HB	XS Photo; hard bottom; soft bottom;		☑
7/12/2012 8:00:06 AM	33.191171	-77.396545	-79.3	HB	soft bottom; Rock rubble; Slope- flat; 30% cover 10-20 cm rubble; 10-20 cm relief on small boulders; 150 m SW of WP 1 in the TrackPoint		☐
					Por - Demospongiae;	Red encrusting	
					Cni - Gorgonacea; Plexauridae		
					Cni - Stichopathes;		
7/12/2012 8:02:07 AM	33.191173	-77.396399	-78.7	SB	XS Photo; soft bottom;		☑
					Fish - Calamus porgy		
					Fish - lionfish;		
7/12/2012 8:04:20 AM	33.191165	-77.396224	-78.7	SB	XS Photo; soft bottom;		☑
					Cni - Gorgonacea; Muricea?	40 cm white; fine mesh fan	
					Fish - rock hind		
7/12/2012 8:06:34 AM	33.191126	-77.396105	-79.3	HB	XS Photo; soft bottom; rubble; 10-30 % cover rock pavemtn; rubble; cobble		☑
					Fish - tatler;		
7/12/2012 8:09:00 AM	33.191202	-77.395926	-79.9			scrawled cowfish, sharpnose puffer, tattler	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 8:09:11 AM	33.191170	-77.395921	-79.3	SB	XS Photo; soft bottom;		☑
					Fish - cowfish		
7/12/2012 8:10:09 AM	33.191035	-77.395773	-80.1	HB	Slope- flat; soft bottom; rubble; shell hash; sparse cobble; 150 m from wp 1.		☐
7/12/2012 8:11:24 AM	33.191079	-77.395614	-79.9	HB	XS Photo; soft bottom; rubble;		☑
7/12/2012 8:13:39 AM	33.191286	-77.395399	-79.7	SB	XS Photo; soft bottom;		☑
					Fish - lionfish;		
7/12/2012 8:14:00 AM	33.191288	-77.395399	-79.7			lionfish, tattler, short bigeye	☐
7/12/2012 8:15:11 AM	33.191329	-77.395391	-80.3	HB	soft bottom; Slope- flat; 1-2 m rock outcrops; 20 cm relief; 1 % cover of HB - cobble		☐
7/12/2012 8:16:02 AM	33.191383	-77.395395	-79.5	HB	XS Photo; rubble; soft bottom;		☑
					Fish - tatler;		
					Cni - Gorgonacea; Thesea?	yellow one could be Thesea?	
					Fish - short bigeye;		
7/12/2012 8:18:15 AM	33.191485	-77.395300	-80.1	SB	XS Photo; soft bottom;		☑
7/12/2012 8:20:02 AM	33.191570	-77.395263	-80.1	HB	soft bottom; rubble; Slope- flat; 10-30 % cobble; boulders; 0.5-1 m ; 10-20 cm relief;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tatler;		
					Ann - Filograna;		
7/12/2012 8:21:22 AM	33.191617	-77.395195	-79.3	HB	XS Photo; soft bottom; rubble;		☑
					Fish - short bigeye;		
7/12/2012 8:23:36 AM	33.191635	-77.395010	-80.1	SB	XS Photo; soft bottom;		☑
7/12/2012 8:24:00 AM	33.191633	-77.394968	-80.1			tattler, short bigeyes, blue angelfish, sharpnose puffer	☐
7/12/2012 8:25:03 AM	33.191637	-77.394760	-79.9	HB	soft bottom; rubble;		☐
					Ech - Asteroporpa annulata	Non XS - Random Photos;	
					Fish - short bigeye;	2	
7/12/2012 8:29:25 AM	33.191838	-77.394459	-79.1	SB	XS Photo; soft bottom; 50 m from the wp;		☑
7/12/2012 8:30:16 AM	33.191755	-77.394551	-79.3	HB	Slope- flat; soft bottom; 10-30 % cobble and rubble; <30 cm relief; 50 m from wp 1 (drop off from MB which is not currently loaded in the Trackpoint)		☐
7/12/2012 8:32:02 AM	33.191913	-77.394308	-78.7	HB	soft bottom; rubble;		☐
					Ech - Ophiuroidea; Asteroporpa annulata		
					Cni - Gorgonacea; Thesea?		
					Cni - Hydroidolina;	furry	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 8:34:17 AM	33.192011	-77.394197	-78	HB	XS Photo; soft bottom; smidge of pavement;		☑
					Cni - Gorgonacea; Plexauridae	purple	
					Fish - surgeonfish		
					Fish - short bigeye;		
7/12/2012 8:35:00 AM	33.191997	-77.394129	-78.2			doctorfish, short bigeyes, tattler, sharpnose puffer	☐
7/12/2012 8:35:25 AM	33.192056	-77.394106	-77	HB	soft bottom; increase on small rubble or pavement;		☐
					Fish - short bigeye;	2	
7/12/2012 8:36:36 AM	33.191853	-77.394074	-79.1	SB	XS Photo; soft bottom;		☑
					Fish - short bigeye;		
					Ech - Asteroidea; Narcissia trigonaria	Non XS - Random Photos;	
7/12/2012 8:38:56 AM	33.191962	-77.394008	-78.5	HB	XS Photo; rubble; soft bottom; at WP 1 on the tracpoint; Slope- flat; soft bottom; 30% HB cobble; small boulders; 10-15 cm relief; patches of up to 50 cover of HB; no evidence of a "drop off"		☑
					Cni - Gorgonacea; Plexauridae	purple	
					Cni - Gorgonacea; Thesea?	yellow	
					Fish - bank butterflyfish		
					Fish - short bigeye;	2	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 8:40:00 AM	33.192060	-77.393892	-77			bank butterflys, short bigeyes, reef butterflys, sharpnose puffer, rock beauty, spotfin butterflyfish, lionfish, tattler	☐
7/12/2012 8:41:07 AM	33.192065	-77.393839	-77.8	HB	XS Photo; hard bottom; soft bottom;		☑
7/12/2012 8:41:59 AM	33.192096	-77.393804	-76.4	HB	soft bottom; rubble; starting trasnect 1 from WP 1 to WP 2 HD NNE; going from the "non-drop off" to the "ridge"		☐
					Species Observed		
					Fish - lionfish;		
					Fish - spotfin butterflyfish		
					Fish - rock beauty		
					Fish - short bigeye;	5	
7/12/2012 8:43:20 AM	33.191862	-77.393749	-79.5	HB	XS Photo; rubble; soft bottom;		☑
7/12/2012 8:45:05 AM	33.191936	-77.393678	-78.7	HB	more exposed rock; 50% rock rubble and pavement? Changing DVD;		☐
7/12/2012 8:45:58 AM	33.191851	-77.393700	-79.7	HB	XS Photo; soft bottom; rubble;		☑
					Fish - tatler;		
					Fish - short bigeye;		
7/12/2012 8:46:45 AM	33.191854	-77.393663	-79.5		start DVD 34:		☐
					Cni - Stichopathes;		
					Fish - short bigeye;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 8:47:54 AM	33.191919	-77.393673	-78.9	SB	XS Photo; soft bottom;		☑
					Fish - short bigeye;		
7/12/2012 8:50:42 AM	33.191999	-77.393622	-78.5	HB	XS Photo; soft bottom; rubble; Slope- flat; 30 % cover rock cobble;		☑
7/12/2012 8:52:00 AM	33.191889	-77.393492	-79.5			reef butterflyfish, short bigeyes, tattler, sharpnose puffer	☐
7/12/2012 8:52:58 AM	33.191945	-77.393364	-78.9	HB	XS Photo; soft bottom; rubble; getting more light on the bottom - sun coming out; water very clear;		☑
					Fish - reef butterflyfish		
					Fish - short bigeye;		
7/12/2012 8:55:10 AM	33.191947	-77.393047	-79.1	HB	XS Photo; soft bottom; cobble; rubble; pavement; Slope- flat; looks like very shallow hills;		☑
7/12/2012 8:57:25 AM	33.192073	-77.392749	-78.5	SB	XS Photo; soft bottom;		☑
					Ech - Echinoidea; Clypeasteridae	dead	
					Fish - short bigeye;	6	
					Cni - Hydroidolina;	black	
7/12/2012 9:00:16 AM	33.192024	-77.392564	-79.3	SB	XS Photo; soft bottom;		☑
					Ech - Ophiuroidea; Asteroporpa annulata	Non XS - Random Photos;	
7/12/2012 9:02:02 AM	33.192163	-77.392436	-79.1	HB	XS Photo; soft bottom; rubble;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	yellow	
					Fish - short bigeye;	3	
7/12/2012 9:03:00 AM	33.192189	-77.392311	-78.2			short bigeyes, tattler	☐
7/12/2012 9:04:23 AM	33.192220	-77.392198	-78.7	HB	XS Photo; soft bottom; rubble;		☑
					Fish - tatler;		
7/12/2012 9:05:09 AM	33.192261	-77.392131	-78.2	HB	soft bottom; rubble; pavement; cobble;		☐
7/12/2012 9:06:24 AM	33.192402	-77.392052	-77.4	HB	XS Photo; soft bottom; rubble; Human Debris;		☑
					Fish - tatler;	2	
					Fish - short bigeye;		
7/12/2012 9:09:33 AM	33.192410	-77.391855	-77.2	SB	XS Photo; soft bottom;		☑
					Cni - Stichopathes;		
7/12/2012 9:10:17 AM	33.192429	-77.391772	-77.6	HB	rubble; pavement; cobble; 50% HB; 10-15 cm relief		☐
					Cni - Gorgonacea; Thesea?		
					Ech - Echinoidea; Eucidaris?	Non XS - Random Photos;	
					Cni - Stichopathes;		
					Cni - Gorgonacea; Plexauridae		
					Fish - short bigeye;	2	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 9:12:45 AM	33.192492	-77.391606	-77.4	HB	XS Photo; soft bottom; rubble;		☑
					Fish - lionfish;		
					Fish - short bigeye;	2	
					Cni - Hydroidolina;	black	
					Fish - tatler;		
					Cni - Hydroidolina;		
7/12/2012 9:13:00 AM	33.192503	-77.391582	-77.6			reef butterflyfish, lionfish, short bigeye	☐
7/12/2012 9:14:58 AM	33.192534	-77.391321	-76.8	HB	XS Photo; soft bottom; rubble;		☑
					Ech - Echinoidea; Eucidaris?		
					Art - Stenorhynchus seticornis	arrow crab	
					Ech - Asteroidea; Narcissia trigonaria		
7/12/2012 9:17:25 AM	33.192503	-77.391109	-77.8		XS Photo;		☑
					Fish - short bigeye;		
7/12/2012 9:18:11 AM	33.192580	-77.390872	-76.6	HB	hard bottom; Rock; pavement; increase in rock coverage		☐
					Fish - short bigeye;		
7/12/2012 9:23:31 AM	33.192647	-77.390456	-77.4	HB	soft bottom; hard bottom; rubble; pavement;		☐
					Fish - reef butterflyfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - short bigeye;		
7/12/2012 9:25:10 AM	33.192699	-77.390069	-76.8	HB	soft bottom; hard bottom; rubble; pavement;		☐
7/12/2012 9:25:24 AM	33.192727	-77.390015	-77	HB	XS Photo; soft bottom; rubble;		☑
					Ech - Echinoidea; Eucidaris?		
7/12/2012 9:26:00 AM	33.192742	-77.389997	-77.2			short bigeyes, tattler, reef butterflyfish, spotfin butterflyfish	☐
7/12/2012 9:26:33 AM	33.192752	-77.389949	-76.2	HB	soft bottom; rubble; 250 m to the "ridge" WP		☐
7/12/2012 9:27:38 AM	33.192721	-77.389836	-76.8		XS Photo;		☑
					Fish - short bigeye;		
7/12/2012 9:28:43 AM	33.192687	-77.389763	-77.8	HB	hard bottom; soft bottom;		☐
					Fish - reef butterflyfish		
7/12/2012 9:30:08 AM	33.192754	-77.389617	-77.2	HB	hard bottom; Slope- flat; pavement; rubble; 30-50 % cover; 10 cm exposed rock		☐
					Cni - Stichopathes;		
					Cni - Gorgonacea;	purple	
					Cni - Hydroidolina;		
					Fish - short bigeye;		
					Cni - Gorgonacea; Thesea?	yellow	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 9:32:30 AM	33.192774	-77.389358	-76.6		XS Photo;		☑
7/12/2012 9:34:11 AM	33.192845	-77.389065	-77		Non XS - Random Photos;		☐
					Fish - short bigeye;		
					Cni - Stichopathes;		
7/12/2012 9:34:40 AM	33.192831	-77.389076	-76.4		XS Photo;		☑
7/12/2012 9:35:26 AM	33.192803	-77.388971	-77.2	HB	100m from WP 2 "ridge: 50 % rock cover pavement; low relief exposed outcrops; XS Photo; soft bottom;		☐
					Fish - tatler;		
					Fish - short bigeye;		
7/12/2012 9:40:01 AM	33.192961	-77.388502	-76.4	HB	pavement; Slope- flat; Hb; 30-50 % cover; 50 from WP 2; Human Debris; line		☐
7/12/2012 9:41:30 AM	33.192806	-77.388463	-77.8	HB	XS Photo; soft bottom; rubble;		☑
					Ech - Echinoidea; Eucidaris?		
					Cni - Stichopathes;		
7/12/2012 9:43:47 AM	33.193035	-77.388160	-76.4	SB	XS Photo; soft bottom;		☑
					Fish - spotfin butterflyfish		
7/12/2012 9:45:58 AM	33.193100	-77.388263	-75.3		XS Photo;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 9:47:21 AM	33.193108	-77.388106	-75.1		stop DVD		☐
7/12/2012 9:48:09 AM	33.193115	-77.388016	-75.5		XS Photo;		☑
7/12/2012 9:50:09 AM	33.193198	-77.387919	-76	HB	hard bottom; pavement; 30-50% cover; heading from wp2 to wp3.		☐
7/12/2012 9:51:02 AM	33.193216	-77.387889	-75.7	HB	hard bottom; pavement; XS Photo;		☑
					Fish - short bigeye;		
7/12/2012 9:54:44 AM	33.193480	-77.387267	-73.5	HB	hard bottom; pavement; rubble; XS Photo; 10-30% cover		☑
7/12/2012 9:56:00 AM	33.193688	-77.387183	-73.9			blue angel, short bigeye, tattler, squirrelfish	☐
7/12/2012 9:58:30 AM	33.193845	-77.387026	-73.2	SB	soft bottom;		☐
					Por - Demospongiae; Ircinia?	Non XS - Random Photos;	
					Ech - Echinoidea; Eucidaris?	Non XS - Random Photos;	
7/12/2012 9:59:11 AM	33.193873	-77.387016	-72.6	SB	XS Photo; soft bottom;		☑
					Fish - short bigeye;		
7/12/2012 9:59:59 AM	33.193900	-77.386902	-72.8	HB	soft bottom; rubble; 1-10%; on transect to wp3		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 10:01:26 AM	33.193915	-77.386719	-73	SB	XS Photo; soft bottom;		☑
7/12/2012 10:02:00 AM	33.193959	-77.386679	-73.2			blue angel, short bigeye, butterflyfish, tattler, bigeye, reef butterflyfish, wrasse, sharpnose puffer, 2spot cardinalfish, moray, yellowtail reeffish, greenband wrasse	☐
7/12/2012 10:02:10 AM	33.193976	-77.386649	-73.2		Non XS - Random Photos;		☐
					Cni - Gorgonacea;	pu	
					Cni - Stichopathes;		
					Fish - blue angelfish;		
					Fish - short bigeye;		
					Cni - Hydroidolina;		
7/12/2012 10:03:06 AM	33.194096	-77.386558	-72.4	HB	Non XS - Random Photos; hard bottom; rubble;		☐
					Fish - short bigeye;		
7/12/2012 10:03:40 AM	33.194163	-77.386489	-72.8	HB	XS Photo; soft bottom; rubble 1-10%; few small exposed rock, 10 cm relief		☑
					Fish - spotted moray;	Non XS - Random Photos;	
					Cni - Gorgonacea;	ye Non XS - Random Photos;	
					Por - Demospongiae;	30 cm lumpy, ma; Non XS - Random Photos;	
7/12/2012 10:08:53 AM	33.194313	-77.386134	-72.6	HB	hard bottom; rubble; pavement; 10-30%		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	20 cm ye cake	
7/12/2012 10:09:00 AM	33.194320	-77.386105	-72.8			blue angels, tattler, short bigeye	☐
7/12/2012 10:09:59 AM	33.194437	-77.385971	-71.6	HB	XS Photo; Slope- flat; rubble; pavement; 10-30%		☑
7/12/2012 10:16:24 AM	33.194763	-77.385284	-72	HB	soft bottom; rubble; pavement; 1-10%		☐
7/12/2012 10:17:00 AM	33.194765	-77.385255	-71.4		XS Photo;		☑
					Fish - soldierfish		
					Fish - bigeye		
7/12/2012 10:20:06 AM	33.195008	-77.384752	-71.6	HB	XS Photo; soft bottom; rubble; pavement; 1-10%; Slope- flat;		☑
7/12/2012 10:22:44 AM	33.195326	-77.384468	-70.3	HB	XS Photo; soft bottom; rubble; pavement;		☑
7/12/2012 10:24:52 AM	33.195216	-77.384164	-71	HB	XS Photo; soft bottom; rubble; 1-10%	very sparse biota and fish	☑
					Fish - reef butterflyfish		
					Fish - bigeye		
7/12/2012 10:27:10 AM	33.195262	-77.384191	-70.8	HB	XS Photo; soft bottom; rubble;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 10:29:28 AM	33.195581	-77.383898	-69.7	HB	XS Photo; soft bottom; rubble; 1-10%;Slope- flat; 600 m to wp3		☑
7/12/2012 10:34:00 AM	33.195890	-77.383156	-69.9			short bigeyes, tattlers, sharpnose puffer	☐
7/12/2012 10:34:09 AM	33.195875	-77.383158	-69.1	SB	XS Photo; soft bottom;		☑
7/12/2012 10:35:26 AM	33.195958	-77.382928	-69.7	HB	soft bottom; rubble;		☐
7/12/2012 10:36:19 AM	33.196101	-77.382863	-69.3	SB	XS Photo; soft bottom;		☑
7/12/2012 10:38:46 AM	33.196262	-77.382518	-68.5	HB	XS Photo; soft bottom; rubble;		☑
7/12/2012 10:39:59 AM	33.196267	-77.382417	-69.3	HB	soft bottom; rubble; 1-10% cover		☐
7/12/2012 10:40:00 AM	33.196271	-77.382413	-69.5			yellowtail reeffish, short bigeyes, tattler, sharpnose puffer	☐
7/12/2012 10:40:55 AM	33.196356	-77.382355	-68.7	HB	soft bottom; rubble; XS Photo;	very little sessile biota; few bigeye, tatler	☑

Species Observed	
Cni - Stichopathes;	few
Cni - Gorgonacea;	small sparse
Ech - Echinoidea; Eucidaris?	few

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 10:43:20 AM	33.196520	-77.382279	-68	HB	XS Photo; soft bottom; rubble; sparse		☑
7/12/2012 10:45:39 AM	33.196679	-77.382009	-68		XS Photo;		☑
7/12/2012 10:49:58 AM	33.197250	-77.381459	-66.6	HB	soft bottom; rubble; pavement; XS Photo; 1-30% cover; 250 m to wp3		☑
					Cni - Stichopathes;		
					Fish - porgy		
7/12/2012 10:50:00 AM	33.197254	-77.381443	-66.8			Calamus, tattler	☐
7/12/2012 10:52:26 AM	33.197503	-77.381315	-66	HB	XS Photo; soft bottom; rubble;		☑
7/12/2012 10:55:00 AM	33.197539	-77.381143	-66.8	HB	low relief outcrops	graysby x2, doctorfish, creole-fish, lionfish, squirrelfish, reef butt, cubbyu, spotfin hogfish, lionfish, school of Ajs, Calamus	☐
7/12/2012 10:55:17 AM	33.197613	-77.381083	-66.8	HB	hard bottom; pavement;		☐
					Fish - surgeonfish		
					Fish - lionfish;		
					Fish - squirrelfish		
					Fish - graysby grouper		
7/12/2012 10:56:02 AM	33.197630	-77.381069	-67	HB	XS Photo; soft bottom; Rock; 30 cm relief		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - spotfin hogfish		
					Fish - lionfish;		
					Fish - Calamus porgy		
					Fish - amberjack		
					Cni - Stichopathes;	dense	
7/12/2012 10:57:00 AM	33.197627	-77.381070	-66.8			lionfish, large school of Ajs	☐
7/12/2012 10:57:30 AM	33.197696	-77.381010	-67	HB	Rock;hard bottom; 10-30%, 10-20 cm relief		☐
7/12/2012 10:58:15 AM	33.197844	-77.381015	-66	SB	XS Photo; soft bottom; 200 m to wp 3		☑
					Fish - creole fish		
					Fish - amberjack	dense school	
7/12/2012 10:59:00 AM	33.197946	-77.381001	-67.6	SB	sand		☐
7/12/2012 10:59:20 AM	33.198023	-77.380948	-68.3	SB	soft bottom; sand,		☐
7/12/2012 11:00:34 AM	33.198134	-77.380959	-68.3	HB	XS Photo; soft bottom; sand ripples, bare no rubble		☑
7/12/2012 11:02:21 AM	33.198187	-77.380892	-68	SB	soft bottom; at wp 3 head to new wp 4 which is high relief mound on new multibeam, about 250 m; hd e		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 11:02:59 AM	33.198128	-77.380787	-67.8	HB	XS Photo; soft bottom; Rock 15 cm ledge		☑
					Alg - Cyanophyta;		
					Fish - lionfish;	4	
7/12/2012 11:03:00 AM	33.198128	-77.380788	-68	HB	low relief outcrops	lionfish x4, sharpnose puffer, reef butterfly, Ajs	☐
7/12/2012 11:05:00 AM	33.198120	-77.380583	-68.3	SB	XS Photo; soft bottom;		☑
7/12/2012 11:05:00 AM	33.198120	-77.380583	-68.3			lionfish	☐
7/12/2012 11:06:50 AM	33.198180	-77.380045	-68	SB	XS Photo; soft bottom;		☑
7/12/2012 11:07:41 AM	33.198258	-77.379881	-67.6				☐
					Fish - triggerfish		
					Fish - tatler;		
					Fish - scamp grouper;		
					Fish - rock beauty		
7/12/2012 11:08:00 AM	33.198269	-77.379846	-65.1		target reef on multibeam	lionfish, tattler, short bigeye, rock beauty, scamp, sargassum triggerfish, doctorfish, reef butterflyfish, Calamus, wrasse, grey trigger, cubbyu	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 11:10:02 AM	33.198039	-77.379266	-67.2	HB	soft bottom; hard bottom; rubble; pavement; 30-50%; 100 m west of wp 4		☐
					Species Observed: Cni - Stichopathes;		
7/12/2012 11:11:47 AM	33.198075	-77.378815	-64.7	SB	XS Photo; soft bottom;		☑
7/12/2012 11:13:00 AM	33.197991	-77.378558	-65.8			doctorfish, spotfin hogfish, creole-fish, rock beauty, yellowtail reeffish, sargassum triggerfish, moray eel, grey trigger, hogfish	☐
7/12/2012 11:14:20 AM	33.198043	-77.378396	-66.2		XS Photo;		☑
					Species Observed: Fish - spotfin hogfish		
					Species Observed: Fish - reef butterflyfish		
7/12/2012 11:15:15 AM	33.198120	-77.378371	-66.6	HB	hard bottom; Rock; 30 cm relief		☐
					Species Observed: Fish - rock beauty		
					Species Observed: Fish - sargassum triggerfish	Non XS - Random Photos;	
					Species Observed: Cni - Stichopathes;		
					Species Observed: Por - Demospongiae; Spirastrellidae		
7/12/2012 11:17:30 AM	33.198128	-77.378388	-66.2	HB	hard bottom; Rock; near wp 4		☐
					Species Observed: Fish - moray eel		
7/12/2012 11:19:30 AM	33.198229	-77.378296	-62.4	HB	hard bottom; Rock; ledge 30 cm;		☐
					Species Observed: Fish - hogfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 11:20:25 AM	33.198342	-77.378150	-66	HB	XS Photo; soft bottom; on wp 4; cont transect to NE;Rock; 10-30% cover		☑
7/12/2012 11:23:01 AM	33.198415	-77.377763	-68.7	HB	XS Photo; hard bottom; Rock; 10%		☑
7/12/2012 11:24:12 AM	33.198482	-77.377632	-69.9	SB	soft bottom;		☐
7/12/2012 11:25:00 AM	33.198612	-77.377648	-69.9			hogfish	☐
7/12/2012 11:25:06 AM	33.198621	-77.377653	-70.1	SB	soft bottom; change hd back to W		☐
					Fish - hogfish		
7/12/2012 11:26:00 AM	33.198662	-77.377785	-69.9		turning around to head SW to go back over target point found on multibeam		☐
7/12/2012 11:26:05 AM	33.198666	-77.377784	-69.5	SB	XS Photo; soft bottom;		☑
					Fish - hogfish		
					Fish - sand tilefish;		
7/12/2012 11:27:00 AM	33.198492	-77.377768	-68.7			hogfish, sand tilefish, spotfin butterflyfish, doctorfish, sunshinefish, rock beauty, lionfish x2, creole-fish, wrasses	☐
7/12/2012 11:28:43 AM	33.198389	-77.378115	-67	SB	XS Photo; soft bottom;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 11:29:50 AM	33.198142	-77.378032	-67.8	HB	hard bottom; raised pavememt 30+ cm relief; with sand between		☐
					Species Observed		
					Cni - Stichopathes;		
					Fish - lionfish;	3	
					Fish - hogfish	2	
7/12/2012 11:30:53 AM	33.198078	-77.378082	-66.8	HB	hard bottom; soft bottom; flat pavement;		☐
7/12/2012 11:31:00 AM	33.198092	-77.378045	-66.8			spotfin hogfish, Calamus, hogfish x2, creole-fish, cubbyu, blue angelfish, reef butterflyfish, squirrelfish, lionfish x2, spotfin butterflyfish	☐
7/12/2012 11:31:12 AM	33.198083	-77.377978	-66.8	HB	XS Photo; hard bottom; pavement;		☑
					Cni - Stichopathes;		
					Fish - spotfin hogfish		
					Fish - hogfish	Non XS - Random Photos;	
					Fish - blue angelfish;		
7/12/2012 11:33:12 AM	33.197983	-77.377943	-65.8	HB	hard bottom; pavement;		☐
					Fish - lionfish;	2	
					Fish - Calamus porgy		
7/12/2012 11:33:36 AM	33.198025	-77.377979	-65.8	HB	XS Photo; Rock;		☑
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	ROV 16	12-VII-12-2	North Carolina, Station 23, south and outside the N.C. MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - blue angelfish;		
7/12/2012 11:35:14 AM	33.197999	-77.377983	-66.8	HB	hard bottom; pavement; 1- cm relief pavement slabs; back on the WP target;		☐
7/12/2012 11:35:48 AM	33.198003	-77.377994	-66.4	SB	XS Photo; soft bottom;		☑
7/12/2012 11:36:24 AM	33.197938	-77.377916	-64.5	HB	hard bottom; pavement; area of pavement and medium boulders; pavement 10-20 m wide; boulders 1-2 m wide; 10-30 cm relief; on the WP in Trackpoint; within 50 m of the wp		☐
					Fish - creole fish		
7/12/2012 11:37:00 AM	33.197920	-77.377969	-63.9			lionfish, spotted goatfish, cubbyu, creole-fish, sargassum trigger x2, lionfish, sharpnose puffer	☐
7/12/2012 11:38:27 AM	33.197960	-77.377880	-66	HB	hard bottom; pavement; and boulders		☐
					Cni - Stichopathes;		
					Fish - lionfish;		
7/12/2012 11:40:13 AM	33.197925	-77.377915	-64.9	HB	hard bottom; pavement;		☐
					Fish - lionfish;		
7/12/2012 11:41:00 AM	33.197947	-77.377930	-63		end of dive		☐
7/12/2012 11:41:07 AM	33.197953	-77.377939	-63	HB	Recover; Off bottom; soft bottom; lumpy soft bottom; Slope- flat; patches of pavement; low relief		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207122	**ROV 16**	**12-VII-12-2**	**North Carolina, Station 23, south and outside the N.C. MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 11:45:22 AM					end tape		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	**ROV 17**	**12-VII-12-3**	**North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 12:38:24 PM					Objectives: ROV Dive 17, Site #- 12-VII-12-3. Target Site – Steeples Ledges outside and south of North Carolina MPA; 33°15.0000'N; 77°16.2000'W; 85 m. ROV survey outside MPA; no multibeam sonar of site. Conduct video/photo transect over target waypoints from Ross and Quatrini paper.		☐
7/12/2012 12:38:37 PM					Launch (start dive);		☐
7/12/2012 12:42:00 PM					start DVD		☐
7/12/2012 12:43:53 PM	33.229672	-77.270345	-86	HB	On bottom; soft bottom; Slope- flat; rubble; shell hash; 20 n from WP		☐
7/12/2012 12:44:00 PM	33.229694	-77.270330	-85.7	SB	sand		☐
7/12/2012 12:46:17 PM	33.229779	-77.270101	-86.2	SB	XS Photo; soft bottom;		☑
					Fish - Calamus porgy		
					Fish - spotfin hogfish		
7/12/2012 12:47:00 PM	33.229821	-77.270081	-84.5	HB	hardbottom in sight out in the distance	Calamus, spotfin hogfish	☐
7/12/2012 12:48:34 PM	33.229864	-77.270043	-85.5	SB	XS Photo; soft bottom;		☑
7/12/2012 12:50:55 PM	33.229979	-77.269961	-83.7	SB	XS Photo; soft bottom;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 12:52:00 PM	33.230047	-77.269959	-83.9	HB	base of reef, moderate relief outcrops	bank butt, reef butterflyfish, cubbyu, tomtate, lionfish, wrasse, wrasse bass x2, roughtongue bass, spanish flag, another wrasse bass, blue angelfish, lionfish, graysby, bank butterflyfish	☐
7/12/2012 12:52:21 PM	33.230068	-77.269946	-83.7	HB	hard bottom; disctict line bewttem HB and sediment; large boulders scattered; 2-4 m diam, 1 m relief		☐
					Fish - lionfish;		
7/12/2012 12:53:19 PM	33.230101	-77.269940	-84.3	HB	XS Photo; soft bottom; Boulders are encrusted; 85.5 sediment depth; rock relativly bare except TE sponges		☑
					Por - Demospongiae; Spirastrellidae	red and yellow	
					Fish - wrasse bass	Non XS - Random Photos;	
7/12/2012 12:55:55 PM	33.230146	-77.269943	-83.9	SB	XS Photo; soft bottom;		☑
					Cni - Antipathidae;	gray bushy	
					Coral- Madracis myriaster	pink 10 cm	
					Cni - Antipathidae;	bottle brush	
					Fish - spanish flag		
7/12/2012 12:57:37 PM	33.230168	-77.269972	-84.9	HB	XS Photo; hard bottom; Human Debris; fishing line on coral head		☑
					Fish - lionfish;		
					Fish - graysby grouper		
					Por - Demospongiae;	yellow TE	
					Fish - bank butterflyfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Coral- Madracis myriaster	0.5 m wide	
7/12/2012 1:00:00 PM	33.230140	-77.269956	-84.5	HB	on top of outcrops	rock beauty, creole-fish	☐
7/12/2012 1:00:20 PM	33.230136	-77.269947	-83.7	HB	top of ledge is 81 m		☐
					Cni - Stichopathes;		
					Cni - Antipathidae;	gray fan	
					Fish - wrasse		
7/12/2012 1:02:00 PM	33.230304	-77.269906	-80.3			total relief - 3m	☐
7/12/2012 1:02:23 PM	33.230361	-77.269953	-80.5	HB	XS Photo; Rock; started on XS heading N; bottom is flat rock; 1 m relief; rugged erroded;		☑
					Cni - Gorgonacea; Leptogorgia?	orange; fan; EB	
					Cni - Antipathidae;	bushy white	
					Fish - short bigeye;		
					Fish - roughtongue bass		
					Fish - lionfish;		
					Fish - striped bass		
7/12/2012 1:03:00 PM	33.230387	-77.269987	-80.7			bank butt, creole-fish, grunt - maybe striped grunt, spotfin hogfish, roughtongue bass, reef butterflyfish, lionfish, short bigeye, tomtate, vermilion, Calamus, rock beauty	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 1:04:54 PM	33.230500	-77.270036	-80.7	HB	XS Photo; hard bottom;		☑
					Fish - tomtate;		
7/12/2012 1:05:48 PM	33.230711	-77.270103	-80.1	HB	hard bottom; XS on top of the rock; 100% cover erroded; Non XS - Random Photos;		☐
					Fish - roughtongue bass		
					Fish - rock beauty	2	
7/12/2012 1:07:00 PM	33.230924	-77.270100	-80.3			school of anthiids	☐
7/12/2012 1:07:02 PM	33.230920	-77.270094	-80.1	HB	XS Photo; hard bottom;		☑
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
					Cni - Antipathidae;	Gray bushy	
					Cni - Gorgonacea; Leptogorgia hebes	common; orange and red	
7/12/2012 1:08:45 PM	33.231015	-77.270094	-80.3	HB	soft bottom; pavement; rubble; sediment patch between the rock boulders		☐
7/12/2012 1:09:00 PM	33.231128	-77.270108	-80.1	HB	pavement	school of vermilion, Ajs, spotfin hogfish	☐
7/12/2012 1:09:13 PM	33.231188	-77.270112	-80.1	HB	XS Photo; off high relief reef onto rock rubble cobble boulders <30 cm relief; HD N on the transect line;		☑
					Fish - vermilion snapper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 1:11:46 PM	33.231526	-77.270136	-78.5	HB	XS Photo; pavement; soft bottom;		☑
					Species Observed: Fish - lionfish;		
7/12/2012 1:12:00 PM	33.231585	-77.270103	-79.3	HB	high relief ledge	lionfish, tomtates, lionfish, roughtongue bass	☐
7/12/2012 1:13:14 PM	33.231679	-77.270008	-82.4	HB	XS Photo; hard bottom;		☑
					Species Observed: Fish - lionfish;		
7/12/2012 1:14:01 PM	33.231792	-77.269982	-87.4	HB	Non XS - Random Photos; hard bottom; pavement; Rock; reef drops of at 89 m 45 degree slope to the bottom		☐
7/12/2012 1:15:00 PM	33.231827	-77.269966	-90.5	HB	total relief - 12m		☐
7/12/2012 1:15:04 PM	33.231837	-77.269990	-90.5	HB	soft bottom; Rock; sand with scattered small boulders at the base of the reef		☐
7/12/2012 1:15:30 PM	33.231853	-77.269994	-91.4		XS Photo;		☑
7/12/2012 1:16:00 PM	33.231883	-77.270015	-92.2	SB	sand		☐
7/12/2012 1:16:10 PM	33.231927	-77.270000	-92.2	HB	rubble; base of reef; bioterrbation; off reef on sediment;		☐
7/12/2012 1:18:09 PM	33.232245	-77.269938	-100.1	SB	soft bottom; heading north to second WB;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 1:19:58 PM	33.232574	-77.269917	-97.6	SB	XS Photo; soft bottom;		☑
7/12/2012 1:21:32 PM	33.232770	-77.270003	-101.4	SB	soft bottom;		☐
					Fish - tatler;		
7/12/2012 1:22:00 PM	33.232872	-77.270039	-100.3	HB	moderate relief outcrops, 2m relief	Calamus, reef butterflyfish, roughtongue bass, wrasse bass, porgies up in the waer column, scamp x2, spanish flag, rock beauty	☐
7/12/2012 1:22:27 PM	33.232946	-77.270040	-100.3	SB	XS Photo; soft bottom;		☑
					Fish - Calamus porgy		
					Fish - lionfish;		
7/12/2012 1:23:33 PM	33.233047	-77.270060	-98.9	HB	50 % cover; hard bottom; scattered rock boulders; slabs. 1-2 m diam; 0.5 m relief; REEF # 2		☐
					Cni - Stichopathes;		
					Fish - spanish flag	Non XS - Random Photos;	
					Fish - roughtongue bass		
					Cni - Antipathidae;	bush	
					Fish - scamp grouper;		
7/12/2012 1:26:04 PM	33.233194	-77.270129	-97.8	HB	hard bottom;		☐
					Cni - Gorgonacea;	yellow and red	
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	orange and red encrusting	
7/12/2012 1:27:00 PM	33.233257	-77.270204	-95.1	SB	sand		☐
7/12/2012 1:27:00 PM	33.233257	-77.270204	-95.1	HB	high relief ledge, gentle sloping ledge	wrasse bass, roughtongue bass, reef butterflyfish, tomtates school?, sharpnose puffer, soapfish	☐
7/12/2012 1:27:12 PM	33.233265	-77.270205	-98	SB	XS Photo; soft bottom;		☑
7/12/2012 1:27:27 PM	33.233389	-77.270116	-99.3	SB	off reef; soft bottom; 102 m		☐
7/12/2012 1:27:58 PM	33.233558	-77.270024	-99.1	HB	rubble; XS Photo; boulder; 1 m diam; 30 cm relief; 50-70 % cover;		☑
					Cni - Stichopathes;		
7/12/2012 1:29:13 PM	33.233790	-77.270014	-93.2	HB	REEF # 3; solid rock; erroded 0.5 m relief;		☐
					Fish - Anthiids		
					Por - Demospongiae; Spirastrellidae		
					Cni - Gorgonacea; Leptogorgia		
					Ech - Ophiuroidea; basketstar; Gorgonocephalidae		
					Fish - soapfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 1:31:00 PM	33.234006	-77.270097	-88.7			blue angelfish, roughtongue bass, tomtate, striped grunt?, spanish flag, lionfish, scamp, reef butt, spotfin butterflyfish, squirrelfish, bank butt, cubbyu, speckled hind	☐
7/12/2012 1:31:14 PM	33.234068	-77.270059	-88.7	HB	top of reef; Slope- moderate (<35o); scattered rock boulders;		☐
					Fish - spanish flag		
7/12/2012 1:31:53 PM	33.234245	-77.270010	-89.3		slope increase; 89 m on top of reef; at this location it is 93 m;		☐
7/12/2012 1:32:42 PM	33.234275	-77.270036	-88.2	HB	XS Photo; hard bottom; Rock; about 10 m relief		☑
7/12/2012 1:34:10 PM	33.234466	-77.270041	-88.2	HB	hard bottom; Rock;		☐
					Coral- Madracis myriaster	10-15 cm Non XS - Random Photos;	
					Fish - blackbar soldierfish		
					Fish - speckled hind		
7/12/2012 1:36:00 PM	33.234487	-77.270126	-86			scamp, bigeye, scamp x3, cubbyu, rock beauty, lionfish, scamp	☐
7/12/2012 1:36:07 PM	33.234490	-77.270142	-86	HB	hard bottom; Rock;		☐
					Coral- Madracis myriaster	1 m wide	
					Fish - scamp grouper;		
					Fish - bigeye		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae; Astorphorida; Geodia?	lumpy white	
7/12/2012 1:37:08 PM	33.234603	-77.270165	-85.3	HB	XS Photo; hard bottom; Rock; 85 m on the top of reef 3.		☑
					Fish - rock beauty		
7/12/2012 1:38:00 PM	33.234825	-77.270054	-83.5	HB	top of ledge	95 to 83 m - total relief 12m	☐
7/12/2012 1:38:37 PM	33.235025	-77.270006	-82.2	HB	rubble; soft bottom; area of rubble and pavement - leaving reef #3; 82 m off north side of REEF 3		☐
7/12/2012 1:39:00 PM	33.235177	-77.269994	-81.4	SB	sand		☐
7/12/2012 1:39:38 PM	33.235269	-77.270086	-81.6	SB	XS Photo; soft bottom; xs due north;		☑
					Fish - sand tilefish;		
					Fish - hogfish		
7/12/2012 1:41:00 PM	33.235533	-77.270109	-81.2	HB	pavement	sand tilefish, coule of hogfish, tattlers, AJ	☐
7/12/2012 1:41:49 PM	33.235611	-77.270115	-81	SB	XS Photo; soft bottom;		☑
7/12/2012 1:42:00 PM	33.235600	-77.270131	-81.4	SB	sand		☐
7/12/2012 1:42:24 PM	33.235633	-77.270103	-79.9	HB	soft bottom; hard bottom; pavement; there is a small sand/pavement mound; Slope- moderate (<35o);		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 1:43:00 PM	33.235747	-77.270069	-81.4		Human Debris - anchor		☐
7/12/2012 1:43:32 PM	33.235738	-77.270158	-82.2		Human Debris; anchor; differently shaped; cross bars and rounded anchor end; Non XS - Random Photos;		☐
7/12/2012 1:45:38 PM	33.236029	-77.270165	-81		changing DVD		☐
7/12/2012 1:46:58 PM	33.236202	-77.270063	-83.7	SB	starting DVD 38; XS Photo; soft bottom;		☑
7/12/2012 1:47:53 PM	33.236349	-77.270032	-84.1	SB	soft bottom; heading north to next WP…		☐
7/12/2012 1:50:01 PM	33.236656	-77.270012	-84.3	HB	Slope- flat; soft bottom; patchy cobble		☐
7/12/2012 1:50:26 PM	33.236731	-77.269999	-83.9	SB	XS Photo; soft bottom; no ripples or bioterbation;		☑
7/12/2012 1:52:44 PM	33.237034	-77.270104	-84.5	HB	XS Photo; soft bottom; small rocky patch		☑
					Cni - Gorgonacea;		
7/12/2012 1:53:00 PM	33.237043	-77.270112	-84.9	HB	low relief patchy low relief outcrops; base of next reef,	roughtongue bass, blue angelfish, AJ, wrasse, hogfish, yellowtail reeffish, reef butt, tattler	☐
7/12/2012 1:54:05 PM	33.237227	-77.270056	-82.6	HB	hard bottom; soft bottom; Rock; rubble; pavement; REEF #4 ; patch reef;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 1:55:11 PM	33.237418	-77.270007	-78.5	HB	XS Photo; hard bottom; pavement; slabs; .5 m relief 50% cover; patchy		☑
					Species Observed		
					Coral- Madracis myriaster	40 cm; Non XS - Random Photos;	
					Cni - Hydroidolina;		
7/12/2012 1:57:20 PM	33.237655	-77.270167	-77.8	SB	XS Photo; soft bottom; Human Debris; line		☑
					Fish - blue angelfish;		
7/12/2012 1:58:57 PM	33.237951	-77.270126	-77.6	SB	soft bottom; OFF REEF 4;Human Debris; fish line		☐
7/12/2012 1:59:00 PM	33.237951	-77.270124	-78	HB	top of reef;total relief - 7m		☐
7/12/2012 1:59:00 PM	33.237951	-77.270124	-78	SB	sand		☐
7/12/2012 2:01:52 PM	33.238346	-77.269978	-77.6	SB	soft bottom; XS Photo;		☑
7/12/2012 2:04:00 PM	33.238605	-77.269994	-78			sand tilefish	☐
7/12/2012 2:04:06 PM	33.238592	-77.270004	-77.8	HB	soft bottom; XS Photo; shell hash;rubble;		☑
					Fish - sand tilefish;		
7/12/2012 2:09:57 PM	33.239587	-77.269972	-76.2	HB	soft bottom; XS Photo; sparse scattered rock, rubble;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 2:12:43 PM	33.240056	-77.269972	-77	SB	XS Photo; soft bottom;		☑
7/12/2012 2:14:22 PM	33.240479	-77.270015	-76.2	HB	hard bottom; Rock; patches 2 m rock, 15 cm relief		☐
7/12/2012 2:14:59 PM	33.240566	-77.270059	-74.9	HB	XS Photo; hard bottom; pavement; 10-50% cover; smooth rock knolls		☑
					Fish - grouper		
					Coral- Madracis myriaster		
7/12/2012 2:15:00 PM	33.240562	-77.270060	-74.9	HB	low relief outcrops	red grouper, yellowtail reeffish, roughtongue bass, wrasse bass, tattler, blue angelfish	☐
7/12/2012 2:17:31 PM	33.240876	-77.270201	-72.8				☐
7/12/2012 2:17:33 PM	33.240883	-77.270198	-73.2	HB	hard bottom; reef 5, low relief rock knolls, 60% cover, smooth rock, 1/2 m relief; 70 m top		☐
					Fish - red grouper;		
7/12/2012 2:19:00 PM	33.241105	-77.270099	-71.4	HB	on top of reef;total relief - 5m		☐
7/12/2012 2:19:50 PM	33.241373	-77.270022	-70.5	HB	XS Photo; hard bottom; pavement; Rock;		☑
					Alg - Chlorophyta;		
7/12/2012 2:21:00 PM	33.241654	-77.270108	-70.3	SB	sand	greater AJ	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	**ROV 17**	**12-VII-12-3**	**North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 2:21:27 PM	33.241827	-77.270159	-70.3	SB	soft bottom; end of reef 5		☐
7/12/2012 2:22:06 PM	33.241993	-77.270118	-69.9	SB	soft bottom; XS Photo; smooth sand; no shell, no bioturbation		☑
7/12/2012 2:26:52 PM	33.242585	-77.270119	-69.5	SB	XS Photo; soft bottom;		☑
7/12/2012 2:29:07 PM	33.242886	-77.270134	-69.5	SB	XS Photo; soft bottom;		☑
7/12/2012 2:30:20 PM	33.243065	-77.270137	-69.9	SB	soft bottom;		☐
7/12/2012 2:31:00 PM	33.243257	-77.270120	-69.3	HB	reef; smooth rock knolls,	not many fish	☐
7/12/2012 2:31:23 PM	33.243366	-77.270102	-68.5	SB	soft bottom; XS Photo;		☑
7/12/2012 2:32:22 PM	33.243478	-77.270192	-67				☐
7/12/2012 2:32:22 PM	33.243478	-77.270192	-67	HB	ard bottom; reef 6; low relief rock knolls, pavement, no ledges		☐
					Cni - Stichopathes;		
7/12/2012 2:33:41 PM	33.243855	-77.270146	-67.2	SB	soft bottom; XS Photo;		☑
					Cni - Scleractinia; Oculina?	10 cm white colonies	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Hydroidolina;		
7/12/2012 2:35:57 PM	33.244142	-77.270253	-63.3	HB	hard bottom; Rock; smooth rock knolls, no ledges; 66m-68 m		☐
7/12/2012 2:37:00 PM	33.244345	-77.270144	-63.7		on top of reef	total relief - 3m	☐
7/12/2012 2:39:00 PM	33.244718	-77.270104	-59.9		off bottom		☐
7/12/2012 2:39:01 PM	33.244718	-77.270104	-59.9	HB	hard bottom; XS Photo; Rock;		☑
7/12/2012 2:39:26 PM	33.244776	-77.270166	-54.7		pulled off bottom		☐
7/12/2012 2:43:00 PM	33.245432	-77.270106	-68.7	HB	mostly sand, some pavement;back on bottom		☐
7/12/2012 2:43:27 PM	33.245522	-77.270074	-70.3	HB	hard bottom; Rock; XS Photo; end of reef 6; sparse patchy low relief knolls		☑
7/12/2012 2:46:03 PM	33.246008	-77.269933	-72.6	HB	soft bottom; XS Photo; cont X-S North; patchy rubble		☑
7/12/2012 2:48:10 PM	33.246339	-77.269888	-71.8	HB	hard bottom; Rock; low relief knolls; XS Photo;		☑
7/12/2012 2:49:22 PM	33.246520	-77.269936	-72	HB	soft bottom; patchy rock knolls, sand dunes		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 2:50:26 PM	33.246657	-77.269911	-71.8	HB	soft bottom; rubble; DVD; XS Photo;		☑
7/12/2012 2:52:56 PM	33.246956	-77.269887	-71.6	SB	XS Photo; soft bottom;		☑
					Cni - Stichopathes;		
7/12/2012 2:54:00 PM	33.247183	-77.269990	-71	HB	soft bottom; Rock; knolls, no ledges, patchy		☐
					Fish - blue angelfish;		
					Cni - Stichopathes;		
7/12/2012 2:54:00 PM	33.247183	-77.269990	-71	HB	more hardbottom	blue angelfish, wrasse	☐
7/12/2012 2:55:17 PM	33.247386	-77.269978	-70.5	SB	soft bottom;		☐
7/12/2012 2:57:28 PM	33.247649	-77.270016	-72	HB	XS Photo; soft bottom; low relief rock knolls		☑
7/12/2012 2:58:00 PM	33.247642	-77.270025	-71.8	HB	pavement	lionfish	☐
7/12/2012 2:59:18 PM	33.247824	-77.270105	-71.8	HB	soft bottom; Rock; knolls 1 m dunes		☐
7/12/2012 3:01:21 PM	33.248058	-77.270164	-65.5	HB	hard bottom; patches of rock slabs 2-4 m diam, smooth; pulled off bottom		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 3:03:00 PM	33.248388	-77.270171	-72	HB	smooth rocky knolls;back on bottom		☐
7/12/2012 3:03:07 PM	33.248432	-77.270162	-73.2	HB	soft bottom; sand w/ ripples patches of low rock knolls		☐
7/12/2012 3:03:36 PM	33.248544	-77.270106	-72.8	SB	XS Photo; soft bottom		☑
7/12/2012 3:04:00 PM	33.248608	-77.270008	-71.8	HB	rockier outcrop	lionfish, Calamus, doctorfish, spotfin butterflyfish, squirrelfish, lionfish, yellowtail reeffish	☐
7/12/2012 3:04:33 PM	33.248759	-77.269945	-69.7	HB	hard bottom; pavement; knolls		☐
					Species Observed		
					Fish - yellowtail reeffish;		
					Fish - Calamus porgy		
					Fish - lionfish;	2	
7/12/2012 3:05:00 PM	33.248821	-77.269933	-69.1			AJ, reef butterflyfish, tattler, Calamus, cowfish, grey trigger	☐
7/12/2012 3:06:00 PM	33.249017	-77.269927	-68.7	HB	XS Photo; pavement; knolls;hard bottom;		☑
7/12/2012 3:06:35 PM	33.249078	-77.269939	-68.7	HB	hard bottom; Rock; reef 7; 69 m on top, smooth rock; 100 m from end wp		☐
					Fish - amberjack		
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207123	ROV 17	12-VII-12-3	North Carolina, Station 24, south and outside the N.C. MPA, Steeples Ledges

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 3:08:21 PM	33.249451	-77.270063	-67.4	HB	XS Photo; hard bottom; pavement;		☑
7/12/2012 3:08:57 PM	33.249540	-77.270050	-68.7	HB	hard bottom; pavement; rock knolls, smooth dunes		☐
7/12/2012 3:10:29 PM	33.249568	-77.270111	-68.7	HB	XS Photo; hard bottom; pavement; knolls, smooth, no ledges; 50% cover		☑
					Fish - amberjack	school	
7/12/2012 3:11:00 PM	33.249631	-77.270082	-71			reef butt, spotfin butt, spotfin hogfish, AJ, YTR, rock beauty	☐
7/12/2012 3:12:03 PM	33.249865	-77.270017	-74.3	HB	hard bottom; Rock; reef 8; at end wp; pavement, 20 cm relief rock outcrops; cont xs north, low smooth rock knolls		☐
7/12/2012 3:13:56 PM	33.250002	-77.269962	-74.7	HB	XS Photo; hard bottom; pavement; knolls; 50% cover, 2-4 m diam rock slabs, 1/2 relief		☑
					Fish - spotfin hogfish		
					Fish - amberjack		
7/12/2012 3:15:00 PM	33.250201	-77.270058	-78		end of dive		☐
7/12/2012 3:15:47 PM	33.250307	-77.270098	-75.3	SB	soft bottom; end of reef; end of dive; Off bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207124	**ROV 18**	**12-VII-12-4**	**North Carolina, Station 25, south and outside the N.C. MPA.**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 4:24:51 PM					Objectives: ROV Dive 18, Site #- 12-VII-12-4. Target Site – outside and south of North Carolina MPA; 33° 21.0000'N, 77°10.8000'W; 85 m. ROV survey outside MPA; no multibeam sonar of the site. Conduct single video/photo transect of target waypoints from David and Harter previous dives.		☐
7/12/2012 4:24:52 PM					Launch (start dive);		☐
7/12/2012 4:29:16 PM				HB	Start DVD +Hard drive		☐
7/12/2012 4:31:43 PM				SB	On bottom; soft bottom; Slope- flat; shell hash; start XS to NNE		☐
7/12/2012 4:32:00 PM	33.349946	-77.180041	-90.7	SB	sand	eel near some green algae	☐
7/12/2012 4:33:04 PM	33.349947	-77.180182	-91.4	SB	soft bottom; Non XS - Random Photos;		☐
					Alg - Rhodophyta; Rhodomenia?		
