



Southeast Reef Fish Survey

2018 Update
Sampling Activities and
Relative Abundance

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SCDNR

October 2019 Snapper/Grouper AP meeting

Southeast Reef Fish Survey (SERFS)

MARMAP - SEAMAP-SA - SEFIS

R/V Savannah



36 days

R/V Lady Lisa



9 days

NOAA Ship Pisces



30 days

R/V Palmetto



42 days

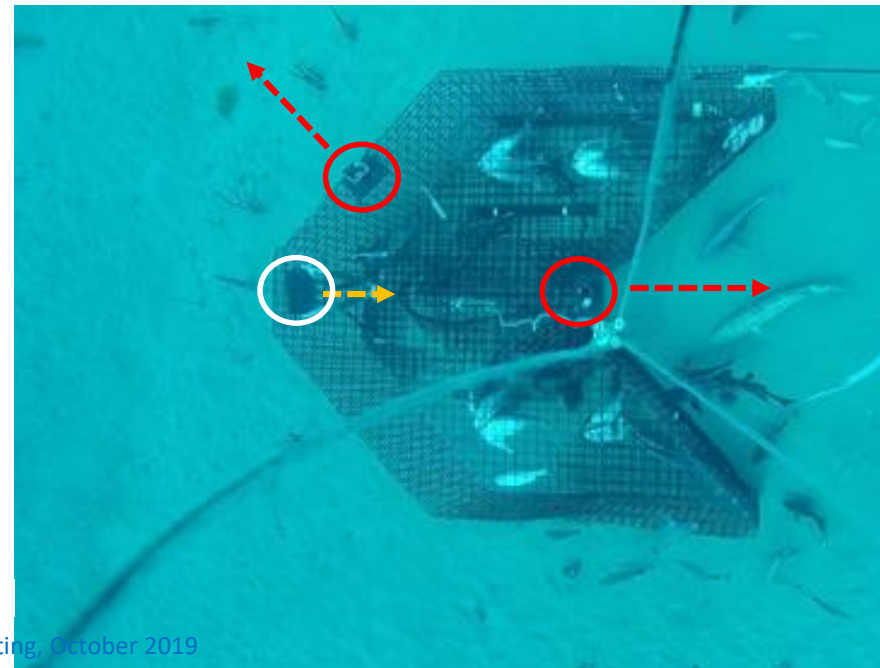
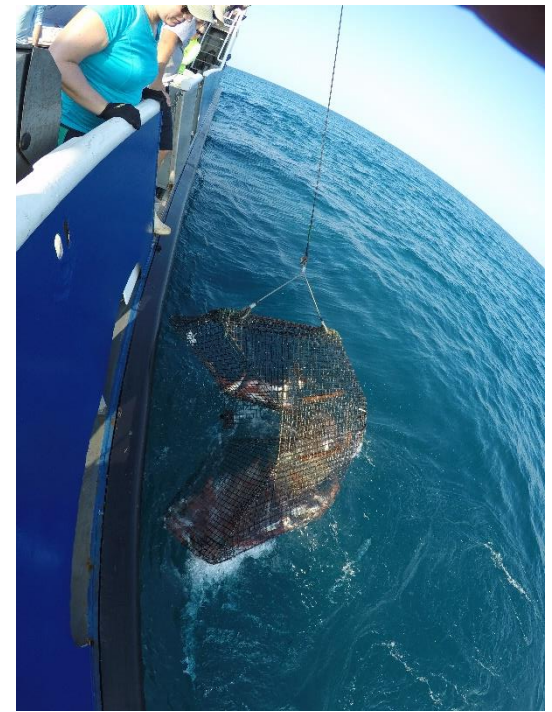
MARMAP: Marine Resources Monitoring, Assessment & Prediction Program (1972)

SEAMAP-SA: Southeast Area Monitoring & Assessment Program - South Atlantic (1986)

SEFIS: Southeast Fishery-Independent Survey (2009)

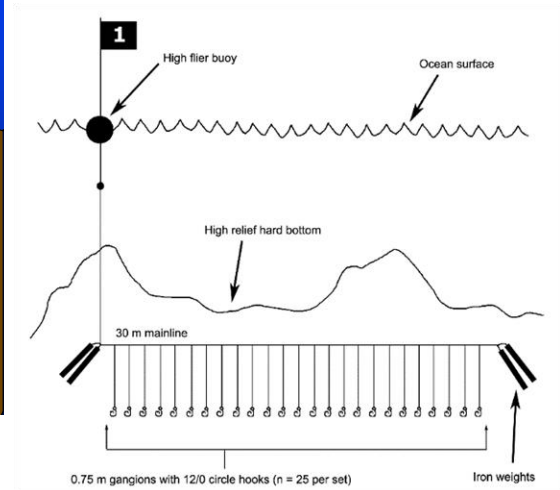
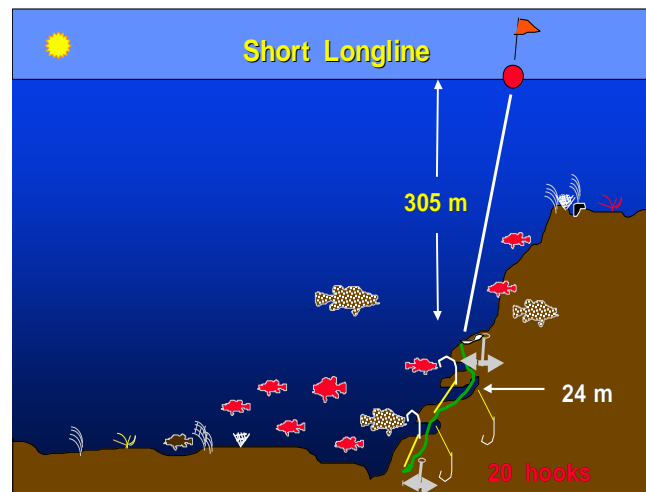
Chevron Video Trap

- Target habitat: low to medium relief, live-bottom
- Deployed in depths to ≈ 110 m
- Consistent and standardized use since 1990
- Soak time ≈ 90 minutes, baited with clupeids
- 2 (3) video cameras on each trap



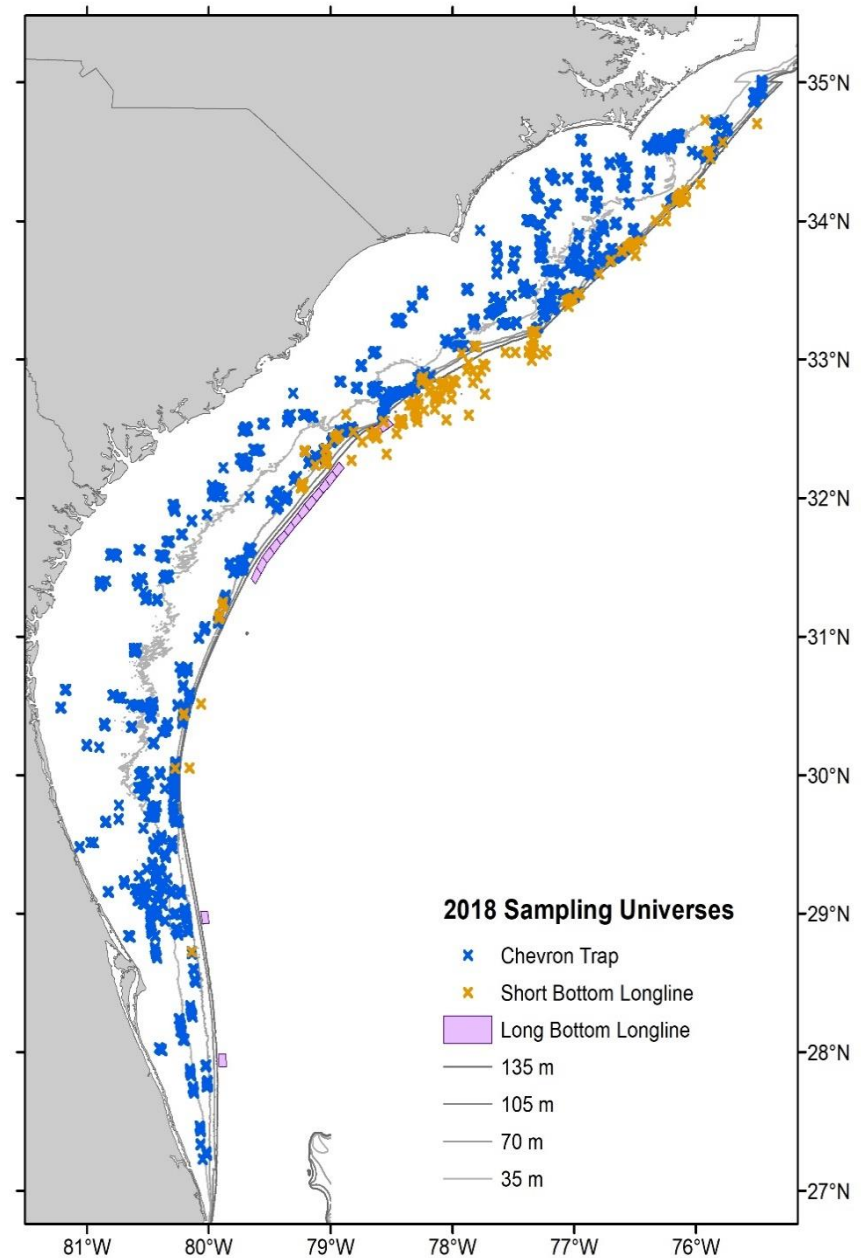
Short Bottom Longline

- Target habitat: high relief, live-bottom >90 meter depth (Snowy Grouper, Speckled Hind, jacks, tilefishes)
- Soak time \approx 90 minutes, baited with whole squid



