



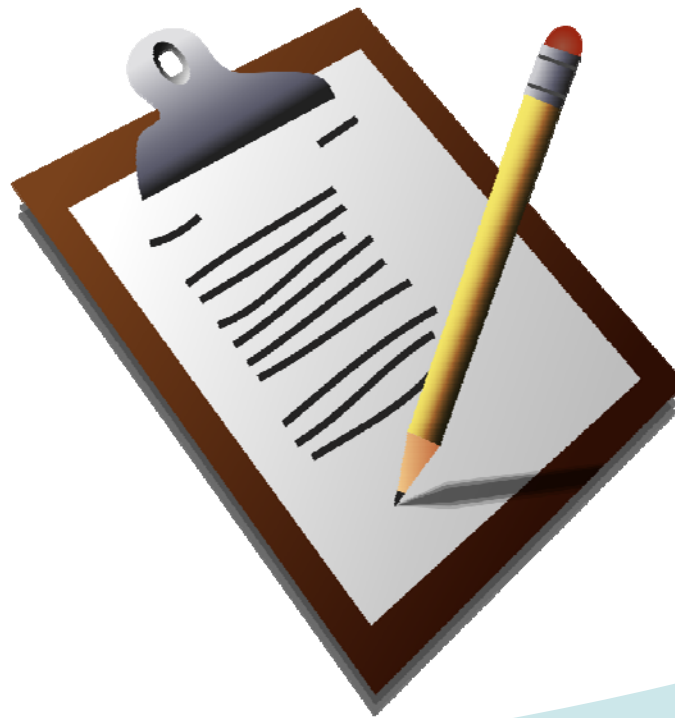
**NOAA
FISHERIES**

Southeast
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&

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Science
Center

Update on Review of Bycatch Information in the Southeast Region



South Atlantic Council Meeting
September 2015

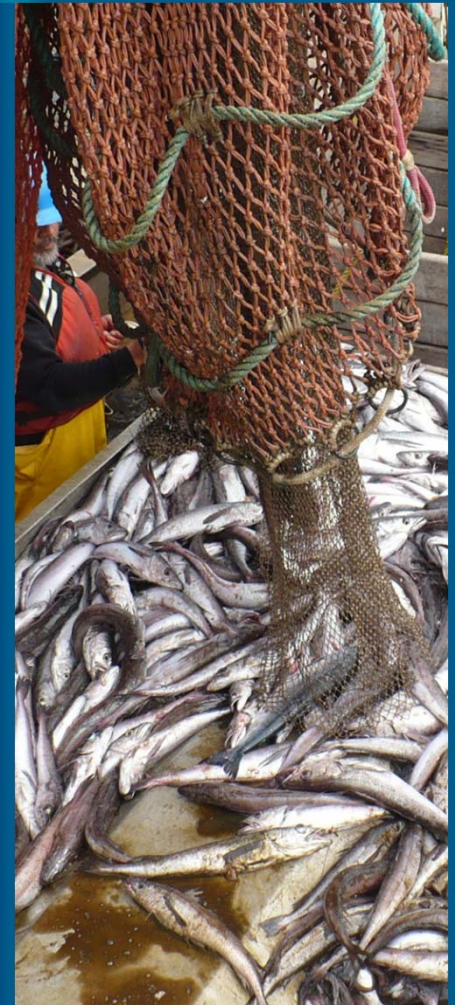
Workgroup was assembled to:

- Review SBRMs established by the Gulf of Mexico, South Atlantic, and Caribbean Fishery Management Councils.
- Develop recommendations for changes to SBRMs that could be made through the FMP process.

SERO/SEFSC WORKGROUP

Summaries of:

- ✓ Implemented SBRMs for 15 FMPs
- ✓ Bycatch data collection programs
- ✓ Fishery-specific bycatch estimates
- ✓ Current observer coverage levels



BYCATCH REPORTING REQUIREMENTS

National Standard 9:

Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

Magnuson-Stevens Act, Section 301(a)(9)

National Standard 9 (§600.350):

Promote development of a database on bycatch and bycatch mortality in the fishery to the extent practicable. A review and, where necessary, improvement of data collection methods, data sources, and applications of data must be initiated for each fishery to determine the amount, type, disposition, and other characteristics of bycatch and bycatch mortality in each fishery for purposes of this standard and of section 303(a)(11) and (12) of the Magnuson-Stevens Act. Bycatch should be categorized to focus on management responses necessary to minimize bycatch and bycatch mortality to the extent practicable. When appropriate, management measures, such as at-sea monitoring programs, should be developed to meet these information needs. National Standard 9 Guidelines, 50 CFR 600.350(d)(1).