7/12/2012 4:34:10 PM	33.349952	-77.180239	-89.7	SB	XS Photo; soft bottom;		☑
					Alg - Chlorophyta;	leafy green	
7/12/2012 4:36:43 PM	33.350054	-77.180063	-90.1	SB	XS Photo; soft bottom;		☑
7/12/2012 4:39:03 PM	33.350391	-77.179877	-91.2	SB	XS Photo; soft bottom;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207124	ROV 18	12-VII-12-4	North Carolina, Station 25, south and outside the N.C. MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 4:40:00 PM	33.350513	-77.179785	-91.4			saddle bass?	☐
7/12/2012 4:40:01 PM	33.350518	-77.179782	-91.8	SB	soft bottom; shell hash		☐
7/12/2012 4:41:12 PM	33.350618	-77.179777	-91.4	SB	XS Photo; soft bottom;		☑
					Fish - tatler;		
7/12/2012 4:42:23 PM	33.350774	-77.179709	-90.9	HB	soft bottom; small rubble with		☐
					Por - Demospongiae;	10 cm yellow covered in crinoids	
					Ech - Crinoidea	Non XS - Random Photos;	
					Fish - tatler;		
7/12/2012 4:43:00 PM	33.350831	-77.179676	-91.4			tattler	☐
7/12/2012 4:43:59 PM	33.350858	-77.179696	-91.2	SB	XS Photo; soft bottom;		☑
					Por - Demospongiae; Verongida?	10 cm yellow covered in crinoids	
					Ech - Crinoidea	Non XS - Random Photos;	
					Fish - tatler;		
7/12/2012 4:48:00 PM	33.351285	-77.179338	-90.9	HB	a little more hardbottom with bunch of crinoids	tattler, reef butterflyfish, spotfin butterflyfish, short bigeyes, snowy grouper, sharpnose puffer	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207124	ROV 18	12-VII-12-4	North Carolina, Station 25, south and outside the N.C. MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/12/2012 4:48:10 PM	33.351323	-77.179334	-90.9	SB	soft bottom; field of crinoids		☐
					Art - Stenorhynchus seticornis		
					Por - Demospongiae; Verongida?	15 cm irregualar lobate with conulose surface	
7/12/2012 4:50:16 PM	33.351690	-77.179141	-88.5	SB	soft bottom;		☐
					Cni - Pennatulacea		
					Fish - unid butterflyfish		
					Fish - tatler;		
					Fish - short bigeye;		
7/12/2012 4:50:47 PM	33.351753	-77.179119	-88.2				☐
7/12/2012 4:50:47 PM	33.351753	-77.179119	-88.2	HB	soft bottom; 0.5 m rock all hard bottom covered in dense crinoids		☐
					Ech - Crinoidea		
					Fish - snowy grouper		
					Fish - tatler;		
7/12/2012 4:52:35 PM	33.352006	-77.178900	-87	SB	XS Photo; soft bottom;		☑
					Ech - Asteroidea;		
					Cni - Stichopathes;		
7/12/2012 4:54:48 PM	33.352208	-77.178618	-87	HB	XS Photo; soft bottom; cobble - 10 cm with crinoids;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207124	ROV 18	12-VII-12-4	North Carolina, Station 25, south and outside the N.C. MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Asteroidea;		
					Fish - tatler;		
					Fish - short bigeye;		
7/12/2012 4:56:00 PM	33.352413	-77.178587	-85.7			short bigeye, tattler, sharpnose puffer, grey trigger, soapfish	☐
7/12/2012 4:57:01 PM	33.352530	-77.178499	-84.9	SB	XS Photo; soft bottom;		☑
					Fish - short bigeye;	2	
7/12/2012 4:59:01 PM	33.352681	-77.178482	-83.2	HB	soft bottom; 30 cm rugose rocks		☐
					Fish - triggerfish		
					Ech - Crinoidea		
7/12/2012 4:59:32 PM	33.352695	-77.178491	-82.4	SB	XS Photo; soft bottom;		☑
					Cni - Stichopathes;		
					Fish - soapfish		
7/12/2012 5:00:00 PM	33.352701	-77.178469	-83.7	HB	scattered small outcrops interspersed among mostly sand		☐
7/12/2012 5:00:19 PM	33.352701	-77.178486	-83.9	HB	soft bottom; sand shell hash; small scattered cobble with 10-20 cm relief;		☐
					Ech - Crinoidea	abundant	
7/12/2012 5:01:39 PM	33.352934	-77.178352	-82.6	SB	XS Photo; soft bottom;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207124	**ROV 18**	**12-VII-12-4**	**North Carolina, Station 25, south and outside the N.C. MPA.**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 5:02:00 PM	33.352961	-77.178340	-82.6			short bigeyes, wrasse, blue angelfish, fish - possible grouper under a rock, sharpnose puffer, snowy, AJ, reef butt	☐
7/12/2012 5:02:54 PM	33.353126	-77.178228	-81.4	HB	soft bottom; hard bottom; rubble; small cobble scattered		☐
					Ech - Crinoidea		
7/12/2012 5:03:55 PM	33.353245	-77.178133	-81	SB	XS Photo; soft bottom;		☑
					Fish - short bigeye;		
7/12/2012 5:04:56 PM	33.353338	-77.178097	-81.2	HB	soft bottom; rock		☐
					Fish - eel		
					Fish - highhat	baby	
					Fish - snowy grouper		
					Art - hermit crab		
					Fish - short bigeye;	4	
7/12/2012 5:05:00 PM	33.353332	-77.178076	-81.4			cardinalfish, baby high-hat, short bigeye, reef butt, vermilions, blue angelfish, tattler, wrasses	☐
7/12/2012 5:06:57 PM	33.353436	-77.178126	-80.1	SB	XS Photo; soft bottom;		☑
					Fish - reef butterflyfish		
					Fish - short bigeye;	5	
					Fish - blue angelfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207124	ROV 18	12-VII-12-4	North Carolina, Station 25, south and outside the N.C. MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tatler;		
7/12/2012 5:08:54 PM	33.353760	-77.177857	-80.3	HB	soft bottom; Rock; rubble;		☐
7/12/2012 5:09:13 PM	33.353789	-77.177871	-80.1	SB	XS Photo; soft bottom;		☑
					Fish - tatler;		
					Fish - short bigeye;	6	
7/12/2012 5:10:34 PM	33.353922	-77.177749	-79.1	HB	soft bottom; Rock; flat sand shell hash; scattered 1 m boulders; 30 cm relief;		☐
					Cni - Stichopathes;		
7/12/2012 5:11:38 PM	33.354058	-77.177587	-78.7	SB	XS Photo; soft bottom;		☑
					Fish - triggerfish		
					Fish - blue angelfish;		
					Fish - scamp grouper;		
7/12/2012 5:12:00 PM	33.354083	-77.177561	-79.5			scamp, grey triggers, blue angelfish	☐
7/12/2012 5:14:32 PM	33.354467	-77.177368	-78.2	HB	soft bottom; Rock;		☐
					Ech - Crinoidea; Comactinia		
					Fish - eel	tiny	
7/12/2012 5:15:00 PM	33.354471	-77.177376	-78.7			moray eel sticking his head out, 2 snowys, spotfin butterflyfish, grey trigger	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207124	ROV 18	12-VII-12-4	North Carolina, Station 25, south and outside the N.C. MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/12/2012 5:15:40 PM	33.354475	-77.177395	-77.8	HB	XS Photo; soft bottom; Rock;		☑
7/12/2012 5:16:47 PM	33.354523	-77.177313	-78.7	HB	soft bottom; Rock;		☐
					Ech - Crinoidea		
					Fish - triggerfish		
					Fish - reef butterflyfish	2	
					Fish - short bigeye;	2	
					Fish - snowy grouper	2	
7/12/2012 5:17:56 PM	33.354503	-77.177367	-78	SB	soft bottom; boulder with crinoids		☐
					Fish - tatler;		
7/12/2012 5:19:27 PM	33.354731	-77.177243	-78.2	SB	soft bottom;		☐
					Por - Demospongiae;	yellow	
7/12/2012 5:20:00 PM	33.354868	-77.177163	-77.4			reef butterflyfish, short bigeye, tattler, wrasse, sharpnose puffer, baby YTR	☐
7/12/2012 5:20:24 PM	33.354893	-77.177090	-77.6	SB	XS Photo; soft bottom;		☑
7/12/2012 5:20:27 PM	33.354896	-77.177094	-77.4	SB	soft bottom;		☐
					Fish - short bigeye;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207124	**ROV 18**	**12-VII-12-4**	**North Carolina, Station 25, south and outside the N.C. MPA.**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/12/2012 5:22:42 PM	33.355161	-77.176923	-76.8	HB	XS Photo; soft bottom; Rock;		☑
					Species Observed: Ech - Crinoidea		
7/12/2012 5:23:00 PM	33.355195	-77.176928	-76.6			ocellated moray, greenband wrasse	☐
7/12/2012 5:25:05 PM	33.355371	-77.176934	-76.8	HB	soft bottom; Rock;		☐
					Species Observed: Fish - oscillated moray eel	Non XS - Random Photos;	
7/12/2012 5:25:24 PM	33.355345	-77.176932	-77.4	HB	XS Photo; soft bottom; Rock;		☑
7/12/2012 5:27:43 PM	33.355697	-77.176792	-76.2	HB	XS Photo; soft bottom; with small patchy rocks and cobble		☑
7/12/2012 5:28:00 PM	33.355703	-77.176795	-76.4		end of dive		☐
7/12/2012 5:28:41 PM	33.355748	-77.176699	-76.4		Recover; Off bottom;		☐
7/12/2012 5:32:52 PM					End DVD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	ROV 19	13-VII-12-2	North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 7:50:15 AM					Objectives: ROV Dive 19, Site #- 13-VII-12-2. Target Site – North Carolina MPA, Snowy Wreck Site; actual ROV WP fix- wreck stern: 33°26.6120'N, 76° 49.9670'W; port side, maximum depth at sediment- 256 m; deck depth 245-250 m. Conduct video/photo survey of shipwreck using new Pisces multibeam sonar map.		☐
7/13/2012 7:50:16 AM					Launch (start dive);		☐
7/13/2012 7:55:16 AM					77m sea snot		☐
7/13/2012 8:01:55 AM					180 m; dense sea snot; POM particulate organic matter		☐
7/13/2012 8:07:10 AM					bottom in site; dense POM		☐
7/13/2012 8:07:56 AM					huge school fish; very dense POM		☐
					Fish - snowy grouper?		
7/13/2012 8:08:58 AM					near the bottom but ROV on wrong side of wreck opposite ship position; reposition		☐
7/13/2012 8:10:15 AM	33.443445	-76.833800	-240.3		bottom; on wreck		☐
					Fish - snowy grouper	dozens	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	ROV 19	13-VII-12-2	North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/13/2012 8:11:00 AM	33.443461	-76.833815	-239		bow of wreck	a bunch of snowy grouper, anthiids	☐
7/13/2012 8:12:08 AM	33.443436	-76.833909	-246.3		on bow		☐
					Cni - Hydroidolina;		
					Cni- Actinoscyphia		
					Cni- Actinoscyphia		
					Cni - Stichopathes;		
7/13/2012 8:12:52 AM	33.443438	-76.833946	-245.3		mast with upright stays; vis 15'	30 cm coral on vertical mast Lophelia	☐
					Por - Demospongiae;	encrusting	
					Ech - Ophiuroidea; spaghetti brittlestars		
					Coral- unid. Colonial Scleractinia;	clusters of white;	
					Cni- Actiniaria	cluster small white	
7/13/2012 8:16:15 AM	33.443605	-76.833697	-241.7			portions of encrusters sloughed off; Lophelia- on vertical bar, 10-15 cm colony	☐
					Coral- Lophelia pertusa		
7/13/2012 8:17:37 AM	33.443611	-76.833726	-240.5		tilt on camera not working; Human Debris; fishing line	dense snowy grouper 30-60 cm;	☐
					Art - Galatheidae		
					Cni- Actinoscyphia		
					Cni - Hydroidolina;	dense	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	ROV 19	13-VII-12-2	North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/13/2012 8:19:59 AM	33.443687	-76.833808	-243.2			MPA closed in 2009; hundreds of snowy grouper; mast visible; railing visible; numerous Lophelia on vertical pieces 10-30 cm diam	☐
					Species Observed		
					Ann - Serpulidae		
					Cni - Gorgonacea;	sparse branched 14 cm	
7/13/2012 8:24:16 AM	33.443563	-76.833933	-240		tether wrapped in wreck		☐
7/13/2012 8:25:00 AM	33.443416	-76.833797	-245.5	SB	out in the sand		☐
7/13/2012 8:25:22 AM	33.443369	-76.833711	-251.1	SB	on sediment; 253 m; flat white fine sand; ripples		☐
7/13/2012 8:26:06 AM	33.443298	-76.833639	-251.3		at base of port side, 256 m;		☐
7/13/2012 8:27:00 AM	33.443508	-76.833708	-255.2		back to the wreck, bottom of the wreck	eel	☐
7/13/2012 8:27:04 AM	33.443508	-76.833708	-255.9	SB	vertical hull on port side down to sand; rivited metal;		☐
					Fish - eel	Non XS - Random Photos;	
					Cni- Actiniaria	1 cm wh, abundant	
					Cni- Actinoscyphia	10 cm, or common	
7/13/2012 8:29:00 AM	33.443556	-76.833581	-244.2		up on deck	Lophelia- measured 30 cm;	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	ROV 19	13-VII-12-2	North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Coral- Lophelia pertusa		
7/13/2012 8:29:00 AM	33.443556	-76.833581	-244.2		main deck of the bow		☐
7/13/2012 8:29:00 AM	33.443556	-76.833581	-244.2		bridge	snowy grouper everywhere	☐
7/13/2012 8:29:35 AM	33.443617	-76.833622	-240.7		at bridge	Lophelia on horizontal deck, 15 cm; crack in hull; sparse Lophelia on hull; most on vertical structure; but patchy not dense	☐
					Cni - Gorgonacea;	eb white, mesh; fan	
					Coral- Lophelia pertusa	Non XS - Random Photos;	
7/13/2012 8:32:00 AM	33.443648	-76.833468	-244.2		davet		☐
7/13/2012 8:32:37 AM	33.443614	-76.833493	-243.6		on deck	deck plate- fairly barren, small actiniaria; crack in vertical hull	☐
7/13/2012 8:34:24 AM	33.443602	-76.833562	-252.3		on port hull; vertical hull plate with large vertical crack	dense schools of snowy	☐
7/13/2012 8:35:35 AM	33.443518	-76.833673	-252.5		on port hull	hull with white anemone dense; actinoscyphe common; serpulid worms;	☐
7/13/2012 8:36:00 AM	33.443507	-76.833712	-249.8			eel	☐
7/13/2012 8:36:28 AM	33.443502	-76.833722	-249.4		rail of port side	photo of Lophelia on vertical hull; 30 cm; depth 250 m	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	ROV 19	13-VII-12-2	North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Coral- Lophelia pertusa	Non XS - Random Photos; 30 cm	
					Cni - Gorgonacea; Ellisellidae	15 cm eb	
7/13/2012 8:38:00 AM	33.443404	-76.833856	-249		anchor chain		☐
7/13/2012 8:38:55 AM	33.443380	-76.833906	-251.1		bow with anchor in place on port side; Non XS - Random Photos; photo of standard stock anchor		☐
7/13/2012 8:39:00 AM	33.443388	-76.833944	-250.7		anchor, right at the portside bow		☐
7/13/2012 8:40:02 AM	33.443378	-76.834000	-247.3		bow; Non XS - Random Photos;	Lophelia photo- 50 cm on vertical;	☐
7/13/2012 8:41:13 AM	33.443381	-76.833937	-248.8		bow; working down port side; crack in hull at mid ship; no current on bottom		☐
7/13/2012 8:43:18 AM	33.443224	-76.833749	-240		reposition down weight		☐
7/13/2012 8:45:39 AM	33.443263	-76.833491	-250.7		ship oriented e-w, bow to w		☐
7/13/2012 8:45:54 AM	33.443282	-76.833542	-251.7				☐
7/13/2012 8:45:55 AM	33.443278	-76.833551	-251.3	SB	on sediment	dozens of 60+ cm snowy at base of wreck	☐
7/13/2012 8:47:00 AM	33.443131	-76.833610	-251.1		bow, portside	still a bunch of snowy grouper all over the wreck	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	ROV 19	13-VII-12-2	North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 8:47:47 AM	33.443351	-76.833705	-252.5	SB	on sediment s of wreck; no debris on sediment; off port side, all sediment, assymetrical ripples		☐
7/13/2012 8:48:43 AM	33.443477	-76.833685	-249		port hull		☐
7/13/2012 8:49:05 AM	33.443477	-76.833663	-246.1		port on deck		☐
7/13/2012 8:50:40 AM	33.443577	-76.833541	-242.1				☐
7/13/2012 8:50:40 AM	33.443577	-76.833541	-242.1		crane on deck; port side;		☐
7/13/2012 8:51:00 AM	33.443542	-76.833528	-243.4		trying to move the ship so we can see the stern of the wreck		☐
7/13/2012 8:52:47 AM	33.443519	-76.833429	-240.5		boat davit on port main deck; davit overside, no boats on deck; possible two pair; pair on port side are in deployed hang overboard.		☐
7/13/2012 8:53:00 AM	33.443511	-76.833418	-241.1		couple of davits for the lifeboat rafts		☐
7/13/2012 8:54:37 AM	33.443493	-76.833337	-240.9		pair davit one out and one inboard		☐
7/13/2012 8:55:00 AM	33.443542	-76.833311	-240.9		middle of the ship		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	ROV 19	13-VII-12-2	North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 8:55:45 AM	33.443549	-76.833337	-243		port deck; port holes on hull	hull with anemones; sparse Lophelia on hull	☐
7/13/2012 8:59:31 AM	33.443533	-76.833324	-245.5		new DVD		☐
7/13/2012 9:00:36 AM	33.443431	-76.833287	-242.8		port hull and deck level		☐
7/13/2012 9:01:00 AM	33.443494	-76.833302	-244.8		aft section; port side; deck level;	Lophelia on railing; vertical; 20 cm; Non XS - Random Photos; 40 cm, 10 cm, 10 cm;	☐
					Coral- Lophelia pertusa	Non XS - Random Photos;	
7/13/2012 9:02:51 AM	33.443481	-76.833213	-245		Port deck; hatch hole; moving down to stern end		☐
7/13/2012 9:03:46 AM	33.443544	-76.833123	-246.7		near port stern; rugged break at stern; Non XS - Random Photos;		☐
7/13/2012 9:04:00 AM	33.443514	-76.833128	-247.1			Laemonema sp., snowy grouper	☐
7/13/2012 9:08:52 AM	33.443399	-76.833055	-246.3		at break port stern; jagged edge		☐
7/13/2012 9:10:44 AM	33.443444	-76.833037	-245.7		aft hatch on deck, hatch door open		☐
7/13/2012 9:11:00 AM	33.443439	-76.833069	-245		portside stern		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	ROV 19	13-VII-12-2	North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 9:11:40 AM	33.443464	-76.832979	-248.8		crack was not at stern; still heading along to east		☐
7/13/2012 9:12:30 AM	33.443460	-76.832922	-251.9		stern, deck level; rounded hull;	schools of snowy	☐
					Fish - Laemonema		
					Fish - snowy grouper		
7/13/2012 9:13:00 AM	33.443549	-76.832948	-250.7			Laemonema sp., snowy grouper	☐
7/13/2012 9:14:42 AM	33.443492	-76.832993	-253.2	SB	base of stern on sediment		☐
7/13/2012 9:15:37 AM	33.443486	-76.832911	-250.9		port hole near stern; Non XS - Random Photos;		☐
					Cni- Actiniaria	3 spp; Non XS - Random Photos;	
7/13/2012 9:16:58 AM	33.443490	-76.832834	-251.1		stern appears tilted 10-20o to starboard		☐
7/13/2012 9:17:00 AM	33.443485	-76.832839	-251.1			Laemonema sp., snowy grouper	☐
7/13/2012 9:17:27 AM	33.443499	-76.832848	-250.2		stern deck level 251 m		☐
7/13/2012 9:18:46 AM	33.443518	-76.832830	-250.9		chain? On aft stern deck		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	ROV 19	13-VII-12-2	North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 9:20:22 AM	33.443445	-76.832863	-246.7		capstans on stern port deck		☐
7/13/2012 9:20:44 AM	33.443449	-76.832898	-247.3				☐
7/13/2012 9:20:44 AM	33.443449	-76.832898	-247.3		up on stern deck		☐
7/13/2012 9:21:00 AM	33.443467	-76.832905	-248.8		hatch, vent, bits		☐
7/13/2012 9:21:03 AM	33.443488	-76.832895	-248.8		hatch on stern deck; hatch door;	sparse Lophelia; dense anemones	☐
					Cni - Gorgonacea; Muricea?	wh fan	
					Ech - Ophiuroidea;		
7/13/2012 9:22:55 AM	33.443422	-76.832931	-245.9		hatch door part open on stern deck; can see starboard side, fairly narrow		☐
7/13/2012 9:23:38 AM	33.443415	-76.832930	-244.8		view down into cargo hold		☐
7/13/2012 9:24:10 AM	33.443382	-76.832912	-248.4		view of broken edge of port hull		☐
7/13/2012 9:26:05 AM	33.443286	-76.832991	-246.7		cont transect west along port side again hull level; some structure on deck-		☐
7/13/2012 9:27:56 AM	33.443205	-76.833138	-241.1		port hole along mid port side		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207132	**ROV 19**	**13-VII-12-2**	**North Carolina, N.C. MPA, Station 27, Snowy Wreck Site, inside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 9:28:31 AM	33.443235	-76.833130	-240.9		possible stacks on deck		☐
7/13/2012 9:29:00 AM	33.443241	-76.833151	-241.7		port davits		☐
7/13/2012 9:29:00 AM	33.443241	-76.833151	-241.7		end of dive		☐
7/13/2012 9:29:20 AM	33.443182	-76.833129	-242.3		end of dive; another boat?		☐
7/13/2012 9:34:55 AM					HD and DVD stopped		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 10:22:53 AM					Objectives: ROV Dive 20, Site #- 13-VII-12-3. Target Site – inside and outside of northwest border North Carolina MPA; 33°24.9000'N, 77°04.6600'W; 90 m. ROV survey inside and outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect of several multibeam features.		☐
7/13/2012 1:20:00 PM					Launch (start dive);		☐
7/13/2012 1:24:54 PM	33.414665	-77.075590	-102.6	SB	On bottom; soft bottom; Slope- flat; sand and shell hash; 50 m SE of target start; transect along the NW along several MB wp's picked from the MB		☐
					Fish - amberjack		
7/13/2012 1:25:00 PM	33.414659	-77.075585	-102.6	SB	sand	school of Ajs	☐
7/13/2012 1:27:17 PM	33.414672	-77.075663	-103.2	SB	XS Photo; soft bottom;		☑
7/13/2012 1:29:31 PM	33.414903	-77.075882	-113.4	SB	XS Photo; soft bottom; sandshell hash; 20 m from the WP; Human Debris; line		☑
7/13/2012 1:30:38 PM	33.415017	-77.076091	-111.1	HB	hard bottom; soft bottom; ahead; Human Debris; bag of tunafish		☐
7/13/2012 1:32:00 PM	33.415089	-77.076149	-115.9	HB	high relief ledge	bank butterfly, cubbyu, roughtongue bass, another species of anthiid	☐
7/13/2012 1:33:39 PM	33.415162	-77.076228	-118	HB	soft bottom; hard bottom; Rock; sediment is 118 m		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 1:34:18 PM	33.415239	-77.076247	-116.4	HB	XS Photo; hard bottom; Rock; boulders; rugged erroded; 1-2 m and rock pavement, slabs low reliefl 10-30 cm		☑
					Fish - cubyu		
					Coral- Madracis myriaster	20 cm on vertical	
7/13/2012 1:35:47 PM	33.415282	-77.076313	-111.1		Non XS - Random Photos; 111 m on top and 118 at the base; 20o slope;		☐
					Coral- Madracis myriaster	Non XS - Random Photos;	
					Alg - Chlorophyta;	green leafy	
					Por - Demospongiae;		
					Fish - spanish flag		
7/13/2012 1:37:00 PM	33.415287	-77.076591	-104.5			spanish flag, bigeye, wrasse bass, roughtongue bass, spotfin hogfish, squirrelfish, cubbyu, tomtates, grouper	☐
7/13/2012 1:37:38 PM	33.415380	-77.076754	-100.3	HB	hard bottom; Rock; outcrops 1 m relief; boulders;		☐
					Fish - wrasse bass		
					Cni - Stichopathes;		
					Fish - bigeye		
					Cni - Antipathidae;	grey mesh fan	
7/13/2012 1:38:36 PM	33.415513	-77.076767	-91.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - tomtate;		
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	encrusting red	
7/13/2012 1:39:42 PM	33.415600	-77.076824	-86.8	HB	upper slope; solid rock eroded; 87 m and rising;		☐
7/13/2012 1:40:00 PM	33.415639	-77.076931	-86.4	HB	top of high relief ledge	lionfish, anthiids	☐
7/13/2012 1:40:00 PM	33.415639	-77.076931	-86.4	HB	low relief outcrops on downslope		☐
7/13/2012 1:40:10 PM	33.415677	-77.077008	-83.7	HB	top of reef; scattered rock boulders, 1 m diam; 150 m NW of starting WP on the track line; Human Debris; line;	barren;	☐
					Fish - rock beauty		
7/13/2012 1:41:00 PM	33.415798	-77.077232	-86.4			red porgies, turned around working our way back up reef, rock beauty, reef butterflyfish	☐
7/13/2012 1:42:39 PM	33.415862	-77.077180	-82.2	HB	XS Photo; hard bottom; Rock; soft bottom;		☑
					Fish - lionfish;		
7/13/2012 1:43:00 PM	33.415822	-77.077177	-87.6			working our way back down the reef, lionfish, spotfin hogfish, roughtongue bass, soapfish, tattler, reef butterflyfish, french butt?, line	☐
7/13/2012 1:43:42 PM	33.415641	-77.077419	-94.7	HB	hard bottom; Rock;		☐
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Coral- Madracis myriaster		
					Por - Demospongiae;	yellow and or encusting	
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Fish - soapfish		
7/13/2012 1:44:55 PM	33.415974	-77.077807	-84.7	HB	XS Photo; hard bottom; Rock; soft bottom; scattered rock boulders and outcrops; Human Debris; cable		☑
					Fish - lionfish;	4	
					Fish - graysby grouper		
7/13/2012 1:45:00 PM	33.415988	-77.077821	-84.3			graysby, lionfish x4, creole-fish, lionfish, reef butterflyfish, scamp, sharpnose puffer, wrasses	☐
7/13/2012 1:46:26 PM	33.416102	-77.078128	-79.5	HB	hard bottom; Rock; going up slope; Slope- moderate (<35o); 1-2 m ledge		☐
					Fish - lionfish;		
					Cni - Gorgonacea;	5-10 cm orange	
					Fish - scamp grouper;		
					Cni - Stichopathes;		
7/13/2012 1:47:17 PM	33.416107	-77.078237	-78	HB	XS Photo; hard bottom; soft bottom;		☑
					Alg - Chlorophyta;		
					Cni - Gorgonacea;	10cm purple	
					Alg - Rhodophyta;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 1:47:50 PM	33.416199	-77.078289	-74.9	HB	on a flat 50 % cover pavement; sediment		☐
					Fish - lionfish;		
					Cni - Hydroidolina;	black stinging	
					Fish - tatler;		
7/13/2012 1:48:00 PM	33.416220	-77.078317	-74.7	HB	gently sloping pavement	lionfish x2, tattler, greenband wrasse, sand tilefish	☐
7/13/2012 1:49:10 PM	33.416448	-77.078411	-70.8	SB	soft bottom; end of Reef 1		☐
7/13/2012 1:49:30 PM	33.416389	-77.078389	-72.6	SB	XS Photo; soft bottom;		☑
					Fish - tatler;		
					Fish - sand tilefish;		
					Fish - wrasse		
					Cni - Antipathidae;	black bushy	
					Sed - sand tilefish burrow	1-2 m	
					Cni - Gorgonacea; Diodogorgia?	purple	
7/13/2012 1:51:25 PM	33.416620	-77.078528	-72	HB	XS Photo; Rock;		☑
					Alg - Phaeophyta; Dictyota		
					Alg - Phaeophyta; Sargassum		
7/13/2012 1:53:00 PM	33.416611	-77.078512	-70.3			lionfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 1:53:32 PM	33.416684	-77.078634	-71.4	HB	soft bottom; Rock;		☐
					Cni - Gorgonacea; Titanideum frauenfeldii	orange	
					Sed - sand tilefish burrow		
					Ann - Filograna;		
					Fish - lionfish;		
7/13/2012 1:54:00 PM	33.416707	-77.078668	-71.4	SB	sand		☐
7/13/2012 1:55:29 PM	33.416974	-77.078850	-71	SB	XS Photo; soft bottom;		☑
7/13/2012 1:56:56 PM	33.417114	-77.079182	-71.6	SB	soft bottom; Near the border of the MPA; heading out of the MPA		☐
7/13/2012 1:57:00 PM	33.417112	-77.079193	-71.2		moving outside the MPA now		☐
7/13/2012 1:57:47 PM	33.417236	-77.079376	-69.3	SB	XS Photo; soft bottom;		☑
7/13/2012 1:59:56 PM	33.417502	-77.079265	-68.9	SB	XS Photo; soft bottom;		☑
7/13/2012 2:02:11 PM	33.417670	-77.079266	-68.3	SB	XS Photo; soft bottom;		☑
					Ech - Asteroidea; Narcissia trigonaria	Non XS - Random Photos;	
					Fish - tatler;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Sed - burrow		
7/13/2012 2:03:00 PM	33.417727	-77.079220	-68.3	HB	little bit of pavement, rolling knolls	tattler, lionfish, sharpnose puffer,	☐
7/13/2012 2:04:07 PM	33.417828	-77.079320	-67.8	HB	rubble; Start of HB;		☐
					Cni - Hydroidolina;	black stinging	
					Fish - lionfish;		
					Cni - Stichopathes;		
					Alg - Rhodophyta;	thin blade bushy	
7/13/2012 2:05:31 PM	33.418050	-77.079432	-66.2	HB	hard bottom; rubble; pavement; 5 cm relief ledges		☐
					Cni - Hydroidolina;		
					Alg - Rhodophyta;		
					Alg - Chlorophyta;		
					Por - Demospongiae;	red/pink and yellow	
					Fish - lionfish;	2	
					Por - Demospongiae;	red encrusting	
7/13/2012 2:06:00 PM	33.418139	-77.079523	-65.5	HB	low relief outcrops	lionfish x2, tattler, yellowtail reeffish, squirrelfish, lionfish, wrasse, sharpnose puffer	☐
7/13/2012 2:06:42 PM	33.418169	-77.079572	-64.7	HB	XS Photo; pavement; possible fresh water seep causing ripples check CTD;		☑
					Fish - squirrelfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tatler;		
					Fish - lionfish;		
7/13/2012 2:08:49 PM	33.418251	-77.079638	-65.1	HB	XS Photo; hard bottom; Rock;		☑
7/13/2012 2:09:00 PM	33.418232	-77.079604	-65.3	HB	mostly pavement	yellowtail reeffish, wrasse, lionfish, spotfin butt, YTR, lionfish, wrasse bass, lionfish	☐
7/13/2012 2:10:11 PM	33.418331	-77.079843	-64.5	HB	pavement;		☐
					Alg - Chlorophyta;		
					Fish - wrasse bass		
					Fish - spotfin butterflyfish		
					Fish - lionfish;		
7/13/2012 2:11:02 PM	33.418490	-77.079916	-63.9	HB	XS Photo; hard bottom; Rock; pavement;		☑
					Por - Demospongiae;	yellow	
					Cho - Ascidacea; Didemnidae		
					Fish - lionfish;	2	
7/13/2012 2:12:27 PM	33.418615	-77.080144	-63.9	HB	hard bottom; pavement; rubble;		☐
					Cni - Stichopathes;		
					Por - Demospongiae; Aplysina?	Thick wall hollow tube white	
					Fish - tatler;		
					Ech - Asteroidea; Narcissia trigonaria		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/13/2012 2:13:00 PM	33.418714	-77.080236	-63.5			YTR, reef butterflyfish, squirrelfish	☐
7/13/2012 2:13:00 PM	33.418714	-77.080236	-63.5		waypoint 3, changing heading to NW,		☐
7/13/2012 2:13:00 PM	33.418714	-77.080236	-63.5			razorfish, sharpnose puffer	☐
7/13/2012 2:13:17 PM	33.418751	-77.080288	-63.5	SB	XS Photo; soft bottom; 50 m from WP 3 ; changed heading toward the west		☑
					Species Observed		
					Ech - Asteroidea; Narcissia trigonaria		
					Por - Demospongiae; Aplysina	yellow Erect tubes	
					Por - Demospongiae; Verongida	Ye orange	
					Fish - razorfish		
					Cni - Stichopathes;		
7/13/2012 2:15:00 PM	33.418753	-77.080660	-62.4			squirrelfish, YTR	☐
7/13/2012 2:15:10 PM	33.418748	-77.080747	-63.5	SB	soft bottom;		☐
7/13/2012 2:15:27 PM	33.418749	-77.080848	-63.7	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Stichopathes;		
					Por - Demospongiae;	ugly brown	
					Fish - tatler;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - squirrelfish		
7/13/2012 2:17:00 PM	33.418817	-77.081253	-64.1			tattler, YTR, squirrelfish, lionfish, wrasses, reef butt	☐
7/13/2012 2:17:40 PM	33.418809	-77.081398	-62.8	SB	XS Photo; soft bottom;		☑
7/13/2012 2:18:22 PM	33.418791	-77.081349	-63.9	HB	hard bottom; Rock;		☐
					Por - Demospongiae;	Red HT	
					Ech - Asteroidea; Narcissia trigonaria		
					Por - Demospongiae; Aplysina	white HT	
					Fish - tatler;		
					Cni - Stichopathes;		
7/13/2012 2:19:58 PM	33.418915	-77.081613	-62.6	HB	XS Photo; hard bottom; Rock; pavenment; < 0.5 m relief		☑
					Fish - lionfish;		
					Cni - Stichopathes;		
					Fish - tatler;		
					Fish - reef butterflyfish		
					Fish - squirrelfish		
7/13/2012 2:21:00 PM	33.418962	-77.081685	-62.6			red grouper, blue angelfish, tattler, YTR, lionfish, squirrelfish, reef butterflyfish, wrasse	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 2:21:23 PM	33.418989	-77.081750	-62.4	HB	hard bottom; Rock;		☐
					Fish - tatler;		
					Fish - red grouper;		
					Fish - lionfish;		
					Fish - blue angelfish;		
					Fish - squirrelfish		
7/13/2012 2:22:15 PM	33.419011	-77.081856	-61.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - tatler;		
					Fish - short bigeye;	3	
					Ech - Asteroidea; Narcissia trigonaria		
7/13/2012 2:23:00 PM	33.419051	-77.081842	-61.6	SB	mostly sand		☐
7/13/2012 2:24:00 PM	33.418972	-77.082131	-61.8	HB	pavement	short bigeye, sharpnose puffer, YTR, tattler, greenband wrasse	☐
7/13/2012 2:25:43 PM	33.418930	-77.082602	-60.3	HB	XS Photo; hard bottom; Change DVD		☑
					Fish - short bigeye;		
					Alg - Rhodophyta;	leafy stalked blades	
					Fish - greenband wrasse		
7/13/2012 2:27:11 PM	33.418920	-77.082600	-62.6		start DVD 44		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 2:27:51 PM	33.418971	-77.082646	-61.2	SB	XS Photo; soft bottom;		☑
					Ech - Asteroidea; Narcissia trigonaria	3	
					Fish - red grouper;		
					Fish - tatler;		
					Ann - Filograna;		
					Por - Demospongiae;	white lumpy	
					Fish - hogfish	cleaning sand	
7/13/2012 2:28:00 PM	33.418979	-77.082636	-61.4	HB	mostly pavement	hogfish, red grouper, tattler, yellowtail reeffish	☐
7/13/2012 2:30:00 PM	33.419040	-77.083144	-61.8			lionfish x3, tattler, reef butterflyfish, YTR, squirrelfish	☐
7/13/2012 2:30:09 PM	33.419049	-77.083157	-61.4	HB	XS Photo; hard bottom;		☑
					Cni - Stichopathes;		
					Fish - tatler;	3	
					Art - hermit crab in Murex shell		
					Fish - lionfish;	4	
7/13/2012 2:32:23 PM	33.419236	-77.083316	-60.5	HB	XS Photo; soft bottom; hard bottom;		☑
					Cni - Hydroidolina;		
					Fish - lionfish;		
					Fish - squirrelfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Chlorophyta; Codium		
					Fish - tatler;		
7/13/2012 2:34:00 PM	33.419265	-77.083678	-59.9			lionfish, squirrelfish, wrasses, YTR	☐
7/13/2012 2:34:41 PM	33.419332	-77.083733	-59.3	SB	XS Photo; soft bottom; Human Debris; line		☑
					Por - Ircinia campana;		
					Sed - burrow		
7/13/2012 2:36:00 PM	33.419268	-77.083890	-59.5	SB	mostly sand		☐
7/13/2012 2:36:53 PM	33.419281	-77.084102	-59.5	HB	XS Photo; rubble; ; soft bottom;		☑
					Sed - sand tilefish burrow		
					Fish - grey triggerfish		
7/13/2012 2:38:00 PM	33.419287	-77.084306	-58			grey trigger, cowfish, wrasse	☐
7/13/2012 2:39:17 PM	33.419266	-77.084367	-58.9	SB	XS Photo; soft bottom;		☑
7/13/2012 2:40:04 PM	33.419327	-77.084514	-59.1	HB	soft bottom; rubble; patchy rubble, mostly sediment, sparse sand tile burrows		☐
					Sed - sand tilefish burrow		
					Fish - cowfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	ROV 20	13-VII-12-3	North Carolina; N.C. MPA, Station 28, inside near border of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 2:41:41 PM	33.419387	-77.084689	-58.5	SB	XS Photo; soft bottom;		☑
					Fish - sand tilefish;		
					Fish - cowfish	2 spp	
7/13/2012 2:42:00 PM	33.419421	-77.084678	-58.3			sand tilefish, 2 cowfish - 1 honeycomb 1 scrawled, blue angelfish, spotfin butterflyfish, wrasses	☐
7/13/2012 2:43:56 PM	33.419387	-77.084941	-57.4	SB	XS Photo; soft bottom;		☑
					Alg - Rhodophyta;		
					Alg - Chlorophyta;		
					Fish - sand tilefish;	swim into burrow	
7/13/2012 2:46:00 PM	33.419487	-77.085501	-58	HB	alittle more pavement	possible saddle bass, lionfish, baby jack-knife fish	☐
7/13/2012 2:46:08 PM	33.419472	-77.085558	-58.3	SB	XS Photo; soft bottom;		☑
					Fish - lionfish;		
					Sed - sand tilefish burrow	2	
7/13/2012 2:48:21 PM	33.419650	-77.085978	-57.4	SB	XS Photo; soft bottom;		☑
7/13/2012 2:50:00 PM	33.419696	-77.086240	-56.4	SB	mostly sand;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207133	**ROV 20**	**13-VII-12-3**	**North Carolina; N.C. MPA, Station 28, inside near border of MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 2:50:06 PM	33.419696	-77.086239	-56.4	SB	soft bottom;		☐
7/13/2012 2:50:41 PM	33.419737	-77.086294	-56.4	SB	XS Photo; soft bottom;		☑
7/13/2012 2:51:22 PM	33.419707	-77.086434	-52.4	SB	soft bottom; end of dive; Off bottom; end of dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207134	ROV 21	13-VII-12-4	North Carolina; N.C. MPA, Station 29, inside MPA near NW border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/13/2012 3:20:24 PM					Objectives: ROV Dive 21, Site #- 13-VII-12-4. Target Site – North Carolina MPA, inside MPA near NW border; 33°25.6370'N, 77°03.6660'W; 70 m. ROV survey inside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect over multibeam targets.		☐
7/13/2012 3:20:25 PM					Launch (start dive);		☐
7/13/2012 3:23:16 PM	33.427108	-77.061388	-63.9	HB	On bottom; soft bottom; sand; cobble patches of cobble; transect to NE		☐
					Species Observed		
					Fish - short bigeye;	4	
					Por - Demospongiae; Geodia		
					Fish - tatler;		
7/13/2012 3:24:00 PM	33.427157	-77.061315	-64.7	HB	periodic areas of pavement interspersed with sand	short bigeyes, tattler, sharpnose puffer, wrasse	☐
7/13/2012 3:24:57 PM	33.427241	-77.061284	-64.5	HB	soft bottom; scattered cobble patches- tilefish? Human Debris; line		☐
7/13/2012 3:25:00 PM	33.427251	-77.061277	-63.7		a lot of line on the bottom		☐
7/13/2012 3:25:54 PM	33.427293	-77.061159	-63.7	HB	XS Photo; soft bottom; rubble; cobble; Human Debris; fish line;	sand tile burrows common	☑
					Cni - Gorgonacea;	5 cm single stalk	
					Cni - Stichopathes;		
					Fish - short bigeye;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207134	ROV 21	13-VII-12-4	North Carolina; N.C. MPA, Station 29, inside MPA near NW border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Rhodophyta;	red blade	
7/13/2012 3:27:00 PM	33.427287	-77.060880	-65.3			bigeyes, tattler, wrasses	☐
7/13/2012 3:28:24 PM	33.427390	-77.060588	-63	SB	XS Photo; soft bottom;		☑
					Fish - tatler;		
					Fish - short bigeye;		
					Cni - Stichopathes;		
					Ech - Asteroidea; Narcissia trigonaria		
7/13/2012 3:29:44 PM	33.427381	-77.060378	-65.1	HB	cobble; soft bottom; rubble;		☐
					Fish - tatler;		
					Cni - Gorgonacea; Diodogorgia?		