Sampling Stations

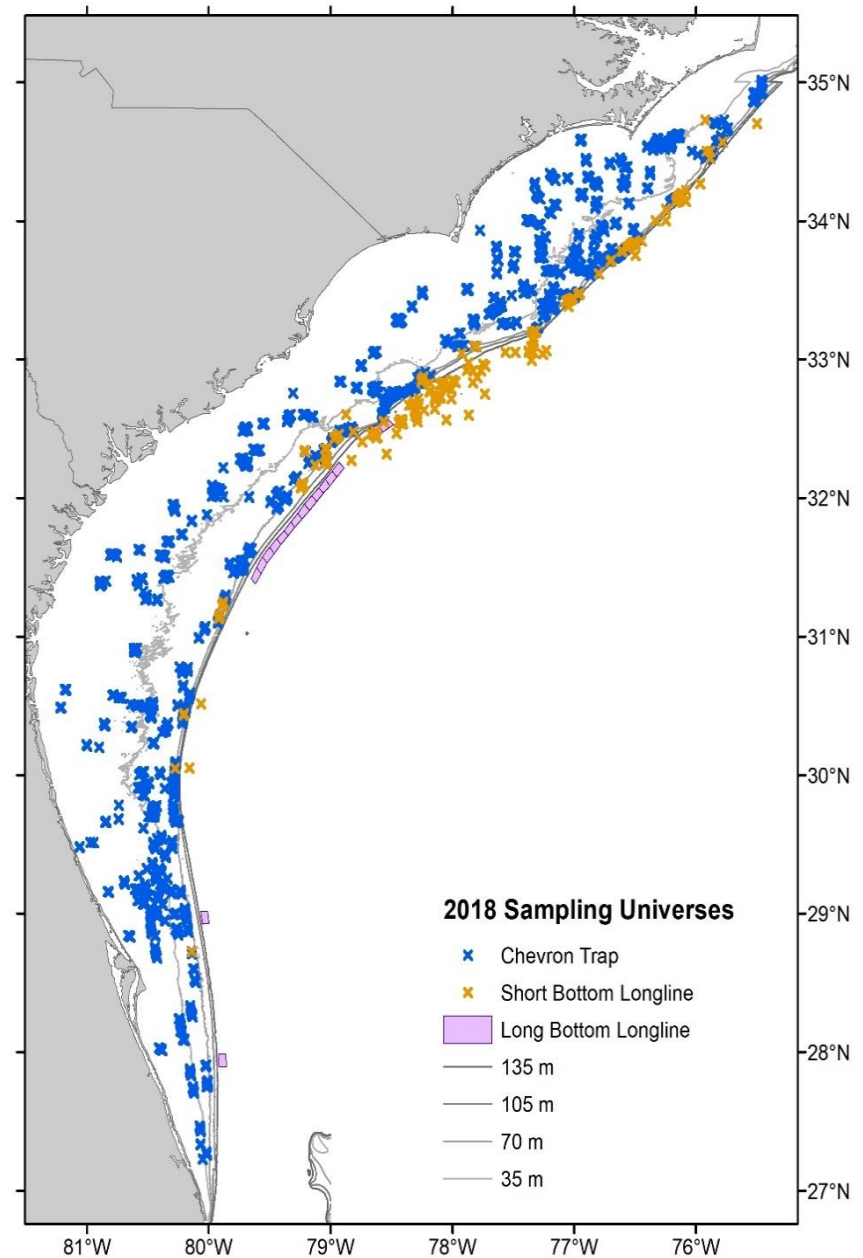
- Chevron Video Trap
 - $\approx 4,300$ sampling stations
 - $\approx 1,500$ randomly selected annually
- Short Bottom Longline
 - ≈ 300 sampling stations
 - ≈ 250 randomly selected annually



Processing and Data

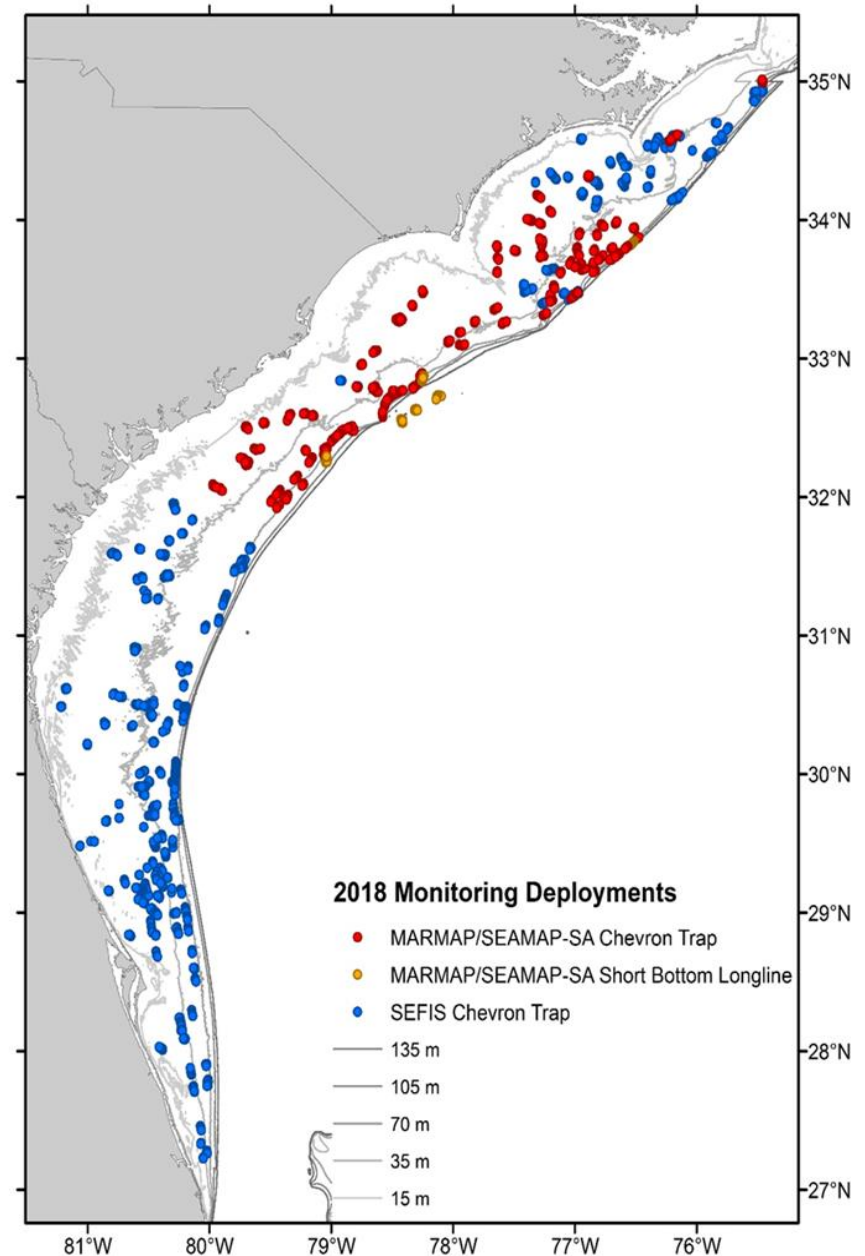
- MARMAP/SEAMAP-SA:
 - **Life history**
processing & analyses
 - **Trap and longline indices**
- SEFIS
 - **Video** processing & analyses

One combined database



2018 Summary

- 117 days at sea
- 2,280 gear deployments
 - 1,784 Chevron Video Traps
 - 77 Short Bottom Longlines
 - 324 CTD deployments
- 47,342 fish (82 species) collected
- 11,367 fish (41 species) processed for life history (age, repro., etc.)



2018 Most encountered species

Common Name	Chevron	Short BLL	Total
Tomtate	23,723		23,723
Black Sea Bass	7,657		7,657
Vermilion Snapper	3,210	1	3,211
Scup & Longspine Porgy	2,734		2,734
White Grunt	1,974		1,974
Red Snapper	1,963		1,963
Red Porgy	1,859	1	1,860
Gray Triggerfish	1,268		1,268
Bank Sea Bass	775		775
Sand Perch	593		593
Spottail Pinfish	376		376
Knobbed Porgy	100		100
Pinfish	100		100
Almaco Jack	63	10	73
Scamp	43	6	49
Snowy Grouper	23	44	67

Overview of CPUE

- Chevron trap catches (1990-2018)
- Short bottom longline (1996-2018)
- Standardization:
 - Zero-Inflated Negative Binomial model (ZINB)
 - Most appropriate method, reduces uncertainty
- Summarized in
 - Annual “Trends Report”



Trends Overview

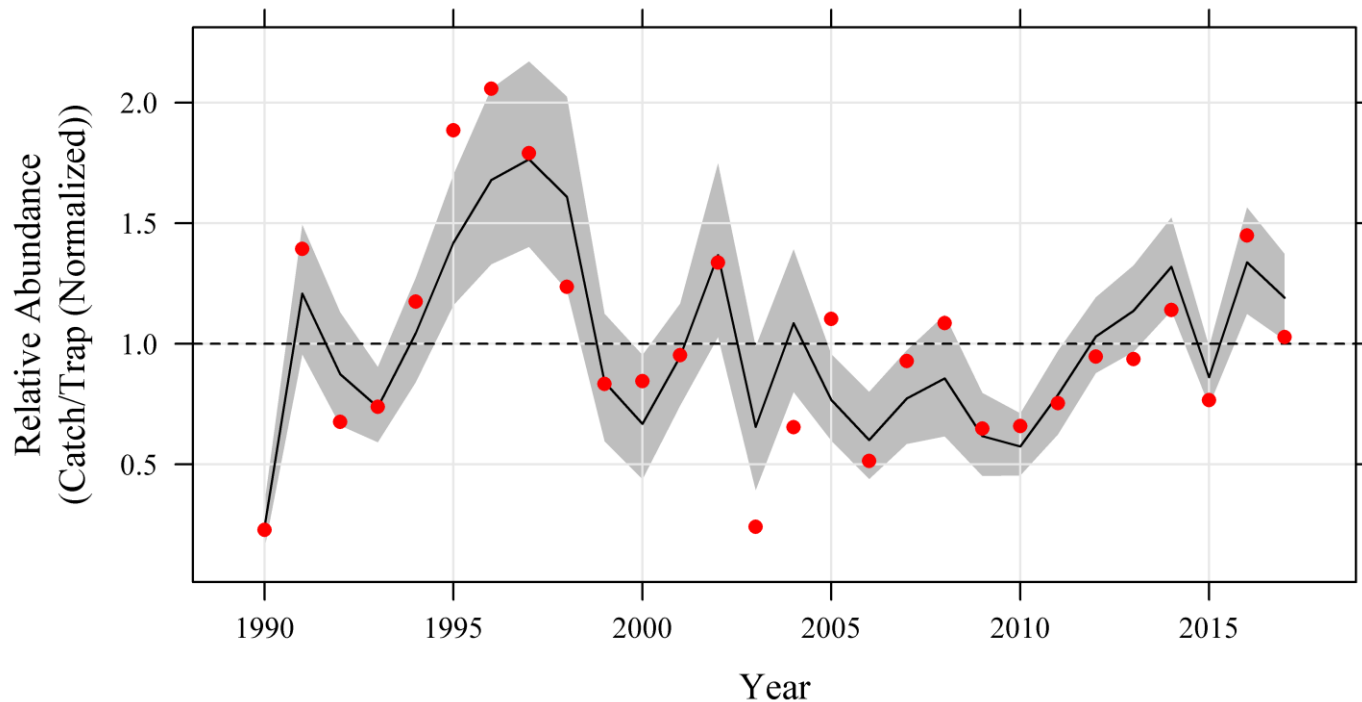
Caveats



- Summary overview, not an update of stock status
- Model inputs for CPUE indices may be different from those used in (SEDAR) stock assessments
- Not all species have been assessed or updated (through SEDAR process) and not all trends analyses have been discussed in (SEDAR) assessment framework