BYCATCH REPORTING REQUIREMENTS

Magnuson-Stevens Act, Section 303(a)(11)

Fishery management plans shall establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority—

- (A) minimize bycatch; and
- (B) minimize the mortality of bycatch which cannot be avoided.”

SBRMS FOR SNAPPER-GROUPER, DOLPHIN-WAHOO, CMP, GOLDEN CRAB, SPINY LOBSTER, CORAL

Comprehensive Amendment Addressing Sustainable Fishery Act Requirements:

"Include reporting requirements as specified in the Atlantic Coastal Cooperative Statistics Program (ACCSP)."

Snapper-Grouper Amendment 15B:

"Adopt the ACCSP Release, Discard and Protected Species Module as the preferred methodology. Until this module is fully funded, require the use of a variety of sources to assess and monitor bycatch, including observer coverage on vessels, logbooks, electronic logbook, video monitoring, MRFSS, state cooperation, and grant funded projects. After the ACCSP Bycatch Module is implemented, continue the use of technologies to augment and verify observer data. Require that commercial vessels with a snapper-grouper permit, for-hire vessels with a for-hire permit, and private recreational vessels if fishing for snapper-grouper species in the EEZ, if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by NOAA Fisheries."

SBRMs FOR SOUTH ATLANTIC SHRIMP



Amendment 6:

"Adopt the ACCSP Release, Discard and Protected Species Module as the preferred methodology. Until this module is fully funded require the use of a variety of sources to assess and monitor bycatch including observer coverage on shrimp vessels, logbooks, state cooperation, grant funded projects, and federal penaeid shrimp permits."

Specifics:

- 1) 20% of the total at-sea observer funds (South Atlantic and Gulf of Mexico) are allocated to the South Atlantic.
- 2) Current observer coverage 1% Penaeid shrimp trips; <1% rock shrimp trips.

SARGASSUM SBRM

SBRM from Sargassum FMP

- 100% observer coverage required with gear restrictions
- No reported harvest of *Sargassum* since FMP final rule published



DISCARD REPORTING PROGRAMS

X: Directed coverage
 \: Indirect coverage

Fishery Management Unit	Recreational				Commercial	
	Headboat Observer	MRIP	FWC	Headboat Survey	Commercial Observer	Discard Logbook
South Atlantic						
Snapper-Grouper	X	X	n/a	X	X	X
Dolphin Wahoo	X	X	n/a	X	\	X
Coral and Coral Reefs	n/a	n/a	n/a	n/a	\	\
Shrimp	n/a	n/a	n/a	n/a	X	-
Golden Crab	n/a	n/a	n/a	n/a	-	X
Sargassum	n/a	n/a	n/a	n/a	X	X
Joint South Atlantic and Gulf						
CMP	X	X	n/a	X	\	X
Spiny Lobster	n/a	n/a	X	n/a	-	-