7/13/2012 3:30:20 PM	33.427484	-77.060355	-65.1	HB	XS Photo; soft bottom; scattered 2 m diam cobble patches- tilefish?; 1-10% cover		☑
					Fish - tatler;		
					Cni - Hydroidolina;		
					Por - Demospongiae;		
					Fish - short bigeye;		
7/13/2012 3:31:00 PM	33.427569	-77.060223	-64.1			YTR, short bigeyes, tattler, red grouper, lionfish x2	☐
7/13/2012 3:32:51 PM	33.427813	-77.060072	-62.8	SB	XS Photo; soft bottom; transect on line to NE		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207134	ROV 21	13-VII-12-4	North Carolina; N.C. MPA, Station 29, inside MPA near NW border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/13/2012 3:33:00 PM	33.427821	-77.060029	-64.1			lionfish, YTR, wrasse, tattler	☐
7/13/2012 3:33:44 PM	33.427830	-77.059783	-64.3	HB	soft bottom; cobble; rock outcrop 30 cm		☐
					Species Observed		
					Fish - lionfish;	2	
					Cni - Hydroidolina;		
7/13/2012 3:35:02 PM	33.428069	-77.059582	-63.5	HB	XS Photo; soft bottom; sparse rock 50 cm diam,		☑
7/13/2012 3:36:00 PM	33.428196	-77.059436	-63.9			red grouper, lionfish x2, spotfin butterflyfish, tattler, bank sea bass, reef butterflyfish, wrasses, lionfish, YTR, lionfish x3, squirrelfish	☐
7/13/2012 3:36:45 PM	33.428232	-77.059289	-64.7	HB	Rock; hard bottom; 40 cm outcrop		☐
					Fish - tatler;		
					Fish - red grouper;		
					Fish - lionfish;	2	
					Fish - wrasse		
7/13/2012 3:37:51 PM	33.428334	-77.059190	-65.1	HB	soft bottom; rubble; cobble		☐
					Alg - Chlorophyta;		
					Fish - lionfish;		
					Fish - bank seabass		
					Cni - Hydroidolina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207134	ROV 21	13-VII-12-4	North Carolina; N.C. MPA, Station 29, inside MPA near NW border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/13/2012 3:38:28 PM	33.428376	-77.059045	-64.9	HB	soft bottom; rubble; 1-5% cobble patches		☐
					Species Observed		
					Ann - Filograna;		
					Fish - lionfish;	2	
7/13/2012 3:39:30 PM	33.428286	-77.058905	-63.9	SB	XS Photo; soft bottom;		☑
7/13/2012 3:40:09 PM	33.428391	-77.058714	-65.8	HB	soft bottom; cobble in patches		☐
					Fish - red grouper;		
7/13/2012 3:41:00 PM	33.428470	-77.058498	-64.3			YTR, red grouper, squirrelfish	☐
7/13/2012 3:42:02 PM	33.428438	-77.058459	-64.3	SB	XS Photo; soft bottom;		☑
					Ech - Echinoidea; Clypeaster	shell dead	
7/13/2012 3:43:00 PM	33.428629	-77.058348	-63			lionfish, sharpnose puffer, tattler, YTR, bank sea bass, wrasse, lionfish	☐
7/13/2012 3:43:47 PM	33.428793	-77.058230	-64.9		XS Photo; cobble patches		☑
					Fish - lionfish;		
					Fish - tatler;		
7/13/2012 3:44:39 PM	33.428823	-77.058089	-65.3	HB	Rock; exposed rock excavated 30 cm relief		☐
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207134	ROV 21	13-VII-12-4	North Carolina; N.C. MPA, Station 29, inside MPA near NW border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Rhodophyta;		
					Por - Demospongiae; Geodia		
7/13/2012 3:46:07 PM	33.429010	-77.057890	-64.5	SB	XS Photo; soft bottom;		☑
					Fish - lionfish;		
					Fish - red grouper;		
7/13/2012 3:47:00 PM	33.429175	-77.057816	-63.7			short bigeyes, tattlers, YTR, squirrelfish	☐
7/13/2012 3:48:22 PM	33.429277	-77.057652	-63.9	HB	XS Photo; soft bottom; 2 m diam cobble patches; may be excavated bedrock		☑
7/13/2012 3:50:11 PM	33.429390	-77.057384	-64.5	HB	soft bottom; cobble patches		☐
7/13/2012 3:50:45 PM	33.429416	-77.057285	-63.7	HB	XS Photo; soft bottom; all these patches are probably excavated bedrock		☑
					Fish - blue angelfish;		
					Por - Demospongiae; Aplysina	fat white tubes	
7/13/2012 3:51:00 PM	33.429462	-77.057259	-62.8			blue angelfish, YTR, reef butterflyfish	☐
7/13/2012 3:53:03 PM	33.429582	-77.056855	-62.8	SB	XS Photo; soft bottom;		☑
					Sed - sand tilefish burrow		
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207134	ROV 21	13-VII-12-4	North Carolina; N.C. MPA, Station 29, inside MPA near NW border

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/13/2012 3:54:00 PM	33.429623	-77.056716	-64.1			lionfish, spotfin butterflyfish, squirrelfish, wrasse, tattler	☐
7/13/2012 3:55:21 PM	33.429825	-77.056571	-63.7	SB	XS Photo; soft bottom;		☑
					Species Observed		
					Fish - tatler;		
					Fish - lionfish;		
					Ech - Echinoidea; Clypeaster	live	
7/13/2012 3:57:35 PM	33.429636	-77.056233	-63	SB	XS Photo; soft bottom;		☑
					Alg - Phaeophyta; Dictyota?		
7/13/2012 3:59:00 PM	33.429885	-77.056122	-64.5			sharpnose puffer, short bigeyes, tattler, spotfin butterflyfish	☐
7/13/2012 3:59:51 PM	33.429985	-77.056079	-64.1	HB	XS Photo; soft bottom; patches of 2 m diam excavated bedrock and cobble; Slope- flat;	excavated bedrock and cobble- each patch has bigeye. No tilefish seen.	☑
7/13/2012 4:02:09 PM	33.430119	-77.055628	-63.5	SB	XS Photo; soft bottom;		☑
7/13/2012 4:03:00 PM	33.430205	-77.055522	-64.7				☐
7/13/2012 4:03:04 PM	33.430233	-77.055493	-64.7	SB	Off bottom; soft bottom; end of dive		☐
7/13/2012 4:08:09 PM					stop DVD and HD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	ROV 22	13-VII-12-5	North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 4:17:09 PM					Objectives: ROV Dive 22, Site #- 13-VII-12-5. Target Site – North Carolina MPA; 33°24.9610'N; 77° 04.6800'W; 90 m. ROV survey inside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect along deep drop-off of new Pisces multibeam sonar. Start at same WP 1 as Dive 20.		☐
7/13/2012 4:39:14 PM					Launch (start dive);		☐
7/13/2012 4:41:42 PM					start DVD an HD		☐
7/13/2012 4:43:00 PM	33.415956	-77.077802	-81.2	HB	low relief outcrops	3 scamp, roughtongue bass, sharpnose puffer, tattler	☐
7/13/2012 4:43:04 PM	33.415956	-77.077802	-81.2	HB	On bottom; scatter rock boulders; .5 m relief; 50% cover		☐
					Fish - scamp grouper;		
7/13/2012 4:44:25 PM	33.415845	-77.077763	-90.5		on WP 1 start XS towards the SE		☐
					Fish - tatler;		
					Cni - Gorgonacea; Diodogorgia	Purple	
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
					Por - Demospongiae;	Ye and OR encrusting	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	ROV 22	13-VII-12-5	North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 4:45:00 PM	33.415680	-77.077873	-92.2			gag, lionfish, reef butt, short bigeye	☐
7/13/2012 4:45:48 PM	33.415731	-77.077610	-92.8	HB	Rock; scattered boulders; 20 cm relief; 1/2 m relief; Human Debris;		☐
					Fish - gag grouper		
					Fish - lionfish;		
7/13/2012 4:46:37 PM	33.415740	-77.077328	-91.4	HB	XS Photo; soft bottom; Rock; hard bottom;		☑
7/13/2012 4:47:05 PM	33.415573	-77.077311	-97.2		drop off; 45 degree slope		☐
7/13/2012 4:47:39 PM	33.415492	-77.077304	-98.9	HB	50% cobble small boulders; flattens out at 101 m. sparse cobble; 30% cover;		☐
7/13/2012 4:48:00 PM	33.415429	-77.077392	-100.7				☐
7/13/2012 4:48:00 PM	33.415429	-77.077392	-100.7			anthiids, Calamus, tattler, bank butt, reef butterflyfish, sharpnose puffer, wrasse, lionfish, lionfish, wrasse bass	☐
7/13/2012 4:48:50 PM	33.415413	-77.077390	-98.7	HB	2 m boulder, .5 m relief; Non XS - Random Photos;		☐
					Por - Demospongiae;	10 cm orange	
					Fish - red porgy		
7/13/2012 4:49:38 PM	33.415369	-77.077330	-99.7	HB	XS Photo; soft bottom; rubble; .5 m boulders; 10-20 dg slope		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	ROV 22	13-VII-12-5	North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - roughtongue bass		
					Cni - Stichopathes;		
					Fish - lionfish;	2	
					Fish - reef butterflyfish		
7/13/2012 4:51:32 PM	33.415442	-77.076904	-96.8	HB	Rock; hard bottom; 1 m relief rock		☐
					Cni - Antipathidae;	mesh gray	
					Fish - lionfish;		
					Coral- Madracis myriaster	10-30 cm clumps;	
					Fish - bank butterflyfish		
7/13/2012 4:52:00 PM	33.415454	-77.076873	-94.9			tomtates, lionfish, cubbyu, squirrelfish, reef butterflyfish, roughtongue bass	☐
7/13/2012 4:52:39 PM	33.415502	-77.076770	-91.4	HB	hard bottom; Rock; HD SE; 45 dg slope;		☐
					Cni - Stichopathes;		
					Coral- Madracis myriaster		
7/13/2012 4:54:19 PM	33.415335	-77.076483	-104.7	HB	XS Photo; hard bottom; Rock; base of slope ~105 m		☑
					Fish - roughtongue bass		
7/13/2012 4:56:00 PM	33.415315	-77.076330	-107.4			hogfish	☐
7/13/2012 4:56:36 PM	33.415276	-77.076282	-110.7	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	ROV 22	13-VII-12-5	North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - hogfish		
					Fish - short bigeye;		
					Coral- Madracis myriaster	XS Photo;	
7/13/2012 4:58:43 PM	33.415198	-77.076057	-111.8	HB	XS Photo; soft bottom; Rock;		☑
7/13/2012 5:01:00 PM	33.415296	-77.075873	-99.5			off bottom	☐
7/13/2012 5:01:42 PM	33.415291	-77.075622	-106.6		we are pulled off bottom… have been for about 5 minutes;		☐
7/13/2012 5:03:00 PM	33.415346	-77.075410	-100.3	SB	sand		☐
7/13/2012 5:03:57 PM	33.415219	-77.075358	-121.1	SB	soft bottom; On bottom; XS Photo; at the base of the ledge on the east side of the wall;		☑
7/13/2012 5:05:00 PM	33.415397	-77.075261	-122.8		back on slope	spanish flag, short bigeyes, roughtongue bass, scorpionfish, wrasse bass, soapfish, wrasse, soldierfish, moray eel	☐
7/13/2012 5:05:02 PM	33.415412	-77.075251	-122.8	HB	hard bottom; cobble; pavement; Human Debris; line		☐
					Fish - wrasse bass		
					Coral- Madracis myriaster		
					Fish - short bigeye;		
					Fish - scorpion fish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	ROV 22	13-VII-12-5	North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 5:06:15 PM	33.415509	-77.075356	-118.9	HB	XS Photo; hard bottom; Rock; HD along the face of the wall towards the NE; Human Debris;		☑
					Coral- Madracis myriaster		
					Fish - soapfish		
					Fish - wrasse bass		
					Art - hermit crab		
					Fish - spiney cheek or cardnal soldierfish		
7/13/2012 5:08:19 PM	33.415667	-77.075155	-116.6	HB	hard bottom; Rock; erroded;		☐
					Fish - eel		
7/13/2012 5:08:40 PM	33.415662	-77.075120	-115.9	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Stichopathes;		
					Coral- Madracis myriaster	3 headsl 20-30 cm	
					Fish - bank butterflyfish		
7/13/2012 5:09:00 PM	33.415666	-77.075144	-113.4			bank butt, lots of roughtongues, wrasse, short bigeye, porgies, tattler	☐
7/13/2012 5:11:17 PM	33.415885	-77.074764	-111.1	HB	XS Photo; hard bottom; Rock; Human Debris; garbage bag		☑
7/13/2012 5:12:05 PM	33.415999	-77.074650	-109.9	HB	rock cobble and pavementl 10-20 cm; Human Debris; line		☐
					Cni - Gorgonacea; Thesea?	red or fan 5 cm	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	ROV 22	13-VII-12-5	North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 5:13:32 PM	33.416116	-77.074579	-107.4	HB	XS Photo; hard bottom; Rock;		☑
					Coral- Madracis myriaster		
					Cni - Gorgonacea; Ellisella?	whip	
7/13/2012 5:15:01 PM	33.416286	-77.074466	-104.7	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Ellisella	white whip	
7/13/2012 5:15:54 PM	33.416304	-77.074460	-101.6	HB	hard bottom; Rock; Human Debris; line, metal can		☐
					Fish - scorpion fish		
					Coral- Madracis myriaster		
7/13/2012 5:16:00 PM	33.416319	-77.074422	-101.4			scorpionfish, short bigeye, roughtongue bass, tomtate, lionfish x2	☐
7/13/2012 5:16:38 PM	33.416455	-77.074261	-97.6	HB	boulders have become more rugose and 1-3 m tall 10 deg slope		☐
					Fish - lionfish;	2	
					Fish - tomtate;		
					Fish - scamp grouper;		
					Fish - hogfish		
					Cni - Stichopathes;	white and orange	
7/13/2012 5:17:00 PM	33.416517	-77.074232	-92.2		top of slope	hogfish, cubbyu, tomtates, bank butt, lionfish x2, wrasse, sharpnose puffer, squirrelfish, wrasse bass, spotfin hogfish, red porgies, reef butt	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	ROV 22	13-VII-12-5	North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/13/2012 5:18:39 PM	33.416559	-77.073973	-93.9	HB	hard bottom; Rock; large boulders;		☐
					Species Observed		
					Fish - porgy		
					Fish - tomtate;		
					Fish - wrasse bass		
					Fish - cubyu		
7/13/2012 5:19:50 PM	33.416713	-77.073715	-93.7	HB	hard bottom; Rock;		☐
					Fish - lionfish;		
7/13/2012 5:21:19 PM	33.416773	-77.073571	-95.1	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea; Ellisella		
					Fish - tatler;		
7/13/2012 5:23:00 PM	33.416744	-77.073214	-105.3		side of slope	roughtongue bass, short bigeye, red porgy, spotfin hogfish, Calamus	☐
7/13/2012 5:23:32 PM	33.416855	-77.073219	-102.8	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Antipathidae;	grey mesh	
					Cni - Stichopathes;		
					Fish - spotfin hogfish		
7/13/2012 5:25:56 PM	33.417180	-77.072852	-97.4	HB	hard bottom; Rock; XS Photo; rock cobble and small boulders; 10-20 cm relief;		☑
					Fish - Calamus porgy		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	ROV 22	13-VII-12-5	North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - red porgy		
7/13/2012 5:27:00 PM	33.417326	-77.072780	-89.9			reef butterflyfish, scamp, lionfish, bigeye, porgy, grouper in water column, short bigeye, roughtongue bass, red porgy, scamp x2, spotfin hogfish, Calamus, lobster, lionfish	☐
7/13/2012 5:28:18 PM	33.417427	-77.072646	-88.2	HB	XS Photo; hard bottom; Rock; small boulders 20-100 cm wide; Human Debris; line		☑
					Fish - scamp grouper; 2		
					Fish - lionfish;		
					Coral- Madracis myriaster		
					Cni - Stichopathes;		
7/13/2012 5:30:36 PM	33.417599	-77.072359	-87.2	HB	XS Photo; hard bottom; Rock; boulders and cobble		☑
					Fish - porgy		
					Fish - scamp grouper;		
7/13/2012 5:32:14 PM	33.417693	-77.072239	-86.6	HB	hard bottom; Rock; pavement		☐
					Fish - lionfish;		
					Art - Panularis argus		
7/13/2012 5:32:57 PM	33.417743	-77.072135	-85.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish; 3		
					Coral- Madracis myriaster		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	ROV 22	13-VII-12-5	North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Stichopathes;		
7/13/2012 5:33:00 PM	33.417762	-77.072150	-84.3			lionfish, reef butt, spotfin butt, roughtongue bass, lionfish, sharpnose puffer, lionfish x2, red hogfish	☐
7/13/2012 5:35:12 PM	33.417892	-77.071878	-83.7	HB	XS Photo; hard bottom; Rock; larget patches of sediment		☑
					Fish - lionfish; 5		
					Fish - red hogfish?		
					Fish - cubyu		
7/13/2012 5:36:00 PM	33.417916	-77.071734	-85.5			cubbyu, lionfish x5, spotfin hogfish, roughtongue bass, tomtates, lionfish x2, blue angelfish, lionfish	☐
7/13/2012 5:37:30 PM	33.418000	-77.071534	-86.4	HB	XS Photo; hard bottom; Rock; large rock boulders .5 - 1.5 m relief; Rugose		☑
					Fish - lionfish; 3		
					Fish - tomtate;		
7/13/2012 5:39:48 PM	33.418101	-77.071138	-87.8	HB	XS Photo; hard bottom; Rock;		☑
					Coral- Madracis myriaster		
					Fish - lionfish; 3		
					Fish - scorpion fish		
7/13/2012 5:40:00 PM	33.418160	-77.071167	-86.6			lionfish, soldierfish, anthiids, short bigeye, lionfish x2, bank butt	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207135	**ROV 22**	**13-VII-12-5**	**North Carolina; N.C. MPA, Station 30, inside MPA, deep drop-off**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/13/2012 5:42:00 PM	33.417883	-77.071190	-98				☐
7/13/2012 5:42:04 PM	33.417891	-77.071202	-97.4	HB	XS Photo; Rock; large cobble; and boulders .5 m relief		☑
7/13/2012 5:42:26 PM	33.417872	-77.071197	-94.1		Off bottom; End dive		☐
7/13/2012 5:45:15 PM					end DVD and HD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 7:33:27 AM				HB	Objectives: ROV Dive 23, Site #- 14-VII-12-2. Target Site – South Carolina, Northern S.C. MPA; 32° 51.3000'N; 78°15.9600'W; 55 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect on low relief features of multibeam.		☐
7/14/2012 7:42:09 AM					Launch (start dive);		☐
7/14/2012 7:44:50 AM					Start DVD		☐
7/14/2012 7:45:26 AM	32.850866	-78.271072	-47.8	HB	On bottom; Flat pavement sediment veneer;	sargassum - 50 % cover	☐
					Species Observed		
					Por - Demospongiae; Aplysina		
					Alg - Phaeophyta; Sargassum		
					Alg - Phaeophyta; Dictyota		
					Por - Demospongiae;	tan cake	
					Cni - Gorgonacea; Titanideum frauenfeldii		
7/14/2012 7:46:00 AM	32.850867	-78.271062	-47	HB	pavement	tattler, blue angelfish, Calamus	☐
7/14/2012 7:47:32 AM	32.850920	-78.271240	-47.6		XS Photo; sediment veneer;		☑
					Fish - blue angelfish;		
					Fish - porgy		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 7:48:44 AM	32.850886	-78.271213	-47.6	HB	sediment veneer; pavement; Slope- flat; starting transect going NE.		☐
					Alg - Chlorophyta;	green leaf	
7/14/2012 7:49:00 AM	32.850909	-78.271198	-47.2			sharpnose puffer, reef butterflyfish, tattler, blue angelfish, AJ	☐
7/14/2012 7:49:40 AM	32.850975	-78.271134	-47	HB	XS Photo; sediment veneer; pavement; Slope- flat;		☑
					Fish - reef butterflyfish		
					Alg - Rhodophyta;	this branching	
					Cni - Gorgonacea;	10 cm Tan EB	
7/14/2012 7:51:57 AM	32.851167	-78.270868	-47.2	HB	XS Photo; sediment veneer; pavement;		☑
					Por - Demospongiae;	1- cm sphereNon XS - Random Photos;	
					Alg - Rhodophyta; Rhodomenia?		
					Alg - Chlorophyta; Codium		
					Por - Demospongiae;	5 cm spherical red/orange	
					Cho - Ascidacea; Didemnidae	small knobbs on sponge	
7/14/2012 7:54:29 AM	32.851306	-78.270617	-47	HB	sediment veneer; pavement; Slope- flat;		☐
7/14/2012 7:55:12 AM	32.851425	-78.270548	-47.6	HB	pavement; sparse exposed rock; 10 cm relief; XS is parallel on the edge of the HB on the MB	50% cover of brown algae	☐
7/14/2012 7:56:34 AM	32.851586	-78.270343	-47.8	HB	XS Photo; sediment veneer; pavement;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - red grouper;		
7/14/2012 7:57:00 AM	32.851622	-78.270311	-48.1			red grouper, cubbyu, wrasse, lionfish, tomtates, yellowtail reeffish, jack-knife fish, blue angelfish, Calamus, sharpnose puffer	☐
7/14/2012 7:57:01 AM	32.851622	-78.270311	-48.1	HB	.5 mRock outcrop; .5 m relief;		☐
					Fish - blue angelfish;		
					Fish - lionfish;		
					Por - Demospongiae;	Re-Or TE	
					Por - Demospongiae; Aplysina	Cl purp HT	
					Fish - porgy		
					Fish - cubyu		
7/14/2012 7:58:59 AM	32.851732	-78.270254	-47.4	HB	XS Photo; sediment veneer; pavement;		☑
					Por - Demospongiae; Aplysina	HT	
					Alg - Cyanophyta;	on most of the sediemnt	
7/14/2012 8:00:08 AM	32.851909	-78.270027	-48.3	HB	pavement; sediment veneer; Slope- flat; on XS line heading NE		☐
					Fish - blue angelfish;		
7/14/2012 8:01:00 AM	32.851960	-78.269950	-47.6			reef butterflys, wrasse, sharpnose puffer, short bigeye, blue angel	☐
7/14/2012 8:01:16 AM	32.851995	-78.269901	-47.2	HB	XS Photo; sediment veneer; pavement; Slope- flat;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - reef butterflyfish		
					Fish - blue angelfish;		
					Cni - Gorgonacea;	10 cm; sparsly branch EB	
					Fish - short bigeye;		
7/14/2012 8:03:26 AM	32.852308	-78.269602	-47.4	HB	XS Photo; pavement; sediment veneer; Slope- flat;		☑
7/14/2012 8:04:00 AM	32.852327	-78.269508	-47.8			spotfin butterflyfish	☐
7/14/2012 8:05:06 AM	32.852466	-78.269410	-47.2	HB	pavement; sediment veneer; Slope- flat;	50% cover of algae	☐
					Alg - Phaeophyta; Sargassum		
7/14/2012 8:05:45 AM	32.852464	-78.269342	-47	HB	XS Photo; pavement; Sediment veneer; Slope- flat;		☑
					Alg - Phaeophyta; Dictyota		
					Por - Demospongiae; Callyspongia vaginalis		
					Fish - short bigeye;		
					Fish - sharpnose puffer		
7/14/2012 8:07:00 AM	32.852583	-78.269193	-47.8			short bigeye, sharpnose puffer, blue angelfish, porgy, yellowtail reeffish, tattler	☐
7/14/2012 8:07:57 AM	32.852662	-78.269113	-47.8	HB	hard bottom; XS Photo; pavement; Sediment veneer; Slope- flat;		☑
					Cni - Gorgonacea;	purple EB	
					Fish - blue angelfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 8:10:10 AM	32.852875	-78.268746	-47.2	HB	XS Photo; hard bottom; sediment veneer; pavement; Slope- flat; sparse exposed rock - 10 cm relief	10-30% cover of Alg - Phaeophyta;	☑
					Alg - Phaeophyta; Sargassum		
					Alg - Phaeophyta; Dictyota		
7/14/2012 8:12:30 AM	32.853103	-78.268466	-47.8	HB	XS Photo; pavement; Slope- flat;		☑
7/14/2012 8:12:59 AM	32.853135	-78.268418	-47.6	HB	hard bottom; Rock; pavement; 1m bouldwer .5 m relief sediment veneer;		☐
					Fish - hogfish		
					Cni - Hydroidolina;		
					Por - Demospongiae; Geodia		
7/14/2012 8:13:00 AM	32.853137	-78.268419	-47.4	HB	single rock outcrop	spotfin butterflyfish, sharpnose puffer, blue angelfish, doctorfish	☐
7/14/2012 8:14:00 AM	32.853287	-78.268329	-48.3			hogfish, squirrelfish	☐
7/14/2012 8:14:50 AM	32.853395	-78.268155	-47.8	HB	XS Photo; hard bottom; pavement; Slope- flat; sediment veneer;		☑
7/14/2012 8:15:32 AM	32.853396	-78.268108	-47.6	HB	hard bottom; pavement; Slope- flat; sediment veneer;		☐
					Fish - squirrelfish		
					Ech - Asteroidea; Narcissia trigonaria 2		
7/14/2012 8:17:03 AM	32.853486	-78.267976	-47.6	HB	XS Photo; hard bottom; pavement;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cho - Ascidacea; Didemnidae	1-2 cm buttons, white, common	
					Fish - lionfish;	2	
7/14/2012 8:19:00 AM	32.853785	-78.267669	-47.8	HB	mostly pavement with sparse low relief outcrops	lionfish on exposed rock, wrasse, yellowtail reeffish, tattler	☐
7/14/2012 8:20:08 AM	32.853862	-78.267595	-47.4	HB	XS Photo; pavement; Slope- flat; sediment veneer;	30-50 % cover of Alg - Phaeophyta; sargassum and dictyota	☑
7/14/2012 8:21:39 AM	32.854016	-78.267365	-47.8	HB	pavement; Rock; hard bottom; sediment veneer;		☐
					Cni - Gorgonacea; Ellisellidae	10 cm pink; SB; Non XS - Random Photos;	
7/14/2012 8:22:35 AM	32.853977	-78.267384	-47.2	HB	pavement; hard bottom; Slope- flat; sediment veneer;		☐
					Alg - Rhodophyta;	3-4 spp common	
					Alg - Chlorophyta; Codium		
					Alg - Phaeophyta; Dictyota		
					Alg - Phaeophyta; Sargassum	.5-1 m long	
					Fish - lizardfish - sanddiver		
7/14/2012 8:23:00 AM	32.853984	-78.267341	-47.8			sand diver	☐
7/14/2012 8:24:00 AM	32.854055	-78.267260	-47.6			lionfish, sharpnose puffer, reef butt, spotfin butt, YTR, tattler	☐
7/14/2012 8:24:12 AM	32.854082	-78.267241	-47.4	HB	soft bottom; pavement; Slope- flat; Rock; sediment veneer; larger 1-2 m boulder ahead		☐
					Fish - spotfin butterflyfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
7/14/2012 8:24:53 AM	32.854124	-78.267115	-47	HB	XS Photo; pavement; sediment veneer;		☑
					Por - Demospongiae;	tan cake	
					Fish - porgy		
7/14/2012 8:27:00 AM	32.854374	-78.266962	-47.6	HB	low relief outcrops	hogfish, blue angelfish, tomtate, cubbyu, scamp, sharpnose puffer, scamp, white grunt, squirrelfish, blackbar soldierfish	☐
7/14/2012 8:27:27 AM	32.854350	-78.266735	-47.6	HB	pavement; Rock; 0.5-1 m relief; rounded rock boulders; undercut ledges;		☐
					Cni - Hydroidolina;		
					Por - Demospongiae; Aplysina?	red lumpy	
					Fish - scamp grouper;		
					Por - Demospongiae;	encrusting re/or	
					Alg - Phaeophyta; Dictyota		
					Fish - tomtate;		
7/14/2012 8:29:55 AM	32.854296	-78.266558	-47.2	HB	XS Photo; Rock; hard bottom; 48.5 in sediment; 47.5 on top of rock; 25 m SE of the line and 50 till we hit WP 2		☑
					Alg - Rhodophyta;		
					Fish - tomtate;		
					Fish - lionfish;		
					Cni - Hydroidolina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 8:30:00 AM	32.854283	-78.266536	-47			lionfish, school of tomtates, sharpnose puffer, white grunt, doctorfish, blue angelfish, spotfin hogfish, cubyu	☐
7/14/2012 8:31:32 AM	32.854463	-78.266469	-47.2	HB	pavement; Rock; sediment veneer;	80-100% cover on large boulders of Dictyota and fauna	☐
					Cni - Gorgonacea; Nicella	40 cm	
7/14/2012 8:32:37 AM	32.854582	-78.266384	-47.2	HB	XS Photo; hard bottom; Rock;		☑
					Fish - tomtate;		
					Fish - squirrelfish		
					Fish - graysby grouper		
					Fish - spotfin hogfish		
					Fish - tang		
					Por - Demospongiae; Clathriidae?	5 cm orange subspherical	
7/14/2012 8:33:00 AM	32.854607	-78.266349	-47.2			spotfin hogfish, doctorfish, graysby, reef butterflyfish, grouper, red grouper, school of tomtates, lionfish, rock beauty	☐
7/14/2012 8:34:45 AM	32.854815	-78.266230	-47.4	HB	XS Photo; hard bottom; Rock; sediment veneer;		☑
					Fish - red grouper;	50-60 cm	
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 8:36:00 AM	32.854981	-78.266002	-47.6			scamp, squirrelfish, school of tomtates, scamp, reef butt, puffer, blue angel, sharpnose puffer, spotted goatfish, blackbar soldierfish, red porgy, spotfin hogfish, tattler	☐
7/14/2012 8:36:14 AM	32.855024	-78.266034	-47.4	HB	hard bottom; Rock; at WP 2; .5 m relief boulders;		☐
					Fish - red grouper;		
7/14/2012 8:37:24 AM	32.855130	-78.265925	-47.8	HB	XS Photo; hard bottom; Rock; continuing XS to the NE		☑
7/14/2012 8:38:32 AM	32.855331	-78.265881	-46.4	HB	hard bottom; Rock; narrow ridge rock outcrop ~ 10 m wide; oriented NE-SW		☐
					Fish - scamp grouper;		
					Fish - puffer		
					Fish - goatfish		
7/14/2012 8:39:43 AM	32.855490	-78.265678	-47.2	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/14/2012 8:40:00 AM	32.855551	-78.265654	-47.6			spotfin butterflyfish, sharpnose puffer, school of tomtates, Calamus, lionfish, scamp x3, lionfish, Calamus	☐
7/14/2012 8:40:26 AM	32.855626	-78.265659	-47.4	HB	scattered moderate relief HB; .5 m tall; 2-3 m diam; 48 m on sediment		☐
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 8:41:40 AM	32.855725	-78.265492	-47.4	HB	XS Photo; pavement; hard bottom;		☑
					Species Observed		
					Fish - scamp grouper;	3	
7/14/2012 8:43:14 AM	32.855741	-78.265443	-46.6	HB	hard bottom; Rock; pavement;		☐
					Fish - scamp grouper;		
					Fish - Calamus porgy		
7/14/2012 8:43:56 AM	32.855840	-78.265381	-47.4	HB	XS Photo; hard bottom; sediment veneer;		☑
					Cni - Gorgonacea; Nicella		
7/14/2012 8:46:00 AM	32.856242	-78.265127	-46.6			scamp x3, tomtate school, doctorfish, Calamus	☐
7/14/2012 8:46:11 AM	32.856242	-78.265142	-47.6	HB	XS Photo; hard bottom; sediment veneer;		☑
					Fish - scamp grouper;		
7/14/2012 8:47:13 AM	32.856314	-78.265110	-46.8	HB	Rock; hard bottom; larger boulders 1 m relief 3 m wide	80-100% cover of algae	☐
					Cni - Hydroidolina;		
					Alg - Phaeophyta; Dictyota		
					Cni - Gorgonacea; Nicella		
7/14/2012 8:48:19 AM	32.856507	-78.264938	-46.8	HB	change DVD; XS Photo; pavement; sediment veneer;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 8:49:41 AM	32.856696	-78.264858	-47.8		start DVD 48;		☐
7/14/2012 8:50:00 AM	32.856699	-78.264846	-47.2			hogfish, scamp x5, lionfish x6, bank butt, scamp, sharpnose puffer, spotfin butterflyfish, reef butt, soapfish	☐
7/14/2012 8:50:07 AM	32.856695	-78.264838	-46.2	HB	hard bottom; Rock; sediment veneer;		☐
					Fish - scamp grouper;	5	
					Fish - hogfish		
7/14/2012 8:50:45 AM	32.856712	-78.264781	-46.8	HB	XS Photo; hard bottom; pavement;		☑
					Fish - lionfish;	3	
7/14/2012 8:52:52 AM	32.857080	-78.264598	-47.6	HB	XS Photo; hard bottom; sediment veneer;		☑
7/14/2012 8:53:07 AM	32.857089	-78.264595	-46.6	HB	hard bottom; Rock; boulders; narrow ridge ~10 m width	80% cover of Dictyota	☐
					Fish - reef butterflyfish		
					Por - Demospongiae;	red globular	
					Fish - scamp grouper;	2	
					Cni - Hydroidolina;	white	
					Fish - spotfin butterflyfish		
					Por - Demospongiae;		
					Fish - tomtate;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 8:54:50 AM	32.857397	-78.264447	-46.6	HB	hard bottom; Rock;	80-100% cover of algae	☐
7/14/2012 8:55:15 AM	32.857439	-78.264424	-46.4	HB	XS Photo; hard bottom; Rock; 30 m west and outside of the MB;		☑
					Cho - Ascidacea; Didemnidae		
					Fish - french angelfish		
					Cho - Ascidacea; Eudistoma		
					Alg - Phaeophyta;	flat blade	
					Fish - graysby grouper		
					Cni - Gorgonacea;		
					Fish - trunkfish		
7/14/2012 8:56:00 AM	32.857514	-78.264379	-46.8			Calamus, doctorfish, graysby, trunkfish, french angelfish, scorpionfish, sharpnose puffer, scorpionfish, graysby hiding in crevice	☐
7/14/2012 8:57:20 AM	32.857681	-78.264319	-47	HB	XS Photo; hard bottom; Rock; 50 m to the west of the MB;		☑
					Fish - scorpion fish	2	
					Alg - Phaeophyta; Padina?	larger flat blades; clustered	
7/14/2012 8:59:39 AM	32.857893	-78.264120	-47	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	ROV 23	14-VII-12-2	South Carolina; Northern S.C. MPA, Station 32, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 9:00:00 AM	32.857896	-78.264068	-47			scamp, spotfin butt, wrasse bass, bandtail puffer, blue angelfish, Calamus, wrasse - possible supermale of the yellowhead wrasse, hogfish	☐
7/14/2012 9:00:12 AM	32.857937	-78.264065	-46.8	HB	hard bottom; Rock; sediment veneer;		☐
					Fish - yellowhead wrasse	supermale phase	
					Fish - blue angelfish;		
					Fish - wrasse bass		
					Fish - hogfish		
7/14/2012 9:01:55 AM	32.858198	-78.264077	-46.2	HB	XS Photo; hard bottom; Rock;		☑
					Fish - cowfish		
7/14/2012 9:03:37 AM	32.858526	-78.264123	-47.4	HB	pavement; sediment veneer;XS Photo; 100m off the MB map		☑
					Fish - tatler;		
7/14/2012 9:06:00 AM	32.858816	-78.264134	-46.6	HB	single rock outcrop	juvenile french angelfish, YTR, reef butterflyfish, doctorfish, Calamus, sharpnose puffer	☐
7/14/2012 9:06:08 AM	32.858818	-78.264108	-47.2	HB	small rock; pavement; hard bottom; sediment veneer;		☐
					Fish - french angelfish - juvenile	Non XS - Random Photos;	
					Por - Demospongiae;	TE pink; Non XS - Random Photos;	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207142	**ROV 23**	**14-VII-12-2**	**South Carolina; Northern S.C. MPA, Station 32, inside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 9:08:00 AM	32.858955	-78.264139	-47.4				☐
7/14/2012 9:08:50 AM	32.858684	-78.264272	-46.6	HB	end of dive; hard bottom; pavement; sediment veneer; Slope- flat;		☐
7/14/2012 9:11:27 AM					end DVD and HD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	**ROV 24**	**14-VII-12-3**	**South Carolina; Northern S.C. MPA, Station 33, inside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 9:17:41 AM				HB	Objectives: ROV Dive 24, Site #- 14-VII-12-3. Target Site – South Carolina, Northern S.C. MPA; 32° 50.9400'N; 78°15.5400'W; 60 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect over rock mound habitat visible on multibeam sonar; lumps on the MB.		☐
7/14/2012 9:42:39 AM					Launch (start dive);		☐
7/14/2012 9:45:18 AM	32.842972	-78.262910	-51.4		bottom in sight		☐
7/14/2012 9:45:49 AM	32.842972	-78.262910	-51.4	HB	On bottom; hard bottom; rubble; low mounds of ro cobble; pavement; 50% cover; low relief <50 cm; on starting wp		☐
					Alg - Cyanophyta;		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Alg - Phaeophyta; Dictyota		
7/14/2012 9:46:00 AM	32.842983	-78.262921	-51.2	HB	low relief rounded outcrops	hogfish, tattler, lionfish, sharpnose puffer, yellowtail reeffish, wrasse, lionfish, reef butt, orangeback bass	☐
7/14/2012 9:48:36 AM	32.842950	-78.262971	-51.2	HB	XS Photo; hard bottom; pavement; sediment veneer, patchy rock rubble patchs, low relief		☑
					Ann - Filograna;		
					Alg - Rhodophyta;		
					Alg - Chlorophyta;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea;		
7/14/2012 9:50:00 AM	32.843038	-78.263084	-50.8	HB	hard bottom; rubble; pavement; 1/2 m mounds of cobble		☐
					Cni - Gorgonacea; Ellisellidae		
7/14/2012 9:50:40 AM	32.843109	-78.263039	-50.6	HB	XS Photo; hard bottom; pavement;		☑
					Por - Demospongiae; Axinellida		
					Fish - lionfish;		
					Fish - squirrelfish		
					Fish - yellowtail reeffish;		
7/14/2012 9:51:00 AM	32.843115	-78.263033	-50.8			squirrelfish, reef butterflyfish, Calamus, sunshinefish	☐
7/14/2012 9:52:00 AM	32.843266	-78.262926	-51.4	HB	moderate relief mound	sunshinefish, squirrelfish, 3 lionfish,, blue angelfish	☐
7/14/2012 9:52:22 AM	32.843346	-78.262913	-51	HB	Rock; hard bottom; reef mound. 51 m on sand, 48 m on top; 30 m diam, 3 m tall, 45o slope		☐
					Por - Demospongiae; Agelas?	large or	
					Por - Demospongiae; Callyspongia vaginalis		
					Fish - lionfish;	3	
7/14/2012 9:54:00 AM	32.843494	-78.262771	-48.7	HB	low relief rounded outcrops	lionfish, wrasse, lionfish, tattler, reef butt, bicolor damselfish	☐
7/14/2012 9:54:37 AM	32.843573	-78.262688	-50.6	HB	hard bottom; Rock;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
					Cni - Gorgonacea; Ellisellidae	whip	
					Fish - tatler;		
7/14/2012 9:55:07 AM	32.843661	-78.262617	-50.3	HB	XS Photo; hard bottom; pavement;		☑
					Cni - Gorgonacea; Diodogorgia?	pu	
					Ann - Filograna;		
					Cni - Hydroidolina;		
					Fish - lionfish;		
					Alg - Chlorophyta;		
					Alg - Rhodophyta;		
7/14/2012 9:56:00 AM	32.843815	-78.262504	-51	HB	moderate relief mound	sunshinefish, reef butt, sharpnose puffer	☐
7/14/2012 9:56:37 AM	32.843898	-78.262462	-50.8	HB	hard bottom; Rock; mound #2, top 49 m		☐
7/14/2012 9:57:00 AM	32.843954	-78.262413	-49.9	HB	low relief rounded outcrops	sunshinefish, sharpnose puffer, Calamus	☐
7/14/2012 9:57:21 AM	32.843999	-78.262392	-48.7	HB	XS Photo; hard bottom; Rock; on mound, 15 m diam		☑
					Fish - sunshine fish		
					Fish - yellowtail reeffish;		
					Fish - reef butterflyfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 9:58:00 AM	32.844078	-78.262305	-50.3	HB	moderate relief mound	sharpnose puffer, bicolor damselfish, lionfish, blue angelfish, reef butterflyfish, graysby	☐
7/14/2012 9:58:05 AM	32.844096	-78.262288	-50.8	HB	hard bottom; pavement; cobble; Slope- flat;		☐
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
7/14/2012 9:58:30 AM	32.844159	-78.262259	-50.6	HB	hard bottom; Rock; mound 3, top 48m, 20 m diam		☐
					Por - Demospongiae; Agelas		
					Cho - Ascidacea; Eudistoma		
7/14/2012 9:59:43 AM	32.844253	-78.262261	-49.9	HB	XS Photo; hard bottom; Rock; cluster of 3 mounds, rounded	100% cover on rock	☑
					Fish - blue angelfish;		
					Fish - graysby grouper		
					Ann - Filograna;	common	
					Fish - lionfish;		
7/14/2012 10:01:00 AM	32.844434	-78.262091	-50.1			Calamus, wrasse, sharpnose puffer, cherubfish, purple reeffish, blue angelfish, wrasse bass, sunshinefish, squirrelfish, reef butt	☐
7/14/2012 10:01:55 AM	32.844538	-78.262067	-49.5	HB	XS Photo; hard bottom; mound		☑
					Fish - wrasse bass		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - parrotfish		
					Cni - Hydroidolina;		
7/14/2012 10:04:00 AM	32.844768	-78.261902	-49.9			rock beauty, parrotfish?, scamp x2, lionfish, squirrelfish, Calamus, cherubfish, soapfish	☐
7/14/2012 10:04:09 AM	32.844776	-78.261897	-49.1	HB	XS Photo; hard bottom; Rock; mound; large extensive,		☑
					Cni - Gorgonacea; Briareum?	thick br pu	
					Alg - Phaeophyta; Dictyota		
					Fish - rock beauty		
7/14/2012 10:06:24 AM	32.844853	-78.261654	-49.1	HB	XS Photo; hard bottom; Rock; base of mound, 51.5 m		☑
7/14/2012 10:07:08 AM	32.844745	-78.261494	-47.6	HB	Rock; on mound, top 47 m		☐
					Fish - scamp grouper;	2	
					Fish - blue angelfish;		
					Fish - spotfin hogfish		
					Fish - spotfin butterflyfish		
7/14/2012 10:07:57 AM	32.844659	-78.261468	-47.4	HB	hard bottom; Rock; mound		☐
					Fish - lionfish;		
					Cni - Antipathidae; Tanacetipathes		
					Por - Demospongiae; Callyspongia		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 10:08:46 AM	32.844651	-78.261351	-47.6	HB	XS Photo; hard bottom; Rock; top of mound		☑
7/14/2012 10:09:13 AM	32.844717	-78.261301	-51.6	HB	hard bottom; ; pavement; 52 m; sediment veneer; 10% cover of algal clumps		☐
					Species Observed: Alg - Rhodophyta;	re blade	
7/14/2012 10:11:02 AM	32.844992	-78.261199	-51.8	HB	XS Photo; hard bottom; pavement;		☑
					Species Observed: Alg - Cyanophyta;		
7/14/2012 10:12:00 AM	32.845118	-78.261142	-50.8	HB	off mound, low relief rounded outcrops	reef butterflyfish, spotfin butt, tattler, lionfish	☐
7/14/2012 10:12:41 AM	32.845305	-78.261253	-51.6	HB	hard bottom; Rock; small mound; pavement with sediment		☐
					Species Observed: Fish - lionfish;		
					Species Observed: Fish - tatler;		
7/14/2012 10:15:25 AM	32.845459	-78.261261	-51.6	HB	XS Photo; hard bottom; pavement; patchy cobble		☑
7/14/2012 10:16:00 AM	32.845343	-78.261369	-51.6		on mound	reef butterflyfish, yellowhead wrasse, parrotfish, orangeback bass, sunshinefish	☐
7/14/2012 10:16:08 AM	32.845364	-78.261402	-50.8	HB	hard bottom; Rock; mound		☐
					Species Observed: Por - Demospongiae; Agelas		
					Species Observed: Fish - spotfin butterflyfish		
					Species Observed: Por - Demospongiae; Spirastrellidae		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - yellowtail reeffish;		
7/14/2012 10:17:13 AM	32.845541	-78.261429	-51.2	HB	hard bottom; Rock; another 2 m mound		☐
					Fish - reef butterflyfish		
					Fish - parrotfish		
					Cni - Gorgonacea; Iciligorgia schrammi		
					Alg - Phaeophyta; Dictyota	dense	
7/14/2012 10:19:55 AM	32.845775	-78.261248	-50.6	HB	XS Photo; hard bottom; pavement;		☑
					Fish - lionfish;		
7/14/2012 10:20:00 AM	32.845799	-78.261242	-49.9	HB	off mound, low relief rounded outcrops	lionfish, sharpnose puffer, lionfish, tattler, reef butterflyfish, squirrelfish, parrotfish	☐
7/14/2012 10:20:38 AM	32.845933	-78.261080	-50.3	HB	hard bottom; Rock; mound; many low mounds 1-2 m		☐
					Fish - lionfish;		
					Cni - Gorgonacea; Diodogorgia		
					Ann - Filograna;	abundant	
7/14/2012 10:22:16 AM	32.846108	-78.261038	-50.3	HB	XS Photo; hard bottom; Rock; mound		☑
					Cni - Antipathidae; bottle brush		
					Fish - squirrelfish		
					Fish - tatler;		
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - parrotfish		
7/14/2012 10:24:56 AM	32.846430	-78.260940	-50.8	HB	hard bottom; Rock; change heading to N		☐
7/14/2012 10:25:00 AM	32.846429	-78.260938	-51		having the ship run a bit to the north and then parallel the line. Multibeam shows there may be more mounds in that direction.		☐
7/14/2012 10:25:20 AM	32.846452	-78.260901	-50.1	HB	XS Photo; hard bottom; pavement; Slope- flat; thicker sediment, patchy low mounds		☑
					Fish - lionfish;		
7/14/2012 10:26:00 AM	32.846609	-78.260844	-51.4	HB	pavement	lionfish	☐
7/14/2012 10:27:00 AM	32.846787	-78.260797	-51.4	HB	moderate relief mound	spotfin butterflyfish, parrotfish, sunshinefish, sharpnose puffer, orangeback bass, yellowhead wrasse, spotfin hogfish, squirrelfish, Calamus, tattler, reef butterflyfish	☐
7/14/2012 10:27:26 AM	32.846877	-78.260695	-51.2	HB	XS Photo; soft bottom; patchy rubble, cobble,		☑
7/14/2012 10:27:50 AM	32.846931	-78.260718	-50.6	HB	hard bottom; Rock; large mound, base 51.5 m, top 48.5		☐
					Cni - Antipathidae;		
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Ellisellidae		
					Alg - Phaeophyta; Dictyota		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 10:29:11 AM	32.847106	-78.260748	-47.8	HB	hard bottom; Rock; mound		☐
					Cho - Ascidacea; Didemnidae		
					Por - Demospongiae; Callyspongia		
					Cni - Gorgonacea; Swiftia exerta		
7/14/2012 10:29:59 AM	32.847206	-78.260850	-47.8	HB	XS Photo; hard bottom; Rock; mound	just small reef fish, no large	☑
					Cni - Antipathidae; white fan mesh		
					Por - Demospongiae; Axinellida		
					Ann - Filograna;		
					Fish - orange back bass		
7/14/2012 10:31:10 AM	32.847389	-78.260702	-48.3	HB	hard bottom; Rock; mound; Slope- steep (>35o);		☐
7/14/2012 10:32:00 AM	32.847467	-78.260695	-48.9	HB	XS Photo; hard bottom; Rock; mound		☑
					Fish - reef butterflyfish		
					Cni - Gorgonacea; Ellisellidae	whip, common	
7/14/2012 10:34:00 AM	32.847686	-78.260443	-49.5			blue angelfish	☐
7/14/2012 10:34:18 AM	32.847686	-78.260431	-48.3	HB	XS Photo; hard bottom; Rock; mound; Slope- steep (>35o);		☑
					Fish - blue angelfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 10:35:00 AM	32.847755	-78.260441	-47.6	HB	off mound, low relief rounded outcrops	sharpnose puffer, wrasse, Calamus, tattler	☐
7/14/2012 10:35:27 AM	32.847833	-78.260408	-50.1	HB	hard bottom; Rock; 2 m mound, 10 m diam.		☐
7/14/2012 10:36:42 AM	32.848040	-78.260391	-49.9	HB	XS Photo; hard bottom; Rock; mound		☑
7/14/2012 10:38:54 AM	32.848226	-78.260204	-50.1	HB	XS Photo; hard bottom; pavement; low relief, 80% rock;Slope- flat;		☑
					Fish - tatler;		
7/14/2012 10:39:00 AM	32.848224	-78.260201	-50.3	HB	moderate relief mound	spotfin hogfish, sharpnose puffer, orangeback bass, YTR, wrasse bass, purple reeffish, Calamus	☐
7/14/2012 10:39:55 AM	32.848334	-78.260101	-50.1	HB	hard bottom; Rock; large mound; Slope- steep (>35o); top 49		☐
7/14/2012 10:41:08 AM	32.848430	-78.259998	-47.4	HB	XS Photo; hard bottom; Rock; top of mound		☑
					Fish - blue angelfish;		
7/14/2012 10:42:11 AM	32.848573	-78.259948	-50.8	HB	pavement; hard bottom;		☐
7/14/2012 10:42:19 AM	32.848604	-78.259963	-49.9	HB	hard bottom; Rock; mound; Slope- steep (>35o);		☐
					Cho - Ascidacea; Eudistoma		
					Por - Demospongiae; Agelas	abundant	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Antipathidae; bottle brush		
7/14/2012 10:43:58 AM	32.848640	-78.259864	-48.5	HB	XS Photo; hard bottom; Rock; smooth rock, not rugose	no large fish; small reef fish	☑
					Ann - Filograna;		
					Cni - Stichopathes;		
					Cni - Hydroidolina;		
					Fish - Calamus porgy		
7/14/2012 10:45:54 AM	32.848836	-78.259673	-49.1	HB	soft bottom; rubble; patchy pavement; near ending wp; continue transect to NE		☐
7/14/2012 10:46:28 AM	32.848951	-78.259685	-49.5	HB	XS Photo; Rock; base of mound		☑
					Ech - Asteroidea;		
					Fish - hogfish		
					Fish - tatler;		
7/14/2012 10:47:00 AM	32.849014	-78.259700	-48.1			hogfish, AJ, tattler, Calamus, sharpnose puffer, lionfish, sharpnose puffer	☐
7/14/2012 10:47:55 AM	32.849167	-78.259648	-47.6	HB	hard bottom; Rock; mound top		☐
7/14/2012 10:49:45 AM	32.849468	-78.259474	-48.3		Change DVD		☐
7/14/2012 10:51:08 AM	32.849624	-78.259325	-49.7	HB	hard bottom; Rock; mound		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 10:51:55 AM	32.849689	-78.259309	-48.7	HB	XS Photo; hard bottom; Rock; mound top		☑
					Fish - tatler;		
					Cni - Stichopathes;		
					Fish - lionfish;		
7/14/2012 10:52:45 AM	32.849757	-78.259219	-50.3	HB	hard bottom; Rock; another mound, 49 m top	same fauna	☐
					Fish - sharpnose puffer		
					Fish - Calamus porgy		
					Fish - lionfish;		
					Cho - Ascidacea; Didemnidae	abundant white	
7/14/2012 10:54:00 AM	32.849853	-78.259154	-48.7			lionfish x2, Calamus	☐
7/14/2012 10:54:50 AM	32.849957	-78.259134	-48.7	HB	XS Photo; hard bottom; Rock; mound		☑
					Fish - lionfish;		
7/14/2012 10:56:39 AM	32.850318	-78.258893	-50.1	HB	hard bottom; Rock; still camera not working; series of low 1-2 m mounds		☐
7/14/2012 10:57:00 AM	32.850379	-78.258867	-49.9	HB	off mound, pavement		☐
7/14/2012 10:57:00 AM	32.850379	-78.258867	-49.9	HB	moderate relief mound	Calamus, sharpnose puffer	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 10:57:27 AM	32.850449	-78.258823	-50.3	HB	soft bottom; rubble;		☐
					Alg - Cyanophyta;		
					Alg - Phaeophyta; Sargassum		
7/14/2012 10:58:14 AM	32.850517	-78.258681	-50.3	HB	hard bottom; Rock; mound; 49.5 top		☐
					Ann - Filograna;	abundant	
7/14/2012 10:58:53 AM	32.850539	-78.258634	-50.8	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Ellisellidae	dense whips	
7/14/2012 10:59:00 AM	32.850570	-78.258637	-50.6		messing with digital still camera, off bottom		☐
7/14/2012 10:59:29 AM	32.850622	-78.258599	-47.2		reset clock of digital camera. Stop transect		☐
7/14/2012 11:00:00 AM	32.850608	-78.258664	-47.4		back on bottom,	rock beauty, sharpnose puffer, reef butterflyfish	☐
7/14/2012 11:00:32 AM	32.850616	-78.258639	-47	HB	hard bottom; Rock; mound; still back on		☐
7/14/2012 11:00:57 AM	32.850725	-78.258654	-48.5	HB	XS Photo; hard bottom; Rock;		☑
7/14/2012 11:03:00 AM	32.851029	-78.258439	-48.7	HB	off mound, low relief rounded outcrops	spotted snake eel, wrasse, lionfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 11:03:11 AM	32.851066	-78.258429	-49.7	HB	XS Photo; hard bottom; Rock; mound		☑
					Fish - tatler;		
					Fish - snake eel; Ophictidae	eating; Non XS - Random Photos;	
7/14/2012 11:05:48 AM	32.851342	-78.258207	-49.9	HB	XS Photo; hard bottom; Rock; pavement;		☑
7/14/2012 11:06:00 AM	32.851392	-78.258211	-49.3		smaller mounds	Calamus, sharpnose puffer	☐
7/14/2012 11:07:06 AM	32.851583	-78.258111	-50.1	HB	hard bottom; Rock; series of moderate mounds on sediment plain		☐
					Ech - Ophiuroidea; basketstar; Gorgonocephalidae		
7/14/2012 11:08:30 AM	32.851766	-78.258050	-48.7	HB	XS Photo; hard bottom; Rock; small mound		☑
					Fish - lionfish;		
7/14/2012 11:09:00 AM	32.851866	-78.258033	-49.3	HB	moderate relief mound	lionfish, sharpnose puffer, squirrelfish, rock beauty, tattler, lionfish, hogfish	☐
7/14/2012 11:09:57 AM	32.851947	-78.257938	-47.8	HB	hard bottom; Rock; mound; Slope- steep (>35o); top 49 m; 51.0 base		☐
7/14/2012 11:11:49 AM	32.852189	-78.257760	-50.6	HB	XS Photo; hard bottom; Rock; another 2 m mound		☑
					Fish - rock beauty		
					Fish - squirrelfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207143	ROV 24	14-VII-12-3	South Carolina; Northern S.C. MPA, Station 33, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 11:13:24 AM	32.852366	-78.257618	-50.3	HB	hard bottom; pavement;		☐
					Species Observed		
					Fish - hogfish		
					Fish - lionfish;		
7/14/2012 11:13:57 AM	32.852553	-78.257521	-49.7	HB	hard bottom; Rock; 2 m rock on pedestal		☐
7/14/2012 11:14:00 AM	32.852561	-78.257509	-49.3			reef butterflyfish, purple reeffish, YTR	☐
7/14/2012 11:14:40 AM	32.852614	-78.257540	-49.9	HB	XS Photo; hard bottom; Rock;		☑
					Fish - purple reeffish		
7/14/2012 11:15:00 AM	32.852615	-78.257540	-49.7	HB	off mound, pavement		☐
7/14/2012 11:15:27 AM	32.852688	-78.257482	-50.6	HB	soft bottom; rubble, bioturbation		☐
					Alg - Cyanophyta;		
7/14/2012 11:16:00 AM	32.852829	-78.257352	-50.6				☐
7/14/2012 11:16:16 AM	32.852873	-78.257277	-50.3	SB	End of dive; soft bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 11:59:55 AM					Objectives: ROV Dive 25, Site #- 14-VII-12-4. Target Site – South Carolina, Northern S.C. MPA; 32° 50.6860'N, 78°16.0270'W; 50 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect of new site; very faint, light orange ridge on multibeam.		☐
7/14/2012 12:02:01 PM					Launch (start dive);		☐
7/14/2012 12:04:04 PM					start DVD 51		☐
7/14/2012 12:05:00 PM	32.845047	-78.267352	-48.3	HB	low relief outcrops	white grunt, tattler, wrasse bass, purple reeffish, lionfish x2, yellowtail reeffish, sharpnose puffer parrotfish, lionfish	☐
7/14/2012 12:05:09 PM	32.845047	-78.267352	-48.3		On bottom;		☐
7/14/2012 12:05:51 PM	32.844974	-78.267216	-48.3	HB	hard bottom; Slope- flat; Rock; 0.5 m relief; .5 -1 m relief	dense Dictyota and hydroida	☐
					Alg - Phaeophyta; Dictyota		
					Cni - Hydroidolina;		
7/14/2012 12:06:42 PM	32.844824	-78.267283	-47.4	HB	XS Photo; hard bottom; Rock;		☑
7/14/2012 12:07:27 PM	32.844750	-78.267187	-47.6	HB	hard bottom; Rock; top of reef; low relief HB rock		☐
					Alg - Phaeophyta; Dictyota	abundant	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Ellisella	whip	
					Fish - lionfish;	2	
					Cni - Hydroidolina;		
					Por - Demospongiae;	red encrust	
					Cho - Ascidacea; Eudistoma		
7/14/2012 12:08:26 PM	32.844729	-78.267158	-47.4	HB	hard bottom; Rock;		☐
7/14/2012 12:08:55 PM	32.844797	-78.267143	-47.2	HB	XS Photo; hard bottom; Rock; starting WP heading NE		☑
					Alg - Phaeophyta; Spatoglossum?		