Figures

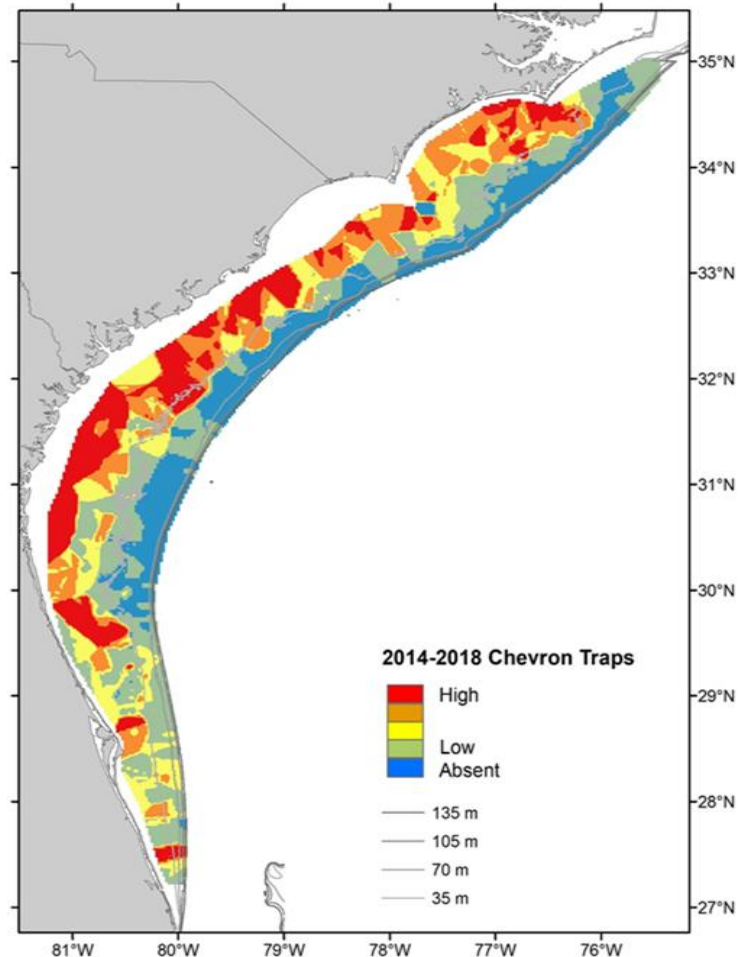
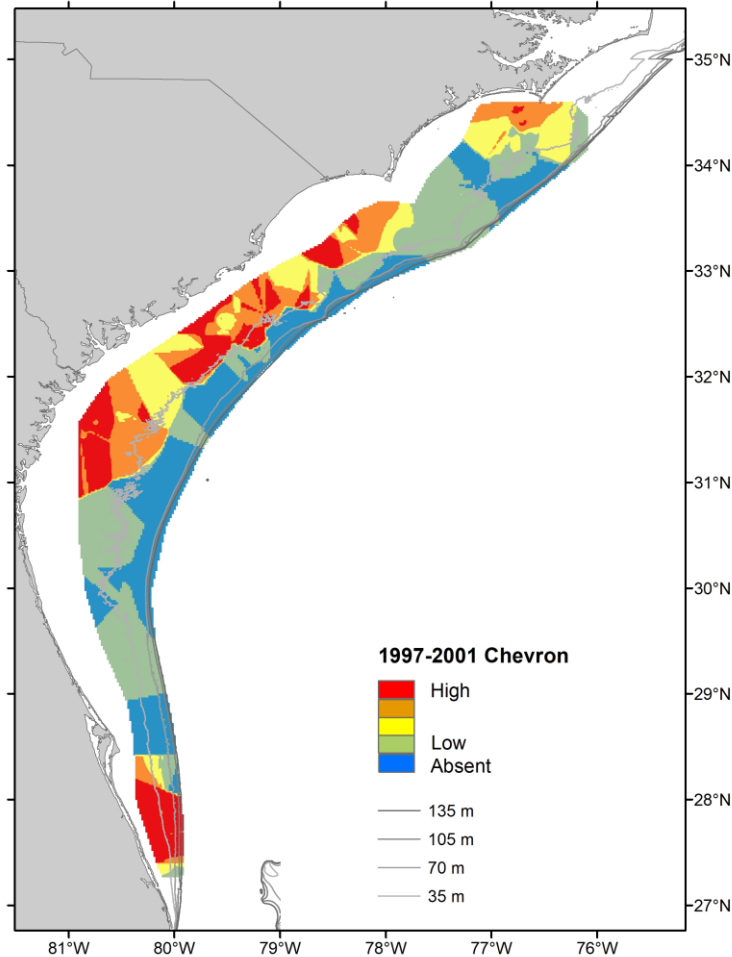
- Index graphs
 - Normalized to long term average (=1)
 - e.g. 2 = twice the long-term average, and 0.5 = half the long-term average
 - Black line = ZINB standardized index
 - Gray area = $\pm 95\%$ CI.
 - Red dot = nominal values (not standardized)



Figures

Maps

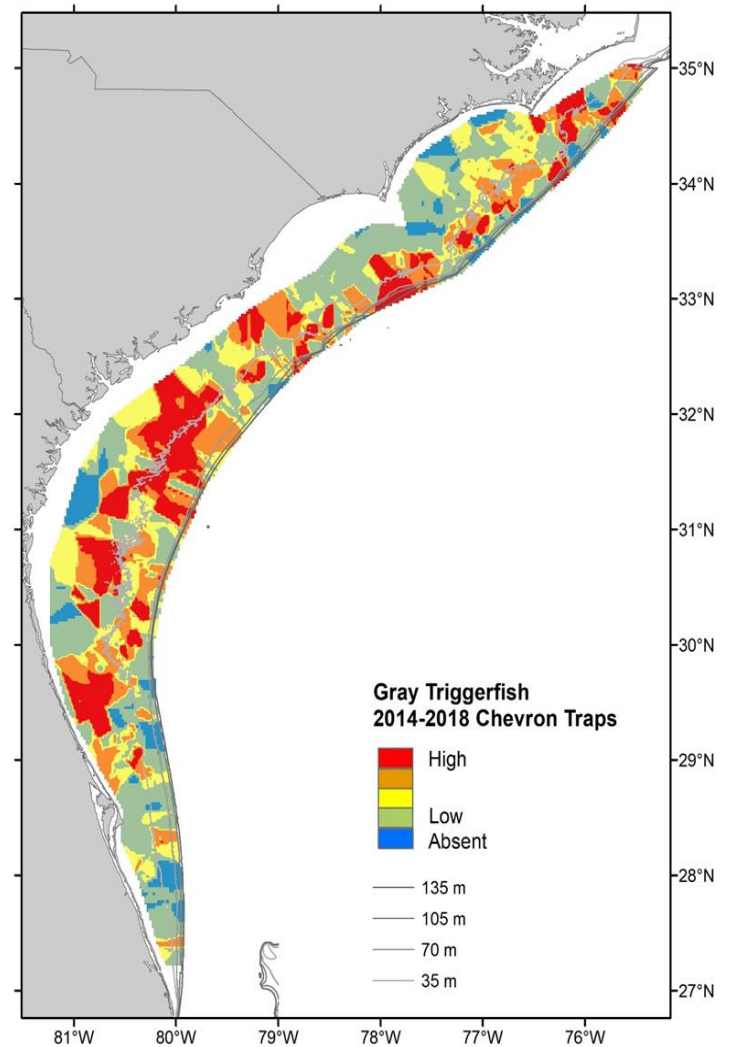
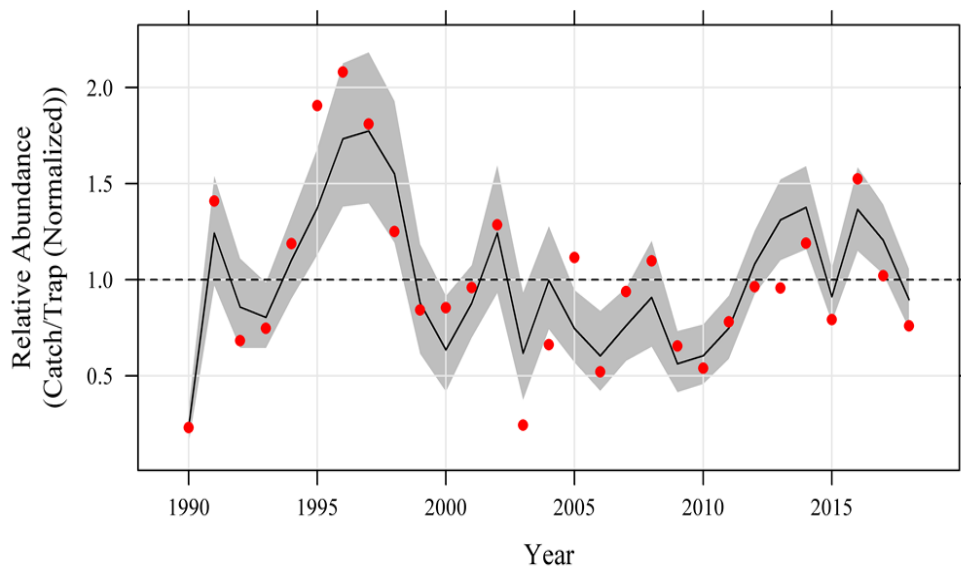
- Nominal CPUE in quartiles
- Warmer colors = higher Nom. CPUE
- Two maps: 1997-2001 and 2014-2018