DISCARDS RANKED

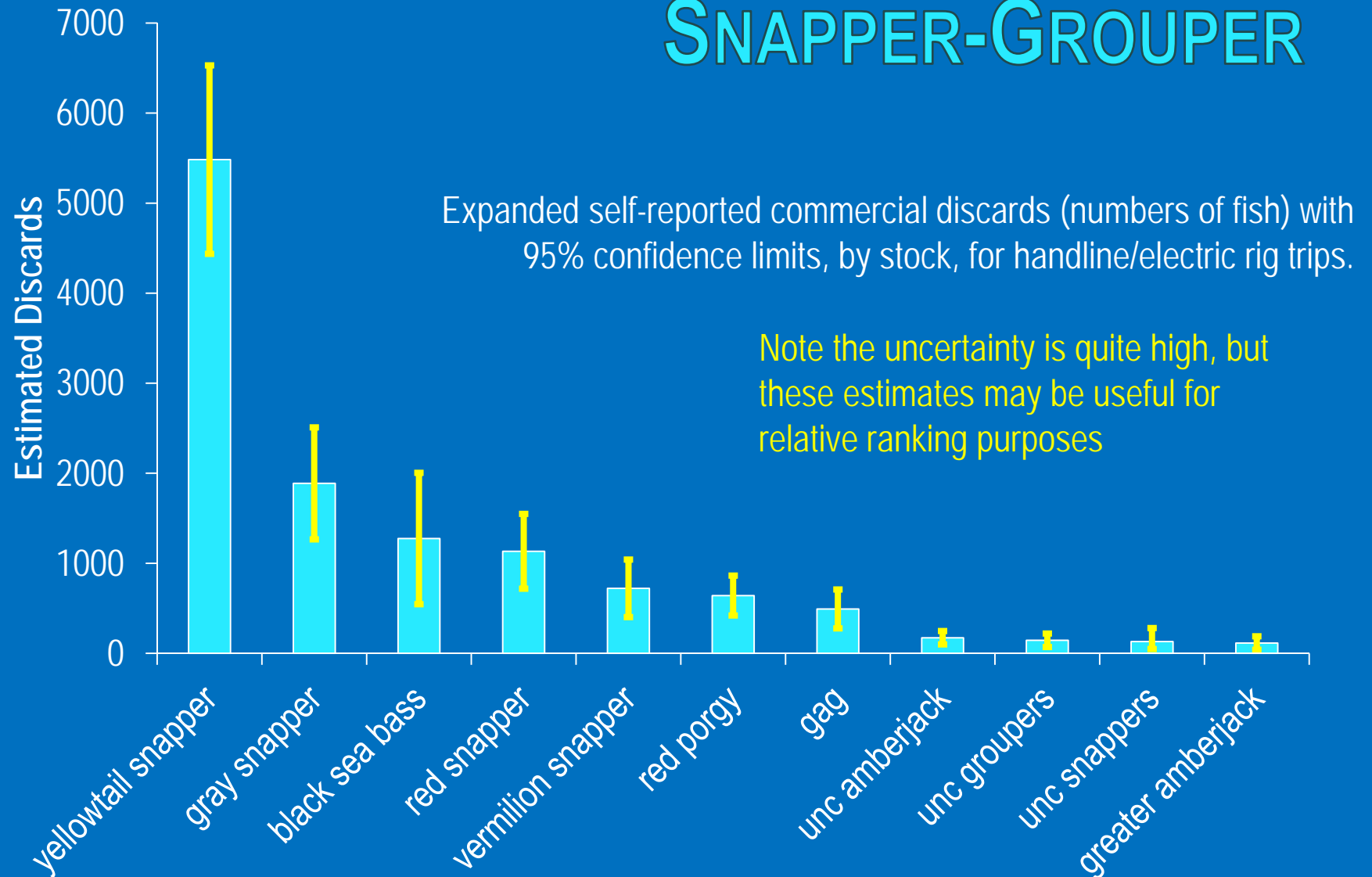
Southeast Region commercial fisheries reporting to the SEFSC Coastal Discard Logbook and Reef Fish Observer Program, defined by trips with >50% of landings from the listed FMP and gear, ranked from highest to lowest discards. Data for Shrimp FMP from NMFS (2011).

Data were unavailable to rank Coral & Coral Reefs, Sargassum, Spiny Lobster, and Caribbean Fisheries (Spiny Lobster, Queen Conch, Coral).

* Probable gear classification error ("T"=Trap, "TR"=Trolling).

RANK	FISHERY	GEAR
1	Gulf of Mexico Shrimp	Trawl
2	South Atlantic Shrimp	Trawl
3	Gulf of Mexico Reef Fish	Handline/Electric
4	Gulf of Mexico CMP	Handline/Electric
5	South Atlantic Snapper-Grouper	Handline/Electric
6	Gulf of Mexico Reef Fish	Longline
7	South Atlantic Dolphin-Wahoo	Trolling
8	South Atlantic Snapper-Grouper	Trap
9	South Atlantic Dolphin-Wahoo	Handline/Electric
10	South Atlantic Snapper-Grouper	Trolling
11	South Atlantic Dolphin-Wahoo	Trap*
12	South Atlantic CMP	Gillnet
13	Gulf of Mexico Reef Fish	Trolling
14	South Atlantic CMP	Handline/Electric
15	Gulf of Mexico CMP	Gillnet
16	South Atlantic CMP	Trolling
17	Gulf of Mexico Reef Fish	Diver
18	South Atlantic Snapper-Grouper	Longline
19	South Atlantic Snapper-Grouper	Diver
20	Gulf of Mexico CMP	Trolling
21	Gulf of Mexico Reef Fish	Buoy Gear
22	South Atlantic Dolphin-Wahoo	Longline

SNAPPER-GROUPER



Source: SEFSC Coastal Logbook (accessed May 2015) and Discard Logbook (accessed November 2014).