					Alg - Phaeophyta; Padina?		
7/14/2012 12:10:18 PM	32.844881	-78.267073	-47.8	HB	hard bottom; Rock;	80% cover Alg - Phaeophyta;	☐
					Fish - parrotfish	5	
					Cni - Gorgonacea; Leptogorgia		
					Por - Ircinia campana;		
					Cni - Gorgonacea; Diodogorgia		
7/14/2012 12:12:00 PM	32.845053	-78.266969	-47.8			parrotfish, Calamus, squirrelfish, purple reeffish, blue angelfish, scamp, spotfin butt, doctorfish, spotted goatfish, bank butt, reef butt, sharpnose puffer	☐
7/14/2012 12:13:26 PM	32.845213	-78.266896	-46.8	HB	XS Photo; hard bottom; Rock; 1 m relief		☑
					Fish - rock beauty		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - squirrelfish		
					Fish - reef butterflyfish		
					Fish - tang		
					Fish - scamp grouper;		
					Fish - Calamus porgy		
					Fish - wrasse bass		
7/14/2012 12:14:38 PM	32.845349	-78.266851	-49.1	HB	hard bottom; Rock; 1 m rock boulders and pavement		☐
					Alg - Phaeophyta; Sargassum		
7/14/2012 12:15:35 PM	32.845472	-78.266804	-48.7	HB	XS Photo; soft bottom; pavement;		☑
7/14/2012 12:16:00 PM	32.845509	-78.266841	-48.9	HB	pavement	sharpnose puffer	☐
7/14/2012 12:16:29 PM	32.845605	-78.266838	-48.9	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Diodogorgia		
7/14/2012 12:17:51 PM	32.845834	-78.266727	-48.3	HB	XS Photo; soft bottom; pavement;		☑
					Ech - Asteroidea; Narcissia?		
					Fish - cowfish	steve's moo	
					Fish - blue angelfish;		
					Fish - tatler;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 12:18:00 PM	32.845828	-78.266741	-49.1			blue angelfish, sharpnose puffer, tattler	☐
7/14/2012 12:20:05 PM	32.846136	-78.266412	-48.9	HB	XS Photo; pavement; veneered; altitude sensor was wrong - there is no way we were 11 m off bottom at this site	50% cover Alg - Phaeophyta;	☑
					Fish - spotfin hogfish		
					Fish - blue angelfish;		
					Fish - reef butterflyfish		
7/14/2012 12:22:00 PM	32.846491	-78.266277	-48.9	HB	mostly pavement with small low relief outrops interspersed	white grunt, doctorfish, rock beauty, reef butterflyfish, spotfin hogfish, blue angelfish, sharpnose puffer	☐
7/14/2012 12:22:00 PM	32.846491	-78.266277	-48.9			wrasse bass, spotfin butterflyfish, Calamus, tattler, YTR, sharpnose puffer, reef butt, tattler, wrasse	☐
7/14/2012 12:22:26 PM	32.846570	-78.266189	-49.1	HB	Rock;		☐
7/14/2012 12:23:01 PM	32.846561	-78.266188	-49.1	HB	XS Photo; Rock; pavement;	6+spp or color morphs of Dictyota; multiple color morphs	☑
					Alg - Phaeophyta; Spatoglossum?		
					Por - Demospongiae; Aplysina	30 cm cl Thick HT	
7/14/2012 12:24:45 PM	32.846663	-78.266135	-49.1		Altimeter seem to be back; still camera is failing		☐
					Cni - Hydroidolina;		
					Cni - Gorgonacea; Telesto		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 12:26:56 PM	32.846908	-78.265976	-49.3		still camera back on line		☐
7/14/2012 12:28:00 PM	32.847043	-78.265843	-49.1	HB	low relief outcrops	porgies, white grunt, doctorfish, squirrelfish, blue angelfish, sharpnose puffer	☐
7/14/2012 12:28:02 PM	32.847061	-78.265828	-49.5	HB	hard bottom; Rock;		☐
					Por - Demospongiae;	thin encrusting white	
7/14/2012 12:28:31 PM	32.846933	-78.265691	-49.3	HB	hard bottom; Rock; XS Photo; back on rocks; altitude seems to be off;		☑
					Alg - Phaeophyta; Dictyota		
					Alg - Phaeophyta; Spatoglossum?		
					Cni - Hydroidolina;		
7/14/2012 12:29:45 PM	32.846916	-78.265504	-48.7	HB	off reef; pavement; sediment veneer;		☐
					Alg - Chlorophyta; Codium		
7/14/2012 12:30:50 PM	32.847135	-78.265367	-48.3	HB	XS Photo; pavement; sediment veneer;		☑
					Cni - Gorgonacea; Ellisellidae	white. Single stalk	
					Cni - Hydroidolina;		
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 12:31:00 PM	32.847145	-78.265375	-47.8			lionfish, orangeback bass, sharpnose puffer, wrasse, spotfin hogfish, rock beauty, blue angelfish, red grouper, scamp, white grunt, Calamus, purple reeffish	☐
7/14/2012 12:33:00 PM	32.847478	-78.265265	-49.5	HB	pavement; sediment veneer; XS Photo;		☑
					Fish - scamp grouper;		
					Fish - white grunt		
					Por - Demospongiae; Agelas?		
					Fish - red grouper;		
7/14/2012 12:34:00 PM	32.847595	-78.265167	-48.9			parrotfish, lionfish, rock beauty, white grunt, squirrelfish, bicolor damselfish, sharpnose puffer, bank butt, spotfin hogfish, tomtates, reef butt, spotted goatfish	☐
7/14/2012 12:34:41 PM	32.847661	-78.265108	-49.5	HB	hard bottom; Rock;		☐
					Fish - tomtate;		
					Fish - rock beauty		
					Fish - lionfish;		
					Fish - squirrelfish		
					Fish - white grunt		
7/14/2012 12:35:53 PM	32.847793	-78.265004	-48.9	HB	XS Photo; hard bottom; Rock; rocks are a bit more undercut and rugose here;		☑
					Fish - rock beauty		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tomtate;		
7/14/2012 12:36:00 PM	32.847808	-78.264998	-48.5			school of tomtates, cubbyu, doctorfish, grouper diving into crevice, doctorfish, reef butterflyfish, spotfin hogfish, spotted goatfish, spotfin butterflyfish, white grunt, sharpnose puffer, purple reeffish	☐
7/14/2012 12:37:28 PM	32.848065	-78.264866	-48.7	HB	hard bottom; Rock; 1/2-1 m relief; XS Photo; 49 m on top of reef; .		☑
					Fish - doctorfish		
7/14/2012 12:39:58 PM	32.848305	-78.264574	-48.5	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea; Swiftia		
7/14/2012 12:41:31 PM	32.848541	-78.264371	-48.3	HB	hard bottom; Rock; same sediment veneer; 20 cm relief pavement		☐
7/14/2012 12:42:00 PM	32.848612	-78.264337	-47.8			doctorfish, sharpnose puffer, purple reeffish, lionfish, jackknife fish, possibly 2 graysbys, wrasse, reef butterflyfish	☐
7/14/2012 12:42:18 PM	32.848619	-78.264344	-47.4	HB	XS Photo; hard bottom; Rock;		☑
					Fish - tang		
7/14/2012 12:44:31 PM	32.848963	-78.264186	-49.3	HB	hard bottom; Rock; sediment veneer;XS Photo;		☑
					Fish - jackknife fish		
					Fish - graysby grouper?		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
7/14/2012 12:46:00 PM	32.849073	-78.264108	-49.9			lionfish, doctorfish, rock beauty, jack-knife fish, reef butterflyfish, sharpnose puffer, wrasse	☐
7/14/2012 12:46:30 PM	32.849164	-78.264110	-48.9	HB	hard bottom; Rock; sediment veneer; XS Photo;		☑
					Fish - jackknife fish		
7/14/2012 12:48:11 PM	32.849369	-78.263889	-49.1	HB	hard bottom; Rock; sediment veneer;pavement; small boulders; sparse;		☐
					Cni - Hydroidolina;		
					Alg - Phaeophyta; Dictyota		
					Cni - Gorgonacea;	purple	
7/14/2012 12:48:59 PM	32.849475	-78.263814	-49.3	HB	XS Photo; hard bottom; Rock; sediment veneer;		☑
					Fish - tomtate;		
					Por - Demospongiae;	orange under rock	
					Cni - Gorgonacea; Ellisellidae		
					Fish - white grunt		
					Fish - red grouper;		
					Fish - cubyu		
7/14/2012 12:49:00 PM	32.849473	-78.263814	-49.1			cubbyu, tomtate, white grunt, red grouper, spotfin butterflyfish, sharpnose puffer, reef butterflyfish, red porgy, snowy, graysby, squirrelfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 12:51:08 PM	32.849502	-78.263667	-48.5	HB	XS Photo; hard bottom; Rock;		☑
					Fish - graysby grouper		
					Fish - snowy grouper		
7/14/2012 12:51:45 PM	32.849495	-78.263643	-48.9	HB	hard bottom; Rock; sediment veneer;back on the bottom; 1-2 m relief on the rock;		☐
					Fish - scamp grouper;	4	
					Fish - tomtate;		
					Fish - lionfish;		
					Fish - rock hind		
7/14/2012 12:52:00 PM	32.849518	-78.263667	-48.5			school of tomtate, scamp x5, doctorfish, lionfish, rock hind?, lionfish	☐
7/14/2012 12:53:35 PM	32.849745	-78.263509	-48.7	HB	hard bottom; Rock; off reef		☐
					Fish - lionfish;		
					Fish - tatler;		
					Cni - Hydroidolina;		
					Fish - wrasse bass		
7/14/2012 12:54:00 PM	32.849736	-78.263499	-49.3	HB	off reef, low relief outcrops	tattler, wrasse bass, reef butt, spotfin butterflyfish, sharpnose puffer	☐
7/14/2012 12:55:24 PM	32.850059	-78.263393	-49.7	HB	hard bottom; Rock;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 12:55:50 PM	32.850159	-78.263305	-49.9	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Hydroidolina;		
					Fish - tatler;		
7/14/2012 12:58:06 PM	32.850538	-78.263046	-49.5	HB	XS Photo; hard bottom; Rock; sediment veneer;		☑
					Fish - bank seabass		
7/14/2012 12:59:00 PM	32.850642	-78.262986	-49.9			bank sea bass, spotfin butterflyfish, doctorfish, reef butterflyfish, blue angelfish	☐
7/14/2012 1:00:00 PM	32.850791	-78.262962	-49.5	HB	back on the reef, low relief outcrops	jack-knife fish, spotfin hogfish, lionfish, scamp x2, lionfish x2, sharpnose puffer, squirrelfish, cubbyu, tomtates, rock beauty, purple reeffish, lionfish	☐
7/14/2012 1:00:01 PM	32.850795	-78.262952	-49.1	HB	hard bottom; Rock; sediment veneer; pavement; few scatter 1-2 m flat boulders;	50% cover Alg - Phaeophyta;	☐
7/14/2012 1:00:45 PM	32.850754	-78.262693	-49.7	HB	XS Photo; hard bottom; Rock; pavement; sediment veneer; on reef; NE to SW ridge; .5-1 m relief running along the 49 m depth		☑
					Fish - spotfin hogfish		
					Fish - lionfish; 2		
					Fish - jackknife fish		
					Fish - scamp grouper; 2		
7/14/2012 1:02:18 PM	32.850761	-78.262611	-48.7	HB	Rock; pavement; hard bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae; Agelas	30 cm MA	
					Alg - Phaeophyta; Dictyota	dense	
					Cni - Gorgonacea; Ellisella		
7/14/2012 1:03:04 PM	32.850819	-78.262564	-49.1	HB	XS Photo; hard bottom; pavement;		☑
					Fish - lionfish;	2	
					Fish - jackknife fish	7	
					Fish - rock beauty		
7/14/2012 1:05:00 PM	32.851002	-78.262454	-49.5			spotted goatfish, spotfin hogfish, yellowhead wrasse supermale, sharpnose puffer, lionfish, graysby, reef butt	☐
7/14/2012 1:05:08 PM	32.851025	-78.262454	-49.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - graysby grouper		
					Fish - lionfish;		
					Fish - yellowhead wrasse	super male	
7/14/2012 1:07:27 PM	32.851230	-78.262309	-49.3		stop DVD 51; XS Photo;		☑
					Fish - lionfish;		
7/14/2012 1:08:00 PM	32.851339	-78.262258	-49.1			bigeye, yellowhead wrasse, lionfish, white grunt, lionfish x2, reef butt, sharpnose puffer, white grunt, sharpnose puffer, cubbyu, tomtate, squirrelfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 1:08:42 PM	32.851466	-78.262140	-49.5		start DVD 52		☐
					Fish - lionfish;		
					Fish - bank butterflyfish		
					Fish - yellowhead wrasse		
7/14/2012 1:09:37 PM	32.851558	-78.261995	-48.5	HB	hard bottom; Rock; XS Photo; back on reef;		☑
					Cni - Gorgonacea;	purple	
7/14/2012 1:10:04 PM	32.851578	-78.261960	-48.9	HB	hard bottom; Rock; sediment veneer;and roucl boulders on reef; 0.5 m relief west side of reef is ledges		☐
					Fish - white grunt		
					Fish - cubyu		
					Fish - lionfish;	3	
					Fish - tomtate;		
7/14/2012 1:11:34 PM	32.851723	-78.261877	-49.3	HB	hard bottom; Rock;		☐
					Cni - Gorgonacea; Swiftia	many large 50 cm; Non XS - Random Photos;	
7/14/2012 1:12:18 PM	32.851800	-78.261869	-48.7	HB	hard bottom; Rock; XS Photo; check photo times… the still camera seems to be acting up.		☑
					Fish - Calamus porgy		
					Fish - reef butterflyfish		
					Fish - spanish hogfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 1:13:00 PM	32.851920	-78.261765	-49.9			Calamus, yellowhead wrasse, reef butt, spotfin hogfish, spotted goatfish, cubbyu, jackknife fish, spanish hogfish	☐
7/14/2012 1:15:29 PM	32.852336	-78.261538	-50.1	HB	hard bottom; Rock;		☐
					Por - Demospongiae; Agelas	Non XS - Random Photos; masive irregular. .5 cm ocsula	
7/14/2012 1:16:29 PM	32.852338	-78.261522	-49.7	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Gorgonacea; Ellisella		
7/14/2012 1:17:00 PM	32.852374	-78.261517	-49.7			white grunt, blue angel, squirrelfish, reef butt, cubbyu, Calamus, doctorfish, spotfin hogfish, sharpnose puffer, wrasse	☐
7/14/2012 1:19:00 PM	32.852643	-78.261341	-49.3	HB	hard bottom; Rock;XS Photo;		☑
7/14/2012 1:21:32 PM	32.852934	-78.261046	-48.9	HB	XS Photo; hard bottom; Rock; sediment veneer;		☑
7/14/2012 1:22:41 PM	32.853057	-78.261001	-48.7	HB	hard bottom; Rock; sediment veneer; boulder and exposed hardbottom. 0.5m relief; end of WP transect; continue	100 %Alg - Phaeophyta;	☐
					Fish - lionfish;	2	
7/14/2012 1:23:00 PM	32.853117	-78.260987	-49.1			lionfish x2, school of tomtates reef butt, squirrelfish, doctorfish, spotfin hogfish, lionfish, purple reefish, scamp x3, lionfish, blue angelfish, cowfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 1:23:57 PM	32.853227	-78.260913	-47	HB	hard bottom; Rock; XS Photo; top of reef 49 m		☑
					Species Observed		
					Fish - tomtate;		
					Alg - Phaeophyta; Padina?		
					Fish - lionfish;		
7/14/2012 1:26:33 PM	32.853514	-78.260687	-48.7	HB	hard bottom; Rock;		☐
					Fish - tomtate;		
					Fish - cowfish		
					Cni - Gorgonacea; Swiftia		
					Fish - scamp grouper;	3	
7/14/2012 1:29:43 PM	32.853917	-78.260344	-47.8	HB	XS Photo; hard bottom; Rock; sediment veneer;		☑
					Fish - scad?	school	
7/14/2012 1:30:00 PM	32.853955	-78.260304	-47.6			school of scad?	☐
7/14/2012 1:30:21 PM	32.853955	-78.260266	-48.3	HB	hard bottom; sparse exposed Rock; pavement; sediment veneer;	50 % Alg - Phaeophyta; reduced algae more Cho - Ascidacea;	☐
					Ann - Filograna;		
					Cho - Ascidacea; Didemnidae		
					Alg - Rhodophyta; Rhodomenia?		
7/14/2012 1:32:17 PM	32.854363	-78.259989	-48.9	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Hydroidolina;		
					Cho - Ascidacea; Didemnidae	buttons	
					Alg - Rhodophyta;		
					Alg - Chlorophyta;		
7/14/2012 1:33:03 PM	32.854494	-78.259913	-49.5	HB	hard bottom; Rock; smooth low rock mounds; 1-2 m relief;	much less Dictyota here;	☐
					Por - Demospongiae; Callyspongia vaginalis		
					Ann - Filograna;		
7/14/2012 1:34:00 PM	32.854629	-78.259798	-49.7	HB	smoother rock mounds	Calamus, orangeback bass, lionfish, blue angelfish, tattler, parrotfish, sharpnose puffer, lionfish x2, tattler, YTR	☐
7/14/2012 1:34:42 PM	32.854714	-78.259717	-48.9	HB	XS Photo; hard bottom; Rock; pavement; sediment veneer; rock mounds are now smoth, 2 m relief; 20 m rocks/boulders; between… sediment		☑
					Fish - blue angelfish;		
					Fish - lionfish;		
7/14/2012 1:36:53 PM	32.855133	-78.259516	-48.3	HB	XS Photo; hard bottom; Rock;		☑
					Alg - Rhodophyta; Halymenia?	fuzzy hairy red; Non XS - Random Photos; 20 cm	
					Alg - Rhodophyta; Rhodomenia?		
					Cni - Antipathidae;		
					Fish - lionfish;	2	
7/14/2012 1:40:42 PM	32.855247	-78.259339	-49.3		XS Photo;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cho - Ascidacea; Didemnidae		
					Ann - Filograna;		
7/14/2012 1:43:00 PM	32.855556	-78.259165	-48.9			soapfish, AJ, lionfish x2, spotfin hogfish, squirrelfish, lionfish, sunshinefish, sharpnose puffer, bicolor damselfish, white grunt	☐
7/14/2012 1:43:02 PM	32.855566	-78.259173	-48.5	HB	XS Photo; hard bottom; Rock; sediment veneer;		☑
					Fish - amberjack		
					Fish - lionfish;	3	
					Cni - Gorgonacea;	purple	
					Fish - soapfish		
7/14/2012 1:45:19 PM	32.855786	-78.259093	-48.7		XS Photo;		☑
7/14/2012 1:47:29 PM	32.856103	-78.258860	-48.7	HB	hard bottom; Rock; XS Photo;		☑
7/14/2012 1:49:00 PM	32.856356	-78.258668	-49.7			hogfish x2, french or grey angelfish, blue angel, wrasse, tattler, hogfish, sharpnose puffer	☐
7/14/2012 1:49:33 PM	32.856409	-78.258600	-49.3	HB	hard bottom; Rock; sediment veneer;		☐
					Fish - hogfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	ROV 25	14-VII-12-4	South Carolina; Northern S.C. MPA, Station 34, inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 1:50:08 PM	32.856443	-78.258569	-48.9	HB	XS Photo; hard bottom; Rock; smooth rock knolls, no ledges, 1-2 m relief, 49 m top, surrounded by soft sediment.		☑
					Fish - hogfish		
7/14/2012 1:52:58 PM	32.856729	-78.258399	-49.7	HB	hard bottom; pavement;		☐
7/14/2012 1:55:19 PM	32.857128	-78.258085	-48.7	HB	XS Photo; hard bottom; pavement; smooth rock knolls 1-2 m		☑
					Por - Ircinia campana;		
7/14/2012 1:57:37 PM	32.857415	-78.257932	-48.5	HB	XS Photo; hard bottom; pavement;		☑
7/14/2012 1:59:23 PM	32.857578	-78.257688	-50.1	HB	hard bottom; rubble;		☐
					Por - Demospongiae; Agelas	Non XS - Random Photos;	
7/14/2012 2:00:00 PM	32.857586	-78.257685	-49.5				☐
7/14/2012 2:00:18 PM	32.857618	-78.257737	-48.9	HB	XS Photo; hard bottom; pavement; series of smooth knolls,		☑
					Alg - Phaeophyta; Dictyota		
					Alg - Chlorophyta; Codium		
					Alg - Chlorophyta;	flat blade	
					Cni - Hydroidolina;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207144	**ROV 25**	**14-VII-12-4**	**South Carolina; Northern S.C. MPA, Station 34, inside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 2:01:02 PM	32.857720	-78.257532	-49.3	HB	end of dive; Rock; Off bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/14/2012 2:09:18 PM					Objectives: ROV Dive 26, Site #- 14-VII-12-5. Target Site – South Carolina, Northern S.C. MPA; 32° 51.9990'N; 78°14.4740'W; 65 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect of new site multibeam.		☐
7/14/2012 2:32:24 PM					Launch (start dive);		☐
7/14/2012 2:35:04 PM	32.866949	-78.241194	-64.1		start DVD		☐
7/14/2012 2:35:53 PM	32.866949	-78.241194	-64.1	HB	Slope- flat; hard bottom; pavement; sediment veneer; sparse exposed rock; rubble cobble; 1-2 m patches of exposed rocks; on starting WP, transect to NE		☐
					Cni - Stichopathes;		
					Ech - Asteroidea; Narcissia trigonaria		
7/14/2012 2:36:00 PM	32.866946	-78.241199	-64.7	HB	pavement	bank butterfly, tattler, yellowtail reeffish, AJ, reef butterflyfish, sharpnose puffer, greenband wrasse, short bigeye	☐
7/14/2012 2:38:36 PM	32.866994	-78.241303	-63.5	HB	hard bottom; pavement; sediment veneer; 10-30% cover of exposed HB		☐
7/14/2012 2:39:00 PM	32.867049	-78.241260	-63.3	HB	XS Photo; Slope- flat; hard bottom; pavement; sediment veneer;		☑
					Cni - Gorgonacea;	10 cm	
					Fish - tatler;		
					Por - Demospongiae;	red encrusting	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Titanideum frauenfeldii?		
					Fish - reef butterflyfish		
					Por - Demospongiae;	tan, conulose, huneycomb;	
					Fish - yellowtail reeffish;		
7/14/2012 2:43:07 PM	32.867524	-78.240796	-65.3	HB	Slope- flat; hard bottom; pavement; sediment veneer;		☐
					Fish - tatler;		
					Fish - short bigeye;		
					Ech - Asteroidea; Narcissia trigonaria		
					Por - Ircinia campana;		
7/14/2012 2:44:00 PM	32.867595	-78.240887	-63.9			lots of yellowtail reef fish, tattler, short bigeye	☐
7/14/2012 2:45:48 PM	32.867891	-78.240687	-63	HB	hard bottom; pavement; sediment veneer; XS Photo;		☑
					Por - Demospongiae; Astorphorida?	orange spherical; Non XS - Random Photos;	
					Fish - short bigeye;		
7/14/2012 2:49:20 PM	32.868056	-78.240165	-64.9	HB	XS Photo; hard bottom; pavement; sediment veneer;		☑
					Fish - lionfish;		
					Cni - Stichopathes;		
					Alg - UNID	Not Dictyota	
7/14/2012 2:50:00 PM	32.868216	-78.240191	-65.1			lionfish, sharpnose puffer, short bigeye, reef butterflyfish, tattler, lionfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 2:53:03 PM	32.868603	-78.239836	-64.7	HB	hard bottom; pavement; sediment veneer; patches of exposed rock: <10 cm relief;		☐
					Cni - Gorgonacea;	purple	
					Fish - lionfish;		
					Ann - Filograna;		
7/14/2012 2:54:58 PM	32.868748	-78.239640	-65.8	HB	hard bottom; pavement; sediment veneer;		☐
					Por - Demospongiae; Astrophorida	Or sherical 15 cm	
7/14/2012 2:55:00 PM	32.868754	-78.239638	-66			wrasse, lionfish, tattler, YTR, cowfish, spotfin butterflyfish, reef butterflyfish	☐
7/14/2012 2:58:34 PM	32.869446	-78.239469	-64.1	HB	hard bottom; pavement; sediment veneer;		☐
					Fish - lionfish;		
7/14/2012 2:59:00 PM	32.869456	-78.239415	-64.7			lionfish	☐
7/14/2012 3:00:24 PM	32.869665	-78.239316	-64.9	HB	hard bottom; pavement; sediment veneer;		☐
					Por - Demospongiae;	10 cm white cake Non XS - Random Photos;	
					Cni - Gorgonacea; Diodogorgia		
					Cni - Hydroidolina;		
					Por - Demospongiae;	several spp	
					Ann - Terebellidae?		
					Cni - Gorgonacea;	tiny red	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 3:02:42 PM	32.869789	-78.239219	-65.1	HB	hard bottom; pavement; sediment veneer; Rocks; low relief		☐
					Species Observed		
					Fish - reef butterflyfish		
					Fish - bank butterflyfish		
					Fish - lionfish;		
7/14/2012 3:03:00 PM	32.869824	-78.239084	-65.3			bank butterflyfish, reef butterflyfish, tattler, lionfish, squirrelfish, wrasse, spotfin hogfish, Ajs	☐
7/14/2012 3:04:10 PM	32.869796	-78.238874	-65.1	HB	hard bottom; pavement; exposed rock;		☐
					Fish - lionfish;		
					Cni - Antipathidae;	evergreen	
					Fish - amberjack		
7/14/2012 3:05:42 PM	32.869849	-78.238840	-66	HB	hard bottom; pavement; Rock; XS Photo;		☑
7/14/2012 3:06:00 PM	32.869903	-78.238767	-66.6		heading east towards the edge of the orange to yellow on the multibeam, then going to head NE	sharpnose puffer,	☐
7/14/2012 3:06:44 PM	32.869982	-78.238573	-67.8		heading east to the edge of the orange on the MB. Then we will change our heading to go north 20 m paralelle to the origanal xs line;		☐
7/14/2012 3:07:41 PM	32.870070	-78.238443	-68	HB	hard bottom; pavement; sediment veneer; XS Photo; Slope- moderate (<35o); 10 degree slope to the east		☑
					Cni - Gorgonacea; Diodogorgia		
					Por - Demospongiae;	5-10 cm spp	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Asteroidea; Narcissia trigonaria		
					Cni - Gorgonacea; Ellisellidae	whip	
7/14/2012 3:08:00 PM	32.870064	-78.238431	-68.3		downslope to the east	scamp, lionfish, wrasse bass, squirrelfish, gag, spotfin hogfish, blue angel, wrasse, reef butt, roughtongue bass	☐
7/14/2012 3:08:53 PM	32.870184	-78.238388	-68.9	HB	hard bottom; pavement; Slope- moderate (<35o); right on th edge on the MB of the orange and yellow		☐
					Cni - Antipathidae;	gray mesh fan	
7/14/2012 3:09:52 PM	32.870347	-78.238344	-68.9	HB	east slope of the reef 20o slope; ledges and undercuts near the base;	domateed by Por - Demospongiae small spp and Cni - Gorgonacea;	☐
					Cni - Gorgonacea;	purple	
					Cni - Gorgonacea; Ellisella		
					Cho - Ascidacea; Didemnidae		
7/14/2012 3:12:00 PM	32.870491	-78.238323	-68.7			cubbyu, Calamus, sharpnose puffer, lionfish, reef butterflyfish, bank butterflyfish, lionfish, wrasse bass	☐
7/14/2012 3:12:11 PM	32.870522	-78.238345	-68.5	HB	hard bottom; Rock; Rock- wall; holes in the undercut part of the 1 m wall ledge; circular errosional holes;	baren rock	☐
					Fish - lionfish;		
					Fish - cubyu		
7/14/2012 3:14:03 PM	32.870689	-78.238162	-69.5		flattening out at 70 m;		☐
					Cni - Gorgonacea;	purple	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 3:14:38 PM	32.870750	-78.238126	-69.5	HB	hard bottom; Rock; pavement; XS Photo; 70 m in depth, 65 on top of reef		☑
					Por - Demospongiae;	orange	
					Fish - short bigeye;		
					Cni - Stichopathes;		
					Ann - Filograna;		
7/14/2012 3:15:00 PM	32.870784	-78.238164	-69.9	HB	total 5m relief difference so far		☐
7/14/2012 3:16:00 PM	32.871003	-78.238079	-69.1			roughtongue bass, squirrelfish, short bigeye, reefs butterflyfish, graysby, lionfish, sharpnose puffer, Calamus, wrasse, wrasse bass, red porgy, lionfish, hogfish, lionfish, bank butterflyfish, reef butterflyfish	☐
7/14/2012 3:16:51 PM	32.871147	-78.238075	-67.6	HB	hard bottom; Rock; XS Photo; HD N along face of the Rock- wall;		☑
					Cni - Stichopathes;		
					Fish - graysby grouper		
					Por - Demospongiae; Agelas?	orange	
					Fish - lionfish;		
					Fish - wrasse bass		
					Por - Demospongiae; Cinachyra?	20 cm yellow sphere	
					Fish - porgy		
					Cni - Gorgonacea;	yellow sparse branched	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 3:19:25 PM	32.871327	-78.237970	-66.8				☐
7/14/2012 3:19:54 PM	32.871444	-78.238075	-66.2	HB	hard bottom; pavement;		☐
					Fish - lionfish;		
					Fish - bank butterflyfish		
					Fish - hogfish		
7/14/2012 3:21:00 PM	32.871628	-78.238009	-66.8			lionfish, bank butterflyfish, roughtongue bass, red porgy, lionfish, sharpnose puffer, orangeback bass	☐
7/14/2012 3:21:27 PM	32.871734	-78.237964	-67.2	HB	hard bottom; pavement; Rock;		☐
					Fish - bank butterflyfish		
					Fish - lionfish;		
7/14/2012 3:22:20 PM	32.871819	-78.237862	-69.3	HB	hard bottom; pavement; E slope of the ridge;	high diversity of sponges	☐
					Cho - Ascidacea; Didemnidae		
					Por - Demospongiae;	numberous several spp	
7/14/2012 3:24:00 PM	32.872113	-78.237684	-67.8			orangeback bass, spotfin butterflyfish, squirrelfish, hogfish, AJ	☐
7/14/2012 3:25:05 PM	32.872280	-78.237563	-67.4	HB	XS Photo; hard bottom; Rock;		☑
					Fish - spotfin butterflyfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - reef butterflyfish		
					Fish - hogfish		
7/14/2012 3:27:17 PM	32.872441	-78.237484	-66.2	HB	XS Photo; hard bottom; pavement;		☑
					Fish - hogfish		
					Cni - Stichopathes;		
					Fish - amberjack		
					Fish - scamp grouper;		
7/14/2012 3:28:00 PM	32.872321	-78.237433	-67.2			scamp x3, short bigeye, wrasse, sharpnose puffer, yellowtail reeffish, wrasse, bank butterflyfish, reef butterflyfish, blue angelfish	☐
7/14/2012 3:29:44 PM	32.872632	-78.237099	-69.3	HB	hard bottom; pavement; Rock;		☐
7/14/2012 3:30:15 PM	32.872699	-78.237170	-69.1	HB	hard bottom; pavement; Low relief rock pavement; Slope- moderate (<10o);		☐
					Cni - Hydroidolina;		
					Ann - Filograna;		
					Cni - Gorgonacea; Diodogorgia		
					Por - Demospongiae;	several spp.	