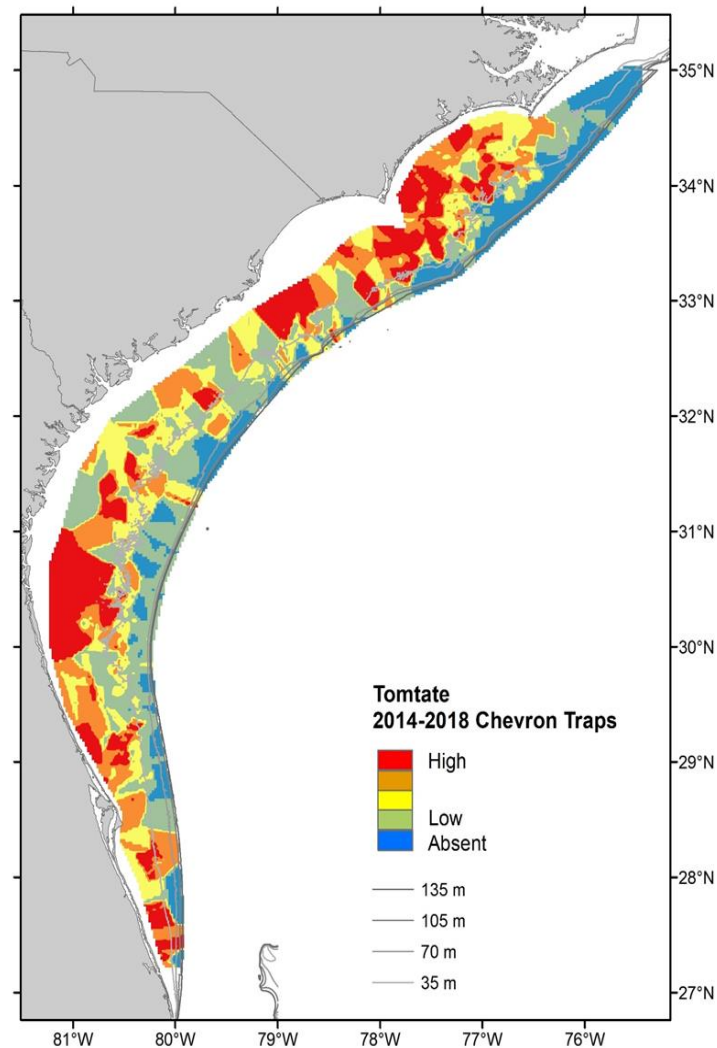
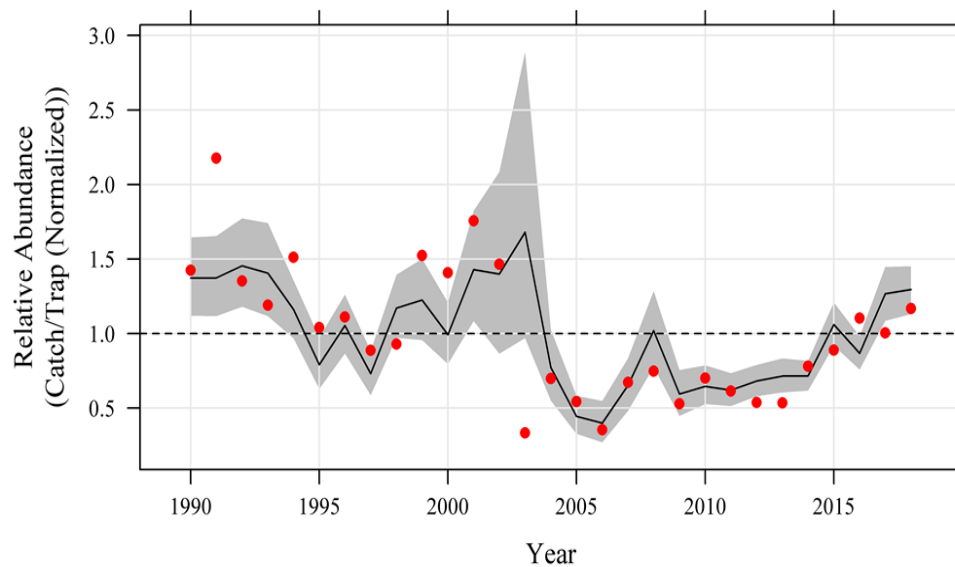
Fishery-Independent Abundance Trends 2018



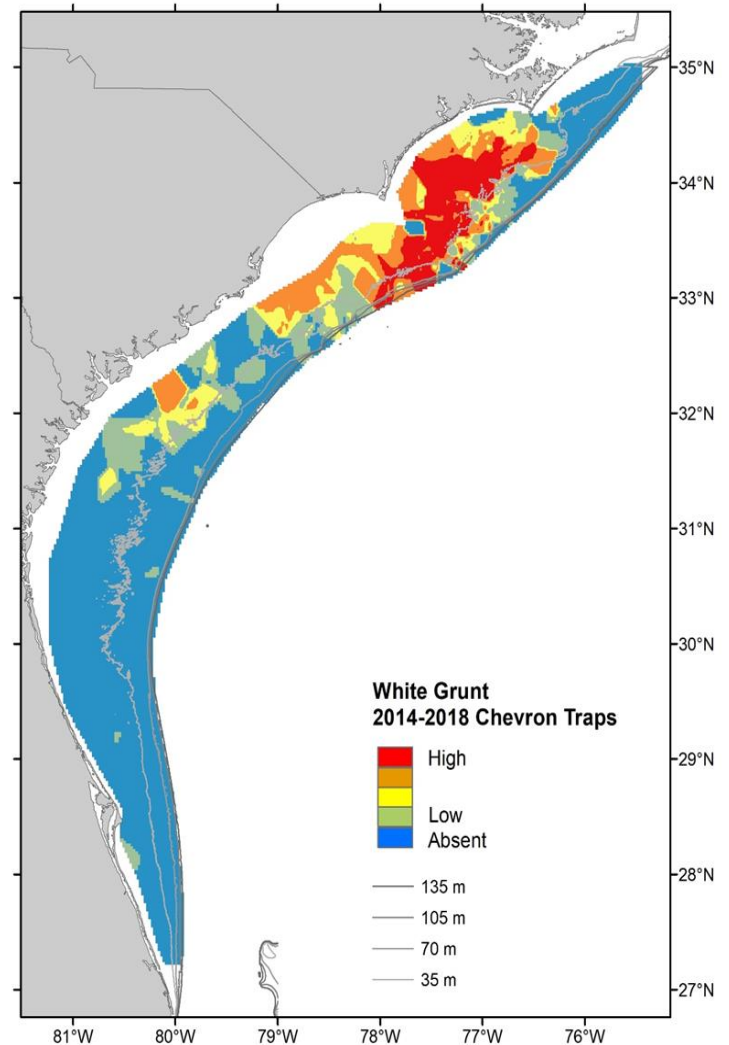
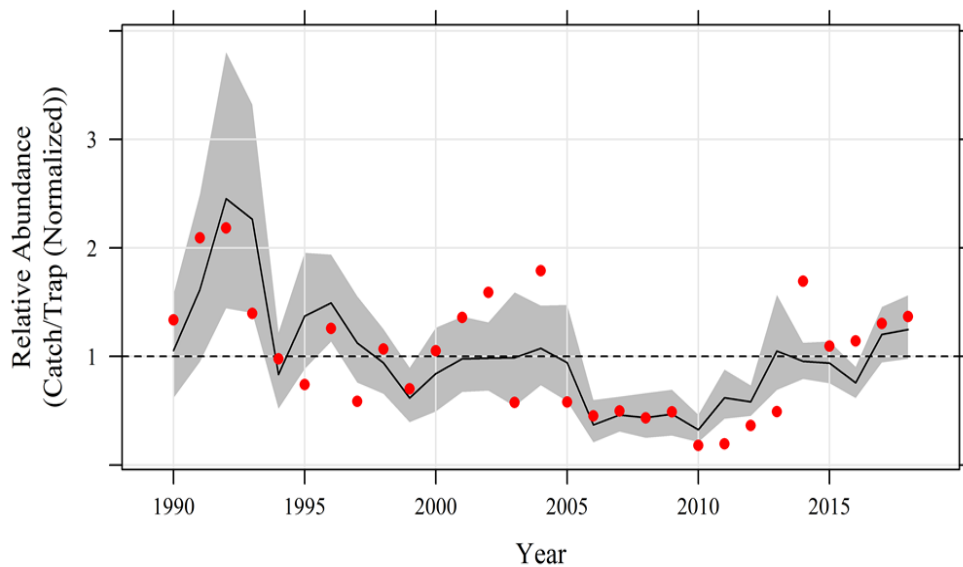
Gray Triggerfish – Chevron Trap