FMP	Gear	Discard Level	Top Discarded Species
Snapper-Grouper	Buoy	Very low	snowy grouper, gag, red snapper
	Diver	Low	black sea bass, red snapper, gag, red porgy, Atlantic sharpnose shark, almaco jack
	Handline / Electric Rig	High	yellowtail snapper, gray snapper, black sea bass, red snapper, vermilion snapper, red porgy, gag, amberjacks, groupers, snappers
	Longline	Low	smooth dogfish, sandbar shark, Atlantic hake, hammerhead, snowy grouper, rays, blue shark, skates, sharks
	Pot	Moderately High	black sea bass, spottail pinfish, gray triggerfish, white grunt, grunts, scup, red porgy, gag, vermilion snapper
	Trolling	Moderately Low	black sea bass, greater amberjack, black grouper, almaco jack, scamp, gag, sharks, barracuda, red snapper, red porgy
Dolphin-Wahoo	Handline / Electric Rig	Moderately High	dolphin, blue runner, king mackerel, yellowtail snapper, black grouper, gag, lane snapper, greater amberjack, vermilion snapper
	Longline	Very low	barracuda, silky shark, dolphin, blackfin tuna, blacktip shark, sailfish
	Trolling	Moderately High	dolphin, black sea bass, king mackerel, barracuda, greater amberjack, sailfish, little tunny, wahoo, lesser amberjack, red snapper

S-G DISCARDS

Mean (2009-13) estimated commercial discards (#fish)

Buoy Gear		Diver		Handline/Electric		Longline		Trap		Trolling	
snowy grouper	1.9	black sea bass	27.7	yellowtail snapper	5483.2	shark dogfish smooth	52.6	black sea bass	3708.8	black sea bass	946.7
gag	1.9	red snapper	23.1	gray snapper	1887.4	shark sandbar	26.1	pinfish spottail	59.0	greater amberjack	771.9
red snapper	1.0	gag	12.5	black sea bass	1274.6	hake atlantic red & white	4.5	gray triggerfish	54.8	black grouper	475.5
		red porgy	6.3	red snapper	1132.6	hammer-head	3.2	white grunt	43.6	almaco jack	423.0
		shark atlantic sharpnose	4.7	vermillion snapper	721.6	snowy grouper	0.5	grunts	32.7	scamp	194.3
		almaco jack	3.6	red porgy	640.7	rays unc	0.3	scup	30.8	gag	68.4
		finfishes unc for food	3.4	gag	492.3	shark blue	0.2	red porgy	27.6	shark unc	56.5
		spanish mackerel	2.7	unc amberjack	172.2	skates	0.1	finfishes unc	8.3	barracuda	56.3
		vermillion snapper	1.7	unc groupers	143.9	shark unc	0.0	gag	8.2	red snapper	32.2
		unc amberjack	1.6	unc snappers	130.9	shark dogfish unc	0.0	vermillion snapper	5.8	red porgy	19.1

DOLPHIN-WAHOO DISCARDS

Mean (2009-13) discards (#fish)

Handline / Electric		Longline		Trolling	
dolphin	2801.3	barracuda	6.6	dolphin	2453.4
blue runner	272.9	shark silky	2.3	black sea bass	1858.6
king mackerel	167.8	dolphin	2.2	king mackerel	152.4
yellowtail snapper	97.0	tuna blackfin	0.5	barracuda	44.3
black grouper	50.6	shark blacktip	0.3	greater amberjack	16.5
gag	49.7	sailfish	0.0	sailfish	8.1
lane snapper	44.8			tuna little (tunny)	2.7
greater amberjack	43.5			wahoo	2.5
vermillion snapper	28.4			lesser amberjack	2.1
unc amberjack	18.1			red snapper	1.6