					Cni - Stichopathes;		
					Por - Demospongiae; Aplysina	thick wall hallow tube 10 cm	
7/14/2012 3:32:50 PM	32.872976	-78.237376	-67.4	HB	hard bottom; pavement; starting to scooch west		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cho - Ascidacea; Didemnidae		
					Fish - bank butterflyfish		
7/14/2012 3:34:27 PM	32.872936	-78.237722	-65.8	HB	hard bottom; Rock- wall; Rock; 2 m ridge 10 deg slope;		☐
					Fish - reef butterflyfish		
					Cni - Stichopathes;		
					Fish - blue angelfish;		
7/14/2012 3:35:22 PM	32.873018	-78.237827	-64.3	HB	hard bottom; Rock; pavement; 67 at base; to 62 on top of mound;		☐
					Fish - lionfish;		
					Fish - scamp grouper;		
					Fish - spotfin butterflyfish		
7/14/2012 3:36:00 PM	32.873106	-78.237820	-64.5			scamp, lionfish, sharpnose puffer, reef butterflyfish, squirrelfish, spotfin butt	☐
7/14/2012 3:38:00 PM	32.873304	-78.237809	-66			lionfish, roughtongue bass, sunshinefish, wrasse	☐
7/14/2012 3:38:34 PM	32.873419	-78.237777	-66		end DVD 53		☐
					Ech - Crinoidea		
					Cni - Corallimorpharia? Or cup coral	Non XS - Random Photos;	
7/14/2012 3:43:03 PM	32.873878	-78.237569	-65.8	HB	hard bottom; pavement; sediment veneer;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/14/2012 3:44:00 PM	32.874115	-78.237577	-65.5			spotfin hogfish, lionfish, yellowtail reeffish, blue angel, wrasses, lionfish	☐
7/14/2012 3:44:06 PM	32.874129	-78.237610	-65.5	SB	soft bottom; off reef XS Photo;		☑
7/14/2012 3:44:54 PM	32.874328	-78.237666	-64.3	HB	hard bottom; pavement; low relief HB <.5 m relief; north east face of the ridge;		☐
					Fish - lionfish;	2	
7/14/2012 3:46:37 PM	32.874714	-78.237527	-63.5	SB	soft bottom; XS Photo;		☑
7/14/2012 3:47:29 PM	32.874776	-78.237532	-62.8	HB	hard bottom; pavement; Rock; end of line; contine the same heading to the north;		☐
					Fish - blue angelfish;		
					Fish - hogfish		
7/14/2012 3:48:00 PM	32.874863	-78.237537	-63.7			hogfish, bank butt, Calamus	☐
7/14/2012 3:49:59 PM	32.875193	-78.237540	-63.7	HB	hard bottom; pavement; changing HD from N to NNE		☐
7/14/2012 3:51:25 PM	32.875388	-78.237546	-63.5	SB	XS Photo; soft bottom;		☑
7/14/2012 3:53:51 PM	32.875635	-78.237510	-63.5	SB	soft bottom; XS Photo;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/14/2012 3:54:00 PM	32.875581	-78.237491	-64.1			tattler, wrasse, Calamus, reef butt, graysby, hogfish	☐
7/14/2012 3:54:18 PM	32.875693	-78.237514	-64.5	HB	hard bottom; go along the ledge; smooth rock ridge.		☐
					Cni - Actiniaria	wide base with 1 cm tentacles with white tips	
7/14/2012 3:58:08 PM	32.876064	-78.237610	-60.5	HB	hard bottom; rubble; pavement;		☐
					Cni - Stichopathes;		
					Fish - hogfish		
					Cni - Hydroidolina;		
7/14/2012 4:00:00 PM	32.876259	-78.237387	-62			Calamus, white grunt, blue angel, grey trigger	☐
7/14/2012 4:00:26 PM	32.876348	-78.237293	-61.6	HB	XS Photo; pavement; sediment veneer;		☑
					Fish - triggerfish		
					Fish - Porgy		
					Fish - white grunt		
7/14/2012 4:02:46 PM	32.876012	-78.237193	-63.5		XS Photo;		☑
7/14/2012 4:05:54 PM	32.876321	-78.236960	-64.5	HB	pavement; Sed veneer;		☐
7/14/2012 4:06:49 PM	32.876389	-78.236922	-65.8	HB	pavement; Sed veneer;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207145	ROV 26	14-VII-12-5	South Carolina; Northern S.C. MPA; Station 35 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Asteroidea;		
					Cni - Stichopathes;	many	
7/14/2012 4:08:17 PM	32.876533	-78.237031	-64.1	HB	hard bottom; rubble; pavement;		☐
					Cni - Gorgonacea; Diodogorgia		
					Cni - Stichopathes;		
					Alg - Chlorophyta;		
					Cni - Hydroidolina;		
7/14/2012 4:09:00 PM	32.876544	-78.237070	-63			Calamus, wrasse	☐
7/14/2012 4:09:05 PM	32.876540	-78.237090	-63.5	HB	hard bottom; Rock; mound with 1-2 m ledge at the base; 65 m at base		☐
7/14/2012 4:10:07 PM	32.876565	-78.237023	-63.5	HB	hard bottom; pavement; XS Photo;		☑
					Ann - Filograna;		
					Cni - Gorgonacea; Ellisellidae	EB	
7/14/2012 4:11:00 PM	32.876683	-78.236972	-63.5				☐
7/14/2012 4:11:25 PM	32.876776	-78.236979	-63.3	HB	end of dive; Off bottom; soft bottom; small bits of scattered rubble; base of the reef wall		☐
7/14/2012 4:14:33 PM					End DVD end HD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 7:31:30 AM				HB	Objectives: ROV Dive 27, Site #- 15-VII-12-2. Target Site – outside and south of South Carolina, Northern S.C. MPA; 32°48.1800'N, 78°08.6400'W; 175 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar map of the site. Conduct video/photo transect on low relief hard bottom of multibeam.		☐
7/15/2012 7:53:22 AM					Launch (start dive);		☐
7/15/2012 7:57:42 AM					Dense POM particulates in water column		☐
7/15/2012 7:58:41 AM					Start DVD		☐
7/15/2012 8:02:00 AM	32.793118	-78.150743	-161.5	HB	low relief outcrops	boarfish, blackbar drum, bigeye, scorpionfish, snowy, red hogfish	☐
7/15/2012 8:02:12 AM	32.793118	-78.150743	-161.5	HB	On bottom; Rock; .5 m boulder on rock pavement; 30 cm relief		☐
					Fish - boarfish		
					Fish - searobin		
					Art - hermit crab		
					Por - Demospongiae; Leiodermatium		
					Fish - blackbar drum		
					Fish - scorpion fish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 8:03:55 AM	32.793136	-78.150586	-161.1	HB	hard bottom; pavement; Rock; 20 m east of starting WP		☐
					Fish - snowy grouper		
					Cni - Gorgonacea;	3 spp. candle obra, tan or orange	
7/15/2012 8:05:10 AM	32.793126	-78.150513	-162.4	HB	XS Photo; hard bottom; cobble and small boulders .25 m		☑
					Fish - red hogfish		
					Cni - Gorgonacea;	10 cm orange	
					Fish - Anthiids		
					Fish - bank butterflyfish		
					Fish - short bigeye;		
					Fish - snowy grouper		
7/15/2012 8:06:00 AM	32.793104	-78.150646	-162.4			bank butterfly	☐
7/15/2012 8:07:28 AM	32.793280	-78.150776	-161.5	HB	XS Photo; Rock; hard bottom;		☑
					Art - Majidae	Spidercrab XS Photo;	
					Art - hermit crab		
					Fish - red hogfish		
					Fish - red porgy		
					Cni - Gorgonacea;	10 cm orange dominate	
					Por - Demospongiae;	yellow Cluster tubes; Non XS - Random Photos;	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 8:09:44 AM	32.793421	-78.150493	-160.9	HB	hard bottom; Rock; XS Photo;		☑
7/15/2012 8:10:18 AM	32.793514	-78.150528	-162.2	HB	hard bottom; Rock; 30 - 50% cover of cobble;		☐
					Ech - Holothuroidea; Paracolochirus mysticus	Non XS - Random Photos; common to abund	
7/15/2012 8:12:00 AM	32.793623	-78.150383	-162			short bigeye, saddle bass, possible apricot bass, boarfish, porgy, snowy grouper	☐
7/15/2012 8:12:26 AM	32.793674	-78.150435	-161.5	HB	XS Photo; hard bottom; Rock; 10 cm cobble; Slope- flat;		☑
					Fish - short bigeye;		
					Fish - saddle bass		
7/15/2012 8:14:44 AM	32.793933	-78.150295	-160.5	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
					Por - Demospongiae; Leiodermatium		
					Art - Majidae		
					Por - Demospongiae; Spongosorites?	10 cm TE;	
7/15/2012 8:17:17 AM	32.794189	-78.150254	-160.9	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
					Fish - snowy grouper		
					Cni - Gorgonacea; Scleracis?	10 cm sparse branching	
7/15/2012 8:19:42 AM	32.794312	-78.150158	-162.4	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/15/2012 8:20:29 AM	32.794408	-78.150157	-164.2	HB	hard bottom; pavement; Rock;		☐
7/15/2012 8:21:55 AM	32.794664	-78.149805	-164.5	HB	XS Photo; hard bottom; Rock; Slope- flat; 30-50% of 5-10 cm cobble;		☑
					Fish - apricot bass		
					Mol - Perotrochus quoyanus	slit shell	
7/15/2012 8:23:00 AM	32.794733	-78.149817	-165.9			apricot bass	☐
7/15/2012 8:24:39 AM	32.794796	-78.149656	-165.5	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
					Art - Majidae	spider	
7/15/2012 8:25:27 AM	32.794933	-78.149593	-165.9		on track line at the edge of the organge MB		☐
					Por - Demospongiae; Astrophorida	20 cm; spicule hairy surface	
					Art - Decapoda		
					Mol - Perotrochus quoyanus	2	
					Por - Demospongiae; Leiodermatium	common	
7/15/2012 8:27:51 AM	32.795258	-78.149471	-166.5	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
					Fish - snowy grouper		
					Fish - short bigeye;	3	
					Fish - scorpion fish		
					Fish - blueline tilefish	actual fish = x2	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 8:28:00 AM	32.795286	-78.149432	-165.9			2 blueline tilefish, snowy grouper, short bigeyes, boarfish, scorpionfish	☐
7/15/2012 8:29:38 AM	32.795394	-78.149443	-166.1	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
7/15/2012 8:30:00 AM	32.795408	-78.149419	-167.6			Laemonema sp., apricot bass, blueline tilefish, saddle bass, short bigeye, boarfish, snowy grouper	☐
7/15/2012 8:30:14 AM	32.795446	-78.149375	-167	HB	hard bottom; pavement; Rock; 10-30 cm cobble 50-75% cover;		☐
					Por - Demospongiae;		
					Cni - Gorgonacea;		
					Art - Majidae		
					Fish - short bigeye;		
7/15/2012 8:31:59 AM	32.795617	-78.149367	-167	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
					Fish - blueline tilefish		
					Fish - snowy grouper		
					Por - Demospongiae;	yellow volcano	
					Art - Majidae		
					Ech - Holothuroidea; Paracolochirus mysticus	Sea weenie	
7/15/2012 8:33:57 AM	32.795798	-78.149215	-168.4	HB	hard bottom; Rock; Slope- flat;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 8:34:35 AM	32.795793	-78.149144	-166.7	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
					Fish - blueline tilefish		
7/15/2012 8:35:00 AM	32.795810	-78.149044	-167.8			blueline tilefish, snowy grouper, Laemonema, apricot bass	☐
7/15/2012 8:35:36 AM	32.795885	-78.148839	-166.3	HB	hard bottom; Rock; Slope- flat; 10-30 cm cobble 50-75% cover;		☐
7/15/2012 8:36:47 AM	32.796107	-78.148935	-165.9	HB	XS Photo; hard bottom; Rock; Slope- flat; 10-30 cm cobble 50-75% cover;		☑
					Fish - french butterflyfish		
					Art - hermit crab in moon snail		
					Ech - Holothuroidea; Paracolochirus mysticus	Sea weenie	
7/15/2012 8:38:00 AM	32.796148	-78.148911	-166.5			french butt, Laemonema sp., anthiids, short bigeye	☐
7/15/2012 8:39:43 AM	32.796337	-78.148825	-166.3	HB	XS Photo; hard bottom; Rock; Slope- flat; 10-30 cm cobble 50-75% cover;		☑
					Fish - short bigeye;		
					Fish - french butterflyfish?		
7/15/2012 8:42:00 AM	32.796507	-78.148522	-168.2			apricot bass	☐
7/15/2012 8:44:34 AM	32.796709	-78.148481	-168.6	HB	hard bottom; Rock; Slope- flat;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Echinoidea; Cidaroida		
					Ech - Holothuroidea; Paracolochirus mysticus		
					Cni - Gorgonacea;	orange EB	
7/15/2012 8:45:00 AM	32.796721	-78.148447	-168.4			apricot bass, red hogfish	☐
7/15/2012 8:45:39 AM	32.796835	-78.148451	-167.4	HB	hard bottom; Rock; Slope- flat; cobble;		☐
					Ann - Serpulidae		
					Art - Majidae	Non XS - Random Photos;	
					Por - Demospongiae; Leiodermatium		
					Fish - blueline tilefish		
					Mol - Perotrochus quoyanus		
7/15/2012 8:49:00 AM	32.797093	-78.148213	-164.9			blueline tilefish, apricot bass, anthiids, red hogfish, saddle bass	☐
7/15/2012 8:50:46 AM	32.797246	-78.148142	-165.5	HB	hard bottom; Rock; Slope- flat; cobble;		☐
					Mol - Perotrochus quoyanus		
					Fish - apricot bass		
7/15/2012 8:53:10 AM	32.797402	-78.148093	-165.3	HB	hard bottom; Rock; Slope- flat; cobble; Non XS - Random Photo		☐
					Por - Demospongiae; Leiodermatium	Non XS - Random Photos;	
					Fish - snowy grouper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 8:54:00 AM	32.797543	-78.148021	-164.9			snowy grouper, boarfish, blackbar drum, Darwin's slimehead, scorpionfish	☐
7/15/2012 8:55:31 AM	32.797725	-78.147989	-164	HB	hard bottom; Rock; rock outcrop		☐
					Species Observed		
					Fish - Gephyroberyx	slimehead	
					Fish - squirrelfish		
					Fish - boarfish		
					Fish - blackbar drum		
7/15/2012 8:57:28 AM	32.797805	-78.147828	-163.4	HB	XS Photo; hard bottom; Rock;		☑
					Fish - black bellied rosefish		
7/15/2012 8:59:40 AM	32.798132	-78.147576	-163.4	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
					Ech - Echinoidea; Cidaroida		
7/15/2012 9:00:00 AM	32.798176	-78.147575	-163			school of boarfish, saddle bass, apricot bass	☐
7/15/2012 9:00:15 AM	32.798194	-78.147555	-163	HB	XS Photo; hard bottom; 10-30 cm cobble; 50-80% cover Rock; Slope- flat;		☑
					Ech - Holothuroidea; Paracolochirus mysticus		
					Cni - Gorgonacea;	white 10 cm	
					Por - Demospongiae; Leiodermatium		
					Cni - Gorgonacea;	orange	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 9:02:03 AM	32.798308	-78.147401	-163.4	HB	XS Photo; hard bottom; 10-30 cm cobble; 50-80% cover Rock; Slope- flat; End DVD 55		☑
7/15/2012 9:03:41 AM	32.798449	-78.147454	-165.3	HB	hard bottom; Rock; cobble		☐
					Fish - saddle bass		
7/15/2012 9:04:00 AM	32.798525	-78.147385	-165.3			short bigeye, scorpionfish, apricot bass	☐
7/15/2012 9:04:10 AM	32.798555	-78.147374	-164.9	HB	XS Photo; hard bottom; Rock; cobble; near trackline; edge of light or ridge on multibeam;Slope- flat;		☑
					Por - Demospongiae; Zyzzya?	white lump; Non XS - Random Photos;	
7/15/2012 9:06:36 AM	32.798722	-78.147216	-164.9	HB	XS Photo; hard bottom; Rock; cobble		☑
					Mol - Perotrochus quoyanus		
7/15/2012 9:09:45 AM	32.798916	-78.146835	-164.7	HB	XS Photo; hard bottom; Rock; cobble		☑
7/15/2012 9:10:00 AM	32.798931	-78.146806	-165.3			red hogfish, saddle bass, apricot bass, boarfish, scorpionfish	☐
7/15/2012 9:10:06 AM	32.798927	-78.146800	-164.9	HB	hard bottom; Rock; 10-30 cobble; 30-80% cover		☐
					Por - Demospongiae; Leiodermatium	XS Photo;	
7/15/2012 9:12:19 AM	32.799253	-78.146700	-167.2	HB	XS Photo; hard bottom; Rock; cobble; Slope- flat;		☑
					Por - Demospongiae;	EB ye 10 cm common	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 9:14:00 AM	32.799495	-78.146591	-166.7			Laemonema sp.	☐
7/15/2012 9:14:19 AM	32.799536	-78.146624	-166.5	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
					Fish - scorpion fish		
					Fish - longspine snipefish	Non XS - Random Photos;	
					Mol - Volutidae?		
					Art - Decapoda		
7/15/2012 9:16:00 AM	32.799635	-78.146611	-167.6			longspine snipefish, red hogfish, saddle bass	☐
7/15/2012 9:17:29 AM	32.799655	-78.146603	-167	HB	XS Photo; hard bottom; Rock; Slope- flat; cobble		☑
					Por - Demospongiae; Desmacella	bl te	
7/15/2012 9:19:37 AM	32.799899	-78.146388	-167.8	HB	hard bottom; Rock; Slope- flat; cobble		☐
					Por - Hexactinellida; Farrea	Non XS - Random Photos;	
7/15/2012 9:21:26 AM	32.800123	-78.146200	-167.6	HB	hard bottom; Rock; Slope- flat; cobble		☐
					Por - Demospongiae; Desmacella	Non XS - Random Photos;	
					Art - Majidae	Non XS - Random Photos;	
7/15/2012 9:22:00 AM	32.800118	-78.146137	-168.6			scorpionfish, apricot bass, red hogfish, short bigeye, saddle bass, anthiids	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	ROV 27	15-VII-12-2	South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 9:23:19 AM	32.800210	-78.146102	-168.4	HB	XS Photo; hard bottom; Rock; Slope- flat; cobble		☑
					Por - Demospongiae; Pachastrellidae	thick plate	
7/15/2012 9:25:38 AM	32.800498	-78.145910	-168.2	HB	XS Photo; hard bottom; Rock; Slope- flat; cobble		☑
					Ech - Holothuroidea; Holothuria lentiginosa enodis?	25 cm	
					Fish - Laemonema		
7/15/2012 9:28:31 AM	32.800736	-78.145871	-167.6	HB	XS Photo; hard bottom; Rock; Slope- flat; cobble		☑
7/15/2012 9:29:29 AM	32.800839	-78.145616	-167.8	HB	Rock; Slope- flat; cobble; in 'alleged' ice berg scour mark		☐
7/15/2012 9:30:48 AM	32.800916	-78.145457	-166.7	HB	XS Photo; hard bottom; Rock; Slope- flat;	1 m burrow surrounded by cobble- tilefish burrow?XS Photo;	☑
					Fish - saddle bass		
					Fish - longspine snipefish	XS Photo;	
					Fish - red hogfish		
7/15/2012 9:32:00 AM	32.800992	-78.145370	-167.2			red hogfish, longspine snipefish	☐
7/15/2012 9:33:00 AM	32.801052	-78.145374	-167.8	HB	XS Photo; hard bottom; Rock; Slope- flat; cobble		☑
					Art - Majidae	XS Photo;	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207152	**ROV 27**	**15-VII-12-2**	**South Carolina; Northern S.C. MPA, Station 37 south and outside of MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 9:35:00 AM	32.801302	-78.145288	-167.2			snowy grouper	☐
7/15/2012 9:35:24 AM	32.801338	-78.145217	-166.3	HB	XS Photo; hard bottom; Rock; Slope- flat;		☑
7/15/2012 9:35:40 AM	32.801374	-78.145244	-166.7	HB	Off bottom; end transect; end dive; hard bottom; Rock; cobble		☐
					Fish - snowy grouper		
7/15/2012 9:36:00 AM					end of dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	**ROV 28**	**15-VII-12-3**	**South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 9:50:01 AM					Objectives: ROV Dive 28, Site #- 15-VII-12-3. Target Site – outside and south of South Carolina, Northern S.C. MPA; 32°47.4600'N;78°07.0200'W; 175 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transects along apparent glacial iceberg scour (~142 m wide).		☐
7/15/2012 10:07:05 AM					Launch (start dive);		☐
7/15/2012 10:14:15 AM					starting DVD and HD		☐
7/15/2012 10:15:00 AM	32.785516	-78.137855	-161.5	HB	low relief outcrops	saddle bass, yellowfin bass, snowy grouper, red hogfish, scorpionfish, blackbar drum, boarfish, snowy grouper	☐
7/15/2012 10:15:17 AM	32.785516	-78.137855	-161.5	HB	On bottom; hard bottom; Rock; pavement; Slope-flat; scattered 5-30 cm cobble; rock outcrop 10 cm relief; rugged eroded rock		☐

Species Observed	
Cni - Gorgonacea;	10 cm orange EB
Por - Demospongiae;	Ye Thick Finger
Cni - Gorgonacea;	white sparse EB
Por - Demospongiae;	ye encrust
Por - Demospongiae; Leiodermatium	
Fish - snowy grouper	
Ech - Holothuroidea; Holothuria lentiginosa	2

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 10:17:39 AM	32.785807	-78.137629	-161.1	HB	XS Photo; hard bottom; Rock; Slope- flat; 30 m SE of the start of the WP line		☑
					Por - Demospongiae;	10 cm flaired vase	
					Ech - Holothuroidea; Holothuria lentiginosa		
					Fish - blackbar drum		
7/15/2012 10:18:56 AM	32.785885	-78.137619	-160.3	SB	XS along N edge of scour; on the top of the edge; 20o slope into sediment		☐
					Por - Demospongiae; Leiodermatium	10-20 cm Abundant	
					Fish - snowy grouper		
7/15/2012 10:20:00 AM	32.785952	-78.137524	-161.3			5 snowy grouper, school of Ajs, couple more snowys, anthiids, snowy grouper, red barbier, scorpionfish	☐
7/15/2012 10:20:11 AM	32.785902	-78.137507	-161.1	HB	XS Photo; hard bottom; Rock; sandy bottom is 161 m deep; maybe losing tracking on the ROV		☑
					Ech - Holothuroidea; Holothuria lentiginosa		
					Fish - amberjack	Large school	
					Fish - snowy grouper	6	
7/15/2012 10:22:26 AM	32.786063	-78.137324	-160.7	HB	XS Photo; hard bottom; Rock; rugged 30 - 50cm relief rock on a 30o slope; 157 m deep on rock		☑
					Ech - Holothuroidea; Holothuria lentiginosa		
					Fish - yellowfin bass		
					Por - Demospongiae; Lithisitida	cup	
					Ech - Echinoidea; Cidaroida		
					Fish - scorpion fish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 10:24:00 AM	32.786120	-78.137057	-158.6	HB	on top of outcrops	bigeye or possible glasseye?, snowy grouper, at least 8 more snowy	☐
7/15/2012 10:24:44 AM	32.786008	-78.136964	-161.3	HB	XS Photo; hard bottom; Rock; top of the N edge of the scour hd ENE; rocks .5-1 m relief		☑
					Fish - snowy grouper	7+	
7/15/2012 10:27:00 AM	32.786117	-78.136643	-157.8	HB	XS Photo; hard bottom; Rock; 30o slope;		☑
					Cni - Hydroidolina;		
					Por - Demospongiae; Pachastrellidae	lumpy	
					Fish - snowy grouper		
7/15/2012 10:27:00 AM	32.786117	-78.136643	-157.8			school of anthiids, snowy grouper, scorpionfish, 2 more snowys, bigeyes	☐
7/15/2012 10:29:42 AM	32.786387	-78.136292	-162	HB	XS Photo; hard bottom; Rock;		☑
					Ech - Asteroidea;	orange	
					Ech - Holothuroidea; Holothuria lentiginosa		
					Por - Demospongiae; Pachastrellidae	thick plate	
7/15/2012 10:30:00 AM	32.786397	-78.136252	-163.2			boarfish	☐
7/15/2012 10:30:15 AM	32.786422	-78.136163	-164.2	HB	hard bottom; Rock; North rim of the scour		☐
					Por - Demospongiae; Leiodermatium		
					Ech - Asteroidea; Luidia?		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Echinoidea; Cidaroida		
					Ann - Serpulidae		
7/15/2012 10:31:31 AM	32.786485	-78.135898	-158.6	HB	XS Photo; hard bottom; Rock; 2 m relief drop off;		☑
					Cni - Hydroidolina;		
					Mol - Perotrochus quoyanus		
7/15/2012 10:34:00 AM	32.786461	-78.135588	-159.9			snowy grouper, lots of anthiids	☐
7/15/2012 10:34:22 AM	32.786444	-78.135490	-158	HB	XS Photo; hard bottom; Rock;		☑
					Fish - snowy grouper		
7/15/2012 10:36:28 AM	32.786595	-78.134868	-158.2	HB	XS Photo; hard bottom; Rock;		☑
7/15/2012 10:37:00 AM	32.786474	-78.134825	-159.9			moving towards inside of scour, snowy grouper x8	☐
7/15/2012 10:37:22 AM	32.786373	-78.134727	-161.3		S slope of the north rim; 40o slope 161 to 164 m;		☐
					Fish - snowy grouper		
7/15/2012 10:38:00 AM	32.786341	-78.134701	-162.6	SB	sand	inside of scour	☐
7/15/2012 10:38:13 AM	32.786294	-78.134649	-165.5	HB	into the sandy middle of the scour; soft bottom; Slope- flat; 167.5 m at depth; fine sand; sparse rubble		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 10:39:00 AM	32.786191	-78.134699	-165.3	HB	low relief outcrops	edge of scour, lots of snowy grouper, soldierfish	☐
7/15/2012 10:39:02 AM	32.786185	-78.134707	-165.5	SB	XS Photo; soft bottom; Slope- flat;		☑
					Por - Demospongiae; Corallistidae	5-10 cm cup	
					Cni - Gorgonacea;	orange 10 cm EB	
7/15/2012 10:41:00 AM	32.786294	-78.134565	-161.5	SB	sand	inside of scour	☐
7/15/2012 10:41:16 AM	32.786273	-78.134532	-164	HB	XS Photo; hard bottom; Rock;		☑
					Ech - Holothuroidea; Holothuria lentiginosa		
					Fish - snowy grouper		
7/15/2012 10:41:54 AM	32.786199	-78.134485	-166.1	SB	in the groove in the sediment; fine gray sand; ripples;		☐
					Ech - Echinoidea; Cidaroida		
7/15/2012 10:43:09 AM	32.785771	-78.134354	-168	SB	XS Photo; soft bottom; hd S toward the south rim of the scour;		☑
7/15/2012 10:44:22 AM	32.785768	-78.134136	-167.8	SB	soft bottom; 100% soft fine sand; heavy ripples N-S facing;		☐
7/15/2012 10:45:00 AM	32.785937	-78.134160	-167.6		cobbles	approaching edge of scour, blueline tilefish, snipefish	☐
7/15/2012 10:45:21 AM	32.786056	-78.134224	-167.2	SB	XS Photo; soft bottom; change hd back toward N rim		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/15/2012 10:45:49 AM	32.786185	-78.134219	-166.7	HB	hard bottom; Rock; Slope- flat; back in base of N rim; N rim is about 40 m wide;		☐
					Sed - blueline tilefish burrow		
					Fish - snowy grouper		
					Fish - blackbar drum	Non XS - Random Photos;	
					Fish - blueline tilefish		
7/15/2012 10:47:00 AM	32.786333	-78.133929	-165.3	HB	low relief outcrops; edge of scour	snowy grouper, blackbar drum, darwin's slimehead, snowy, Laemonema sp, yellowfin bass	☐
7/15/2012 10:48:06 AM	32.786471	-78.133864	-163	HB	XS Photo; hard bottom; Rock; valley between the 2 edges of the scour is about 80 m wide		☑
					Ech - Echinoidea; Cidaroida		
7/15/2012 10:49:00 AM	32.786578	-78.133894	-158.8		top of north edge	lots of anthiids - yellowfin bass & red barbier, apricot bass, scorpionfish	☐
7/15/2012 10:49:05 AM	32.786600	-78.133863	-159.3	HB	hard bottom; Rock; top of N rim		☐
					Fish - yellowfin bass		
7/15/2012 10:50:26 AM	32.786690	-78.133930	-159.5	HB	XS Photo; hard bottom; Rock;		☑
7/15/2012 10:50:53 AM	32.786727	-78.133717	-162.6	HB	Hard bottom; Rock; N rim of scour; rugged eroded rock from 160-157 m		☐
7/15/2012 10:52:32 AM	32.786794	-78.133315	-159.9	HB	XS Photo; hard bottom; Rock; Human Debris; line		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 10:55:11 AM	32.787128	-78.133206	-163.6	HB	XS Photo; hard bottom; Rock;		☑
					Species Observed: Ech - Holothuroidea; Holothuria lentiginosa		
7/15/2012 10:56:00 AM	32.787127	-78.133144	-165.5	HB	north side of scour edge, pavement	snowy grouper, lots of anthiids, blackbar drum, Darwin's slimehead, boarfish, apricot bass	☐
7/15/2012 10:56:41 AM	32.786978	-78.132981	-165.9	SB	soft bottom; Slope- flat; base of the north side of the north rim;		☐
7/15/2012 10:57:26 AM	32.787054	-78.132965	-160.7	HB	XS Photo; hard bottom; Rock; in the top of the N rim;		☑
					Species Observed: Fish - Gephyroberyx		
					Species Observed: Fish - blackbar drum		
					Species Observed: Fish - snowy grouper		
7/15/2012 10:59:42 AM	32.787212	-78.132581	-161.5	HB	XS Photo; hard bottom; Rock;		☑
7/15/2012 11:00:34 AM	32.787247	-78.132514	-165.5	SB	soft bottom; on North side of north rim in sediment		☐
7/15/2012 11:00:56 AM	32.787307	-78.132322	-165.3		on north slope of north rim;		☐
					Species Observed: Fish - scorpion fish		
					Species Observed: Fish - apricot bass		
7/15/2012 11:02:00 AM	32.787315	-78.132229	-164.7			red hogfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 11:02:05 AM	32.787317	-78.132232	-164.5	HB	XS Photo; hard bottom; Rock; south base of N rim		☑
					Species Observed: Ech - Holothuroidea; Paracolochirus mysticus	weenie	
7/15/2012 11:02:42 AM	32.787303	-78.132039	-164.9	HB	N base of N rim; hard bottom; Rock; Human Debris; trash bag		☐
7/15/2012 11:04:01 AM	32.787409	-78.131921	-164	SB	XS Photo; soft bottom;		☑
7/15/2012 11:04:49 AM	32.787372	-78.131726	-163.4	HB	hard bottom; Rock; top of N rim		☐
					Por - Demospongiae;	TE yellow under ledges	
7/15/2012 11:06:00 AM	32.787342	-78.131512	-161.1			blackbar drum, Darwin's slimehead	☐
7/15/2012 11:06:13 AM	32.787389	-78.131451	-159.9	HB	XS Photo; hard bottom; Rock;		☑
					Fish - Gephyroberyx		
7/15/2012 11:07:00 AM	32.787475	-78.131350	-158.2		moving the ship towards the south side of the scour		☐
7/15/2012 11:07:43 AM	32.787480	-78.131231	-162		starting XS to the SE to head to the southern rim of the scour line		☐
7/15/2012 11:08:47 AM	32.787230	-78.131119	-162.2	HB	XS Photo; hard bottom; Rock; south slope of the N rim;		☑
					Fish - snowy grouper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Art - hermit crab		
7/15/2012 11:09:00 AM	32.787221	-78.131036	-161.7			snowy grouper, soldierfish, scorpionfish, snowy	☐
7/15/2012 11:11:03 AM	32.787402	-78.130875	-159.3	HB	XS Photo; hard bottom; Rock; start XS hd SW to southern scour mark		☑
7/15/2012 11:12:00 AM	32.787366	-78.130543	-161.1	HB	pavement; inside of scour		☐
7/15/2012 11:13:00 AM	32.787210	-78.130471	-166.3	SB	sand; inside of scour		☐
7/15/2012 11:13:31 AM	32.787136	-78.130387	-165.9	SB	XS Photo; soft bottom; Slope- flat; in scour mark; near northern scour rim; heading toward the southern scour mark;		☑
7/15/2012 11:15:11 AM	32.787179	-78.130328	-167	SB	soft bottom; Slope- flat;		☐
					Art - Cancer	Non XS - Random Photos;	
7/15/2012 11:15:42 AM	32.787102	-78.130377	-166.1	HB	XS Photo; soft bottom; Slope- flat; in groove; scattered black rubble and cobble that appears to be phophoritc limestone; Tracking is not great…		☑
7/15/2012 11:18:40 AM	32.786874	-78.129822	-168.2	HB	hard bottom; soft bottom; Slope- flat; XS Photo; half way across scour		☑
7/15/2012 11:19:31 AM	32.786873	-78.129704	-166.1	SB	start DVD 58; soft bottom; Slope- flat;		☐
					Fish - snowy grouper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 11:21:00 AM	32.786770	-78.129537	-167.2		close to south side of scour	snowy grouper	☐
7/15/2012 11:21:00 AM	32.786770	-78.129537	-167.2	HB	base of south side of scour, low relief outcrops		☐
7/15/2012 11:21:35 AM	32.786616	-78.129503	-166.1	HB	hard bottom; rubble; Slope- moderate (<35o); North base of S slope; 1-2 m ledges and overhanges;		☐
7/15/2012 11:22:38 AM	32.786622	-78.129390	-165.9	HB	XS Photo; hard bottom; rubble; North base of south scour mark; rugged steep slope - 60o		☑
					Species Observed		
					Fish - cardnial soldierfish		
					Por - Demospongiae; Leiodermatium		
					Ech - Echinoidea; Cidaroida		
					Fish - bigeye		
7/15/2012 11:24:52 AM	32.786545	-78.129211	-161.5	HB	XS Photo; Slope- flat; pavement; flattens out here; on MB we are on the N edge of the South slope		☑
					Fish - snowy grouper		
					Por - Demospongiae; Leiodermatium	abundant	
					Por - Demospongiae;	encrust white	
					Por - Demospongiae;	encrust ye	
7/15/2012 11:26:00 AM	32.786661	-78.129083	-165.1		south side of scour	anthiids, bigeye soldierfish, snowy grouper, blackbar drum?, snowy grouper	☐
7/15/2012 11:27:12 AM	32.786665	-78.129078	-160.1	HB	XS Photo; Slope- flat; Rock; .5 m relief and outcrops;		☑
					Por - Demospongiae; Corallistidae	cup/plates thick walled	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - snowy grouper		
7/15/2012 11:28:00 AM	32.786337	-78.128933	-160.3			anthiids, apricot bass	☐
7/15/2012 11:29:56 AM	32.786733	-78.128650	-160.3	HB	XS Photo; hard bottom; Rock; top of s rim		☑
7/15/2012 11:30:00 AM	32.786733	-78.128633	-160.9			red hogfish, anthiids, Darwin's slimehead, apricot bass, Laemonema, scorpionfish	☐
7/15/2012 11:31:29 AM	32.786772	-78.128337	-162.2	HB	XS Photo; hard bottom; Rock; transecting E along top of S rim; Human Debris; cable?		☑
					Por - Demospongiae; Leiodermatium		
					Ech - Echinoidea; Cidaroida		
7/15/2012 11:32:54 AM	32.786887	-78.128117	-165.3	HB	hard bottom; Rock; ledges, rugged rock		☐
					Ann - Serpulidae		
7/15/2012 11:33:48 AM	32.786869	-78.127940	-163.6	HB	hard bottom; Rock; XS Photo;		☑
					Cni - Gorgonacea;	or fan	
					Fish - Laemonema		
7/15/2012 11:36:00 AM	32.786954	-78.127552	-163.4	HB	hard bottom; Rock; jumble of boulders		☐
7/15/2012 11:36:00 AM	32.786954	-78.127552	-163.4			blueline tilefish, Darwin's slimehead, blackbar drum, anthiids, scorpionfish, Laemonema, soldierfish, french butt	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207153	ROV 28	15-VII-12-3	South Carolina; Northern S.C. MPA, Station 38 south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 11:36:24 AM	32.786921	-78.127558	-162.6	HB	XS Photo; hard bottom; Rock;		☑
					Por - Demospongiae; Corallistidae		
					Fish - blueline tilefish		
					Fish - french butterflyfish	Non XS - Random Photos;	
					Fish - Gephyroberyx		
7/15/2012 11:40:06 AM	32.787053	-78.127104	-164.7	HB	XS Photo; hard bottom; Rock; top south rim, jumble 1 m boulders		☑
					Fish - snowy grouper		
7/15/2012 11:41:00 AM	32.787119	-78.126797	-163.8			blackbar drum, snowy, bigeye, Laemonema, soldierfish, Darwin's slimehead	☐
7/15/2012 11:42:30 AM	32.787104	-78.126732	-166.3	HB	XS Photo; hard bottom; Rock; near base of s rim		☑
					Fish - bigeye		
					Fish - soldierfish		
					Fish - Gephyroberyx	Non XS - Random Photos;	
7/15/2012 11:44:00 AM	32.787094	-78.126551	-164.9				☐
7/15/2012 11:44:51 AM	32.787211	-78.126423	-164.2	HB	end of dive; XS Photo; hard bottom; Rock; Off bottom;		☑
7/15/2012 11:50:31 AM					end DVD and Hd		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 12:11:11 PM					Objectives: ROV Dive 29, Site #- 15-VII-12-4. Target Site – South Carolina, Northern S.C. MPA; 32°49.3200'N; 78° 06.4800'W; 175 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect along N-S oriented iceberg scour of multibeam.		☐
7/15/2012 12:30:58 PM					Launch (start dive);		☐
7/15/2012 12:36:25 PM					recording DVD and HD		☐
7/15/2012 12:37:00 PM	32.812832	-78.115147	-162.2	HB	low relief outcrops	snowy grouper, scorpionfish, anthiids, blackbar drum, bigeye, boarfish	☐
7/15/2012 12:37:14 PM	32.812832	-78.115147	-162.2	HB	On bottom; pavement; Slope- flat; 5-20 cm cobble 10% cover; 10-30 cm relief rock outcrops		☐
7/15/2012 12:38:26 PM	32.812856	-78.115136	-161.1	HB	pavement; hard bottom; linear low relief ledges 30 cm boulders; start of XS line hd NNE		☐
					Fish - scorpion fish		
7/15/2012 12:39:28 PM	32.813067	-78.115185	-159.9	HB	XS Photo; hard bottom; pavement; Rock; sediment surrounding rock		☑
					Cni - Gorgonacea;	5 cm gray	
					Por - Demospongiae; Leiodermatium	abundant	
					Cni - Gorgonacea;	5 cm OR commom	
					Mol - Perotrochus quoyanus		
					Fish - Gephyroberyx		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 12:41:19 PM	32.812964	-78.114988	-160.3	HB	hard bottom; pavement; Rock;		☐
					Por - Demospongiae; Lithisitida	15 cm white	
					Fish - blackbar drum		
					Ech - Holothuroidea; Paracolochirus mysticus		
					Fish - Gephyroberyx		
7/15/2012 12:42:00 PM	32.813115	-78.115075	-160.5			yellowfin bass, Laemonema sp., Darwin's slimehead, boarfish, red hogfish, blackbar drum, bigeye, anthiids, snipefish	☐
7/15/2012 12:43:28 PM	32.813110	-78.114944	-161.5	HB	Patchy rock 30 cm relief		☐
					Art - Majidae		
7/15/2012 12:44:14 PM	32.813338	-78.114942	-160.5	HB	XS Photo; hard bottom; Rock; pavement		☑
7/15/2012 12:45:10 PM	32.813280	-78.114923	-162	HB	hard bottom; pavement; Rock;		☐
					Ech - Echinoidea; Cidaroida		
					Ann - Serpulidae		
					Fish - Gephyroberyx		
					Por - Hexactinellida;	encrusting	
7/15/2012 12:47:22 PM	32.813447	-78.114924	-159.3	HB	hard bottom; Rock; rugose rock; 158.5m; 160 m on the sedimentl 158 on the mounds; Human Debris; fishing line		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Holothuroidea; Holothuria lentigenosa		
					Por - Demospongiae; Pachastrellidae	thick plate	
					Ech - Asteroidea; Narcissia trigonaria		
					Fish - Gephyroberyx		
					Ech - Echinoidea; Cidaroida		
7/15/2012 12:50:49 PM	32.814018	-78.114728	-158.4	HB	XS Photo; pavement; hard bottom; Rock;		☑
					Fish - longspine snipefish		
7/15/2012 12:52:00 PM	32.814052	-78.114503	-158.6			bigeyes, boarfish, blackbar drum, apricot bass	☐
7/15/2012 12:52:05 PM	32.814050	-78.114503	-157.6	HB	1 m relief rock;		☐
					Fish - blackbar drum		
7/15/2012 12:53:18 PM	32.814253	-78.114745	-158.2	HB	XS Photo; Rock; pavement;		☑
7/15/2012 12:54:22 PM	32.814393	-78.114586	-159.7		Non XS - Random Photos; Human Debris;		☐
					Cni - Gorgonacea;	orange; Non XS - Random Photos;	
					Mol - Perotrochus quoyanus		
7/15/2012 12:57:00 PM	32.814558	-78.114466	-159.3			boarfish, red barbier, red hogfish, apricot bass, scorpionfish, lots of anthiids especially yellowfin bass	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 12:57:20 PM	32.814687	-78.114299	-158.4	HB	flat sediment with 1-2 m rock boulders;		☐
					Por - Hexactinellida;	green	
7/15/2012 12:58:24 PM	32.814661	-78.114271	-160.5	HB	XS Photo; pavement; Rock; tracking is funky		☑
					Por - Demospongiae; Lithisitida	frilly plate	
7/15/2012 1:00:00 PM	32.815016	-78.114358	-160.1			blackbar drum, bigeye, Darwin's slimehead, apricot bass, boarfish, cardinalfish	☐
7/15/2012 1:01:13 PM	32.815070	-78.114104	-160.1	HB	pavement; Rock;		☐
					Cni - Gorgonacea;	white	
					Fish - snowy grouper		
7/15/2012 1:02:00 PM	32.815021	-78.114056	-160.1			snowy grouper, scorpionfish, boarfish	☐
7/15/2012 1:03:27 PM	32.815193	-78.114087	-159.7	HB	XS Photo; hard bottom; pavement; Rock;		☑
7/15/2012 1:05:19 PM	32.815413	-78.113933	-160.1	HB	soft bottom; Rock; sparse cobble;		☐
					Art - Parthenope	Non XS - Random Photos;	
7/15/2012 1:07:00 PM	32.815585	-78.113995	-160.1			saddle bass, boarfish, bigeye, Darwin's slimehead, wrasse bass, possible tilefish in the distance	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 1:07:52 PM	32.815676	-78.114168	-158.4	HB	hard bottom; Rock; pavement;		☐
					Species Observed		
					Fish - wrasse bass		
					Fish - bigeye		
					Fish - Gephyroberyx		
7/15/2012 1:09:25 PM	32.815864	-78.114247	-161.1	HB	hard bottom; pavement; Rock; XS Photo;		☑
7/15/2012 1:10:16 PM	32.815947	-78.114184	-158.6	HB	hard bottom;pavement;		☐
					Mol - Scaphella		
7/15/2012 1:11:49 PM	32.816142	-78.114021	-159.3	HB	XS Photo; hard bottom; Rock; pavement;		☑
					Fish - scorpion fish		
					Fish - snowy grouper		
					Ech - Holothuroidea; Paracolochirus mysticus		
					Fish - boarfish		
					Por - Demospongiae; Leiodermatium		
					Cni - Hydroidolina;		
					Fish - apricot bass		
7/15/2012 1:12:00 PM	32.816168	-78.114037	-158			apricot bass, boarfish, yellowfin bass, snowy grouper, scorpionfish, red porgy, blackbar drum, bigeye	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 1:16:07 PM	32.816539	-78.113675	-158	HB	XS Photo; hard bottom; pavement; Rock; Human Debris; fishing line		☑
					Fish - Anthiids		
					Fish - blueline tilefish		
7/15/2012 1:17:00 PM	32.816530	-78.113597	-158.2			blueline tilefish, snowy grouper, boarfish, anthiids, scorpionfish, flounder, blackbar drum, saddle bass	☐
7/15/2012 1:20:19 PM	32.816949	-78.113508	-157.4	HB	hard bottom; Rock; XS Photo;		☑
					Fish - flounder	Non XS - Random Photos;	
7/15/2012 1:21:55 PM	32.816987	-78.113311	-158.4	HB	hard bottom; Rock; pavement; vertical rock		☐
					Fish - blackbar drum		
7/15/2012 1:23:22 PM	32.817299	-78.113411	-160.5	SB	XS Photo; soft bottom; Slope- flat;		☑
7/15/2012 1:24:00 PM	32.817156	-78.113439	-160.5		entering the x mark on the multibeam (where two scour cross)	blueline tilefish,	☐
7/15/2012 1:24:07 PM	32.817191	-78.113418	-159.9	SB	soft bottom; Slope- flat; entering the cross section of the iceberg cross section; Human Debris; fishing line		☐
					Fish - Anthiids	GIANT	
					Fish - blueline tilefish	2	
7/15/2012 1:25:00 PM	32.817252	-78.113122	-161.3			giant anthiid?	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 1:25:35 PM	32.817283	-78.113071	-160.9	HB	XS Photo; hard bottom; Rock; pavement;		☑
					Fish - porgy		
7/15/2012 1:26:00 PM	32.817359	-78.113091	-162.4	SB	sand	roughback batfish	☐
7/15/2012 1:26:18 PM	32.817500	-78.113028	-163.2	SB	soft bottom; Slope- flat; valley of the iceberg scar		☐
7/15/2012 1:27:45 PM	32.817731	-78.112965	-163	HB	XS Photo; hard bottom; pavement; soft bottom;		☑
					Fish - rough backed batfish	Non XS - Random Photos;	
7/15/2012 1:29:52 PM	32.817954	-78.112857	-162.4	HB	hard bottom; Rock; pavement; N rim of the east-west oriented scar		☐
7/15/2012 1:30:33 PM	32.817979	-78.112754	-160.9	HB	XS Photo; hard bottom; Rock; pavement;		☑
					Por - Demospongiae;	yellow TE	
					Ech - Holothuroidea; Paracolochirus mysticus	abundant	
					Cni - Gorgonacea;	white - common	
					Cni - Gorgonacea;	orange - common	
					Cni - Hydroidolina;		
					Por - Demospongiae; Leiodermatium	abundant	
7/15/2012 1:31:00 PM	32.817984	-78.112702	-160.9	HB	low relief outcrops	Darwin's slimehead, blackbar drum, boarfish, soldierfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 1:31:48 PM	32.818049	-78.112514	-160.9	HB	hard bottom; Rock; pavement;		☐
					Ech - Holothuroidea; Holothuria lentiginosa		
					Fish - Gephyroberyx		
					Fish - blackbar drum		
					Por - Demospongiae;	Ye lobate	
					Fish - boarfish		
7/15/2012 1:32:46 PM	32.818229	-78.112506	-159.5	HB	XS Photo; hard bottom; Rock; pavement;		☑
					Fish - bigeye		
7/15/2012 1:34:56 PM				HB	XS Photo; hard bottom; Rock; pavement;		☑
					Mol - Perotrochus quoyanus		
7/15/2012 1:37:15 PM				HB	XS Photo; hard bottom; Rock; pavement; Slope- flat; Human Debris; beer bottle and can		☑
7/15/2012 1:39:00 PM						red hofish, snipefish	☐
7/15/2012 1:39:29 PM					change DVD		☐
7/15/2012 1:39:53 PM				HB	XS Photo; hard bottom; Rock; pavement;		☑
					Cni - Gorgonacea; Scleracis?	orange Gorg.	