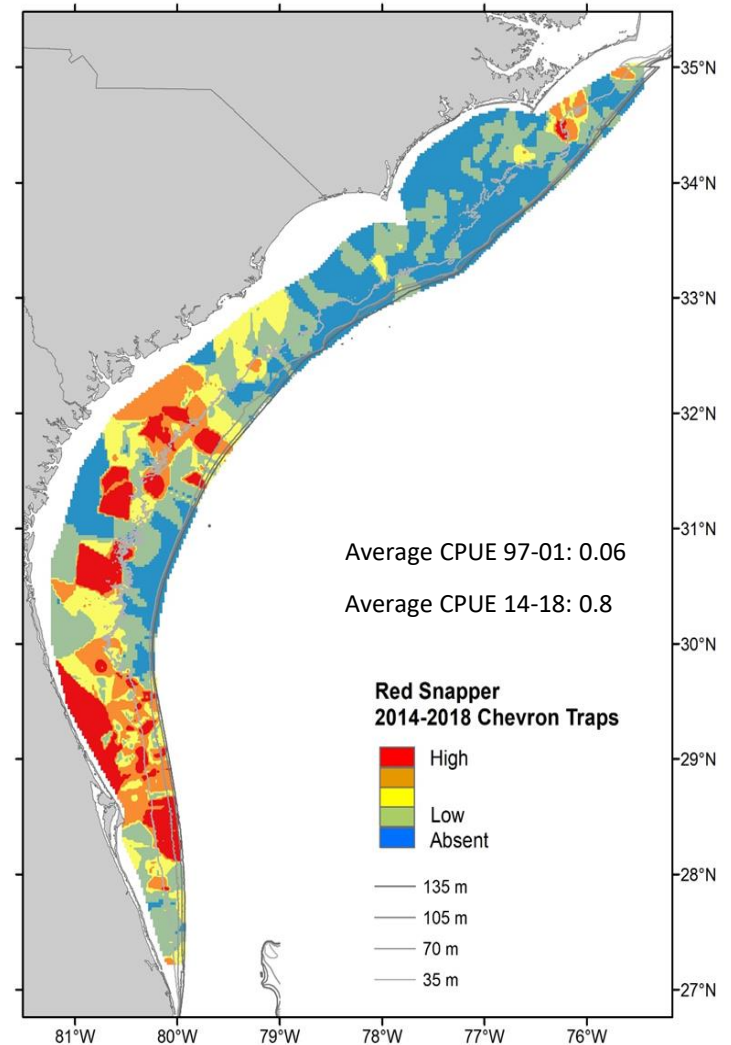
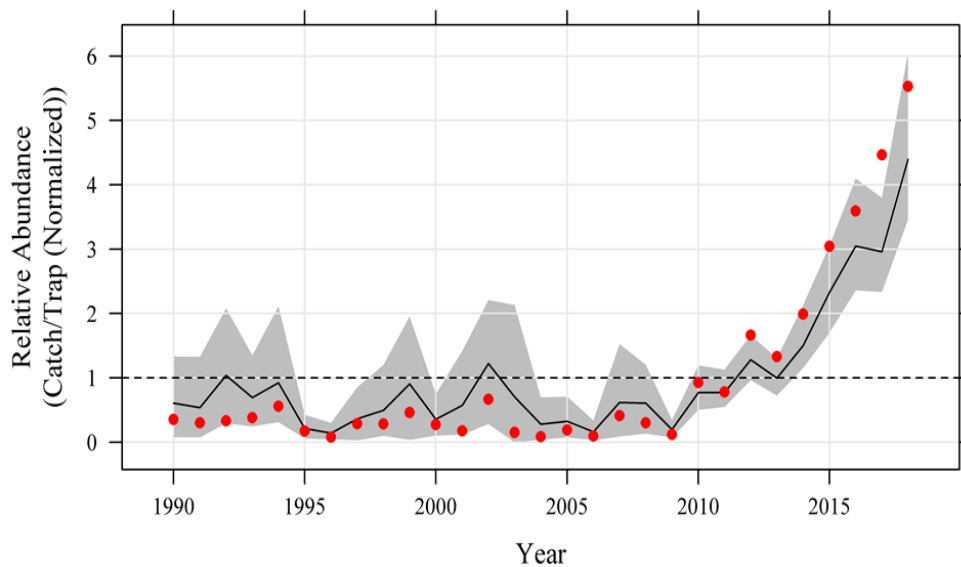
Tomtate – Chevron Trap



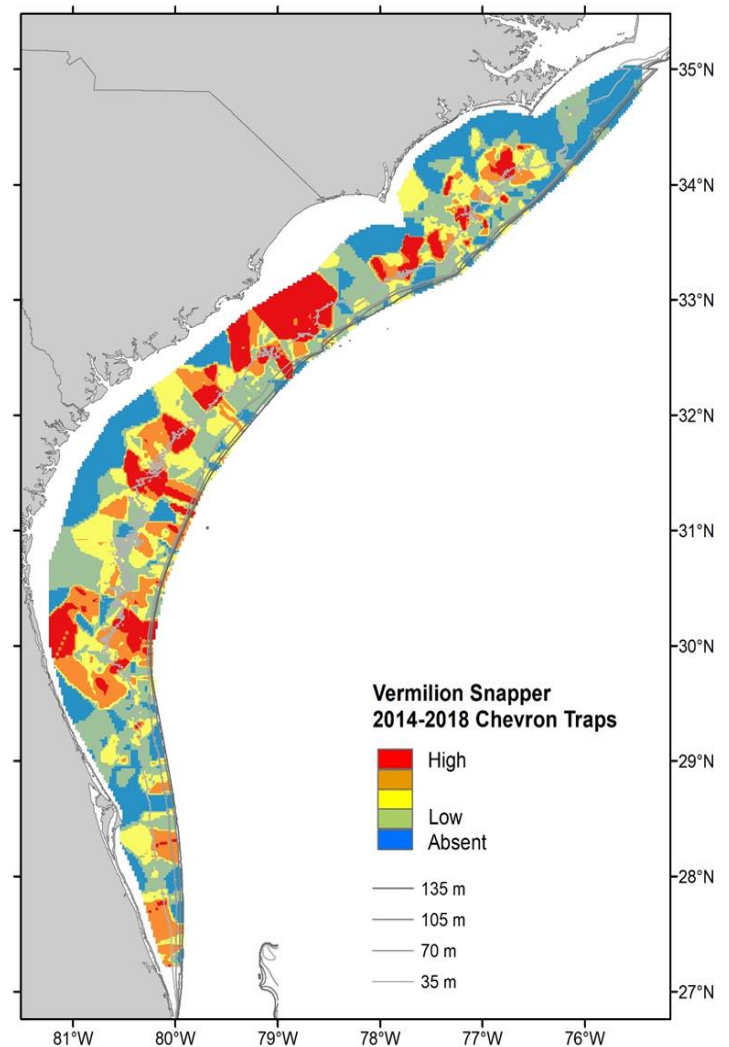
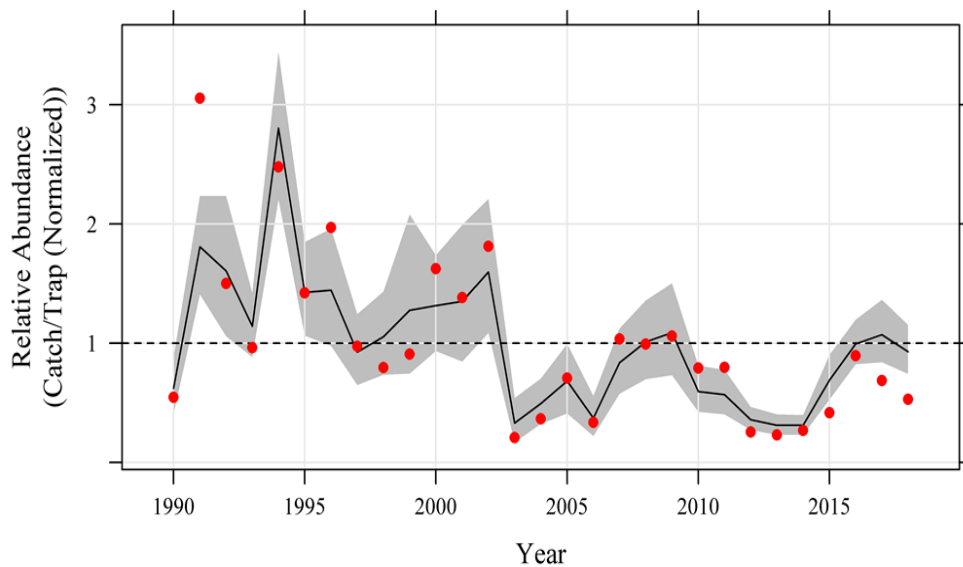
White Grunt – Chevron Trap



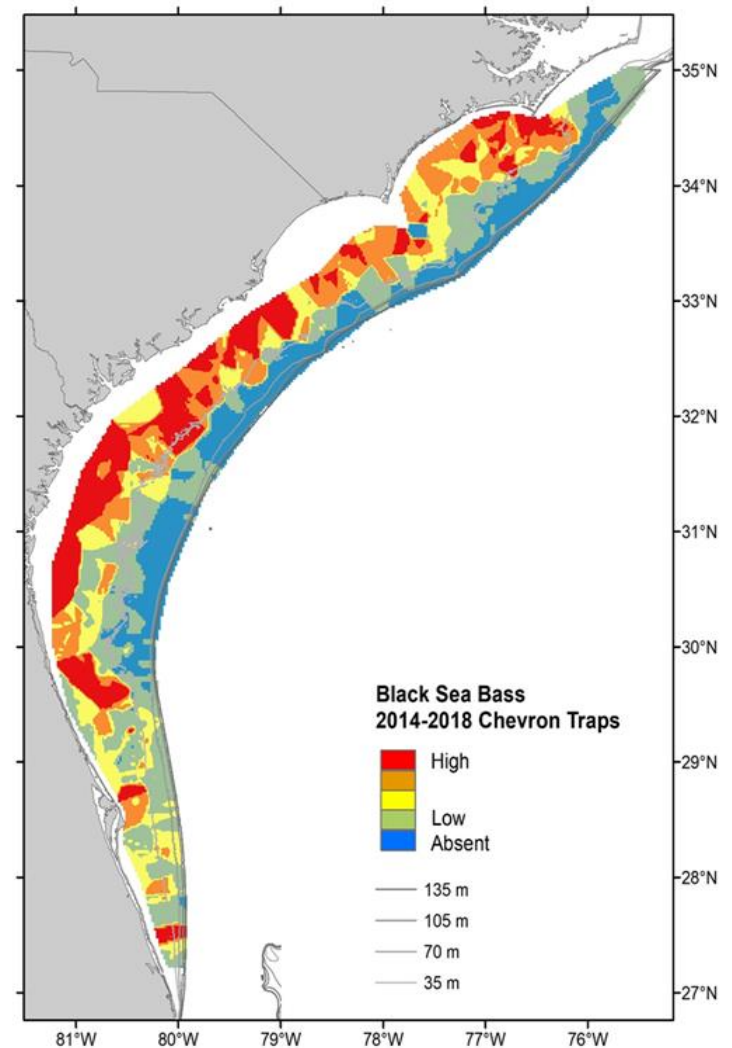
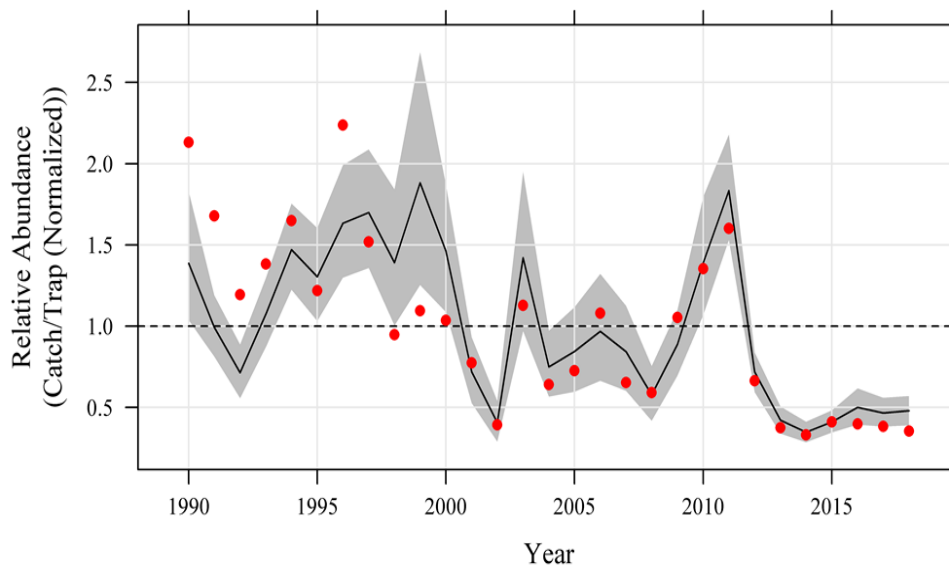
Red Snapper – Chevron Trap