FMU	Gear	Discard Level	Top Stocks
CMP	Gillnet	Moderately Low	menhaden, finfish, sea chubs, Atlantic sharpnose shark, bluefish, mackerels, spanish mackerel, bonnethead shark, blacktip shark, red porgy
	Handline / Electric Rig	Moderately Low	king mackerel, blue runner, spanish mackerel, little tunny, black sea bass, cobia, yellowtail snapper, gray triggerfish, red snapper, dolphin
	Trolling	Moderately Low	king mackerel, black sea bass, vermilion snapper, blue runner, spanish mackerel, little tunny, cobia, red snapper, gag, Atlantic sharpnose shark
Shrimp	Penaid Trawl	Very high	Without BRDs: ~51% finfish (including ESA-listed sturgeon), 18% shrimp, 13% non-commercial shrimp and crustaceans, and 18% non-crustacean invertebrates
	Rock Shrimp Trawl	High	With BRDs: ~37% rock shrimp, 13% finfish, 12% inshore lizardfish, and 10% dusky flounder
Golden Crab	Traps	Very low	predominantly isopods, with some crabs, hagfish, sharks, and hake
Spiny Lobster	Traps	Moderate	~1/3 traps contain bycatch: stone crabs, grunts, spider crabs, sea urchins
Sargassum	Nets	No Harvest	

CMP DISCARDS

Mean (2009-13) discards (#fish)

Gillnet		Handline/Electric		Trolling	
menhaden	675.7	king mackerel	641.6	king mackerel	523.5
finfishes unc for food	401.8	blue runner	142.5	black sea bass	82.0
rudderfish (sea chubs)	135.5	spanish mackerel	86.9	vermilion snapper	35.5
shark atlantic sharpnose	99.3	tuna little (tunny)	69.1	blue runner	26.3
bluefish	34.4	black sea bass	62.2	spanish mackerel	19.4
mackerel unc. (scomber)	33.6	cobia	55.6	tuna little (tunny)	17.0
spanish mackerel	29.9	yellowtail snapper	54.4	cobia	16.8
shark bonnethead	18.3	gray triggerfish	42.2	red snapper	16.7
shark blacktip	15.0	red snapper	39.5	gag	7.8
red porgy	12.5	dolphin	38.0	shark atlantic sharpnose	6.5

SPINY LOBSTER DISCARDS



Matthews et al. (1997):

Examined 21,309 lobster traps

32% contained bycatch

65% of bycatch was stone crabs, grunts, spider crabs, and sea urchins

Matthews & Donahue (1997):

Bycatch primarily tomtate, white grunt, stone crabs, spider crabs

Very low daily bycatch mortality rates, with wire traps higher than wood traps

GOLDEN CRAB DISCARDS



Discard Logbook

~10% golden crab fishers report discards

Mean discards 2009-2013 = 1,473 lb/yr deep-sea isopods

Perry et al. (1995):

Bycatch predominantly isopods, with some crabs, hagfish, sharks, and hake

Observer Program:

Required to carry observers if selected

11 permitted fishermen, no observer coverage

SHRIMP DISCARDS



Southeastern *Penaeid*:

Most bycatch are discards of no value to the vessel

Limited regulatory discards

Without BRDs, bycatch is ~51% finfish (including ESA-listed sturgeon), 18% shrimp, 13% non-commercial shrimp and crustaceans, and 18% non-crustacean invertebrates (NMFS 1998).

Rock Shrimp:

With BRDs, catch from 448 nets was ~37% rock shrimp, 13% finfish, 12% inshore lizardfish, and 10% dusky flounder.

S-G DISCARDS

Mean (2009-13) estimated commercial discards (#fish)

Species	HEADBOAT	CHARTER	PRIVATE	COMMERCIAL	
	Ratio (D:L)	Ratio (D:L)	Ratio (D:L)	Landings (lbs)	Discards (N)
Almaco jack	8%	47%	157%	197,432	800
Atlantic spadefish	27%	18%	113%	27,045	0
Banded rudderfish	17%	91%	85%	68,163	115
Bank sea bass	0%	263%	374%	540	0
Bar jack	17%		319%	4,457	0
Black grouper	397%	889%	372%	51,616	1,351
Black sea bass	334%	293%	1042%	510,102	60,568
Black snapper	0%			9	0
Blackfin snapper	75%	0%	0%	1,546	0
Blue runner	47%	140%	105%	227,134	1,762
Blueline tilefish	2%	5%	3%	341,160	234
Coney	101%	181%	24%	54	3
Cottonwick	0%		0%	0	0
Cubera snapper	5%	0%	6%	4,395	0
Dog snapper	25%	0%	0%	308	0
Gag	189%	596%	566%	471,689	7,004
Golden crab				634,192	0
Golden tilefish	0%	26%	58%	472,484	12
Gray snapper	15%	8%	463%	122,538	26,114
Gray triggerfish	21%	22%	119%	401,615	2,138
Graysby	210%	270%	1070%	612	22

S-G DISCARDS

Mean (2009-13) estimated commercial discards (#fish)