					Fish - longspine snipefish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae; Desmasella		
7/15/2012 1:41:30 PM					start DVD 60		☐
7/15/2012 1:43:17 PM					in the groove; NW scar along the East wall		☐
					Fish - snowy grouper		
					Fish - short bigeye;		
					Fish - saddle bass		
					Mol - Perotrochus quoyanus		
7/15/2012 1:44:00 PM						saddle bass, snowy grouper, short bigeye, boarfish, red hogfish, apricot bass, red porgy	☐
7/15/2012 1:45:59 PM				SB	soft bottom; Slope- flat;		☐
					Por - Demospongiae; Spongosorites	Non XS - Random Photos;	
					Art - hermit crab in a tusk shell		
7/15/2012 1:46:58 PM				HB	XS Photo; hard bottom; Rock; pavement; soft bottom;		☑
7/15/2012 1:48:49 PM				SB	soft bottom; Slope- flat; along the inside of the north side of the eastern side of the scour		☐
7/15/2012 1:49:18 PM					XS Photo;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 1:50:00 PM						bigeye soldierfish, blackbar drum, scorpionfish, boarfish	☐
7/15/2012 1:50:14 PM				HB	Rock; western slope of the east wall of the N-S scar mark		☐
					Fish - bigeye soldierfish		
7/15/2012 1:51:32 PM				HB	XS Photo; hard bottom; Rock;		☑
					Art - Majidae		
					Art - hermit crab		
					Ech - Holothuroidea; Holothuria lentiginosa		
7/15/2012 1:53:00 PM						yellowfin bass, boarfish, scorpionfish, blackbar drum, Darwin's slimehead, red hogfish, apricot bass	☐
7/15/2012 1:53:55 PM				HB	XS Photo; hard bottom; Rock; escarpment to the base of the scar		☑
7/15/2012 1:55:09 PM				SB	base of the scar; soft bottom; Slope- flat;		☐
					Mol - Tonna?		
7/15/2012 1:56:03 PM				HB	hard bottom; Rock; XS Photo;		☑
7/15/2012 1:58:31 PM					XS Photo;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 2:00:13 PM				HB	pavement; Rock; top east rim of scour		☐
7/15/2012 2:01:13 PM				HB	XS Photo; hard bottom; Rock;		☑
7/15/2012 2:02:00 PM						Laemonema, snowy grouper, blackbar drum, red porgy, red hogfish, anthiids, boarfish, AJ, Darwin's slimehead, soldierfish, wrasse bass?, bulleye	☐
7/15/2012 2:04:06 PM				HB	XS Photo; soft bottom; Rock;		☑
					Fish - snowy grouper		
					Fish - boarfish		
					Fish - blackbar drum		
					Fish - Gephyroberyx		
7/15/2012 2:05:49 PM				HB	XS Photo; rim of scour; less rugged, patchy small boulders		☑
					Fish - bulleye	Non XS - Random Photos;	
7/15/2012 2:08:21 PM				HB	XS Photo; Rock; hard bottom; rim		☑
7/15/2012 2:09:38 PM				SB	soft bottom; in valley of scarp; 200 m to end wp.		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	ROV 29	15-VII-12-4	South Carolina; Northern S.C. MPA, Station 39 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 2:10:49 PM				SB	XS Photo; soft bottom; valley		☑
7/15/2012 2:11:00 PM						snipefish, red hogfish, Laemonema, short bigeye, scorpionfish, boarfish, yellowfin bass	☐
7/15/2012 2:14:32 PM				HB	hard bottom; Rock; on rim?, sediment with 30 cm boulders, sparse, not rugged		☐
7/15/2012 2:15:00 PM						blueline tilefish, red porgy, boarfish, Darwin's slimehead, saddle bass, yellowfin bass, short bigeye	☐
7/15/2012 2:15:34 PM				HB	hard bottom; Rock; sparse; XS Photo;	few Leiodermatium;	☑
					Cni - Gorgonacea;	or common	
					Fish - Gephyroberyx		
					Ech - Holothuroidea; Paracolochirus mysticus	common	
					Fish - blueline tilefish		
7/15/2012 2:17:28 PM				HB	hard bottom; Rock; Human Debris; solo cup		☐
					Mol - Perotrochus quoyanus	Non XS - Random Photos;	
					Fish - short bigeye;	Non XS - Random Photos;	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207154	**ROV 29**	**15-VII-12-4**	**South Carolina; Northern S.C. MPA, Station 39 inside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 2:20:00 PM						blackbar drum, Laemonema, bulleyes, school of anthiids, snowy grouper x2, blueline tilefish	☐
7/15/2012 2:21:00 PM					end of dive		☐
7/15/2012 2:21:45 PM				HB	XS Photo; hard bottom; Rock;		☑
7/15/2012 2:21:52 PM				HB	hard bottom; Rock;		☐
					Fish - blueline tilefish		
					Fish - snowy grouper		
					Fish - red hogfish		
					Fish - yellowfin bass		
7/15/2012 2:22:40 PM				HB	Off bottom; rock; rim of ice berg scour		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 3:03:12 PM					Objectives: ROV Dive 30, Site #- 15-VII-12-5. Target Site – South Carolina, Northern S.C. MPA; 32° 49.4400'N, 78°05.1600'W; 175 m. ROV survey inside MPA and ground truth multibeam sonar of the site. Conduct video/photo transect perpendicular to three ice berg scars in multibeam.		☐
7/15/2012 3:04:00 PM	32.823955	-78.086376	-164.9	HB	mostly pavement, rubble, some low relief outcrops	blackbar drum, scorpionfish, red hogfish, boarfish, saddle bass, yellowfin bass, snipefish	☐
7/15/2012 3:04:12 PM	32.823955	-78.086376	-164.9		Launch (start dive);		☐
7/15/2012 3:04:30 PM	32.823955	-78.086376	-164.9				☐
7/15/2012 3:04:39 PM	32.823955	-78.086376	-164.9				☐
7/15/2012 3:04:42 PM	32.823955	-78.086376	-164.9	HB	On bottom; hard bottom; Rock; pavement, sediment with rock boulders		☐
7/15/2012 3:06:01 PM	32.824007	-78.086019	-163.4	HB	hard bottom; XS Photo;		☑
7/15/2012 3:06:48 PM	32.823870	-78.085972	-163.2	HB	hard bottom; Rock; 10-30 cm cobble		☐

Species Observed	
Fish - lizardfish	
Cni - Gorgonacea;	wh fan
Cni - Gorgonacea;	or fan

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Holothuroidea; Paracolochirus mysticus		
					Por - Demospongiae; Leiodermatium		
7/15/2012 3:08:19 PM	32.824022	-78.085843	-163.2	HB	hard bottom; Rock;		☐
					Ann - Serpulidae		
					Fish - scorpion fish		
7/15/2012 3:08:43 PM	32.823986	-78.085863	-162.4	HB	XS Photo; hard bottom; Rock; cobble, 30 cm boulders		☑
					Fish - lizardfish?	Non XS - Random Photos;	
7/15/2012 3:10:00 PM	32.824022	-78.085872	-163.6			lizardfish	☐
7/15/2012 3:10:19 PM	32.824096	-78.085718	-163.4	HB	hard bottom; Rock; sparse patchy cobble on sand; Slope- flat;		☐
					Fish - lizardfish	Non XS - Random Photos;	
					Fish - blackbar drum		
					Fish - boarfish		
					Fish - Anthiids		
7/15/2012 3:12:00 PM	32.824102	-78.086394	-164			blackbar drum, scorpionfish, saddle bass, red hogfish, snipefish, boarfish, red porgy	☐
7/15/2012 3:14:27 PM	32.824622	-78.086568	-164.5	HB	XS Photo; hard bottom; rubble; cobble; 10-30% cover; xs to NW on flat.	sparse Leiodermatium	☑
					Art - Majidae		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Holothuroidea; Paracolochirus mysticus		
					Fish - blackbar drum		
7/15/2012 3:16:39 PM	32.824802	-78.086820	-163.6	HB	XS Photo; hard bottom; pavement; rubble;	bigeyes in scour holes	☑
					Fish - short bigeye;		
7/15/2012 3:17:00 PM	32.824706	-78.087066	-164.2			short bigeye, scorpionfish, apricot bass, giant anthiid?, tattler	☐
7/15/2012 3:18:27 PM	32.824908	-78.086977	-163.4	HB	hard bottom; rubble; Rock; pavement;		☐
					Fish - giant anthiid- longtail bass?		
7/15/2012 3:19:09 PM	32.824766	-78.087198	-163	HB	XS Photo; hard bottom; pavement; 10-20 cm cobble	sparse fauna	☑
					Fish - red hogfish		
7/15/2012 3:21:17 PM	32.825253	-78.087387	-164	HB	XS Photo; hard bottom; pavement; cobble		☑
					Fish - blueline tilefish	3	
					Fish - short bigeye;		
7/15/2012 3:22:00 PM	32.825334	-78.087367	-164			blueline tilefish, short bigeye, red porgies, saddle bass, scorpionfish	☐
7/15/2012 3:24:50 PM	32.825486	-78.087872	-163.2	HB	hard bottom; pavement; 10-30 cm cobble boulders, patchy		☐
					Por - Demospongiae;	ye finger clusters	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Ech - Holothuroidea; Paracolochirus mysticus		
					Por - Demospongiae; Leiodermatium		
					Cni - Gorgonacea;	10 cm or fan	
7/15/2012 3:26:55 PM	32.825751	-78.087972	-164	HB	hard bottom; pavement;	sparse biota	☐
					Fish - boarfish		
					Ech - Echinoidea; Cidaroida		
					Fish - Anthiids	school	
7/15/2012 3:27:00 PM	32.825771	-78.087938	-162.6			boarfish, blackbar drum, yellowfin bass, blueline tilefish	☐
7/15/2012 3:28:09 PM	32.825855	-78.088107	-162.6	HB	XS Photo; hard bottom; pavement;		☑
7/15/2012 3:29:00 PM	32.825879	-78.088298	-164.2		coming up on the first scour		☐
7/15/2012 3:29:00 PM	32.825879	-78.088298	-164.2			saddle bass, red hogfish	☐
7/15/2012 3:30:00 PM	32.826071	-78.088586	-166.3	SB	sand; in scour		☐
7/15/2012 3:30:18 PM	32.826232	-78.088543	-167.8	HB	soft bottom; transect down east slope of scour; sparse cobble at top edge		☐
					Fish - flounder	Non XS - Random Photos;	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 3:31:00 PM	32.826318	-78.088595	-167.6	HB	low relief outcrops; back on ledge,	boarfish, red hogfish, flounder, short bigeye, Laemonema, saddle bass	☐
7/15/2012 3:32:41 PM	32.826030	-78.088838	-164	SB	XS Photo; soft bottom;		☑
					Species Observed: Ech - Asteroidea; 6 arm star	Non XS - Random Photos;	
7/15/2012 3:33:49 PM	32.826209	-78.088972	-168.2	HB	patchy cobble on sediment, east slope of scour		☐
					Species Observed: Art - Parthenope		
7/15/2012 3:34:00 PM	32.826189	-78.088982	-169.2	SB	sand; in scour		☐
7/15/2012 3:35:24 PM	32.826557	-78.089106	-170.3	HB	soft bottom; XS Photo; in scour valley, some cobble		☑
					Species Observed: Mol - Tonna? w/ hermit	Non XS - Random Photos;	
7/15/2012 3:38:43 PM	32.826947	-78.089206	-170.7	SB	soft bottom; Marsha in on the audio- watch out; keep the chocolate away		☐
7/15/2012 3:39:28 PM	32.827025	-78.089392	-170.7	SB	XS Photo; soft bottom; in valley		☑
					Species Observed: Fish - snowy grouper		
7/15/2012 3:41:00 PM	32.826642	-78.089579	-171.7	HB	low relief outcrops	approaching the other side of scour, snowy grouper, red hogfish	☐
7/15/2012 3:41:35 PM	32.826967	-78.089758	-169.5	HB	XS Photo; hard bottom; cobble, base of west wall of scour		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 3:42:00 PM	32.827009	-78.089767	-169.5	HB	low relief outcrops	boarfish, anthiids, saddle bass, apricot bass, scorpionfish, red porgy, snowy, short bigeye, red hogfish	☐
7/15/2012 3:42:56 PM	32.827203	-78.089779	-163	HB	hard bottom; Rock;		☐
7/15/2012 3:43:05 PM	32.827207	-78.089704	-161.3	HB	hard bottom; Rock; small boulders base of slope		☐
					Species Observed		
					Cni - Gorgonacea;	or fan	
7/15/2012 3:43:52 PM	32.827431	-78.090142	-162	HB	XS Photo; hard bottom; Rock; on top of west rim, no obvious rock edge,		☑
7/15/2012 3:46:02 PM	32.827636	-78.090063	-162.8	HB	XS Photo; soft bottom; pavement; Rock;		☑
					Fish - snowy grouper		
7/15/2012 3:47:03 PM	32.827541	-78.090303	-162.6	HB	hard bottom; Rock; pavement; 10-30 cm cobble; on flat		☐
					Ech - Holothuroidea; Holothuria lentiginosa		
7/15/2012 3:48:19 PM	32.827524	-78.090589	-163	HB	XS Photo; soft bottom; rubble; cobble		☑
					Art - Majidae		
					Ech - Holothuroidea; Paracolochirus mysticus	common	
7/15/2012 3:50:00 PM	32.827725	-78.090842	-164	HB	pavement	red hogfish, Laemonema sp., short bigeyes, saddle bass, scorpionfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 3:50:38 PM	32.827951	-78.090731	-163.6	HB	hard bottom; cobble		☐
7/15/2012 3:53:26 PM	32.828317	-78.091088	-163.8	HB	XS Photo; hard bottom; cobble, patchy pavement exposed		☑
					Mol - Perotrochus quoyanus		
7/15/2012 3:55:37 PM	32.828418	-78.091280	-163.6	HB	XS Photo; hard bottom; cobble; 30-50% cover		☑
					Fish - longspine snipefish	Non XS - Random Photos;	
7/15/2012 3:56:00 PM	32.828467	-78.091344	-163.8			longspine snipefish, red porgy, saddle bass	☐
7/15/2012 3:58:12 PM	32.828533	-78.091639	-163	HB	XS Photo; hard bottom;		☑
					Fish - red porgy		
7/15/2012 3:59:39 PM	32.828829	-78.091780	-163.2	SB	soft bottom;		☐
7/15/2012 4:00:30 PM	32.828885	-78.091840	-163	HB	XS Photo; soft bottom; sparse cobble		☑
7/15/2012 4:02:00 PM	32.829012	-78.091779	-163.8			short bigeye, boarfish, apricot bass, rim of the second scour, red hogfish, wrasse bass, yellowfin bass	☐
7/15/2012 4:02:47 PM	32.829083	-78.091850	-163.4	HB	XS Photo; hard bottom; Rock; scattered cobble small boulder		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 4:03:22 PM	32.829126	-78.092254	-163.2	HB	Rock; hard bottom; east rim of second scour; 10-30 cm cobble and boulders,		☐
					Por - Demospongiae; Leiodermatium		
7/15/2012 4:05:04 PM	32.829357	-78.092377	-164.5	SB	XS Photo; soft bottom; in valley of second scour; change DVD		☑
					Mol - Murex	Non XS - Random Photos;	
7/15/2012 4:07:19 PM	32.829434	-78.092755	-165.9	SB	XS Photo; soft bottom; in valley		☑
					Mol - squid		
					Fish - snowy grouper		
7/15/2012 4:08:00 PM	32.829512	-78.092780	-165.3	SB	sand; in scour		☐
7/15/2012 4:08:00 PM	32.829512	-78.092780	-165.3	HB	low relief outcrops; on other side of scour	snowy grouper, blackbar drum, boarfish, Darwin's slimehead, bulleye, yellowfin bass, soldierfish	☐
7/15/2012 4:09:47 PM	32.829766	-78.092978	-162	HB	Rock; hard bottom; base of w wall of scour; small boulders; top 161 m, base 163 m, 100% cover 10-50 cm boulders, no ledges.		☐
					Cni - Gorgonacea;	or fan	
					Ech - Holothuroidea; Paracolochirus mysticus		
					Ann - Serpulidae		
					Art - hermit crab		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 4:13:00 PM	32.829932	-78.092998	-161.7	HB	mostly sand, some pavement	apricot bass, scorpionfish, saddle bass, short bigeye, batfish?, red hogfish	☐
7/15/2012 4:13:14 PM	32.830026	-78.093045	-162.4	HB	soft bottom; sparse cobble; flat		☐
					Fish - short bigeye;		
7/15/2012 4:14:33 PM	32.830067	-78.093217	-163	HB	XS Photo; soft bottom; sparse cobble	barren	☑
					Fish - red hogfish		
					Fish - short bigeye;		
					Art - Parthenope		
7/15/2012 4:17:00 PM	32.830233	-78.093520	-161.5			2 snowy grouper, giant anthiid, boarfish	☐
7/15/2012 4:17:54 PM	32.830300	-78.093650	-162.2	HB	soft bottom; hard bottom; rock ledge		☐
					Fish - snowy grouper		
					Fish - giant anthiid- longtail bass?		
7/15/2012 4:18:42 PM	32.830361	-78.093728	-162.2	HB	XS Photo; hard bottom; Rock; 30 cm ledge		☑
					Fish - short bigeye;		
7/15/2012 4:20:56 PM	32.830550	-78.094000	-162	SB	XS Photo; soft bottom;		☑
7/15/2012 4:21:38 PM	32.830633	-78.094100	-163	HB	soft bottom; sparse scattered cobble, exposed rock patches 1-2 m from bigeye excavations	barren	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 4:23:18 PM	32.830765	-78.094280	-163	SB	soft bottom; Human Debris; bullet		☐
7/15/2012 4:24:00 PM	32.830831	-78.094348	-162.6			possible greeneye, giant anthiid may be longtail bass, saddle bass, scorpionfish, short bigeye, boarfish	☐
7/15/2012 4:26:19 PM	32.831062	-78.094586	-162	HB	soft bottom; XS Photo; 10-30% cobble		☑
					Fish - blueline tilefish		
					Fish - red porgy		
7/15/2012 4:27:00 PM	32.831140	-78.094640	-161.7			red porgy, blueline tilefish, boarfish	☐
7/15/2012 4:28:47 PM	32.831333	-78.094817	-162.2	HB	XS Photo; soft bottom; cobble, patchy hard bottom		☑
7/15/2012 4:30:00 PM	32.831467	-78.094933	-162.2	HB	low relief outcrops	coming up on the rim of the third scour, the same scour we ran along on dive 29.	☐
7/15/2012 4:30:23 PM	32.831503	-78.094960	-162.6	HB	soft bottom; patchy hard bottom with cobble and exposed rock		☐
7/15/2012 4:31:00 PM	32.831590	-78.095023	-160.9			snowy grouper, boarfish, blackbar drum, red porgy, saddle bass, short bigeye, snipefish	☐
7/15/2012 4:31:07 PM	32.831600	-78.095033	-160.7	SB	XS Photo; soft bottom;		☑
					Fish - snowy grouper		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	ROV 30	15-VII-12-5	South Carolina; Northern S.C. MPA, Station 40 inside MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/15/2012 4:31:37 PM	32.831541	-78.095180	-160.1	HB	hard bottom; 30 cm relief		☐
					Species Observed		
					Ech - Holothuroidea; Holothuria lentiginosa		
					Fish - red porgy		
					Fish - blackbar drum		
					Ech - Holothuroidea; Paracolochirus mysticus		
					Ann - Serpulidae		
					Por - Demospongiae; Leiodermatium		
7/15/2012 4:33:46 PM	32.831800	-78.095300	-158.8	HB	hard bottom; approaching east rim of third ice scour; ro boulders		☐
7/15/2012 4:34:00 PM	32.831826	-78.095313	-158.6			2 bluelines, red porgies, boarfish, yellowfin bass	☐
7/15/2012 4:34:16 PM	32.831854	-78.095350	-159.7	HB	XS Photo; hard bottom; Rock;		☑
					Fish - red porgy		
					Fish - blueline tilefish	2	
					Fish - short bigeye;		
					Fish - boarfish		
7/15/2012 4:35:03 PM	32.831824	-78.095519	-159.5	HB	hard bottom; Rock; on east ridge, 161 m on top		☐
					Cni - Cerianthidae		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207155	**ROV 30**	**15-VII-12-5**	**South Carolina; Northern S.C. MPA, Station 40 inside MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/15/2012 4:36:00 PM	32.831990	-78.095533	-160.5	SB	sand; in scour		☐
7/15/2012 4:36:30 PM	32.831950	-78.095871	-160.5	SB	XS Photo; soft bottom; in valley of scour		☑
7/15/2012 4:38:00 PM	32.832150	-78.095820	-163	SB	sand		☐
7/15/2012 4:38:09 PM	32.832222	-78.095895	-164		Off bottom; in valley of ice berg; end of dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 7:37:15 AM					Objectives: ROV Dive 31, Site #- 16-VII-12-2. Target Site – outside of South Carolina, Northern S.C. MPA; 32°47.3460'N, 78°19.9610'W; 55 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect on E-W oriented ridge.		☐
7/16/2012 7:57:04 AM					Launch (start dive);		☐
7/16/2012 7:59:21 AM					starting DVD		☐
7/16/2012 8:00:29 AM	32.788833	-78.327683	-49.5	HB	On bottom; Slope- flat; rock cobble and outcrops; 10-15 cm relief; 80 % cover		☐
					Alg - Phaeophyta; Sargassum		
					Alg - Chlorophyta;		
					Cni - Hydroidolina;		
					Por - Demospongiae; Ircinia		
					Alg - Phaeophyta;		
7/16/2012 8:02:00 AM	32.788837	-78.327702	-52	HB	pavement	sharpnose puffer, blue angelfish, Calamus, doctorfish, spotfin hogfish, squirrelfish, reef butterflyfish, lionfish	☐
7/16/2012 8:02:58 AM	32.788848	-78.327713	-52		at starting WP		☐
					Alg - Rhodophyta;	thin blades	
					Alg - Phaeophyta; Dictyota		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 8:03:41 AM	32.788874	-78.327693	-52	HB	XS Photo; pavement; Slope- flat;	Dominated by algae	☑
					Fish - blue angelfish;		
					Fish - reef butterflyfish		
					Fish - Calamus porgy		
					Alg - Phaeophyta; Dictyota		
					Alg - Rhodophyta;	dense	
					Fish - shortnose puffer		
7/16/2012 8:05:53 AM	32.788936	-78.327684	-51.6		XS Photo;		☑
					Por - Demospongiae; Spirastrellidae	Red and or encrusting	
					Fish - squirrelfish		
					Fish - lionfish;		
7/16/2012 8:06:00 AM	32.789010	-78.327637	-51.2	HB	moderate relief outcrops	red grouper, total relief 2-3m, lionfish, school of tomtates, cubbyu, graysby, 2 lionfish, reef butterflyfish, 2 lionfish	☐
7/16/2012 8:06:35 AM	32.789017	-78.327729	-51	HB	Rock; N-S facing ridge; ridge dropped off to the north into sediment; Slope- steep (>35o); ridge is narrow (10 m wide) smooth slope;		☐
7/16/2012 8:08:17 AM	32.789163	-78.327661	-49.5	HB	XS Photo; base of ridge is .5 m ledges;		☑
					Fish - graysby grouper		
					Fish - tomtate;		
					Fish - lionfish;	3	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Ellisella		
7/16/2012 8:10:36 AM	32.789130	-78.327680	-49.3	HB	XS Photo; hard bottom; Rock; On top of the ridge;		☑
					Cni - Alcyonaceae; Nephtheidae		
					Por - Demospongiae;	Red orange	
					Por - Demospongiae; Agelas		
7/16/2012 8:12:48 AM	32.789042	-78.327523	-50.3	HB	XS Photo; hard bottom; Rock; 100% biota cover; on ridge;		☑
					Fish - rock beauty		
					Por - Demospongiae; Agelas	30 cm Non XS - Random Photos;	
					Cni - Actinaria; Condylactus gigantia		
7/16/2012 8:13:00 AM	32.789010	-78.327489	-50.8			rock beauty, sharpnose puffer, reef butterflyfish, spotfin hogfish, blue angel in the distance	☐
7/16/2012 8:15:00 AM	32.789062	-78.327375	-49.9	HB	XS Photo; hard bottom; Rock; near base of ridge		☑
					Por - Demospongiae;	CB orange	
					Por - Demospongiae; Aplysina?	cluster of thick wall HT	
					Cni - Antipathidae;	30 cm bushy white	
					Fish - blue angelfish;		
					Alg - Chlorophyta;	large leafy	
					Fish - lionfish;	2	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 8:15:00 AM	32.789062	-78.327375	-49.9			bicolor damselfish, lionfish x2, reef butterflyfish, sharpnose puffer, YTR, squirrelfish, doctorfish, cherubfish	☐
7/16/2012 8:17:02 AM	32.789160	-78.327095	-49.9	HB	hard bottom; Rock; XS Photo; top of ridge		☑
					Fish - lionfish;		
7/16/2012 8:19:00 AM	32.789077	-78.326752	-50.8			lionfish, parrotfish, ocean surgeonfish, reef butterflyfish, wrasse, sharpnose puffer, YTR, spotfin hogfish, tattler	☐
7/16/2012 8:19:05 AM	32.789083	-78.326746	-49.9	HB	hard bottom; Rock; top of ridge; near WP 2.; 100 % HB; smooth low relief large 3 m ledge; XS from 1 to 2 was along to E/W ridge	100% cover of fauna	☐
7/16/2012 8:20:18 AM	32.789296	-78.326597	-49.1	HB	XS Photo; hard bottom; Rock; changing HD toward WP 3 along NE/SW ridge		☑
					Fish - lionfish;		
					Por - Demospongiae;	cl HT	
7/16/2012 8:20:56 AM	32.789301	-78.326459	-51.6	HB	hard bottom; Rock; east side ridge; slope Slope- steep (>35o); stark soft bottom		☐
7/16/2012 8:21:45 AM	32.789372	-78.326357	-51.6	HB	XS Photo; soft bottom; rubble and cobble; low relief rock mounds 1-5 m diam		☑
					Alg - Chlorophyta;	hairy green	
					Alg - Chlorophyta;	thin wide blade	
					Ech - Asteroidea; Narcissia trigonaria		
					Fish - greater amberjack		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - hogfish		
					Por - Demospongiae;	tan cake	
7/16/2012 8:22:00 AM	32.789405	-78.326331	-51.2	HB	off ridge on pavement	hogfish, AJ	☐
7/16/2012 8:23:37 AM	32.789418	-78.326192	-52.2	HB	soft bottom; rubble		☐
7/16/2012 8:24:04 AM	32.789503	-78.326086	-52.2	SB	XS Photo; soft bottom;		☑
					Fish - filefish		
					Ech - Asteroidea;	red center	
7/16/2012 8:25:03 AM	32.789639	-78.325949	-52.6	SB	soft bottom; changing hd to the N to find the ridge;		☐
					Cni - Gorgonacea;	2 stalked purple <10 cm	
7/16/2012 8:26:36 AM	32.789693	-78.325902	-52.6	SB	XS Photo; soft bottom;		☑
					Fish - french angelfish		
7/16/2012 8:27:00 AM	32.789722	-78.325890	-52			french angels	☐
7/16/2012 8:28:48 AM	32.789980	-78.325820	-51.8	SB	XS Photo; soft bottom;		☑
					Alg - Chlorophyta; Codium		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 8:31:00 AM	32.790175	-78.325775	-52		back on ridge	reef butterflyfish, lionfish, Calamus, YTR, parrotfish, sharpnose puffer, ocean surgeon, spotfin hogfish, sunshinefish	☐
7/16/2012 8:31:02 AM	32.790178	-78.325782	-52	SB	XS Photo; soft bottom;		☑
7/16/2012 8:31:18 AM	32.790196	-78.325799	-51.4	HB	hard bottom; Rock; large ledge;		☐
					Cni - Gorgonacea; Ellisella		
					Fish - lionfish;		
					Ech - Asteroidea;		
7/16/2012 8:33:43 AM	32.790176	-78.325693	-50.3		XS Photo; base of steeper wall to the sout side of the wall before we go over it; 52 m at the bottom;		☑
					Por - Demospongiae;	orange Non XS - Random Photos;	
					Por - Demospongiae;	orange XS Photo;	
7/16/2012 8:35:07 AM	32.790283	-78.325683	-49.3		top of wall;	dominate by algae	☐
					Por - Demospongiae; Callyspongia?	purp cl HT	
					Cni - Antipathidae;	white bushy	
7/16/2012 8:36:00 AM	32.790350	-78.325667	-51.2			lionfish, reef butterflyfish, spotfin hogfish, purple reeffish, spotfin butterflyfish, sharpnose puffer, rock beauty, blackbar soldierfish, ocean surgeon	☐
7/16/2012 8:36:21 AM	32.790367	-78.325650	-50.6	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - rock beauty		
					Por - Demospongiae;	Ye CB	
					Fish - lionfish;		
					Fish - reef butterflyfish		
					Por - Demospongiae; Agelas	orange	
					Fish - spotfin butterflyfish		
7/16/2012 8:38:17 AM	32.790480	-78.325441	-50.3	HB	hard bottom; Rock; 2 m crevise	100% cover of algae	☐
					Fish - blackbar drum		
7/16/2012 8:38:41 AM	32.790509	-78.325383	-50.3	HB	XS Photo; hard bottom; Rock; rock ledge is smooth and rounded and steep Slope- steep (>35o); few ledges		☑
					Fish - lionfish;		
7/16/2012 8:39:00 AM	32.790533	-78.325350	-49.9			lionfish x2, spotfin hogfish, reef butterflyfish, blue angel, sunshinefish, purple reeffish, lionfish x2, rock beauty	☐
7/16/2012 8:40:52 AM	32.790676	-78.325124	-50.8	HB	XS Photo; hard bottom; Rock; base of the steep wall on the east side of the N-S oriented ledge		☑
					Cni - Hydroidolina;		
					Por - Demospongiae;	Cl of HT	
7/16/2012 8:43:09 AM	32.790867	-78.324800	-49.5	HB	hard bottom; XS Photo; Rock;		☑
					Alg - Rhodophyta;	long	
					Por - Demospongiae;	CB purple brown	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - blue angelfish;		
					Fish - lionfish;	2	
7/16/2012 8:45:10 AM	32.791033	-78.324517	-51	HB	XS Photo; soft bottom; rubble;	Alg - Rhodophyta; and Alg - Phaeophyta; dominate	☑
					Cni - Antipathidae;	bush	
					Fish - scamp grouper;		
					Fish - lionfish;		
					Cni - Gorgonacea; Ellisella	ta whip	
					Ech - Asteroidea;		
7/16/2012 8:46:00 AM	32.791100	-78.324417	-51.6			reef butterflyfish, lionfish, scamp x2, soapfish, lionfish x2, soapfish, sharpnose puffer, doctorfish, soapfish, lionfish, lionfish, blue angel	☐
7/16/2012 8:46:36 AM	32.791167	-78.324350	-51.4	HB	hard bottom; Rock;		☐
					Fish - lionfish;	2	
					Fish - scamp grouper;		
					Fish - soapfish		
7/16/2012 8:47:42 AM	32.791217	-78.324200	-50.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - blue angelfish;		
					Fish - soapfish		
					Fish - lionfish;	3	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 8:48:00 AM	32.791248	-78.324168	-49.7			Calamus, lionfish	☐
7/16/2012 8:49:51 AM	32.791374	-78.323933	-51.4	HB	soft bottom; Rock;		☐
7/16/2012 8:50:18 AM	32.791400	-78.323873	-52	HB	soft bottom; Rock; base of ridge with cobble;	50% Alg - Phaeophyta;	☐
7/16/2012 8:50:56 AM	32.791450	-78.323800	-51.4	SB	XS Photo; soft bottom;		☑
					Alg - Phaeophyta;		
					Cni - Gorgonacea;	3 cm sparse branch	
					Alg - Chlorophyta;		
					Por - Demospongiae;	tan cake	
					Alg - Rhodophyta;		
7/16/2012 8:52:00 AM	32.791530	-78.323667	-51.8			sunshinefish, reef butterflyfish, sharpnose puffer, lionfish x2, ocean surgeonfish, parrotfish, squirrelfish, wrasse	☐
7/16/2012 8:52:23 AM	32.791567	-78.323628	-51.8	HB	hard bottom; Rock;		☐
					Fish - doctorfish		
					Cni - Hydroidolina;	black stinging	
					Fish - lionfish;	3	
7/16/2012 8:53:00 AM	32.791600	-78.323533	-49.9	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cho - Ascidacea; Eudistoma		
					Ech - Asteroidea; Narcissia trigonaria		
7/16/2012 8:55:12 AM	32.791733	-78.323216	-50.1	HB	XS Photo; hard bottom; Rock; south slope;		☑
					Cni - Antipathidae;	bushy white	
7/16/2012 8:57:21 AM	32.791822	-78.322900	-50.6	HB	XS Photo; soft bottom; Rock;		☑
					Ech - Asteroidea; Narcissia trigonaria		
7/16/2012 8:59:44 AM	32.791803	-78.322500	-52.8	HB	XS Photo; soft bottom; Rock;		☑
7/16/2012 9:00:04 AM	32.791812	-78.322450	-52	HB	soft bottom; rubble; on the sediment; cobble and scattered patches of 1 m relief rock mounds; on MB we are north of the ridge		☐
7/16/2012 9:01:49 AM	32.791783	-78.322141	-53.1	HB	XS Photo; soft bottom; Rock; Knolls;		☑
7/16/2012 9:02:28 AM	32.791779	-78.322033	-53.3		passed WP 3 HD back to proposed line and changing direction to hd east on the ridge		☐
7/16/2012 9:02:55 AM	32.791770	-78.321957	-52.8		changing DVD		☐
7/16/2012 9:04:00 AM	32.791734	-78.321733	-52		looking for ridge again		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 9:05:00 AM	32.791650	-78.321600	-49.1	HB	moderate relief outcrops; back at base of ridge,	sharpnose puffer, tattler, blue angel, reef butterflyfish, greenband wrasse, lionfish, squirrelfish, orangeback bass	☐
7/16/2012 9:05:11 AM	32.791617	-78.321600	-48.7		XS Photo;		☑
7/16/2012 9:05:23 AM	32.791583	-78.321600	-50.6				☐
7/16/2012 9:06:51 AM	32.791367	-78.321650	-55.1	HB	XS Photo; soft bottom; Rock; base of ridge; hd E, ridge oriented E-W		☑
					Fish - blue angelfish;		
					Ech - Asteroidea; Narcissia trigonaria		
					Por - Demospongiae; Niphates?	grey eb	
					Fish - lionfish;		
7/16/2012 9:09:16 AM	32.791217	-78.321550	-54.1	HB	XS Photo; hard bottom; Rock; ridge		☑
					Por - Ircinia campana;		
7/16/2012 9:10:01 AM	32.791217	-78.321461	-53.9	HB	hard bottom; Rock; ridge, 1-2 m		☐
					Cni - Antipathidae;	wh bu	
					Cni - Gorgonacea; Swiftia	Non XS - Random Photos;	
7/16/2012 9:11:22 AM	32.791273	-78.321196	-54.1	HB	XS Photo; hard bottom; Rock; south slope of ridge; ridge smaller 1-2 m. Smooth rock, no ledges		☑
					Fish - sunshine fish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea;	re	
7/16/2012 9:12:00 AM	32.791200	-78.321100	-54.1			sunshinefish, lionfish	☐
7/16/2012 9:13:36 AM	32.791236	-78.320940	-53.7	HB	XS Photo; soft bottom; Rock; cobble, low rock knolls; 30-50% cover		☑
7/16/2012 9:15:04 AM	32.791167	-78.320585	-53.5	HB	Rock; ridge a low mound 1 m relief		☐
					Fish - lionfish;		
7/16/2012 9:15:49 AM	32.791167	-78.320443	-54.9	HB	XS Photo; soft bottom; Rock;		☑
7/16/2012 9:16:45 AM	32.791167	-78.320267	-53.5		hd NE along ridge		☐
					Fish - greater amberjack		
7/16/2012 9:18:00 AM	32.791200	-78.320102	-55.1		back on ridge	greenband wrasse, spotfin butterflyfish, reef butterflyfish, sunshinefish, sharpnose puffer, lionfish, tattler, lionfish	☐
7/16/2012 9:18:03 AM	32.791200	-78.320100	-54.7	HB	XS Photo; soft bottom; Rock;	tilefish burrow	☑
					Sed - sand tilefish burrow	cobble	
7/16/2012 9:19:59 AM	32.791329	-78.319933	-54.9	HB	hard bottom; Rock; low rock ridge, < 1m relief;		☐
					Alg - Chlorophyta; Codium		
					Fish - lionfish;	2	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae; Agelas	10-20 cm common	
					Cni - Antipathidae;	several spp	
					Alg - Phaeophyta; Dictyota		
					Alg - Chlorophyta;	green blade	
					Cni - Gorgonacea; Ellisella	whip	
					Cni - Hydroidolina;		
7/16/2012 9:22:29 AM	32.791501	-78.319733	-52	HB	XS Photo; hard bottom; Rock; on ridge		☑
					Cni - Gorgonacea;	eb Non XS - Random Photos;	
					Cni - Gorgonacea; Diodogorgia?		