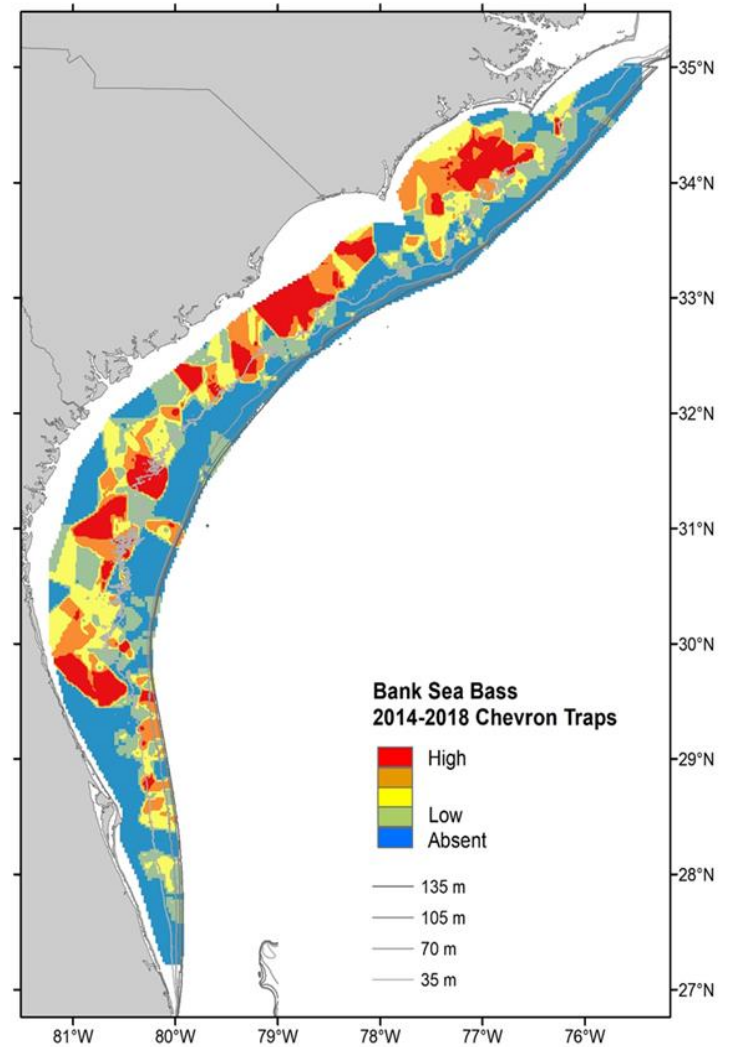
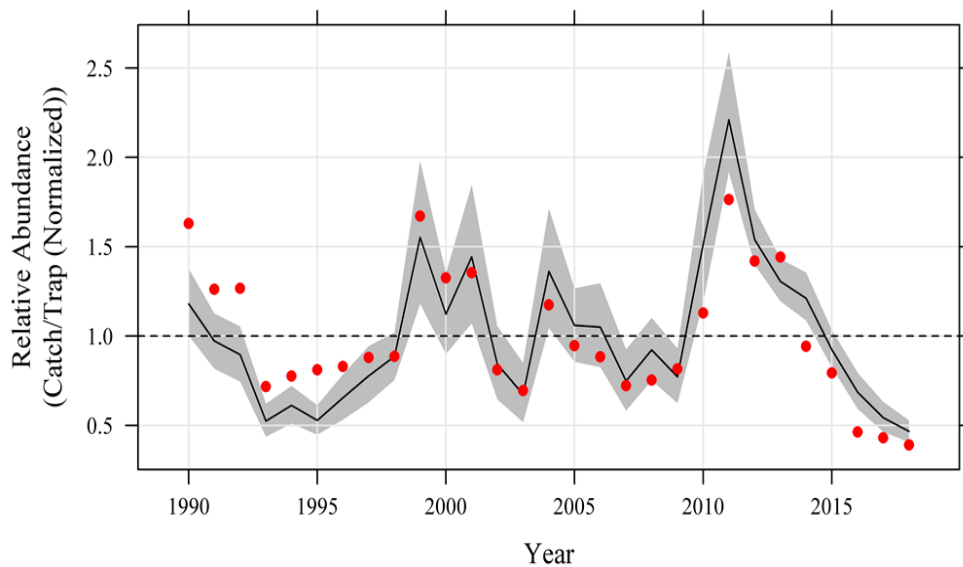
Vermilion Snapper – Chevron Trap



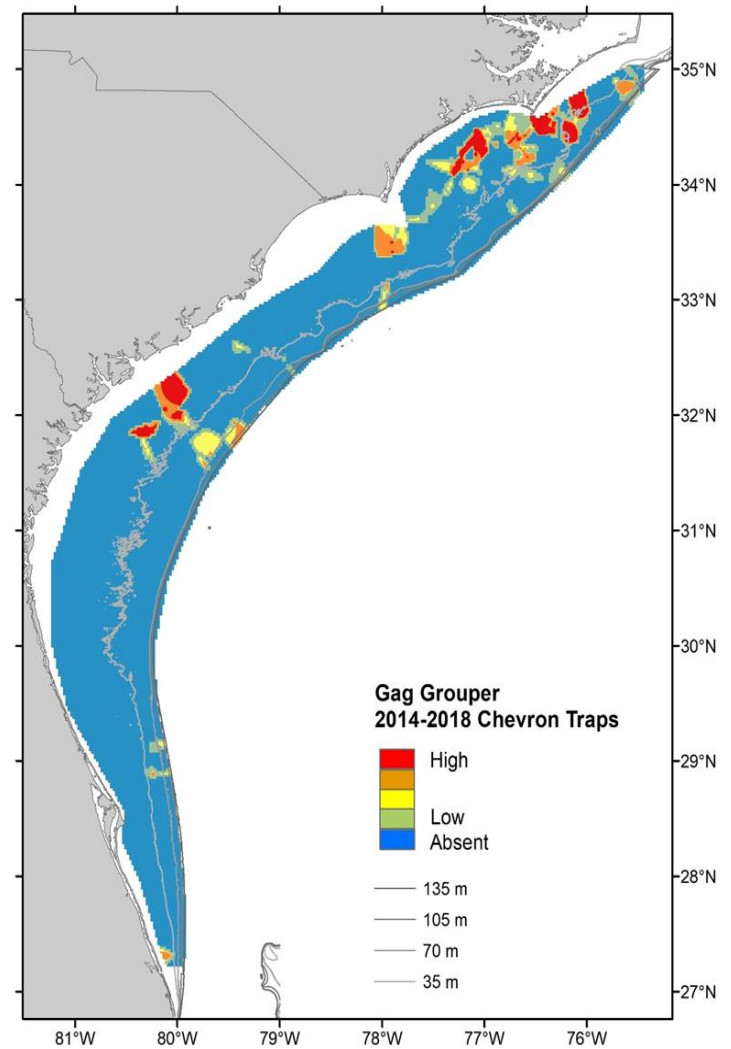
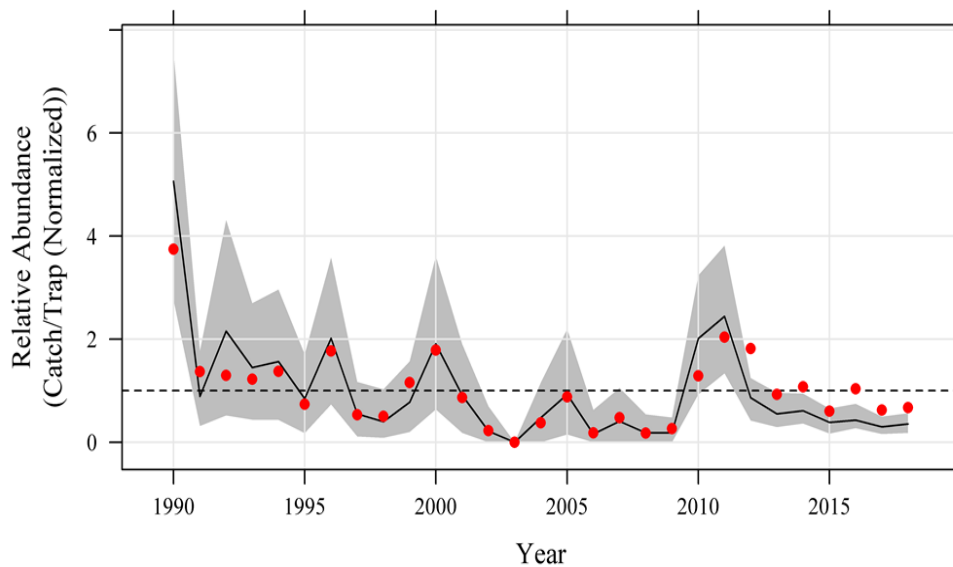
Black Sea Bass – Chevron Trap