Species	HEADBOAT	CHARTER	PRIVATE	COMMERCIAL	
	Ratio (D:L)	Ratio (D:L)	Ratio (D:L)	Landings (lbs)	Discards (N)
Hogfish	165%	7%	11%	42,219	41
Jolthead porgy	2%	0%	12%	5,055	0
Knobbed porgy	3%	0%	4%	22,913	0
Lane snapper	12%	30%	289%	3,057	210
Lesser amberjack	15%	0%	0%	17,374	23
Longspine porgy	0%		59%	0	0
Mahogany snapper	8%		0%	45	0
Margate	27%	32%	115%	3,876	23
Misty grouper				655	1
Mutton snapper	26%	45%	150%	73,908	597
Ocean triggerfish	0%	25%	92%	0	0
Queen snapper	0%	0%		3,087	84
Red grouper	768%	596%	280%	258,312	1,614
Red hind	30%	0%	123%	7,781	47
Red porgy	70%	32%	32%	170,004	9,800
Red snapper	832%	396%	462%	82,133	13,272
Rock hind	44%	22%	450%	13,147	11
Rock sea bass	0%	134%	251%	389	16
Sailors choice	0%	3740%	77%	0	0
Sand tilefish	120%	868%	461%	995	159
Saucer eye porgy	0%		0%	0	0

S-G DISCARDS

Mean (2009-13) estimated commercial discards (#fish)

Species	HEADBOAT	CHARTER	PRIVATE	COMMERCIAL	
	Ratio (D:L)	Ratio (D:L)	Ratio (D:L)	Landings (lbs)	Discards (N)
Schoolmaster	0%	0%	50%	30	0
Scup	19%	9%	233%	0	414
Silk Snapper	8%	12%	558%	10,166	7
Snowy grouper	34%	35%	38%	86,858	264
Tomtate	115%	565%	347%	176	620
Vermilion snapper	60%	49%	96%	966,504	9,033
White grunt	25%	49%	95%	108,712	389
Whitebone porgy	3%	0%	12%	13	0
Yellowedge grouper	9%	0%	0%	15,619	6
Yellowfin grouper	42%		0%	3,275	6
Yellowmouth grouper	43%	0%		204	0
Yellowtail snapper	33%	43%	249%	1,216,264	71,453

D-W DISCARDS

Mean (2009-13) estimated commercial discards (#fish)

Species	HEADBOAT	CHARTER	PRIVATE	COMMERCIAL	
	Ratio (D:L)	Ratio (D:L)	Ratio (D:L)	Landings (lbs)	Discards (N)
Dolphin	10%	3%	33%	808,927	2,189
Wahoo	10%	1%	2%	0	7

CMP DISCARDS

Species	HEADBOAT	CHARTER	PRIVATE	COMMERCIAL	
	Ratio (D:L)	Ratio (D:L)	Ratio (D:L)	Landings (lbs)	Discards (N)
Cobia	0%	66%	113%	148,524	0
King Mackerel	13%	15%	28%	2,294,125	7,945
Spanish Mackerel	n/a	n/a	n/a	3,740,483	1,162

Fishery	Observer Coverage?	Current Level
Snapper-Grouper Recreational	Y	Observers are placed on 9.5% headboat trips out of NC, 1.4% out of SC, 3.5% out of GA, and 1.5% out of east FL.
Snapper-Grouper Longline	Y (limited)	
Snapper-Grouper Handline	Y (limited)	57 sea days* 2014-2015
Dolphin Wahoo Recreational	Y	Observers are placed on 9.5% of headboats trips out of NC, 1.4% out of SC, 3.5% out of GA, 1.5% out of east FL, and 2% out of west FL.
Dolphin Wahoo Longline	Y (limited)	Some longline catch targeting dolphin captured by observers for HMS.
Dolphin Wahoo Trolling	Y (limited)	
Shrimp	Y	~1% of penaeid shrimp and <1% of rock shrimp fisheries have observer coverage. 300 days.
Golden Crab	N	
Coral	N	
Sargassum	N	There is no Sargassum harvest.
Joint Gulf SA		
CMP Recreational	Y	Observers are placed on 9.5% of headboats trips out of NC, 1.4% out of SC, 3.5% out of GA, 1.5% out of east FL, and 2% out of west FL.
CMP Gulf	Y (limited)	CMP gillnet is now in the MMPA rotation for observers
CMP South Atlantic	Y (limited)	
Spiny Lobster	N	

QUESTIONS?