7/16/2012 9:24:00 AM	32.791637	-78.319579	-51.8	HB	1-2m relief outcrops; ledge has decreased in relief to about 1-2m in some areas.	Lionfish	☐
7/16/2012 9:24:41 AM	32.791700	-78.319533	-52.4	HB	XS Photo; hard bottom; Rock;		☑
7/16/2012 9:25:04 AM	32.791733	-78.319500	-52.8	HB	low mound; 52 m top		☐
					Cni - Gorgonacea; Ellisella barbadensis	orange whip	
					Fish - lionfish;		
					Cni - Gorgonacea; Telesto	Non XS - Random Photos;	
7/16/2012 9:27:04 AM	32.791900	-78.319300	-51	HB	XS Photo; hard bottom; Rock; series of low 1m rock knolls		☑
					Fish - lionfish;		
					Por - Ircinia campana;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - blue goby		
7/16/2012 9:28:00 AM	32.791983	-78.319248	-52.6			blue goby, lionfish, wrasse, sharpnose puffer, bandtail puffer, tattler	☐
7/16/2012 9:29:09 AM	32.792100	-78.319183	-52	HB	XS Photo; hard bottom; Rock;		☑
7/16/2012 9:30:12 AM	32.792217	-78.319133	-52	HB	hard bottom; Rock; scattered 1/2 m relief rock knolls, dense algae on rock, sand at base		☐
					Cni - Stichopathes;		
7/16/2012 9:31:25 AM	32.792317	-78.319017	-52	HB	XS Photo; hard bottom; Rock; knolls, smooth rock, no ledges		☑
					Por - Demospongiae; Callyspongia vaginalis	Non XS - Random Photos;	
					Por - Demospongiae; Aplysina	pu cb	
					Fish - shortnose puffer		
					Fish - lionfish;		
7/16/2012 9:32:00 AM	32.792350	-78.318950	-53.1	HB	back to moderate relief outcrops	lionfish, sharpnose puffer, YTR, bicolor damsel, spotfin butterflyfish, doctorfish, ocean surgeon, lionfish, reef butterflyfish	☐
7/16/2012 9:33:34 AM	32.792417	-78.318771	-51.2	HB	XS Photo; hard bottom; Rock; knolls		☑
					Fish - lionfish;		
					Fish - blue angelfish;		
					Cni - Gorgonacea;	pu 5 cm	
					Fish - bicolor damselfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 9:35:51 AM	32.792467	-78.318742	-51	HB	hard bottom; Rock;		☐
7/16/2012 9:36:10 AM	32.792497	-78.318733	-49.1	HB	XS Photo; hard bottom; Rock; knoll, 49 m top, larger ridge or knoll		☑
					Cni - Antipathidae;	bu wh	
					Fish - spanish hogfish		
7/16/2012 9:37:00 AM	32.792533	-78.318683	-51.2			reef butterflyfish, sharpnose puffer, parrotfish, soapfish, scamp, creole-fish, rock beauty, doctorfish, squirrelfish, purple reeffish	☐
7/16/2012 9:38:34 AM	32.792650	-78.318552	-51.4	HB	XS Photo; soft bottom; Rock;		☑
7/16/2012 9:39:55 AM	32.792767	-78.318450	-50.1	HB	hard bottom; Rock; small rock mound		☐
					Fish - soapfish		
7/16/2012 9:41:03 AM	32.792850	-78.318350	-49.9	HB	Rock; hard bottom;		☐
					Cni - Gorgonacea;	10 cm pi fan new	
					Fish - scamp grouper;		
7/16/2012 9:41:27 AM	32.792883	-78.318330	-48.9	HB	XS Photo; hard bottom; Rock; on ridge	big fish school	☑
					Fish - rock beauty		
					Fish - creole fish		
					Fish - surgeonfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	ROV 31	16-VII-12-2	South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;	1	
7/16/2012 9:42:51 AM	32.793000	-78.318200	-49.3	HB	hard bottom; Rock; top of ridge, 48 m;		☐
					Alg - Phaeophyta; Dictyota	dense	
7/16/2012 9:43:41 AM	32.793067	-78.318133	-48.7	HB	XS Photo; hard bottom; Rock; ridge, smooth rock; top 48, bottom 51; off multibeam,		☑
					Por - Ircinia campana;		
					Cni - Gorgonacea; Diodogorgia?	10 cm pu	
7/16/2012 9:44:00 AM	32.793100	-78.318100	-47.6			spotfin butterflyfish, Calamus, squirrelfish, parrotfish, spotfin hogfish, wrasse	☐
7/16/2012 9:45:00 AM	32.793183	-78.318017	-50.1	HB	on bottom of ridge; total relief ~3m		☐
7/16/2012 9:45:47 AM	32.793250	-78.317950	-50.3	HB	Rock; flat cobble, low mounds, sand		☐
7/16/2012 9:46:00 AM	32.793269	-78.317933	-51.4			soapfish, bicolor damselfish, orangeback bass	☐
7/16/2012 9:46:17 AM	32.793300	-78.317900	-51.6	HB	XS Photo; soft bottom; off ridge, low rock		☑
					Fish - soapfish		
7/16/2012 9:47:50 AM	32.793433	-78.317767	-51.8	HB	soft bottom; scattered cobble, 1/2 m rock knolls;		☐
7/16/2012 9:48:23 AM	32.793467	-78.317717	-51.2	HB	XS Photo; soft bottom; all sand, rubble;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207162	**ROV 31**	**16-VII-12-2**	**South Carolina; Northern S.C. MPA, Station 42. southwest and outside MPA:**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Chlorophyta; Codium		
7/16/2012 9:49:00 AM	32.793517	-78.317667	-52.6				☐
7/16/2012 9:49:19 AM	32.793533	-78.317633	-52.2	SB	Off bottom; soft bottom; end of dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	**ROV 32**	**16-VII-12-3**	**South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 11:29:25 AM					Objectives: ROV Dive 32, Site #- 16-VII-12-3. Target Site – outside and southwest of South Carolina, Northern S.C. MPA; 32°43.8600'N; 78°30.3600'W; 50 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar. Conduct video/photo transect along NE-SW oriented ridge.		☐
7/16/2012 11:33:07 AM					Launch (start dive);		☐
7/16/2012 11:36:45 AM	32.730867	-78.506000	-44.3	HB	On bottom; On Target WP 1; Hding NE along ridge; Slope- flat; pavement;	80% algal cover	☐
					Por - Demospongiae;		
					Cni - Hydroidolina;		
					Cni - Gorgonacea;		
					Alg - Phaeophyta; Sargassum		
7/16/2012 11:37:00 AM	32.730867	-78.506000	-45.3	HB	low relief outcrops	blue angelfish, tattler, YTR, sharpnose puffer, reef butterflyfish, spotfin hogfish, tomtate	☐
7/16/2012 11:38:20 AM	32.730883	-78.506000	-45.1	HB	20 cm relief		☐
					Por - Demospongiae; Callyspongia vaginalis	Non XS - Random Photos;	
					Cni - Gorgonacea; Diodogorgia	purple	
					Por - Demospongiae; Aplysina	Thick HT	
					Por - Demospongiae;	tan cake - very common	
					Por - Demospongiae;	Ye EB	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea;	10 cm fan candle obrah	
7/16/2012 11:39:41 AM	32.730883	-78.506000	-44.9	HB	20 cm relief; transponder in ROV is dead; NOTE!!!! SHIP CORRDINATE RECORDED		☐
					Cni - Gorgonacea; Nicella	30 cm; Non XS - Random Photos;	
					Por - Demospongiae; Axinellida	ye	
					Por - Demospongiae; Axinellida	orange	
7/16/2012 11:41:52 AM	32.730883	-78.505967	-45.1	HB	100% cover HB; relief increased to 30 cm; on MB the ship Is on the ledge	Dominate species is algae	☐
					Por - Demospongiae; Spirastrellidae	orange	
					Cho - Ascidacea; Eudostoma		
					Alg - Chlorophyta;	fine fillimentous	
					Fish - reef butterflyfish		
7/16/2012 11:43:44 AM	32.730867	-78.505981	-45.1	HB	.5 m ridge; hard bottom; Rock;		☐
7/16/2012 11:44:11 AM	32.730883	-78.505983	-44.9	HB	XS Photo; hard bottom; Rock; Slope- flat (5 degrees); no relief;		☑
					Cho - Ascidacea; Eudostoma	Non XS - Random Photos;	
					Por - Demospongiae; Haliclona?	yellow lumpy	
					Fish - tomtate;		
7/16/2012 11:48:00 AM	32.730900	-78.505900	-44.7			lionfish, tomtate, reef butt, sharpnose puffer, doctorfish, hogfish, Calamus, blue angel, spotfin hogfish, lionfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 11:48:17 AM	32.730903	-78.505883	-45.3	HB	hard bottom; Rock; Slope- steep (>35o); SHIP GPS		☐
7/16/2012 11:49:49 AM	32.730967	-78.505800	-45.1	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
					Por - Demospongiae; Axinellida	orange	
					Fish - shortnose puffer		
					Fish - hogfish	2	
					Fish - blue angelfish;		
					Fish - Calamus porgy		
					Fish - queen angelfish		
7/16/2012 11:52:50 AM	32.731067	-78.505650	-45.3	HB	XS Photo; hard bottom; Rock; in the N slope of the rridge		☑
					Por - Ircinia campana;		
					Cni - Gorgonacea; Nicella		
7/16/2012 11:54:00 AM	32.731117	-78.505583	-44.5			ocean surgeonfish, spotfin butterflyfish, hogfish	☐
7/16/2012 11:55:13 AM	32.731178	-78.505506	-44.9	HB	XS Photo; hard bottom; Rock; .5 m rock ; Slope- moderate (<35o);	few fish	☑
					Por - Demospongiae; Aplysina	TH tubes	
					Cni - Gorgonacea; Diodogorgia	common 10 cm fan	
7/16/2012 11:57:34 AM	32.731317	-78.505317	-44.9	HB	XS Photo; hard bottom; Rock;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Ellisella	whip	
					Cni - Gorgonacea; Ellisellidae?	10-15 cm EB	
					Cni - Hydroidolina;		
					Cho - Ascidacea; Eudostoma		
					Por - Demospongiae; Axinellida	orange	
					Por - Demospongiae;	pink Encrusting	
7/16/2012 12:00:00 PM	32.731467	-78.505117	-44.7	HB	XS Photo; hard bottom; Rock; SHIP GPS RECORDED!!!		☑
7/16/2012 12:02:00 PM	32.731417	-78.504750	-46			spotted goatfish, sharpnose puffer, lionfish, orangeback bass, wrasse	☐
7/16/2012 12:02:03 PM	32.731417	-78.504750	-45.8	HB	XS Photo; hard bottom; Rock; 30 cm relief, few ledges		☑
					Cni - Hydroidolina;	white pinnate	
					Alg - Phaeophyta; sargassum		
					Fish - spotted goatfish		
					Fish - lionfish;		
7/16/2012 12:04:19 PM	32.731483	-78.504417	-46	HB	XS Photo; hard bottom; Rock;		☑
7/16/2012 12:05:00 PM	32.731500	-78.504333	-46.8		going over SE ledge	tomtates, blue angels, Calamus, sunshinefish, lionfish	☐
7/16/2012 12:05:18 PM	32.731502	-78.504317	-46.8	HB	hard bottom; Rock; Rock- wall; ledge; Slope- steep (>35o); vertical drop to the south; we are about the south face of the wall on the ledge		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 12:06:53 PM	32.731600	-78.504150	-47	HB	hard bottom; Rock; Rock- wall; Slope- steep (>35o); rugged; large boulders; rugose; on the ESE ledge of the MB		☐
					Species Observed		
					Fish - porgy		
					Cni - Antipathidae;	mesh fan	
					Fish - lionfish;	2	
					Fish - tomtate;	schools	
7/16/2012 12:09:00 PM	32.731483	-78.503930	-54.9		bottom of ledge	scamp, tomtates, Calamus, sunshinefish, lionfish, spotfin hogfish, sharpnose puffer, vermilion, bank butt, lionfish x4, french angels, lionfish x2	☐
7/16/2012 12:09:14 PM	32.731478	-78.503900	-54.5	HB	XS Photo; hard bottom; soft bottom; rubble; Slope- flat; S edge of the ridge		☑
					Fish - lionfish;		
					Cni - Hydroidolina;	black stinging	
					Fish - scamp grouper;		
					Fish - tomtate;		
					Por - Demospongiae;	orange encrusting	
					Por - Demospongiae;	pink encrust	
7/16/2012 12:10:22 PM	32.731433	-78.503867	-53.1	HB	hard bottom; Rock; Rock- wall; Slope- steep (>35o); 1-2 m boulders;		☐
					Fish - lionfish;	2	
					Cni - Antipathidae;	fan fine mesh 30 cm	
					Fish - tomtate;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 12:11:28 PM	32.731483	-78.503817	-51.8	HB	XS Photo; hard bottom; Rock; Rock- wall; Slope- steep (>35o); Human Debris; fishing line	lower slope - little algae, encrusting sponges	☑
					Species Observed		
					Fish - lionfish; 3		
					Fish - scamp grouper;		
					Fish - unid grouper		
					Fish - blue angelfish;		
					Fish - french angelfish		
					Fish - tomtate;		
7/16/2012 12:12:00 PM	32.731523	-78.503761	-51.6	HB	high relief ledge	2 grouper - at least 1 was a scamp, blue angels, schools of tomtates, lionfish, spotfin hogfish, reef butterflyfish, YTR, spotfin butterflyfish, red porgy	☐
7/16/2012 12:13:27 PM	32.731647	-78.503567	-50.1	HB	XS Photo; hard bottom; Rock; Rock- wall; Slope- steep (>35o); drop off is probably over 20 m		☑
					Fish - Calamus porgy		
7/16/2012 12:15:18 PM	32.731800	-78.503344	-49.3	HB	hard bottom; Rock; Rock- wall; Slope- steep (>35o); drop off main slope; jumble rock slabs and boulders; 1-2 m relief; 3 m diam; south slope		☐
7/16/2012 12:16:00 PM	32.731862	-78.503255	-50.1	HB	hard bottom; Rock; Rock- wall; Slope- steep (>35o); drop off main slope; jumble rock slabs and boulders; 1-2 m relief; 3 m diam; XS Photo;		☑
					Fish - lionfish; 2		
					Cni - Stichopathes;		
					Fish - blue angelfish;		
					Fish - tomtate;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 12:16:00 PM	32.731862	-78.503255	-50.1			blue angel, lionfish, tomtates, sharpnose puffer, reef butterflyfish, bank butt, purple reeffish, Calamus, sunshinefish, lionfish	☐
7/16/2012 12:18:15 PM	32.732050	-78.502950	-52.2	HB	hard bottom; Rock; Rock- wall; Slope- steep (>35o); drop off main slope; jumble rock slabs and boulders; 1-2 m relief; 3 m diam; XS Photo;		☑
					Cho - Ascidacea; Didemnidae		
					Fish - lionfish; 2		
					Fish - bank butterflyfish		
7/16/2012 12:20:00 PM	32.732217	-78.502717	-52.2			lionfish, blackbar soldierfish, school of tomtates, reef butterflyfish, spotfin hogfish, Calamus, school of tomtates, vermilion, spotfin hogfish, sunshinefish, lionfish, bicolor damselfish	☐
7/16/2012 12:21:01 PM	32.732306	-78.502600	-51.8	HB	hard bottom; Rock; Rock- wall; Slope- steep (>35o); drop off main slope; jumble rock slabs and boulders; 1-2 m relief; 3 m diam; XS Photo;		☑
					Fish - lionfish; 2		
7/16/2012 12:23:07 PM	32.732467	-78.502317	-53.1	HB	XS Photo; hard bottom; Rock- wall; Slope- steep (>35o);		☑
					Fish - lionfish;		
7/16/2012 12:24:37 PM	32.732600	-78.502067	-54.3	HB	base of slope on S side; rugged; large boulders		☐
					Fish - blue angelfish;		
					Fish - tomtate;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 12:25:42 PM	32.732702	-78.501950	-52.4	HB	XS Photo; hard bottom; Rock- wall; Slope- steep (>35o);		☑
					Fish - lionfish;		
					Fish - vermilion snapper		
					Fish - tomtate;		
7/16/2012 12:26:00 PM	32.732738	-78.501912	-52.6			lionfish, LOTS of tomtates, spotfin hogfish, vermilion, blue angel, wrasse, sunshinefish, squirrelfish, bank butt, purple reeffish, YTR, Calamus, lionfish	☐
7/16/2012 12:27:52 PM	32.732900	-78.501683	-49.5	HB	XS Photo; hard bottom; Rock; Rock- wall; Slope- steep (>35o);		☑
7/16/2012 12:29:00 PM	32.733000	-78.501550	-48.7			possible graysby, lionfish, another grouper diving into a crevice, large schhols of tomtates, few vermilion, lionfish	☐
7/16/2012 12:29:05 PM	32.733000	-78.501533	-48.9	HB	hard bottom; Rock; Rock- wall; Slope- steep (>35o); upperslope; ~ 3 m vertical rock; lower slope is jumble of 1-2 m diam rock slabs	domingate; encrusting sponges; black corals; no algae; few gorgs;	☐
					Fish - unid grouper 2		
					Fish - lionfish; 2		
7/16/2012 12:30:53 PM	32.733150	-78.501333	-48.7	HB	XS Photo; hard bottom; Rock- wall; Slope- steep (>35o); top of reef; flat rock;	Cni - Hydroidia; sargassum	☑
					Fish - scamp grouper; 2		
					Fish - goatfish		
					Fish - creole fish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 12:31:00 PM	32.733167	-78.501315	-48.7			creole-fish, spotted goatfish, sharpnose puffer, tomtates, bank butt, scamp, lionfish, spotfin hogfish, scorpionfish, lionfish, possible scamp, possible graysby	☐
7/16/2012 12:32:41 PM	32.733333	-78.501100	-48.7	HB	XS Photo; hard bottom; Rock- wall; Slope- steep (>35o);		☑
					Fish - lionfish;	2	
					Fish - tomtate;		
					Fish - gag grouper		
					Fish - scorpion fish		
7/16/2012 12:35:05 PM	32.733550	-78.500767	-47	HB	XS Photo; hard bottom; Rock- wall; Slope- steep (>35o);		☑
					Fish - unid grouper		
					Fish - lionfish;	2	
					Fish - tomtate;		
7/16/2012 12:36:00 PM	32.733633	-78.500647	-47.4			lionfish x2, reef butt, purple reeffish, grouper, spotfin hogfish, blue angel, bank butt, hogfish, lionfish	☐
7/16/2012 12:37:13 PM	32.733733	-78.500475	-48.5	HB	XS Photo; hard bottom; Rock- wall; Slope- steep (>35o);		☑
					Fish - hogfish		
					Fish - blue angelfish;		
					Cni - Antipathidae;	white bush	
					Fish - lionfish;	2	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 12:38:50 PM	32.733867	-78.500250	-46.8		changing heading to NW to the N slope of the ridge; change DVD 64		☐
					Fish - scamp grouper;	15-20 school	
7/16/2012 12:40:46 PM	32.733950	-78.500232	-49.1		start DVD 65		☐
					Fish - lionfish;		
7/16/2012 12:41:00 PM	32.733950	-78.500267	-49.1			20 scamp on the top of the break, reef butterflyfish, blue angel	☐
7/16/2012 12:42:02 PM	32.733950	-78.500400	-46.8	HB	hard bottom; Rock; visibilty dropped - 10-15 ft;		☐
					Alg - Phaeophyta; Sargassum	field; dominate in this area;	
7/16/2012 12:43:00 PM	32.733950	-78.500517	-44.7	HB	low relief outcrops, pavement; crossing over to the NW edge of the multibeam feature		☐
7/16/2012 12:43:54 PM	32.733966	-78.500617	-44.7	HB	XS Photo; hard bottom; Rock;		☑
7/16/2012 12:44:00 PM	32.733967	-78.500633	-44.7			reef butterflyfish, blue angelfish, tattler, cowfish, Calamus, tattler, YTR, french angels, cowfish, short bigeye	☐
7/16/2012 12:46:23 PM	32.733983	-78.500933	-46	HB	XS Photo; hard bottom; Rock; up on top of the ridge; pavement; low relief	dominated by sargassum;	☑
					Por - Demospongiae;	tan cake	
					Alg - Chlorophyta;		
					Fish - cowfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Phaeophyta; Dictyota		
					Cni - Gorgonacea;	10 cm red orange	
7/16/2012 12:48:31 PM	32.734042	-78.501209	-46	HB	XS Photo; hard bottom; 1/2 way across the MB ridge; Human Debris; cable		☑
					Cni - Gorgonacea; Diodogorgia		
					Cni - Hydroidolina;		
					Fish - french angelfish		
7/16/2012 12:50:58 PM	32.734067	-78.501538	-45.8	HB	XS Photo; hard bottom; pavement; 50% cover of rock		☑
					Fish - tatler;		
					Fish - blue angelfish;		
					Fish - cowfish		
					Fish - short bigeye;		
					Fish - Calamus porgy		
7/16/2012 12:51:00 PM	32.734067	-78.501550	-46			Calamus, wrasse, tattler, reef butterflyfish, blue angelfish, lionfish	☐
7/16/2012 12:53:11 PM	32.734117	-78.501817	-46	HB	XS Photo; hard bottom; pavement; Human Debris; line		☑
7/16/2012 12:54:00 PM	32.734167	-78.501917	-44.7	HB	N rim of the ridge which is correct on MB; base of N slope is 47.5 m deep; 10 degree slope; low relief rock slabs; 2 m relief; 10 m wide;		☐
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 12:55:00 PM	32.734233	-78.502000	-46.4	HB	moderate relief outcrops; bottom of NW slope, much less rugose than the SE slope	hogfish,	☐
7/16/2012 12:56:03 PM	32.734267	-78.502067	-46.8	HB	XS Photo; hard bottom; pavement; the ridge from S base to n base is about 100 m wide		☑
					Fish - hogfish		
7/16/2012 12:57:00 PM	32.734283	-78.502033	-47			reef butterflyfish, lionfish x2, spotfin hogfish, lionfish, sharpnose puffer, bank butt, YTR, tattler, tomtate, bicolor damselfish, blue angels, lionfish x4, cubbyu, scamp	☐
7/16/2012 12:58:14 PM	32.734350	-78.501900	-44.9	HB	XS Photo; hard bottom; pavement; flat sand to the NNW side of the ridge		☑
					Por - Demospongiae;	tan cake	
					Alg - Phaeophyta; Sargassum		
					Cni - Hydroidolina;		
					Alg - Phaeophyta; Dictyota		
					Por - Demospongiae;	several spp	
					Por - Demospongiae;	ye encrusting	
					Cni - Gorgonacea; Diodogorgia		
					Por - Demospongiae; Callyspongia vaginalis		
7/16/2012 1:00:26 PM	32.734559	-78.501650	-45.1	HB	XS Photo; hard bottom; pavement; Rock;	dominated by >2 m long sargassum	☑
					Cni - Antipathidae;	30 cm fan	
					Fish - tomtate;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	ROV 32	16-VII-12-3	South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish; 4		
					Fish - scamp grouper;		
7/16/2012 1:02:44 PM	32.734750	-78.501361	-46.4	HB	XS Photo; hard bottom; Rock; Human Debris; rope/line		☑
					Fish - Calamus porgy		
					Alg - Chlorophyta; Codium		
7/16/2012 1:03:00 PM	32.734767	-78.501333	-45.8			Calamus, reef butterflyfish, lionfish, tomtate, sharpnose puffer	☐
7/16/2012 1:04:30 PM	32.734933	-78.501131	-46	HB	hard bottom; Rock; 1 m ledge		☐
					Fish - lionfish; 3		
7/16/2012 1:04:55 PM	32.734967	-78.501054	-46	HB	XS Photo; soft bottom; pavement;		☑
					Cni - Corallimorpharia		
					Fish - tomtate;		
7/16/2012 1:07:00 PM	32.735150	-78.500802	-46			lionfish, red porgy, hogfish, few tomtates, Calamus, lionfish x2, bank butterflyfish, reef butterflyfish, lionfish x2	☐
7/16/2012 1:07:32 PM	32.735200	-78.500750	-46.2	HB	XS Photo; soft bottom; pavement; On MB we are at the base of the N slipe; 50% cover of large rock slabs 2-4 m diam. 1 m relief; recording SHIP GPS- ROV nav out.		☑
					Fish - lionfish; 2		
					Fish - hogfish 3		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207163	**ROV 32**	**16-VII-12-3**	**South Carolina; Northern S.C. MPA, Station 43 southwest and outside MPA.**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Alg - Cyanophyta;	on sediment	
					Cni - Hydroidolina;		
7/16/2012 1:09:56 PM	32.735400	-78.500452	-45.3	HB	XS Photo; soft bottom; pavement; Rock;		☑
7/16/2012 1:10:00 PM	32.735417	-78.500450	-44.9		end of dive		☐
7/16/2012 1:10:22 PM	32.735450	-78.500400	-43.9		Recover (end dive); N. base of the ridge; ShIP GPS!!!		☐
7/16/2012 1:12:37 PM					end DVD		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	**ROV 33**	**16-VII-12-4**	**South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 1:38:38 PM					Objectives: ROV Dive 33, Site #- 16-VII-12-4. Target Site – outside and southwest of South Carolina, Northern S.C. MPA; 32°41.4000'N, 78°33.3000'W; 50 m. ROV survey outside MPA and ground truth new Pisces multibeam sonar of the site. Conduct video/photo transect along ridge.		☐
7/16/2012 2:08:04 PM					Launch (start dive); no ROV tracking, ship coordinates only	dolphin in video;	☐
7/16/2012 2:09:53 PM	32.675333	-78.561833	-35.1	HB	On bottom; hard bottom; Rock; pavementl, 10-20 cm relief' Slope- flat; ship coord		☐
					Fish - scamp grouper;		
					Fish - amberjack		
					Fish - gray snapper		
7/16/2012 2:11:00 PM	32.675350	-78.561817	-42.6	HB	low relief outcrops	grey snapper x3, scamp, AJ, spotfin hogfish, white grunt, porgy, bicolor damsel, wrasse, parrotfish, reef butterflyfish, scamp x3	☐
7/16/2012 2:12:30 PM	32.675350	-78.561817	-42.4	HB	hard bottom; Rock; XS Photo; 1/2 m outcrops		☑
					Por - Demospongiae;	tan cake	
					Cni - Gorgonacea; Diodogorgia		
					Cni - Hydroidolina;		
					Alg - Phaeophyta; Dictyota	abundant	
					Alg - Phaeophyta; Padina		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 2:14:48 PM	32.675346	-78.561918	-42.6	HB	XS Photo; hard bottom; Rock; low relief rock 30cm		☑
					Species Observed		
					Fish - scamp grouper;		
					Art - Scyllarides		
					Por - Ircinia campana;		
					Cni - Stichopathes;		
7/16/2012 2:16:39 PM	32.675333	-78.562141	-42.2	HB	Rock; hard bottom; some ledges		☐
					Cho - Ascidacea; Eudostoma		
7/16/2012 2:17:03 PM	32.675333	-78.562144	-43.3	HB	XS Photo; hard bottom; Rock; top of ridge hd NNE; no ROV tracking		☑
					Cni - Gorgonacea;	tan fan	
					Cni - Gorgonacea; Nicella		
					Fish - gray snapper	3	
7/16/2012 2:19:00 PM	32.675367	-78.562117	-42.6	HB	moderate relief outcrops	rock beauty, AJ, school of tomtates, spotted goatfish, trumpetfish, cubbyu, sharpnose puffer, reef butterflyfish, graysby?, grey snapper x2, doctorfish, lionfish, scamp	☐
7/16/2012 2:19:12 PM	32.675383	-78.562133	-42.8	HB	XS Photo; hard bottom; Rock; Slope- flat; 80% rock cover	dense algal cover	☑
					Fish - spotted goatfish		
					Fish - tomtate;	big school	
					Por - Demospongiae; Agelas		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tumpetfish		
7/16/2012 2:21:11 PM	32.675550	-78.562133	-43.3	HB	hard bottom; Rock; 1-2 m relief, 1 m ledge		☐
					Fish - rock beauty		
					Fish - graysby grouper		
7/16/2012 2:21:40 PM	32.675603	-78.562117	-43.9	HB	XS Photo; hard bottom; Rock; west slope of N-S ridge		☑
					Fish - tumpetfish		
					Fish - lionfish;		
					Fish - gray snapper		
7/16/2012 2:23:02 PM	32.675747	-78.562054	-43.7	HB	hard bottom; Rock; slope top 1-2 m wall and undercut ledge; lower slope 1 m scattered boulders and outcrops 1-2 m; base in sediment 45 m.		☐
7/16/2012 2:24:00 PM	32.675883	-78.562033	-44.3			grey snapper x6, LOADS of tomtates, few vermilion, spotfin hogfish	☐
7/16/2012 2:24:30 PM	32.675950	-78.562033	-44.7	HB	XS Photo; hard bottom; Rock; reef base; reef slope over 20 m wide; sediment at base; top of reef 42.5 m; ship GPS		☑
					Fish - gray snapper	6	
					Fish - tomtate;	huge school	
7/16/2012 2:26:00 PM	32.676149	-78.561983	-42.6	HB	~2-3m total relief		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 2:27:00 PM	32.676279	-78.561950	-43.5			lionfish, doctorfish, blackbar soldierfish, yellowhead wrasse, cubbyu, purple reeffish, lionfish, squirrelfish, lionfish x6, graysby, spotfin hogfish	☐
7/16/2012 2:27:29 PM	32.676350	-78.561917	-43.7	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
					Fish - vermilion snapper		
7/16/2012 2:29:35 PM	32.676633	-78.561867	-44.5	HB	XS Photo; hard bottom; Rock; ridge base; 2 m undercut ledge and vertical wall; boulders at bottom; rugged, rugose		☑
					Fish - spotfin hogfish		
					Fish - blackbar soldierfish		
7/16/2012 2:31:45 PM	32.676917	-78.561767	-43.7	HB	XS Photo; hard bottom; Rock; slope		☑
					Fish - lionfish;	5	
7/16/2012 2:34:02 PM	32.677217	-78.561683	-44.9	HB	XS Photo; hard bottom; Rock; slope		☑
					Cni - Gorgonacea; Ellisella	whip	
					Cni - Gorgonacea; Telesto		
					Por - Ircinia campana;		
					Fish - lionfish;		
7/16/2012 2:35:00 PM	32.677349	-78.561650	-42.8			purple reeffish, bank butterflyfish, shitton of tomtates, lionfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 2:36:00 PM	32.677488	-78.561612	-43.7			scamp, squirrelfish, tomtates, lionfish, blackbar soldierfish, spotfin butterflyfish, purple reeffish, vermilion, cubbyu, sharpnose puffer, graysby, lionfish x4, blue angel, Calamus, yellowhead wrasse	☐
7/16/2012 2:36:41 PM	32.677550	-78.561550	-43.5	HB	hard bottom; slope, rugged		☐
					Fish - lionfish;		
					Fish - scamp grouper;		
7/16/2012 2:37:16 PM	32.677619	-78.561517	-43.9	HB	XS Photo; hard bottom; Rock; lower slope		☑
7/16/2012 2:39:33 PM	32.677900	-78.561378	-44.1	HB	XS Photo; hard bottom; slope, rugged		☑
					Fish - lionfish;		
					Fish - tomtate;	still dense	
					Fish - graysby grouper		
					Fish - cubyu		
7/16/2012 2:41:01 PM	32.678074	-78.561305	-43.9	HB	hard bottom; West slope of ridge		☐
					Fish - lionfish;	4	
7/16/2012 2:41:52 PM	32.678183	-78.561250	-43.7	HB	XS Photo; hard bottom; Rock; ridge slope		☑
					Fish - blue angelfish;		
					Alg - Phaeophyta; Dictyota	dense	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Hydroidolina;	common	
					Fish - cornet fish		
					Fish - lionfish;		
7/16/2012 2:43:00 PM	32.678333	-78.561200	-43.5			bluespotted cornetfish, tomtates, spotfin hogfish, blackbar soldierfish, cubbyu, blue angel, spotted goatfish, vermilion, sharpnose puffer, squirrelfish	☐
7/16/2012 2:44:14 PM	32.678468	-78.561150	-44.3	HB	XS Photo; hard bottom; Rock; base of ridge		☑
7/16/2012 2:45:41 PM	32.678683	-78.561067	-44.7	HB	hard bottom; Rock; boulders at bottom of slope		☐
7/16/2012 2:46:00 PM	32.678717	-78.561033	-44.3			lionfish, trumpet/cornetfish, squirrelfish, blue angel, wrasse, sunshinefish, cowfish, spanish hogfish, white grunt, doctorfish, cubbyu, scamp, lionfish, buttloads of tomtates, ocean surgeonfish, lionfish x4, graysby, lionfish x5	☐
7/16/2012 2:46:34 PM	32.678767	-78.561000	-43.9	HB	XS Photo; hard bottom; Rock; slope	Dictyota thick on base boulders	☑
					Fish - spanish hogfish		
					Fish - scamp grouper;		
					Fish - white grunt		
					Fish - cowfish		
7/16/2012 2:48:47 PM	32.679017	-78.560842	-44.5	HB	XS Photo; hard bottom; Rock; lower slope		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;	4	
7/16/2012 2:50:02 PM	32.679198	-78.560769	-42.6	HB	hard bottom; Rock; west slope of ridge		☐
					Por - Demospongiae; Aplysina?	cb pu	
					Fish - lionfish;		
7/16/2012 2:51:10 PM	32.679339	-78.560689	-44.7	HB	XS Photo; hard bottom; Rock; base of reef		☑
7/16/2012 2:51:36 PM	32.679384	-78.560650	-43.3	HB	hard bottom; Rock; change course to east to xs across ridge to east side		☐
					Fish - lionfish;		
					Fish - tomtate;		
7/16/2012 2:53:17 PM	32.679564	-78.560473	-45.8	HB	XS Photo; hard bottom; pavement; base of reef in sediment is 45.8 m		☑
					Fish - lionfish;	3	
7/16/2012 2:54:00 PM	32.679600	-78.560333	-44.7		preparing to head over to the other side of the ridge		☐
7/16/2012 2:55:00 PM	32.679633	-78.560135	-42.6	HB	low relief outcrops/pavement on top of ridge	gag?, purple reeffish, cubbyu, blue angel, reef butterflyfish, porgy, spotted goatfish, wrasse	☐
7/16/2012 2:56:10 PM	32.679667	-78.559915	-41.2	HB	XS Photo; hard bottom; Rock; top of ridge heading E		☑
					Alg - Phaeophyta; Sargassum		
					Alg - Phaeophyta; Padina	nearly 100% cover	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae;	tan cake	
					Cni - Gorgonacea; Nicella		
7/16/2012 2:58:15 PM	32.679733	-78.559513	-41.2	HB	XS Photo; hard bottom; pavement;		☑
7/16/2012 3:00:00 PM	32.679767	-78.559167	-42.2			porcupine/balloonfish, reef butterflyfish, YTR, reef butterflyfish, Calamus, tomtate, sharpnose puffer, blue angel	☐
7/16/2012 3:00:02 PM	32.679765	-78.559165	-42.2	HB	pavement; hard bottom; XS Photo; on top ridge, no ledges; 50-100% cover rock and dense algae; 1/2 way across ridge, east slope on multibeam is less definite, grades out	few fish on top	☑
					Alg - Phaeophyta; Sargassum		
					Alg - Phaeophyta; Dictyota		
					Fish - porcupine fish		
					Alg - Phaeophyta; Padina		
7/16/2012 3:02:59 PM	32.679717	-78.558606	-43.9	HB	hard bottom; pavement; top of ridge		☐
					Por - Demospongiae; Aplysina	thick ht	
7/16/2012 3:03:23 PM	32.679700	-78.558530	-43.5	HB	XS Photo; pavement; top of ridge		☑
					Fish - lionfish;		
7/16/2012 3:04:00 PM	32.679683	-78.558450	-43.7			lionfish, burrfish, parrotfish, Calamus	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/16/2012 3:05:08 PM	32.679700	-78.558283	-45.1	HB	hard bottom; top; pavement;		☐
					Species Observed: Cni - Gorgonacea; Titanideum frauenfeldii? or		
7/16/2012 3:05:51 PM	32.679717	-78.558143	-42.6	HB	XS Photo; hard bottom; pavement; top; 80% rock and algae; 2/3 way across orange ridge on multibeam		☑
7/16/2012 3:09:00 PM	32.679734	-78.557800	-46.2	HB	on other side of ridge, low relief outcrops	triggers in water column, tomtates, reef butt, wrasses	☐
7/16/2012 3:09:14 PM	32.679733	-78.557750	-46.4	HB	hard bottom; pavement; small ledge		☐
					Species Observed: Fish - Calamus porgy		
					Fish - triggerfish		
					Por - Demospongiae; Agelas		
					Cni - Gorgonacea; Diodogorgia		
					Alg - Phaeophyta; Dictyota		
					Fish - tomtate;		
					Alg - Phaeophyta; Padina		
7/16/2012 3:10:29 PM	32.679733	-78.557517	-46	HB	XS Photo; hard bottom; pavement; small ledge; top 45.5 m, 47.5 m bottom; East slope of ridge, near the orange to yellow of multibeam; change DVD		☑
7/16/2012 3:13:01 PM	32.679800	-78.557233	-47	HB	hard bottom; pavement; start new transect parallel to NE along east slope of ridge; not very definite		☐
7/16/2012 3:13:35 PM	32.679867	-78.557237	-46.8	HB	XS Photo; hard bottom; pavement;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/16/2012 3:14:00 PM	32.679917	-78.557267	-47.4			cubbyu, spotfin butterflyfish, sharpnose puffer, wrasse, tomtates ,wrasse bass, YTR, lionfish, squirrelfish, blue angel, spotfin hogfish, hogfish, Calamus, grey/french angel	☐
7/16/2012 3:14:13 PM	32.679958	-78.557267	-47.2	HB	hard bottom; Rock; ledge of east slope, 1-2 m relief, undercut		☐
					Por - Demospongiae; Callyspongia		
					Fish - cubyu		
					Fish - wrasse		
					Alg - Phaeophyta; Dictyota		
					Fish - lionfish;		
7/16/2012 3:15:31 PM	32.680126	-78.557191	-47.4	HB	hard bottom; Rock; east slope; wide zone of low relief boulders at base of ledge		☐
					Por - Ircinia campana;		
					Art - Scyllarides	XS Photo;	
7/16/2012 3:18:00 PM	32.680400	-78.557033	-46.4			wrasse bass, reef butterflyfish, tattler, blue angel, sharpnose puffer, sargassum trigger, grey trigger, Calamus	☐
7/16/2012 3:18:01 PM	32.680400	-78.557033	-46.8	HB	XS Photo; hard bottom; Rock;		☑
					Fish - wrasse bass		
					Fish - hogfish		
7/16/2012 3:19:15 PM	32.680537	-78.556880	-47.4	HB	hard bottom; Rock; Human Debris; fish line		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - tatler;		
7/16/2012 3:19:59 PM	32.680600	-78.556798	-47	HB	hard bottom; Rock; low relief rock 10-20 cm; 50% cover		☐
7/16/2012 3:20:28 PM	32.680650	-78.556733	-46.4	HB	XS Photo; hard bottom; Rock; along east side; flat,low relief hardbottom		☑
					Fish - triggerfish		
7/16/2012 3:23:19 PM	32.680933	-78.556333	-45.6	HB	XS Photo; hard bottom; pavement;		☑
7/16/2012 3:24:15 PM	32.681021	-78.556333	-47.4	HB	hard bottom; pavement; east edge of ridge; Slope-flat; 30-50% rubble, cobble, rock, 10-20 cm relief;	dense algae	☐
					Fish - rock hind	Non XS - Random Photos;	
					Alg - Phaeophyta; Dictyota	dense	
					Alg - Phaeophyta; Padina	dense	
7/16/2012 3:25:00 PM	32.681083	-78.556383	-47.6			rock beauty, rock hind, hogfish, spotfin hogfish, sharpnose puffer, lionfish, cubbyu, spanish hogfish, blue angel, tomtate, spotfin butt, Calamus, lionfish, reef butterflyfish	☐
7/16/2012 3:26:15 PM	32.681150	-78.556533	-46.6	HB	XS Photo; hard bottom; pavement; vis cleared to 50'		☑
					Fish - hogfish		
					Fish - lionfish;		
7/16/2012 3:27:48 PM	32.681183	-78.556700	-47.2	HB	hard bottom; Rock; 50 cm rock		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	ROV 33	16-VII-12-4	South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - spanish hogfish		
					Fish - tomtate;		
7/16/2012 3:28:50 PM	32.681233	-78.556683	-46.8	HB	hard bottom; Rock;		☐
					Fish - lionfish;		
					Cni - Gorgonacea; Diodogorgia		
					Cni - Gorgonacea;	tan fan	
					Fish - spotfin hogfish		
7/16/2012 3:30:11 PM	32.681367	-78.556509	-46.8	HB	hard bottom; pavement; 50 cm ledges; east slope		☐
					Fish - hogfish		
7/16/2012 3:31:00 PM	32.681451	-78.556399	-47.8			hogfish x2, lionfish x6, squirrelfish, reef butterflyfish, short bigeye	☐
7/16/2012 3:31:25 PM	32.681483	-78.556345	-46.4	HB	XS Photo; hard bottom; pavement;		☑
					Fish - hogfish	male	
					Fish - lionfish;	6	
7/16/2012 3:33:48 PM	32.681750	-78.556133	-46.8	HB	XS Photo; hard bottom; pavement;		☑
7/16/2012 3:35:00 PM	32.681917	-78.556067	-46.8			rock hind, hogfish, scamp x3 - 1 in greyhead, soapfish,	☐
7/16/2012 3:35:38 PM	32.681983	-78.556038	-46.8	HB	hard bottom; pavement; low relief rock, 50% cover; east slope		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207164	**ROV 33**	**16-VII-12-4**	**South Carolina; Northern S.C. MPA, Station 44 southwest and outside MPA.**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - rock hind		
					Fish - hogfish		
					Fish - scamp grouper;	3	
7/16/2012 3:37:08 PM	32.682050	-78.555983	-43.3	HB	end of dive; Off bottom; hard bottom; pavement; end of dive; all ship GPS coordinates		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/17/2012 10:21:07 AM					Objectives: ROV Dive 34, Site #- 17-VII-12-2. Target Site – ~10 nmi north of North Florida MPA; 30° 42.2650'N; 80°06.4240'W; 70 m. ROV survey outside MPA and ground truth Navy multibeam sonar map of the site. Conduct video/photo transect along N-S oriented ridge of sonar map; multibeam is 15 m resolution.		☐
7/17/2012 11:36:15 AM					Launch (start dive);		☐
7/17/2012 11:37:40 AM					start DVD and HD; heavy POM @ 25 m;		☐
7/17/2012 11:39:00 AM	30.703933	-80.107133	-50.1	HB	low relief outcrops	lionfish, tomtate, cowfish, greater AJ, tattler, YTR, lionfish, wrasse bass, sharpnose puffer	☐
7/17/2012 11:39:02 AM	30.703933	-80.107133	-50.1		On bottom;		☐
7/17/2012 11:39:31 AM	30.703917	-80.107128	-50.3	HB	hard bottom; Rock; patches of sediment; low relief rock pavement slabs; <10 -20 cm relief; grades into sed to the east; 50 m south of WP. Dive tracking has improved		☐
					Cni - Stichopathes;		
					Fish - amberjack		
					Fish - cowfish		
7/17/2012 11:41:19 AM	30.703917	-80.107117	-49.7		start moving down the line;		☐
					Por - Demospongiae; Aplysina	Thick hallow tube	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Gorgonacea; Diodogorgia?		
					Por - Ircinia campana;		
					Por - Demospongiae;	tan cake	
					Cni - Hydroidolina;		
					Ann - Filograna;		
					Alg - Chlorophyta;	flat blades	
					Fish - lionfish;	2	
7/17/2012 11:42:36 AM	30.703943	-80.107107	-50.6	HB	hard bottom; Rock; scattered rock boulders; .5 m relief		☐
					Fish - sharpnose puffer		
					Fish - reef butterflyfish		
					Cni - Gorgonacea; Nicella	20 cm	
					Fish - tatler;		
					Fish - squirrelfish		
7/17/2012 11:43:00 AM	30.704006	-80.107078	-50.3			squirrelfish, blackbar soldierfish, tomtates, wrasse, grey trigger, reef butterflyfish, sharpnose puffer, tattler, YTR, blue angel, spotfin hogfish, cubbyu, cowfish	☐
7/17/2012 11:43:29 AM	30.704074	-80.107026	-48.9	HB	XS Photo; hard bottom; Rock; smooth rock mound 51-49.5 m deep ; on edge of reef		☑
					Fish - tomtate;		
					Cni - Stichopathes;		
					Fish - triggerfish		
					Fish - blue angelfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 11:45:26 AM	30.704189	-80.107001	-50.1	HB	hard bottom; Rock; XS Photo; low relief rock pavement. 10-30 cm relief; .5 m ledges; 52.5 m on sand		☑
					Por - Demospongiae;	yellow TE	
					Fish - tomtate;		
					Por - Demospongiae;	pink encrusting	
					Cni - Antipathidae; Antipathes		
					Por - Demospongiae; Spirastrellidae		
					Cni - Antipathidae;	white fine mesh fan	
7/17/2012 11:48:00 AM	30.704688	-80.106734	-51.2			lionfish, wrasses, Ajs, YTR, reef butterflyfish, school of Ajs	☐
7/17/2012 11:48:29 AM	30.704759	-80.106684	-51.4	HB	hard bottom; Rock;		☐
					Fish - lionfish;		
					Fish - tomtate;		
					Fish - amberjack		
					Cni - Gorgonacea;	purple fan	
					Alg - Chlorophyta;	flat blade translucent	
					Ann - Filograna;		
7/17/2012 11:49:56 AM	30.705053	-80.106805	-49.5	HB	XS Photo; hard bottom; pavement;		☑
					Alg - Rhodophyta;	thin blade	
					Por - Demospongiae;	many spp.	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/17/2012 11:50:47 AM	30.705172	-80.106557	-51.4	HB	soft bottom; rubble;		☐
7/17/2012 11:51:00 AM	30.705148	-80.106518	-50.3	HB	hard bottom; pavement; ROV tracking is working but still jumpy. Ship GPS		☐
7/17/2012 11:52:10 AM	30.705297	-80.106485	-50.1	HB	XS Photo; hard bottom; pavement; on MB we are on top of the ridge; we are chaning the hd to go NE		☑
7/17/2012 11:54:00 AM	30.705509	-80.106382	-51			reef butterflyfish, spotfin butterflyfish, greater Ajs, wrasse, grey trigger, lobster, bank sea bass, blue angel, queen trigger, cubbyu, purple reeffish	☐
7/17/2012 11:54:20 AM	30.705491	-80.106207	-50.8	HB	XS Photo; hard bottom; pavement;		☑
					Fish - spotfin butterflyfish		
					Fish - reef butterflyfish		
					Fish - tatler;		
7/17/2012 11:57:06 AM	30.705643	-80.105917	-51.6	HB	hard bottom; Rock;		☐
					Fish - queen trigger		
					Por - Ircinia campana;	large	
					Art - Panularis argus	Non XS - Random Photos;	
7/17/2012 11:58:53 AM	30.705634	-80.106068	-50.6	HB	XS Photo; Rock;		☑
					Alg - Phaeophyta; Sargassum		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Stichopathes;		
					Cni - Gorgonacea; Ellisella barbadensis		
7/17/2012 11:59:00 AM	30.705639	-80.106050	-50.1			greenband wrasse, orangeback bass, YTR, tattler, blue angel, scamp, wrasse bass, Calamus, reef butterflyfish	☐
7/17/2012 12:00:20 PM	30.705754	-80.105850	-51.8				☐
7/17/2012 12:00:21 PM	30.705752	-80.105842	-51.4	HB	Rock; hard bottom; hd NE traveled ~100 m across the ridge; pavement;10-30 cm relief Rock;		☐
7/17/2012 12:01:12 PM	30.705697	-80.105560	-50.8	HB	XS Photo; hard bottom; pavement; sediment veneer and exposed rock;		☑
					Cho - Ascidacea; Didemnidae		
					Fish - scamp grouper;		
					Fish - wrasse bass		
7/17/2012 12:03:14 PM	30.705580	-80.105047	-53.7	HB	XS Photo; pavement; ~50 m from the edge; fractured rock slabs 30 cm relief		☑
					Fish - hogfish		
					Fish - warsaw grouper	60-70 cm; three	
					Cni - Antipathidae; Antipathes	gray bush	
					Fish - tomtate;		
7/17/2012 12:05:00 PM	30.705823	-80.104817	-54.1			hogfish, greater Ajs, warsaw grouper x3, speckled hind, scamp x4, school of tomtates, cherubfish, vermilion, lionfish x2	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/17/2012 12:07:20 PM	30.705673	-80.104540	-55.8	HB	hard bottom; Rock; increased rugosity; 80% rock cover; holding position to watch groupers; on east edge of the ridge on MB; the same large from last note; Human Debris;		☐
					Fish - speckled hind	Non XS - Random Photos;	
					Fish - vermilion snapper		
7/17/2012 12:09:48 PM	30.705800	-80.104148	-54.3	HB	hard bottom; Rock;		☐
					Fish - scamp grouper;	4	
7/17/2012 12:11:32 PM	30.705789	-80.104037	-61	HB	hard bottom; Rock - east Escarpment from 56 to 62.5 m deep; rugged; 80% cover slabs; 30 cm relief;		☐
7/17/2012 12:12:04 PM	30.705852	-80.104061	-61.6	HB	changing heading to go north along the ledge		☐
					Fish - lionfish;	1	
					Por - Demospongiae;	encrusthing; dense	
7/17/2012 12:13:44 PM	30.706002	-80.103971	-62.2	HB	XS Photo; hard bottom; Rock; ridge is 10-20 slope over about 15 m wide. Jumble of rock slabs;		☑
					Fish - scamp grouper;		
					Cni - Stichopathes;	abundant	
					Cni - Antipathidae;	several Spp	
					Cni - Antipathidae;	big bushy; brown; common	
7/17/2012 12:14:00 PM	30.706057	-80.104004	-62.6			scamp, school of tomtates, vermilion, greater AJ, reef butt, blue angel, scamp x4, gag, speckled hind x2, scamp x10, spotfin butterflyfish, cubbyu	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 12:15:52 PM	30.706474	-80.104229	-62.8	HB	XS Photo; hard bottom; Rock; east slope		☑
					Fish - scamp grouper;	4	
					Fish - gag grouper		
					Fish - speckled hind	2 30 cm - Non XS - Random Photos;	
7/17/2012 12:18:42 PM	30.706422	-80.103811	-59.3	HB	hard bottom;		☐
					Fish - scamp grouper;	6	
7/17/2012 12:22:23 PM	30.706747	-80.103850	-57.4	HB	XS Photo; hard bottom; Rock;		☑
7/17/2012 12:22:27 PM	30.706750	-80.103855	-57	HB	XS Photo; hard bottom; Rock; east slope		☑
					Cni - Antipathidae;	black mesh fan	
					Cni - Antipathidae;	bushy brown	
					Por - Demospongiae; Cinachyra?		