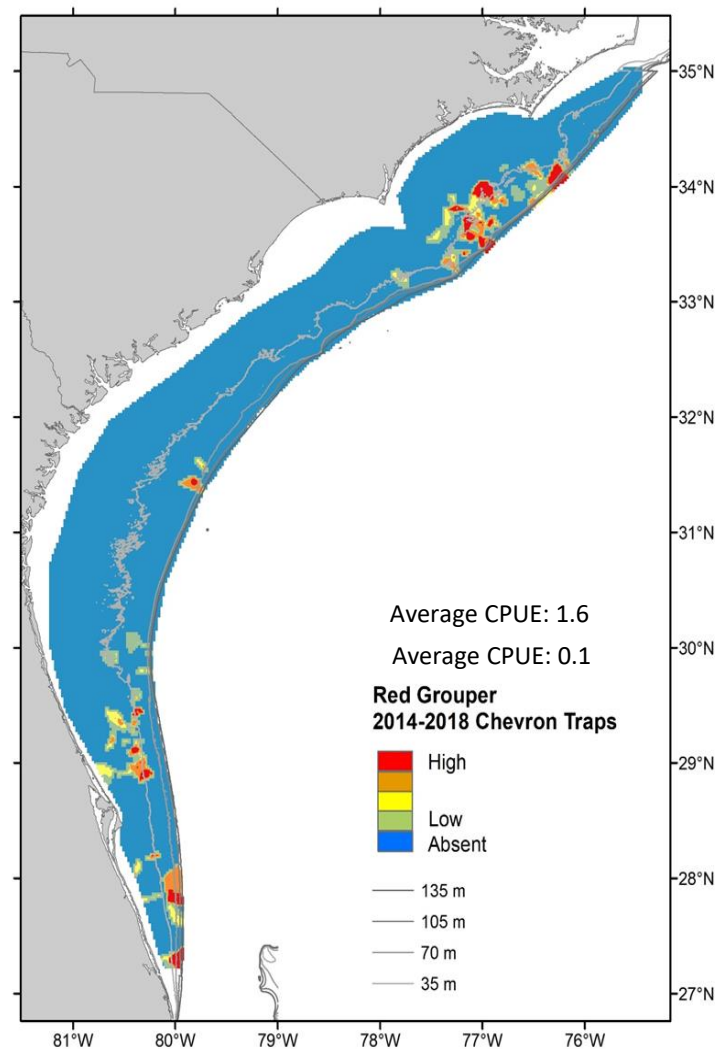
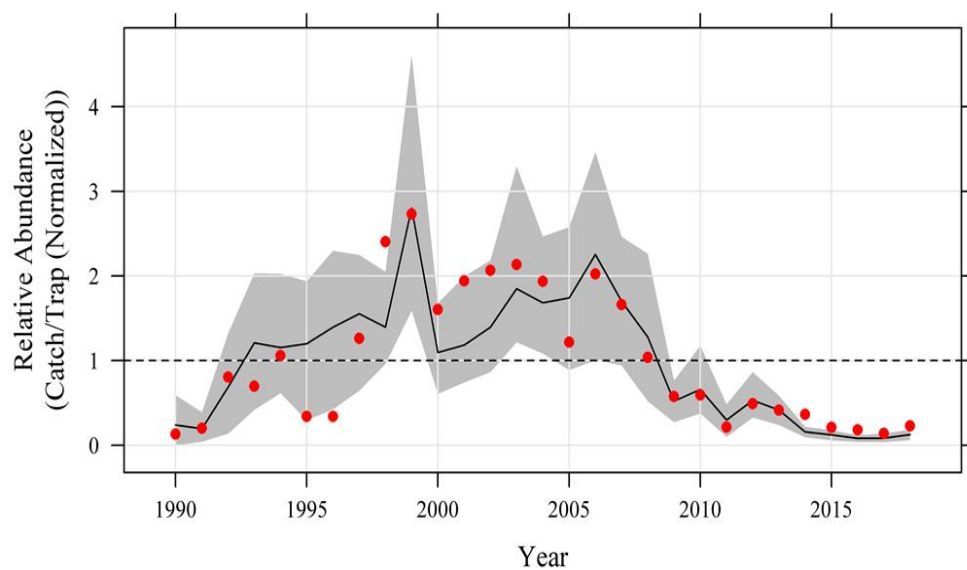
Bank Sea Bass – Chevron Trap



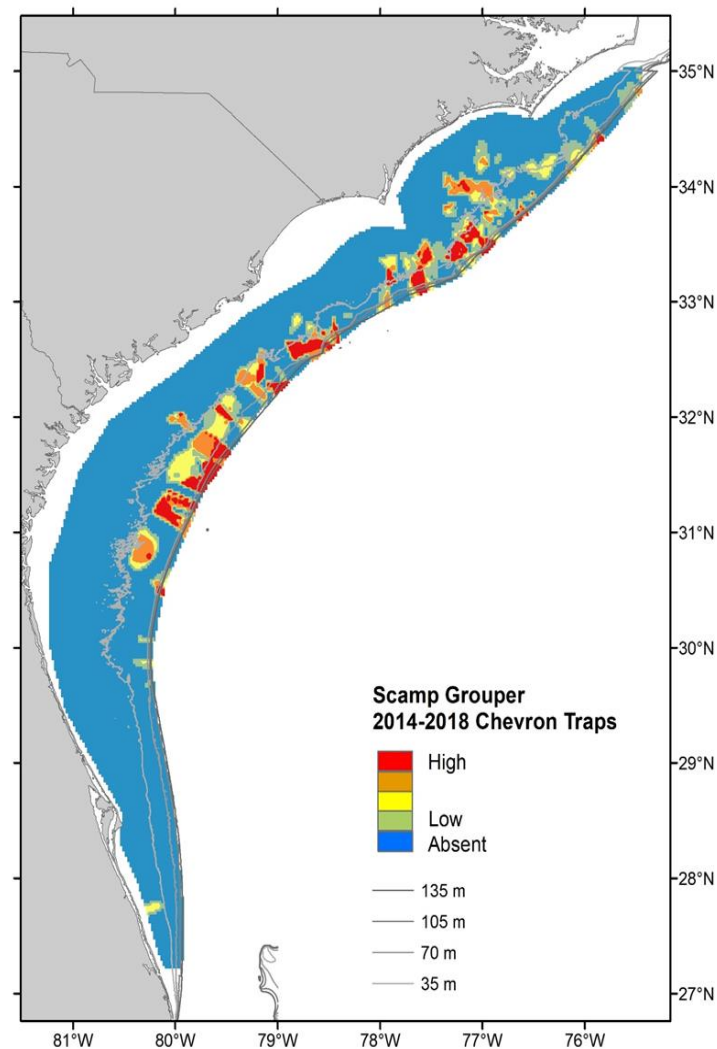
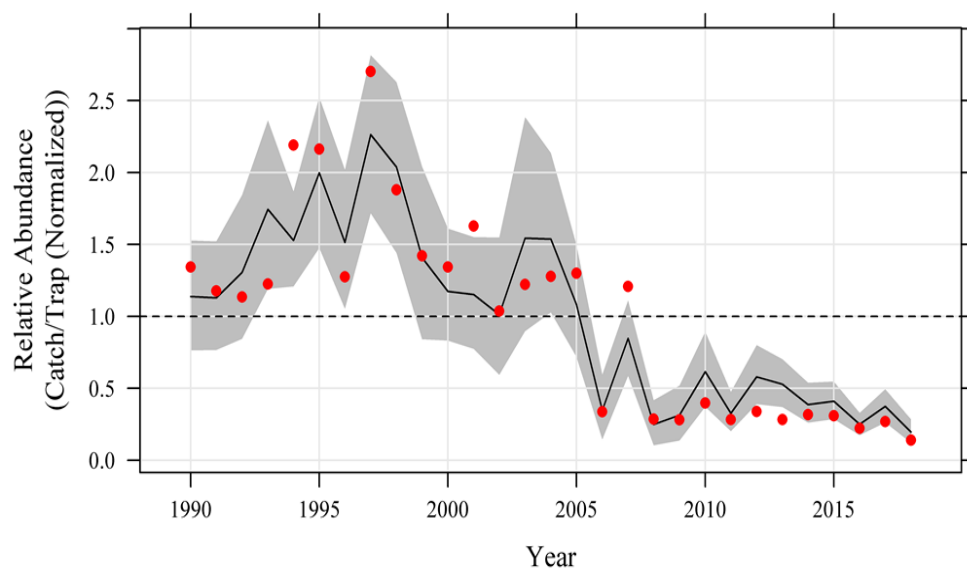
Gag – Chevron Trap



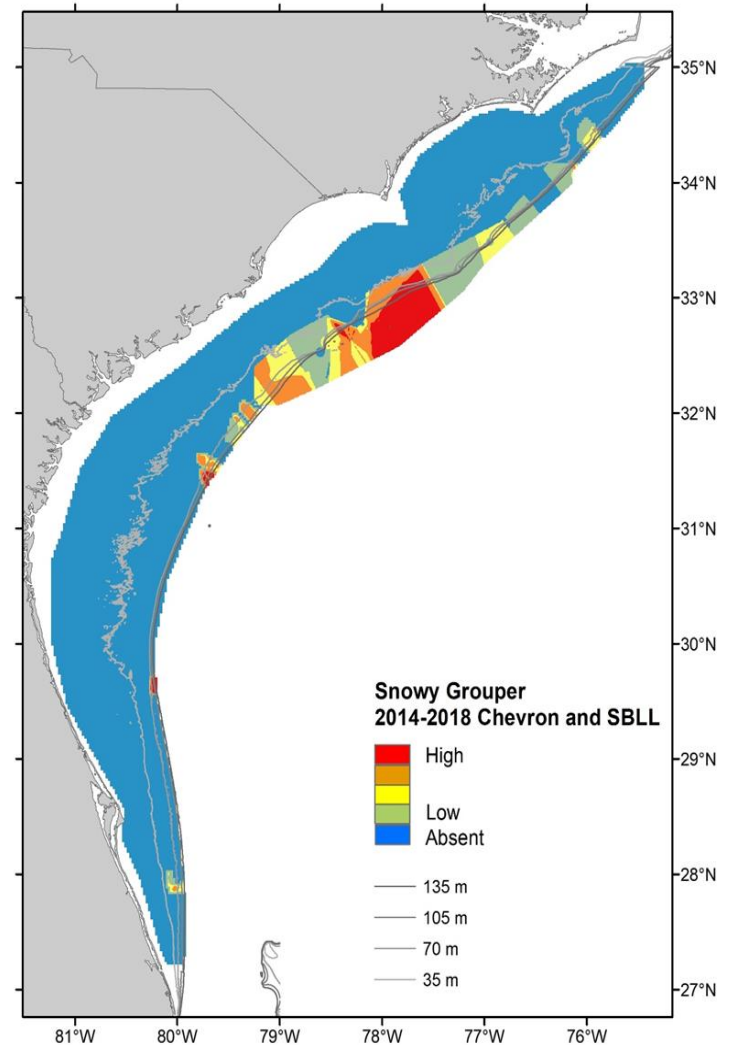
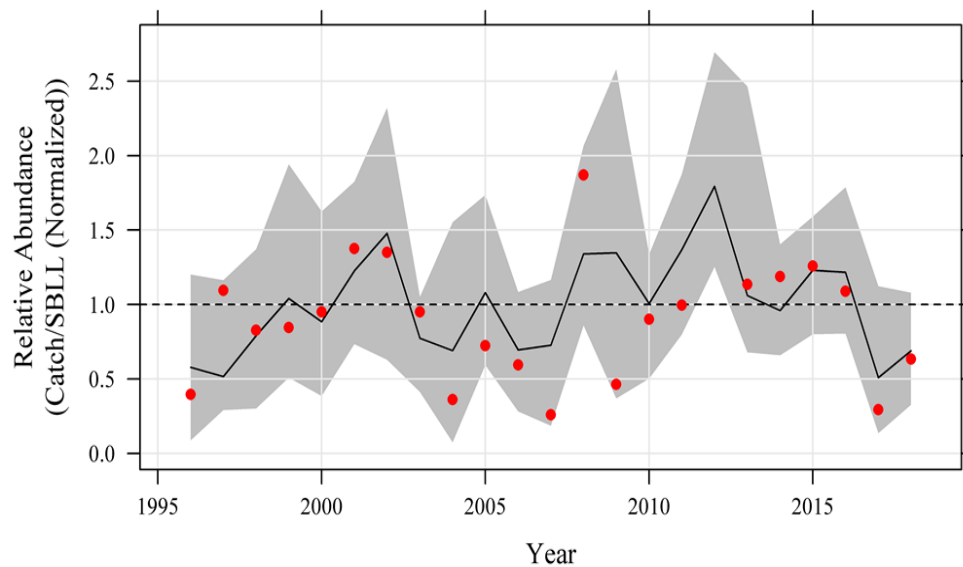
Red Grouper – Chevron Trap