					Por - Demospongiae; Aplysina	Thich HT	
					Fish - tomtate;		
7/17/2012 12:23:00 PM	30.706807	-80.103867	-57			grouper, school of tomtates, spotfin hogfish, squirrelfish, speckled hind x2, scamp, school of tomtates, wrasses, reef butterflyfish	☐
7/17/2012 12:24:58 PM	30.707015	-80.103900	-57	HB	XS Photo; hard bottom; Rock; and sediment; base of the wall in white area on MB		☑
					Fish - speckled hind	2	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/17/2012 12:26:54 PM	30.707254	-80.103745	-61.2	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;		
7/17/2012 12:29:00 PM	30.707536	-80.103161	-63			scamp x2, reef butterflyfish, spotfin hogfish, lionfish, tomtates, porgy, tattler, purple reeffish, speckled hind, scamp, cubbyu, sharpnose puffer	☐
7/17/2012 12:29:05 PM	30.707562	-80.103161	-62.6	HB	XS Photo; Rock; rubble; base of the wall in white zone on MB;		☑
					Fish - lionfish;		
					Fish - scamp grouper;		
					Fish - blue angelfish;		
					Cni - Antipathidae;	gray pinetree	
7/17/2012 12:31:19 PM	30.707638	-80.103504	-59.3	HB	XS Photo; hard bottom; Rock;		☑
					Fish - scamp grouper;		
					Bry - Schizoporella?	Horn bryozoa	
					Fish - speckled hind		
					Fish - cubyu		
					Fish - purple reeffish		
7/17/2012 12:33:09 PM	30.707838	-80.103517	-59.3	HB	photo camera fail; hard bottom; Rock;		☐
7/17/2012 12:33:41 PM	30.707910	-80.103517	-59.5	HB	hard bottom; Rock;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - blackbar drum		
					Fish - bank butterflyfish		
					Fish - black fin snapper		
					Fish - scamp grouper;	5	
7/17/2012 12:34:00 PM	30.707941	-80.103517	-59.7			blackfin snapper juvenile x2, scamp x5, blackbar drum, bank butt, spotfin butt	☐
7/17/2012 12:35:26 PM	30.708104	-80.103485	-58.3	HB	hard bottom; Rock; becoming more rugged;		☐
7/17/2012 12:36:01 PM	30.707919	-80.103321	-61.6	SB	soft bottom;		☐
7/17/2012 12:36:50 PM	30.708070	-80.103461	-60.3	HB	hard bottom; Rock;		☐
					Cni - Stichopathes;	abundant	
7/17/2012 12:37:26 PM	30.708270	-80.103634	-58	HB	XS Photo; hard bottom; Rock; 58 m on top.		☑
					Fish - tomtate;		
7/17/2012 12:39:00 PM	30.708610	-80.103721	-54.9			blue angels, greater Ajs, spotfin hogfish, reef butterflyfish, spotfin butterflyfish, Calamus, squirrelfish, wrasse, tomtates, greater Ajs, blackbar soldierfish, bicolor damsel, wrasse bass, YTR	☐
7/17/2012 12:39:37 PM	30.708596	-80.103837	-56.2	SB	XS Photo; soft bottom;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/17/2012 12:40:50 PM	30.708695	-80.103519	-58.3	SB	soft bottom; end DVD 69 62- 58 m deep		☐
7/17/2012 12:41:56 PM	30.708920	-80.103219	-59.9	SB	XS Photo; soft bottom;		☑
7/17/2012 12:42:24 PM	30.708980	-80.103296	-59.9	HB	Rock;		☐
					Fish - Calamus porgy		
7/17/2012 12:42:47 PM	30.709029	-80.103358	-58.5		start dvd 70;		☐
7/17/2012 12:44:10 PM	30.709079	-80.103404	-57.6	SB	XS Photo; soft bottom; 20 m to the black area on the MB		☑
					Fish - bicolor damselfish		
					Fish - yellowtail reeffish;		
					Fish - amberjack		
					Ann - Filograna;		
7/17/2012 12:46:25 PM	30.709333	-80.103417	-57.6	HB	XS Photo; hard bottom; on the slope		☑
					Fish - tatler;		
					Fish - lionfish;		
7/17/2012 12:47:00 PM	30.709394	-80.103417	-56.6	HB	pavement/sand	lionfish, tattler, YTR, blue angel, grey trigger, wrasse	☐
7/17/2012 12:48:47 PM	30.709555	-80.103383	-55.3	HB	XS Photo; soft bottom; pavement;		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 12:49:39 PM	30.709650	-80.103350	-56.2	HB	hard bottom; Rock; flat pavement; edge of black on MB... expecting a drop off;		☐
					Cni - Gorgonacea;	purple	
					Fish - triggerfish		
					Ann - Filograna;		
					Cni - Stichopathes;		
7/17/2012 12:52:28 PM	30.709876	-80.103309	-57	HB	soft bottom; rubble; with patchy boulders; 60 m E of the ridge;		☐
7/17/2012 12:53:21 PM	30.710323	-80.103295	-56	HB	XS Photo; soft bottom; pavement;		☑
					Fish - lionfish;		
7/17/2012 12:54:00 PM	30.710327	-80.103594	-56			lionfish, spotfin butt, jack-knife fish, greater Ajs, lionfish x2, wrasse, blue angel	☐
7/17/2012 12:54:13 PM	30.710288	-80.103695	-56.2	HB	hard bottom; Rock; Human Debris; clothes- Hoffa?		☐
					Fish - spotfin butterflyfish	Non XS - Random Photos;	
					Fish - jackknife fish		
7/17/2012 12:57:00 PM	30.710257	-80.103805	-55.5	HB	hard bottom; pavement; Human Debris; tile pipe; sono buoy?		☐
					Fish - lionfish;	2	
7/17/2012 1:00:01 PM	30.710702	-80.103681	-54.5	HB	soft bottom; low relief patchy pavment; 60 m east of the east escarp of the ridge		☐
					Cni - Stichopathes;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 1:00:50 PM	30.711048	-80.103470	-53.1	HB	hard bottom; pavement; XS Photo;		☑
					Cni - Hydroidolina;	black stinging	
					Fish - amberjack		
7/17/2012 1:04:00 PM	30.711134	-80.104059	-56	HB	back at main ledge - outcrops	scamp, tomtates, vermilions, cubbyu, squirrelfish, scamp x5, blue angel, greater AJ, lionfish, tattler, gag, scamp	☐
7/17/2012 1:04:41 PM	30.711042	-80.104403	-54.7	HB	soft bottom; rubble; east escarpment		☐
7/17/2012 1:05:01 PM	30.711063	-80.104445	-54.1	HB	hard bottom; Rock; back on HB; back on the east ridge; slabs and boulders		☐
					Fish - scamp grouper;		
					Por - Demospongiae;	encrust	
					Fish - tomtate;		
					Fish - vermilion snapper	school	
					Cni - Stichopathes;		
					Por - Ircinia campana;		
7/17/2012 1:06:08 PM	30.711230	-80.104499	-55.3	HB	hard bottom; Rock; back on HB; back on the east ridge; slabs and boulders		☐
					Cni - Gorgonacea;	purple	
7/17/2012 1:07:02 PM	30.711355	-80.104384	-54.9	HB	soft bottom; rubble; XS Photo; changing HD to go to the north		☑
					Por - Demospongiae; Cinachyra?	ye	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae; Callyspongia vaginalis		
					Fish - scamp grouper;	3	
					Por - Ircinia campana;		
					Cni - Hydroidolina;		
					Por - Demospongiae;	Pink encrust	
7/17/2012 1:09:24 PM	30.711515	-80.104315	-53.3	HB	XS Photo; hard bottom; Rock; 52-55 m deep; top of rock is flat pavement; the ledge is rock slabs; 10 -20 deg slope over about 20 m rift; Human Debris; rope/line;		☑
					Fish - scamp grouper;		
					Fish - gag grouper		
					Fish - tomtate;		
					Fish - vermilion snapper		
7/17/2012 1:14:14 PM	30.712108	-80.104197	-52.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - lionfish;		
					Cni - Zoanthidae		
					Fish - squirrelfish		
					Fish - yellowtail reeffish;		
					Por - Demospongiae;	yellow	
7/17/2012 1:15:00 PM	30.711998	-80.104282	-51.6			squirrelfish, blackbar soldierfish, wrasse, sharpnose puffer, reef butterflyfish, lionfish, Ajs, greenband wrasse, spotfin hogfish, blue angel, YTR, lionfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 1:16:27 PM	30.712016	-80.104400	-50.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - amberjack		
7/17/2012 1:18:41 PM	30.712311	-80.104183	-50.6	HB	XS Photo; hard bottom; Rock;		☑
					Fish - blue angelfish;		
					Fish - lionfish;	2	
7/17/2012 1:21:09 PM	30.712692	-80.103739	-50.6	SB	XS Photo; soft bottom; XS the east slope of the ridge on the MB;		☑
7/17/2012 1:22:39 PM	30.713003	-80.103394	-49.7	SB	soft bottom;		☐
					Fish - gag grouper		
					Fish - surgeonfish		
					Fish - amberjack		
7/17/2012 1:23:00 PM	30.713120	-80.103503	-50.6			gag, doctorfish, tomtates, squirrelfish, scamp, cubbyu, creole-fish, blackbar soldierfish, YTR	☐
7/17/2012 1:24:00 PM	30.713271	-80.103479	-49.5	HB	hard bottom; XS Photo;		☑
					Fish - creole fish	Non XS - Random Photos;	
					Fish - scamp grouper;		
					Fish - tomtate;		
					Fish - squirrelfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/17/2012 1:28:39 PM	30.713648	-80.103448	-50.1	HB	XS Photo; hard bottom; Rock;		☑
7/17/2012 1:30:00 PM	30.713741	-80.103119	-50.1			wrasse bass, tattler, blue angel, reef butterflyfish, tomtate, lionfish, Calamus, spotfin hogfish, doctorfish, YTR, honeycomb cowfish, scamp, tomtates, vermilion, wrasse bass, squirrelfish, grey trigger, blackbar soldierfish, lionfish x3, wrasse, Calamus, tattler	☐
7/17/2012 1:30:12 PM	30.713841	-80.103179	-50.1	HB	hard bottom; Rock; pavement; on flat pavement (XS Photo) 10-30 cm relief ledges; on the west edge of the ridge on the MB; east slope peters out		☑
					Fish - surgeonfish		
					Cni - Hydroidolina;		
					Fish - Calamus porgy		
					Ann - Filograna;		
					Cni - Gorgonacea;	purple	
					Por - Ircinia campana;		
					Por - Demospongiae;	tan cake	
					Fish - lionfish;	2	
7/17/2012 1:33:24 PM	30.714299	-80.103081	-48.7	HB	XS Photo; hard bottom; pavement;		☑
					Fish - wrasse bass		
					Fish - scamp grouper;		
					Fish - cowfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	ROV 34	17-VII-12-2	Florida, North Florida MPA, Station 46, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Antipathidae;	gray bush	
7/17/2012 1:35:25 PM	30.714333	-80.102721	-49.9	HB	hard bottom; XS Photo;		☑
					Fish - lionfish;	2	
					Alg - Rhodophyta;	red branchlets	
					Cni - Stichopathes;		
7/17/2012 1:37:41 PM	30.714868	-80.102506	-49.7	HB	XS Photo; hard bottom; pavement;		☑
					Fish - scamp grouper;	2	
					Por - Demospongiae; Aplysina		
					Fish - cowfish		
7/17/2012 1:39:57 PM	30.715094	-80.102957	-49.5	HB	XS Photo; hard bottom; Rock;		☑
7/17/2012 1:40:41 PM	30.715228	-80.102890	-50.1	HB	hard bottom; Rock; east Escarpment of the ridge; rock slabs; boulders .5 m relief; rock slabs;		☐
7/17/2012 1:42:09 PM	30.715400	-80.102741	-49.9		Non XS - Random Photos;		☐
					Cni - Gorgonacea; Nicella	Non XS - Random Photos;	
7/17/2012 1:42:31 PM	30.715395	-80.102732	-49.7	HB	hard bottom; XS Photo; Rock; 49 m on top		☑
7/17/2012 1:43:00 PM	30.715449	-80.102685	-49.3				☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207172	**ROV 34**	**17-VII-12-2**	**Florida, North Florida MPA, Station 46, ~10 nmi north of MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 1:43:42 PM	30.715471	-80.102698	-49.1	HB	end of dive; Off bottom; west escarpment of the ridge; hard bottom; Rock;		☐
7/17/2012 1:46:19 PM					End dvd		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	**ROV 35**	**17-VII-12-3**	**Florida, North Florida MPA, Station 47, ~10 nmi north of MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 1:59:59 PM					Objectives: ROV Dive 35, Site #- 17-VII-12-3. Target Site – ~10 nmi north of North Florida MPA; 30° 36.5020'N; 80°08.9040'W; 50 m. ROV survey outside MPA and ground truth Navy multibeam sonar of the site. Conduct video/photo transect along N-S oriented ridge of sonar map; sonar resolution is 15 m.		☐
7/17/2012 2:47:11 PM					Launch (start dive);		☐
7/17/2012 2:49:05 PM					start DVD		☐
7/17/2012 2:50:14 PM	30.608467	-80.148481	-51	SB	On bottom; landing directly on target WP; soft bottom; Slope- flat;		☐
7/17/2012 2:51:00 PM	30.608516	-80.148236	-53.1	HB	low relief outcrops	Calamus, reef butterflyfish, tomtates, spotfin hogfish, blue angel, bigeye?, greenband wrasse, YTR, blackbar soldierfish, bank sea bass, vermilion	☐
7/17/2012 2:51:47 PM	30.608360	-80.148137	-52.6	HB	hard bottom; pavement; low relief pavement; and slabs; 10-30 cm relief;		☐
					Ann - Filograna;		
					Cni - Stichopathes;		
7/17/2012 2:54:30 PM	30.608270	-80.148155	-54.5		Changing hd to the NNE; west slope of the ridge;		☐
					Fish - vermilion snapper		
					Ann - Filograna;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Ircinia campana;		
					Fish - spotfin hogfish		
					Fish - blue angelfish;		
					Fish - yellowtail reeffish;		
					Fish - tomtate;		
					Por - Demospongiae; Spirastrellidae		
					Cni - Hydroidolina;		
					Cni - Stichopathes;		
7/17/2012 2:56:00 PM	30.608547	-80.147941	-54.3			cowfish, Calamus, lionfish, greenband wrasse, sand tilefish, tattler, reef butterflyfish, sand tilefish	☐
7/17/2012 2:56:10 PM	30.608559	-80.147847	-55.3	HB	hard bottom; Rock; pavement;		☐
					Fish - Calamus porgy		
					Cni - Hydroidolina;	Non XS - Random Photos;	
					Bry - Schizoporella?	Horn bryozoa	
					Cni - Gorgonacea; Nicella	purple	
					Fish - lionfish;		
					Fish - cowfish		
7/17/2012 2:59:24 PM	30.608324	-80.147772	-54.7	SB	XS Photo; soft bottom; Slope- flat;		☑
					Fish - sand tilefish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/17/2012 3:00:03 PM	30.608418	-80.147554	-54.9	HB	soft bottom; sparse rock; narrow ridge of LR rock slabs; smooth rock and few ledges		☐
					Species Observed		
					Fish - cowfish		
					Fish - tatler;		
7/17/2012 3:03:02 PM	30.609111	-80.147693	-55.1	HB	soft bottom; sparse rock; narrow ridge of LR rock slabs; smooth rock and few ledges		☐
					Sed - sand tilefish burrow		
					Fish - reef butterflyfish		
7/17/2012 3:03:40 PM	30.609214	-80.147601	-54.5	HB	soft bottom; rubble; XS Photo;		☑
					Sed - sand tilefish burrow		
					Fish - sand tilefish;		
7/17/2012 3:05:00 PM	30.609537	-80.147248	-55.8			YTR, spotfin hogfish, bank butt, soldierfish, bigeye, tomtate, lionfish, blue angel, reef butterflyfish, bicolor damsel, squirrelfish, purple reeffish, bank butt, creole-fish, lobster	☐
7/17/2012 3:05:17 PM	30.609534	-80.147012	-55.5	HB	Rock; hard bottom; Edge of dark area on sonar map; 30 cm relief rock ledge		☐
					Fish - blue angelfish;		
					Fish - yellowtail reeffish;		
					Fish - bigeye;		
					Fish - tatler;		
					Fish - lionfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - purple reeffish		
7/17/2012 3:06:40 PM	30.609669	-80.146843	-54.9	HB	hard bottom; pavement; soft bottom; Slope- flat;		☐
					Fish - spotfin hogfish		
					Por - Demospongiae; Agelas		
					Cni - Stichopathes;		
7/17/2012 3:07:31 PM	30.609989	-80.146910	-53.1	HB	XS Photo; hard bottom; Rock;		☑
					Ann - Filograna;		
					Cni - Antipathidae;	brown bush	
7/17/2012 3:09:43 PM	30.610065	-80.146881	-52.4	HB	XS Photo; hard bottom;		☑
					Fish - creole fish		
					Fish - bank butterflyfish		
					Cni - Antipathidae;		
					Fish - rock beauty		
					Art - Panularis argus		
					Por - Ircinia campana;	XS Photo;	
7/17/2012 3:10:00 PM	30.610093	-80.146831	-52.6			rock beauty, tattler, school of tomtates, blue angel, squirrelfish, spotfin butt, blackbar soldierfish, lionfish, YTR, cubbyu, tattler, spotfin hogfish	☐
7/17/2012 3:10:32 PM	30.610142	-80.146760	-52.2	HB	hard bottom; Rock; 10-30 cm rock; more rugged; 53-55 m depth change		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - spotfin butterflyfish		
					Cni - Stichopathes;		
7/17/2012 3:12:00 PM	30.610203	-80.146254	-53.3	HB	hard bottom; XS Photo; Rock;		☑
					Cni - Antipathidae;	white fine mesh	
					Cni - Stichopathes;		
					Cni - Antipathidae;	bushy brown	
					Fish - cubyu		
7/17/2012 3:14:20 PM	30.610282	-80.145788	-52	HB	hard bottom; XS Photo; Rock;		☑
					Por - Demospongiae; Aplysina	cluster HT	
7/17/2012 3:17:00 PM	30.610463	-80.145690	-53.5			greenband wrasse, reef butterflyfish, lionfish, sharpnose puffer, YTR, tattler, wrasse bass, squirrelfish	☐
7/17/2012 3:17:15 PM	30.610421	-80.145641	-51.8	HB	hard bottom; pavement; Rock;		☐
					Fish - yellowtail reeffish;		
					Por - Demospongiae;	10 cm stalked knobby red	
					Fish - wrasse bass		
					Por - Demospongiae; Cinachyra?	orange ball, 10 cm	
					Fish - reef butterflyfish		
7/17/2012 3:20:07 PM	30.610712	-80.145190	-53.9	HB	hard bottom; pavement; XS Photo; LR HB 50-80 % cover rock; middle of ridge on MB;		☑
					Ann - Filograna;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cho - Ascidacea; Didemnidae		
					Cni - Gorgonacea;	Non XS - Random Photos;	
7/17/2012 3:22:16 PM	30.610700	-80.144616	-55.1	HB	hard bottom; XS Photo;		☑
					Fish - stingray		
7/17/2012 3:23:00 PM	30.610785	-80.144638	-55.8			stingray, AJ, reef butt, blue angel, bicolor damselfish, snake eel	☐
7/17/2012 3:24:34 PM	30.610777	-80.144669	-56	HB	hard bottom; XS Photo; pavement; near E slope of the MB;		☑
					Alg - Rhodophyta;	thin branching	
7/17/2012 3:25:37 PM	30.610976	-80.144402	-58.3	HB	hard bottom; Rock; base of the slope in the East side		☐
					Por - Demospongiae; Neofibularia	30 cm- red fire sponge	
					Fish - stingray		
					Fish - scamp grouper;	3	
					Fish - snake eel		
7/17/2012 3:28:00 PM	30.611226	-80.144072	-57			scamp x3, speckled hind, tattler, squirrelfish, reef butterflyfish, blue angel, YTR, spotfin hogfish, sharpnose puffer, vermilion, Calamus	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 3:28:51 PM	30.611268	-80.144078	-58.3	HB	Non XS - Random Photos; hard bottom; Rock;		☐
7/17/2012 3:29:08 PM	30.611253	-80.144131	-56.8	HB	hard bottom; XS Photo; Rock; east slope; low relief rock slabs scatter boulders at the ledge; flat pavement on top; 1 m relief total; 56.5 - 58.5 m		☑
					Fish - amberjack		
					Fish - reef butterflyfish		
					Fish - speckled hind		
7/17/2012 3:33:14 PM	30.612118	-80.144050	-55.1	HB	hard bottom; Rock; fractured rock slabs in perfect squares- Atlantis?		☐
					Fish - lionfish;		
					Fish - stingray		
					Fish - Calamus porgy		
					Cho - Ascidacea; Didemnidae		
7/17/2012 3:34:00 PM	30.612045	-80.144132	-52.8			cubbyu, lionfish, tattler, blue angels, reef butterflyfish, squirrelfish, spotfin hogfish, bigeye, greenband wrasse	☐
7/17/2012 3:36:02 PM	30.612314	-80.143545	-58.7	SB	soft bottom; XS Photo;		☑
					Ann - Filograna;		
					Cni - Antipathidae;	grey bush	
7/17/2012 3:38:21 PM	30.612526	-80.143441	-57.8	HB	XS Photo; soft bottom; pavement;		☑
					Alg - Rhodophyta;	branching red	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 3:40:46 PM	30.612806	-80.143281	-58.3		XS Photo;		☑
					Por - Demospongiae; Neofibularia	XS Photo; fire sponge	
7/17/2012 3:43:00 PM	30.613241	-80.143311	-57.8			reef butterflyfish, spotfin butterflyfish, Calamus, cubbyu, tomtates, vermilion, squirrelfish, line, bank butt, scamp, AJ, blue angel, YTR	☐
7/17/2012 3:43:09 PM	30.613264	-80.143302	-56.8	HB	XS Photo; hard bottom;		☑
					Por - Demospongiae;	tan cake	
7/17/2012 3:43:39 PM	30.613312	-80.143386	-57.2	HB	hard bottom; Rock; 2 m ridge E-W runnung; east slope; rugged rock boulders; Human Debris; cable? or rope		☐
					Fish - scamp grouper;		
7/17/2012 3:47:42 PM	30.613625	-80.143385	-56.4	HB	ard bottom; XS Photo; Rock- wall; Rock; along east wall near base; fades to seiment to the east; sand shell hash; 59 m		☑
					Cni - Hydroidolina;		
					Por - Hexactinellida;		
					Cni - Gorgonacea; Diodogorgia?		
					Sed - sand tilefish burrow		
					Por - Demospongiae; Ircinia		
					Cni - Antipathidae;	bushy black	
					Ann - Filograna;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 3:49:00 PM	30.613850	-80.142983	-58			purple reeffish, blue angelfish, school of tomtates & vermilions, scamp, lobster, squirrelfish, cubbyu, bank butt, YTR, sharpnose puffer	☐
7/17/2012 3:49:48 PM	30.614005	-80.143028	-57.6	HB	XS Photo; hard bottom; Rock;		☑
					Art - Panularis argus	Non XS - Random Photos;	
					Fish - scamp grouper;		
					Fish - vermilion snapper	school	
					Fish - tomtate;		
					Cni - Antipathidae;	Australian pine	
7/17/2012 3:52:15 PM	30.614206	-80.143161	-57.2	HB	XS Photo; hard bottom; Rock; 300 m from the WP;		☑
7/17/2012 3:52:39 PM	30.614190	-80.143099	-57.8		End DVD 71		☐
7/17/2012 3:54:02 PM	30.614680	-80.142998	-58.3		start DVD 72		☐
7/17/2012 3:54:37 PM	30.614700	-80.142746	-58	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Antipathidae;	brown bush	
7/17/2012 3:56:00 PM	30.614797	-80.142689	-58.7			Calamus, squirrelfish, spotfin butterflyfish, vermilion, tomtates, cubbyu, blue angels, sharpnose puffer	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/17/2012 3:56:51 PM	30.614810	-80.142623	-56	HB	XS Photo; Rock;		☑
7/17/2012 3:57:17 PM	30.614877	-80.142557	-55.5	HB	ard bottom; XS Photo; Rock;		☑
7/17/2012 3:59:02 PM	30.615134	-80.142440	-58.7	SB	soft bottom; Slope- flat; base of wall		☐
7/17/2012 3:59:20 PM	30.615279	-80.142506	-58.7	HB	pavement; XS Photo; at base of wall		☑
					Cni - Stichopathes;		
					Cni - Antipathidae;	pinetree	
					Ann - Filograna;		
7/17/2012 4:01:41 PM	30.615531	-80.142392	-57	HB	hard bottom; XS Photo; Rock; east slope of ridge; change hd across ridge to the west;		☑
7/17/2012 4:05:37 PM	30.616212	-80.142758	-53.3	HB	hard bottom; pavement; Slope- moderate (<35o); top of ridge; low relief;		☐
7/17/2012 4:06:00 PM	30.616227	-80.142800	-54.7		on top of eastern ridge,	blue angelfish, wrasse, Calamus, reef butt, YTR, wrasse, squirrelfish, tattler, cowfish, lionfish	☐
7/17/2012 4:08:13 PM	30.616218	-80.143094	-53.5	HB	hard bottom; Rock; XS Photo; pavement; Slope- flat;		☑
7/17/2012 4:10:03 PM	30.616777	-80.143086	-53.1	HB	hard bottom; Rock; pavement; Slope- flat; middle of ridge		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	ROV 35	17-VII-12-3	Florida, North Florida MPA, Station 47, ~10 nmi north of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 4:10:28 PM	30.616841	-80.143060	-53.7	HB	XS Photo; pavement; breaking		☑
					Fish - lionfish;		
					Fish - bigeye;		
					Cni - Antipathidae;	pinetree	
7/17/2012 4:12:00 PM	30.616902	-80.142824	-53.5			sunshinefish, lionfish, tattler, spotfin hogfish, bigeye, YTR, grey trigger, lionfish, doctorfish, bank sea bass, reef butterflyfish, blue angel, squirrelfsh, Calamus, lionfish	☐
7/17/2012 4:15:06 PM	30.617051	-80.143625	-49.7	HB	XS Photo; hard bottom; pavement;		☑
7/17/2012 4:16:14 PM	30.617282	-80.143642	-51	HB	Rock; hard bottom; Slope- flat; 20-30 cm relief; Human Debris; trashbag		☐
					Fish - squirrelfish		
7/17/2012 4:17:18 PM	30.617409	-80.143656	-50.8	HB	XS Photo; Rock;		☑
					Fish - lionfish;		
7/17/2012 4:19:48 PM	30.617786	-80.143774	-51.2	HB	hard bottom; pavement; Slope- flat; top rim of escarpment; West of the ledge on the MB; scattered slabs 30 cm relief;		☐
					Cho - Ascidacea; Didemnidae		
					Cni - Stichopathes;		
					Fish - spotfin hogfish		
					Alg - Rhodophyta;	thin blade	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	**ROV 35**	**17-VII-12-3**	**Florida, North Florida MPA, Station 47, ~10 nmi north of MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Antipathidae;	gray bush	
7/17/2012 4:20:00 PM	30.617838	-80.143676	-50.8			sand tilefish, spotfin hogfish, YTR, squirrelfish, blue angel, honeycomb cowfish, 2 lionfish	☐
7/17/2012 4:22:56 PM	30.618460	-80.143696	-49.3	HB	hard bottom; Rock; pavement; Slope- flat;		☐
					Cni - Antipathidae;		
					Fish - lionfish;		
					Fish - cowfish		
					Por - Ircinia campana;		
					Cni - Gorgonacea;	purple	
7/17/2012 4:24:44 PM	30.618712	-80.143445	-49.9	HB	hard bottom; pavement; XS Photo; Slope- flat;		☑
					Alg - Cyanophyta;		
					Fish - cowfish		
7/17/2012 4:26:00 PM	30.618854	-80.143312	-51.2				☐
7/17/2012 4:27:05 PM	30.618997	-80.143392	-49.1				☐
7/17/2012 4:27:09 PM	30.619001	-80.143377	-48.3	HB	hard bottom; Rock; pavement; XS Photo; Slope- flat; top of west ridge		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207173	**ROV 35**	**17-VII-12-3**	**Florida, North Florida MPA, Station 47, ~10 nmi north of MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/17/2012 4:27:25 PM	30.618978	-80.143421	-47	HB	end of dive; west escarpment os 30o slope; rock slabs are rugged 51 m on top 53-55 m on the sand to the west; abrupt change from rugged HB to SB; Off bottom;		☐
7/17/2012 4:31:39 PM					end DVD and Hd		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207182	ROV 36	18-VII-12-2	Florida, North Florida MPA, Station 49, south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/18/2012 10:22:49 AM					Objectives: ROV Dive 36, Site #- 18-VII-12-2. Target Site – outside and south of North Florida MPA; 30° 14.7600'N, 80°14.8800'W; 55 m. ROV survey outside MPA and ground truth Navy multibeam sonar of the site. Conduct video/photo transect along west slope of ridge of multibeam sonar map.		☐
7/18/2012 10:29:40 AM					Launch (start dive);		☐
7/18/2012 10:32:29 AM					start DVD and HD; Tracking seems to be working properly		☐
7/18/2012 10:39:57 AM					trying to get to bottom in sight.		☐
7/18/2012 10:40:29 AM	30.223452	-80.251443	-53.1	HB	On bottom; hard bottom; rubble; Slope- flat; large flat low relief rock slabs. <.5 m, 30-50% cover; On MB we are on the W side of the ridge;		☐
					Fish - spotfin hogfish		
					Fish - reef butterflyfish		
7/18/2012 10:43:04 AM	30.224931	-80.251257	-54.1	HB	On bottom; hard bottom; rubble; pavement; Slope- flat; low relief		☐
					Cni - Hydroidolina;		
7/18/2012 10:44:00 AM	30.225221	-80.251103	-55.3	HB	low relief outcrops	reef butterflyfish, vermilion, YTR, creole-fish, spotfin hogfish, tomtates	☐
7/18/2012 10:44:19 AM	30.225309	-80.251021	-56.4	HB	hard bottom; Rock; pavement; Slope- flat; .5 m slabs and ledges moving fast. Drifting about 1 kt; jumble of rock slabs ~ 10 deg slope;	dense bio	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207182	ROV 36	18-VII-12-2	Florida, North Florida MPA, Station 49, south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Stichopathes;		
					Ann - Filograna;		
					Cho - Ascidacea; Didemnidae		
7/18/2012 10:45:44 AM	30.225793	-80.250656	-57		according to the MB we are eastern side of the dark ridge;		☐
7/18/2012 10:46:00 AM	30.225913	-80.250497	-56.4		off bottom		☐
7/18/2012 10:46:45 AM	30.226378	-80.250085	-51.2		current is drifting us to the NNE; pulled off bottom; ship speed -~2.5 kn		☐
7/18/2012 10:54:00 AM	30.230739	-80.248869	-54.1	HB	pavement	tattler	☐
7/18/2012 10:54:38 AM	30.231037	-80.248831	-58.9				☐
7/18/2012 10:54:47 AM	30.231067	-80.248844	-60.1	HB	back on bottom; low relief rock knolls; pavement; smooth pavement and sed grooves; east face of slope	low density	☐
					Por - Demospongiae;	sparse	
					Fish - tatler;		
					Cni - Stichopathes;		
7/18/2012 10:56:00 AM	30.231521	-80.248752	-60.1		off bottom		☐
7/18/2012 10:56:58 AM	30.232213	-80.248740	-50.8		pulled Off bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207182	ROV 36	18-VII-12-2	Florida, North Florida MPA, Station 49, south and outside of MPA

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/18/2012 10:58:03 AM	30.232833	-80.248684	-59.3	HB	back On bottom; pavement; hard bottom;		☐
					Por - Ircinia campana;		
					Ann - Filograna;		
7/18/2012 10:59:29 AM	30.233673	-80.248698	-54.1		pulled Off bottom;		☐
7/18/2012 11:01:00 AM	30.234527	-80.248660	-58.7	HB	pavement		☐
7/18/2012 11:01:06 AM	30.234557	-80.248675	-58.7	HB	back On bottom; low relief pavement; series of low relief rock ledges seperated by sediment		☐
					Cho - Ascidacea; Didemnidae	buttons	
					Cni - Stichopathes;		
					Ann - Filograna;		
7/18/2012 11:02:00 AM	30.235037	-80.248676	-56.6		off bottom		☐
7/18/2012 11:02:32 AM	30.235347	-80.248621	-55.3		pulled Off bottom;		☐
7/18/2012 11:05:00 AM	30.236643	-80.248360	-58.3	HB	pavement		☐
7/18/2012 11:06:00 AM	30.237187	-80.248242	-57.6		off bottom		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207182	**ROV 36**	**18-VII-12-2**	**Florida, North Florida MPA, Station 49, south and outside of MPA**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/18/2012 11:06:00 AM	30.237187	-80.248242	-57.6	HB	pavement	sand tilefish, reef butterflyfish, tattler, blue angel, YTR, spotfin butt	☐
7/18/2012 11:07:41 AM	30.237948	-80.248171	-59.9	HB	On bottom; hard bottom; pavement; Slope- flat; low relief rocky knolls; on East side of the slope;		☐
					Cho - Ascidacea; Didemnidae		
					Cni - Stichopathes;		
7/18/2012 11:10:00 AM	30.239189	-80.247724	-55.8		off bottom		☐
7/18/2012 11:15:52 AM					Off bottom;		☐
7/18/2012 11:16:00 AM					end of dive		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/18/2012 2:10:19 PM					Objectives: ROV Dive 37, Site #- 18-VII-12-3. Target Site – 55 nmi east of St. Augustine, 60-m reef line, outside MPA; 29°54.7340'N, 80°17.1680'W; 60 m. ROV survey outside MPA and ground truth Navy multibeam sonar and NOAA Bathymetric chart of the site. Conduct video/photo transect on linear N-S ridge of Navy multibeam sonar map (15 m resolution). A. David's ROV dive in 2007 on the same ridge a few miles north reported a 10 m N-S ridge.		☐
7/18/2012 2:10:20 PM					Launch (start dive);		☐
7/18/2012 2:12:55 PM					POM - layer		☐
7/18/2012 2:14:12 PM	29.897593	-80.288396	-54.5	SB	On bottom; soft bottom; Slope- flat; 100 m west of the ridge and 150 m south of the WP;		☐
7/18/2012 2:15:00 PM	29.897730	-80.288262	-56	SB	sand		☐
7/18/2012 2:16:04 PM	29.897872	-80.288157	-55.5		changing HD to 45 degrees NNE toward the ridge;		☐
					Alg - Rhodophyta;	blade; stalked;	
7/18/2012 2:17:00 PM	29.897925	-80.288092	-56.2		making our way to the east to get close to ledge		☐
7/18/2012 2:18:52 PM	29.898220	-80.287865	-55.8	SB	XS Photo; soft bottom; Slope- flat;		☑
					Ech - Echinoidea; Eucidaris tribuloides		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes / Species Observed	Species Notes	XS Photo
7/18/2012 2:20:59 PM	29.898419	-80.287663	-55.1	SB	XS Photo; soft bottom; Slope- flat;		☑
7/18/2012 2:23:05 PM	29.898647	-80.287328	-55.1	SB	XS Photo; soft bottom; Slope- flat;		☑
7/18/2012 2:25:15 PM	29.898799	-80.286999	-55.1	SB	XS Photo; soft bottom; Slope- flat;		☑
7/18/2012 2:27:38 PM	29.898889	-80.286636	-54.1	SB	XS Photo; soft bottom; Slope- flat; shell hash; 30 m from ridge on MB		☑
7/18/2012 2:29:40 PM	29.899014	-80.286390	-54.7	SB	soft bottom; XS Photo; Slope- flat; Non XS - Random Photos; sand shell hash		☐
					Cni - Gorgonacea;	recently knocked over	
					Coral - Oculina	unattached; recent dead?	
7/18/2012 2:32:00 PM	29.899145	-80.286042	-54.7	HB	low relief outcrops	blue angelfish, vermilion, YTR, tomtates, scamp x4, spotfin hogfish, hogfish, reef butterflyfish, spotfin butterflyfish, squirrelfish	☐
7/18/2012 2:32:24 PM	29.899161	-80.286060	-54.5	HB	hard bottom; Rock; rubble; west base of ridge; jumble of boulders and slabs; 1-2 m diam. 1 m relief; Slope- moderate (20o); Human Debris; longline;		☐
					Por - Ircinia campana;		
					Cni - Antipathidae;	3 species	
					Fish - scamp grouper;		
					Ech - Echinoidea; Arbacia?	black	
					Ech - Echinoidea; Eucidaris tribuloides		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Por - Demospongiae; Spirastrellidae		
					Por - Ircinia campana?		
					Cni - Gorgonacea	black polyps	
					Cni - Stichopathes;		
					Cni - Antipathidae;		
					Fish - hogfish		
7/18/2012 2:37:15 PM	29.899763	-80.285887	-54.3	HB	hard bottom; Rock; pavement; sideways slabs;		☐
					Por - Ircinia campana;		
7/18/2012 2:38:00 PM	29.899894	-80.285862	-53.1			bigeye, wrasse, cubbyu, scamp, YTR, lionfish, reef butterflyfish, sharpnose puffer, tattler, squirrelfish, spotfin hogfish	☐
7/18/2012 2:38:03 PM	29.899901	-80.285862	-52.8	HB	XS Photo; hard bottom; rubble; Rock; on W slope on the MB		☑
					Cni - Gorgonacea; Diodogorgia?	15 cm purple	
					Fish - tomtate;		
					Fish - cubyu		
					Fish - cowfish		
					Cni - Gorgonacea;	fan 15 cm	
					Por - Ircinia campana;	30 cm	
					Fish - short bigeye;		
7/18/2012 2:40:22 PM	29.900213	-80.285891	-52.8	HB	XS Photo; Rock; 1-2 m slabs; 30 cm relief; west side of the slope		☑

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - yellowtail reeffish;		
					Fish - reef butterflyfish		
					Fish - vermilion snapper		
					Cni - Stichopathes;		
					Fish - spotfin hogfish		
					Fish - lionfish;		
7/18/2012 2:42:13 PM	29.900522	-80.285808	-53.9	HB	Non XS - Random Photos; hard bottom; Rock;		☐
					Cni - Antipathidae;		
7/18/2012 2:42:34 PM	29.900548	-80.285776	-52.6	HB	XS Photo; hard bottom; Rock; fractured rock slabs		☑
					Cni - Stichopathes;	dense	
					Fish - bank seabass		
					Fish - lionfish;		
7/18/2012 2:44:00 PM	29.900754	-80.285767	-53.5			lionfish, tomtates, bank sea bass, spotfin butt, spotfin hogfish, reef butterflyfish, porgy, blue angelfish, YTR, purple reeffish	☐
7/18/2012 2:44:49 PM	29.900904	-80.285799	-53.3	HB	XS Photo; hard bottom; Rock;		☑
					Por - Demospongiae; Cinachyra?	orange spherical	
					Cni - Gorgonacea;	red fan Non XS - Random Photos;	
7/18/2012 2:47:04 PM	29.901202	-80.285782	-53.3	HB	XS Photo; hard bottom; Rock;		☑
					Ech - Echinoidea; Arbacia?	black urchins	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/18/2012 2:48:23 PM	29.901374	-80.285772	-55.1			Non XS - Random Photos; (urchin)	☐
					Species Observed		
					Ech - Echinoidea; Arbacia?		
7/18/2012 2:49:59 PM	29.901594	-80.285782	-54.3	HB	hard bottom; Non XS - Random Photos; on W edge of the ridge; flat rock pavement with perpendicular fractured; 1-2 m diam; 30-50 cm relief;		☐
7/18/2012 2:51:33 PM	29.901750	-80.285813	-54.9		changing hd to 45 degrees for 100 m to go to the drop on the MB		☐
7/18/2012 2:52:48 PM	29.901983	-80.285817	-53.3	HB	XS Photo; hard bottom; pavement; Slope- moderate (<35o);		☑
					Cni - Antipathidae;	australian pine	
					Cni - Gorgonacea; Swiftia?	40 cm red.; Non XS - Random Photos;	
					Fish - hogfish		
					Fish - cowfish		
					Cni - Stichopathes;		
7/18/2012 2:53:00 PM	29.901980	-80.285803	-53.9		making another move to the NE to get close to the ledge,	scrawled cowfish, short bigeye, bigeye, hogfish, tomtates, vermilion, bank sea bass, YTR	☐
7/18/2012 2:54:56 PM	29.902241	-80.285580	-54.3	HB	XS Photo; hard bottom; pavement; Rock;		☑
					Fish - lionfish;		
7/18/2012 2:55:00 PM	29.902278	-80.285564	-54.3			lionfish, YTR, angelfish, hogfish, spotfin hogfish, tattler, large school of vermilion, tomtates	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
7/18/2012 2:55:43 PM	29.902284	-80.285466	-54.7	HB	flat pavement of fractured slabs;		☐
7/18/2012 2:56:36 PM	29.902395	-80.285380	-55.3		Non XS - Random Photos;	fauna is sparser in the middle	☐
					Fish - hogfish		
7/18/2012 2:57:33 PM	29.902464	-80.285248	-53.9	HB	XS Photo; hard bottom; pavement;		☑
7/18/2012 2:58:42 PM	29.902506	-80.285166	-55.3	HB	hard bottom; Rock; pavement; on the east slope;		☐
7/18/2012 2:59:14 PM	29.902552	-80.285169	-56.6	HB	on east slope; hard bottom; hard bottom; Rock; rock slabs; stair step ledges; rock slabs; scattered over 20 m width;		☐
					Fish - bank butterflyfish		
					Fish - lionfish;		
7/18/2012 3:02:00 PM	29.902903	-80.284730	-58.5			bank butt, lionfish	☐
7/18/2012 3:02:00 PM	29.902903	-80.284730	-58.5	HB	64m at base, 55 m at top, total of 10 m relief		☐
7/18/2012 3:02:21 PM	29.902958	-80.284717	-61	HB	XS Photo; hard bottom;		☑
7/18/2012 3:02:36 PM	29.902988	-80.284700	-63.5	SB	soft bottom; base of the ridge; 64 m on the sediment eastern side; Slope- moderate (45o); less then the west;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Cni - Stichopathes;		
					Cni - Antipathidae;	30 cm bushy brown	
7/18/2012 3:03:00 PM	29.903057	-80.284700	-62.4			large schools of tomtates & vermilion, red porgy, squirrelfish, purple reeffish, sharpnose puffer, greenband wrasse, reef butterflyfish, spotfin butterflyfish, blue angel, blackbar drum, bank butt, cubbyu	☐
7/18/2012 3:04:36 PM	29.903282	-80.284700	-62.2	HB	XS Photo; hard bottom; pavement;		☑
					Ech - Echinoidea; Arbacia?		
					Fish - yellowtail reeffish;		
					Cni - Stichopathes;		
					Ech - Echinoidea; Eucidaris tribuloides		
					Fish - sharpnose puffer		
					Fish - red porgy		
					Cni - Gorgonacea;		
					Cni - Antipathidae;		
7/18/2012 3:06:39 PM	29.903573	-80.284683	-59.9	HB	XS Photo; hard bottom; Rock;		☑
					Fish - tomtate;		
					Por - Ircinia campana;		
					Cni - Antipathidae;	white fan	
					Fish - squirrelfish		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/18/2012 3:08:40 PM	29.903846	-80.284667	-58.9	HB	upper slope; has 1-2 m relief;		☐
7/18/2012 3:08:48 PM	29.903870	-80.284656	-58.5	HB	XS Photo; hard bottom; Rock; rugose		☑
					Coral- Oculina varicosa	20 cm; Non XS - Random Photos;	
					Mol - thorny oyster		
7/18/2012 3:11:02 PM	29.904173	-80.284900	-62	HB	XS Photo; hard bottom; Rock;		☑
					Fish - blackbar drum		
					Ech - Asteroidea;		
					Coral- Oculina varicosa	Non XS - Random Photos;	
7/18/2012 3:13:33 PM	29.904567	-80.284667	-58.9	HB	XS Photo; hard bottom; Rock;		☑
7/18/2012 3:15:00 PM	29.904768	-80.284678	-63			tomtates, spotfin hogfish, reef butt, bank butt, cubbyu, vermilion, YTR, blue angel, squirrelfish, lionfish, spotfin butterflyfish, bank sea bass, lionfish, spotfin hogfish	☐
7/18/2012 3:15:47 PM	29.904867	-80.284700	-58.7		transting north on the eastern slope		☐
7/18/2012 3:16:55 PM	29.905039	-80.284700	-55.8	HB	XS Photo; pavement;		☑
7/18/2012 3:19:30 PM	29.905375	-80.284717	-61.4			Non XS - Random Photos; (zoom in on white coral? - pretty sure this is Filograna, not coral)	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	**ROV 37**	**18-VII-12-3**	**Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
7/18/2012 3:20:47 PM	29.905562	-80.284745	-57.6	HB	uppper 3 m is steep rock; lower part is more boulders		☐
7/18/2012 3:21:28 PM	29.905641	-80.284774	-59.9	HB	hard bottom; Rock; Rock- wall; Slope- steep (>35o);		☐
7/18/2012 3:22:00 PM	29.905718	-80.284800	-55.8			jackknife fish?, blue angels, scamp, reef butt, squirrelfish, purple reeffish, bank sea bass, wrasse	☐
7/18/2012 3:23:08 PM	29.905852	-80.284833	-57.6	HB	hard bottom; Rock;		☐
					Fish - scamp grouper;		
7/18/2012 3:24:54 PM	29.906078	-80.284920	-57	HB	hard bottom;		☐
					Por - Demospongiae; Cinachyra		
					Coral- Oculina varicosa		
7/18/2012 3:25:58 PM	29.906200	-80.285050	-57		on the top edge;		☐
					Por - Demospongiae; Neofibularia	50 cm red fire sponge; Non XS - Random Photos;	
					Fish - cowfish		
					Fish - yellowtail reeffish;		
7/18/2012 3:28:00 PM	29.906459	-80.285233	-58			blue angel, YTR, spotfin hogfish, filefish, purple reeffish, bank sea bass, scrawled cowfish	☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/18/2012 3:30:54 PM	29.906831	-80.285328	-55.1	HB	east slope; flat top boulders;10-30 cm relief;		☐
7/18/2012 3:32:25 PM	29.906805	-80.285156	-53.9	HB	XS Photo; hard bottom; Rock;		☑
					Cni - Stichopathes;		
					Fish - cowfish		
7/18/2012 3:34:00 PM	29.906793	-80.285047	-55.3			large schools of vermilion & tomtates, spotfin hogfish, blackbar drum, tattler, reef butterflyfish, bank butt, YTR, squirrelfish, spanish hogfish, scamp, blue angel, lionfish	☐
7/18/2012 3:34:26 PM	29.906809	-80.284865	-56.8		top of ridge;		☐
7/18/2012 3:34:44 PM	29.906833	-80.284800	-57.4	HB	XS Photo; hard bottom; Rock; east slope		☑
					Cni - Gorgonacea;		
7/18/2012 3:37:01 PM	29.907126	-80.284800	-58.3		Non XS - Random Photos; east slope; Human Debris; rope; Non XS - Random Photos;		☐
					Cni - Antipathidae;		
					Coral- Oculina varicosa	15 cm; Non XS - Random Photos;	
7/18/2012 3:39:48 PM	29.907549	-80.284767	-58	HB	hard bottom;		☐
					Fish - bank butterflyfish		
					Fish - lionfish;	2	
					Fish - blue angelfish;		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	ROV 37	18-VII-12-3	Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;		
					Coral- Oculina varicosa	Non XS - Random Photos;	
7/18/2012 3:41:00 PM	29.907705	-80.284786	-57.2			lionfish, blue angels, squirrelfish, tomtates, vermilion	☐
7/18/2012 3:42:25 PM	29.907887	-80.284797	-58	HB	hard bottom; Rock; Slope- steep (>35o); large square boulders;		☐
7/18/2012 3:43:00 PM	29.907956	-80.284794	-52		Human Debris- boat anchor and chain		☐
7/18/2012 3:43:30 PM	29.907976	-80.284783	-57.2	HB	XS Photo; hard bottom; Rock; Human Debris; small boat anchor and chain;		☑
					Fish - scamp grouper;		
					Fish - hogfish		
7/18/2012 3:44:00 PM	29.908029	-80.284783	-56.8			school of tomtates & vermilion, spotfin butterflyfish, scamp, hogfish, reef butterflyfish, YTR, bank butt, scamp x2	☐
7/18/2012 3:48:13 PM	29.908664	-80.284468	-64.3	SB	soft bottom; east base of wall;		☐
					Fish - scamp grouper;		
					Fish - scamp grouper;		
7/18/2012 3:51:00 PM	29.908996	-80.284483	-58.5			scamp, vermilion school, porgy, YTR, tattler	☐
7/18/2012 3:52:03 PM	29.909154	-80.284467	-55.1		have been pulled Off bottom;		☐

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	**ROV 37**	**18-VII-12-3**	**Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - scamp grouper;		
7/18/2012 3:53:12 PM	29.909309	-80.284467	-64.9	HB	hard bottom; Slope- flat; eastern base rocks and boulders phase out into sediment veneered HB;		☐
7/18/2012 3:54:29 PM	29.909476	-80.284452	-66.2	HB	pavement; hard bottom; XS Photo;		☑
					Fish - tatler;		
7/18/2012 3:56:48 PM	29.909672	-80.284505	-64.9	HB	pavement; hard bottom; XS Photo;		☑
					Cni - Stichopathes;		
					Fish - blue angelfish;		
					Cni - Antipathidae;		
7/18/2012 3:58:00 PM	29.909786	-80.284660	-65.1	HB	back to the ledge,	vermilion school, tomtates, bank butt, lionfish, red porgy	☐
7/18/2012 3:58:54 PM	29.909890	-80.284683	-64.1	HB	hard bottom; Rock; East base of the ledge back on large boulders Slope- steep (>35o);		☐
7/18/2012 3:59:46 PM	29.910023	-80.284695	-59.5	HB	hard bottom; Rock; east base of ledge		☐
					Coral- Oculina varicosa	15 cm	
7/18/2012 4:00:41 PM	29.910123	-80.284733	-59.9	HB	hard bottom; Rock; east slope;		☐
					Por - Demospongiae;	encrusting	
					Cni - Stichopathes;		
					Alg - crustose coralline algae		

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	**ROV 37**	**18-VII-12-3**	**Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
					Fish - lionfish;		
					Ech - Echinoidea; Eucidaris tribuloides		
					Coral- Oculina varicosa	2 @ 20 cm white	
7/18/2012 4:03:17 PM	29.910466	-80.284783	-62	HB	hard bottom; Rock;		☐
					Fish - hogfish		
					Fish - greater amberjack		
					Cni - Hydroidolina;		
					Coral- Oculina varicosa		
					Cni - Antipathidae;		
7/18/2012 4:05:00 PM	29.910685	-80.284817	-56.6			AJ, hogfish, spotfin butterflyfish, blue angel, bank butt, lots of vermilion, YTR, tomtates, spotfin hogfish, greenband wrasse	☐
7/18/2012 4:06:24 PM	29.910855	-80.284814	-55.3	HB	hard bottom; Rock; Slope- steep (>35o);		☐
					Coral- Oculina varicosa		
7/18/2012 4:07:31 PM	29.911015	-80.284833	-56.4	HB	hard bottom; Rock; east side of the circular feature on the NOAA bathy charts		☐
7/18/2012 4:11:50 PM	29.911593	-80.284809	-56.4	HB	hard bottom; top of the ridge on the eastern side;		☐
					Cho - Ascidacea; Didemnidae		
					Por - Demospongiae;	white mashed potatoes	

MilsortcodeSite	Dive Number	HBOI Site Number	Location
201207183	**ROV 37**	**18-VII-12-3**	**Florida; 55 nmi east of St. Augustine, 60 m reef line, outside MPAs**

Date/Time	Latitude (DD)	Longitude (DD)	Depth (m)	HB/ SB	Habitat and Dive Notes	Species Notes	XS Photo
					Species Observed		
7/18/2012 4:16:00 PM	29.912239	-80.284962	-56.2			bandtail puffer, tattler, scamp, blue angel	☐
7/18/2012 4:17:38 PM	29.912361	-80.284800	-55.5	HB	XS Photo; hard bottom; Rock; pavement;		☑
					Fish - tatler;		
					Fish - scamp grouper;		
7/18/2012 4:20:00 PM	29.912667	-80.284817	-56				☐
7/18/2012 4:20:53 PM	29.912803	-80.284817	-54.9		end of dive; Off bottom; end HD and DVD		☐