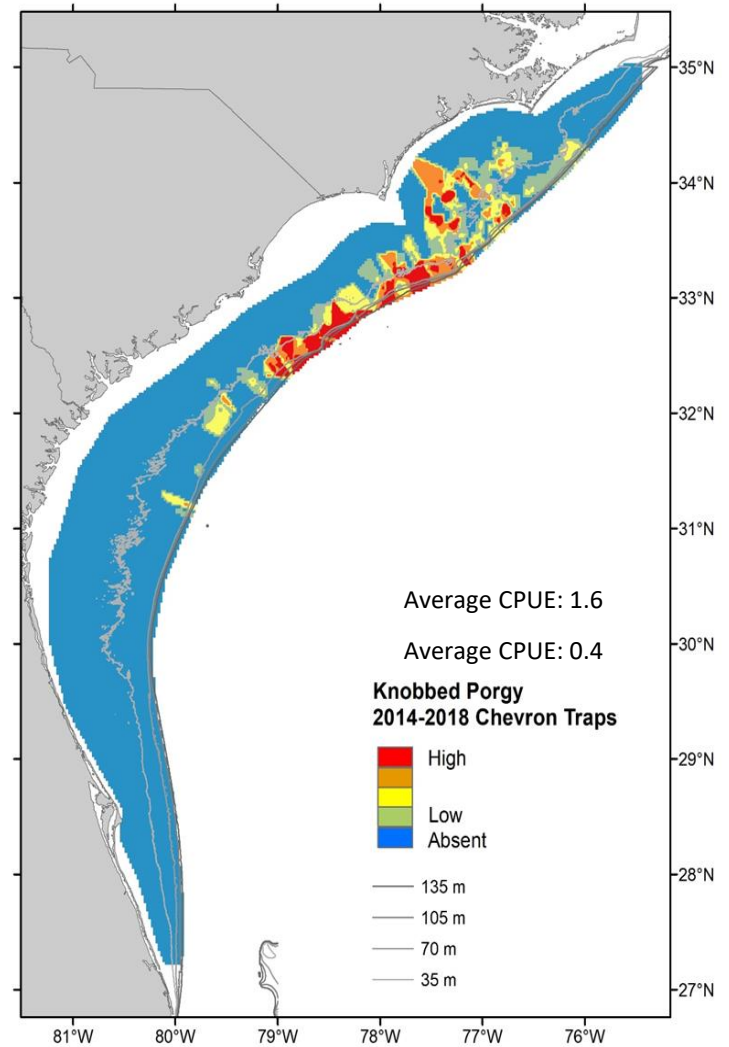
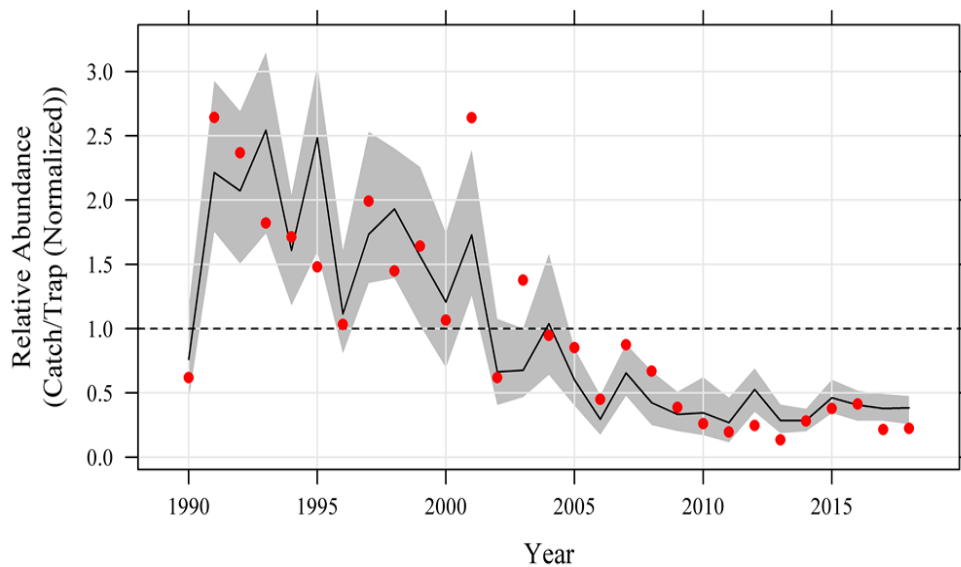
Scamp – Chevron Trap



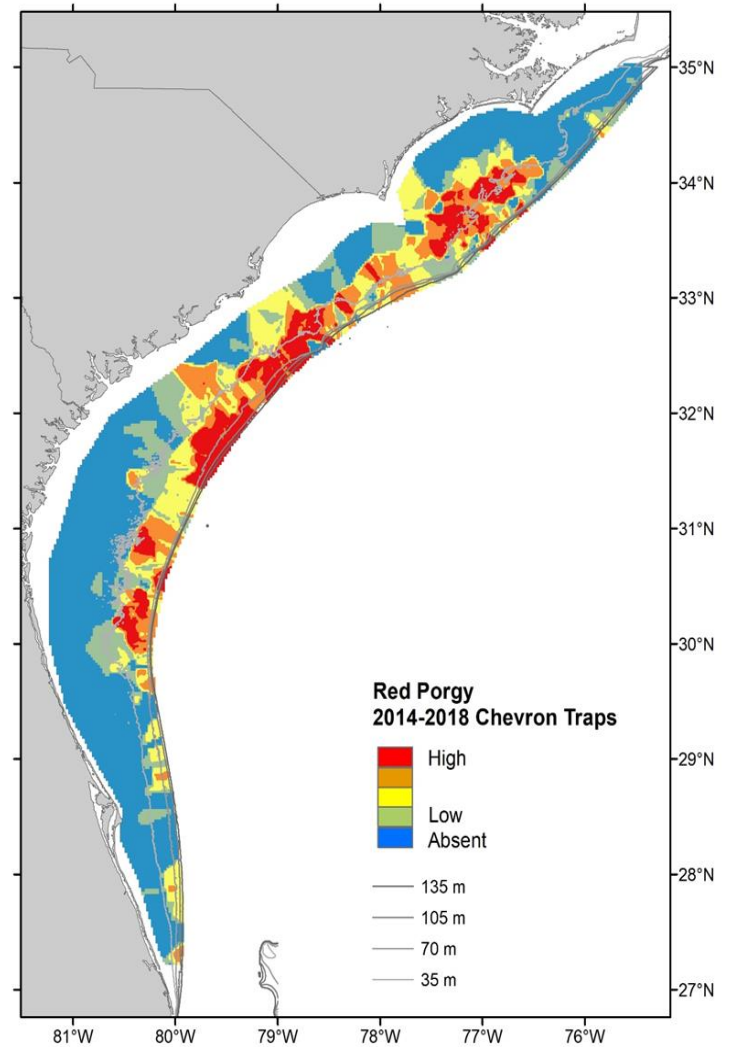
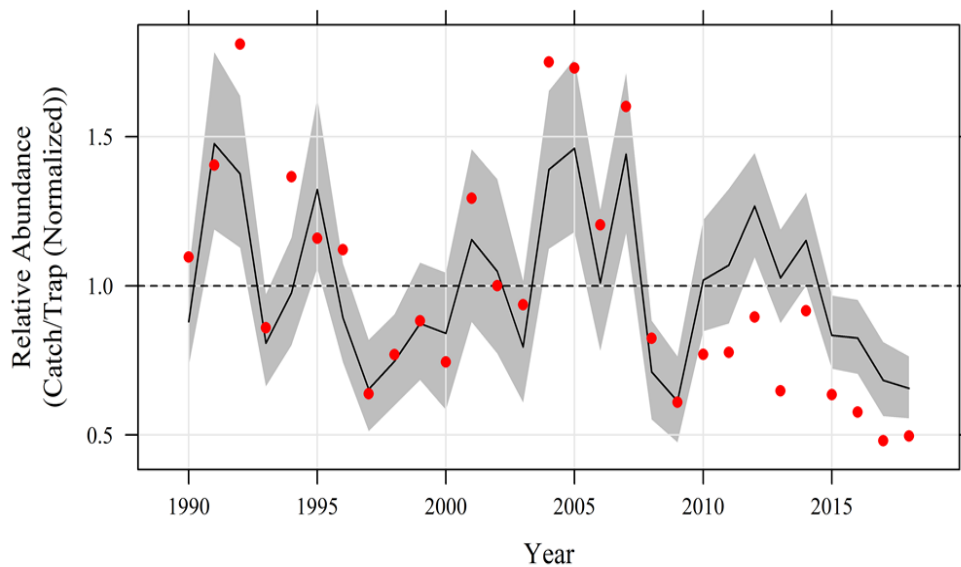
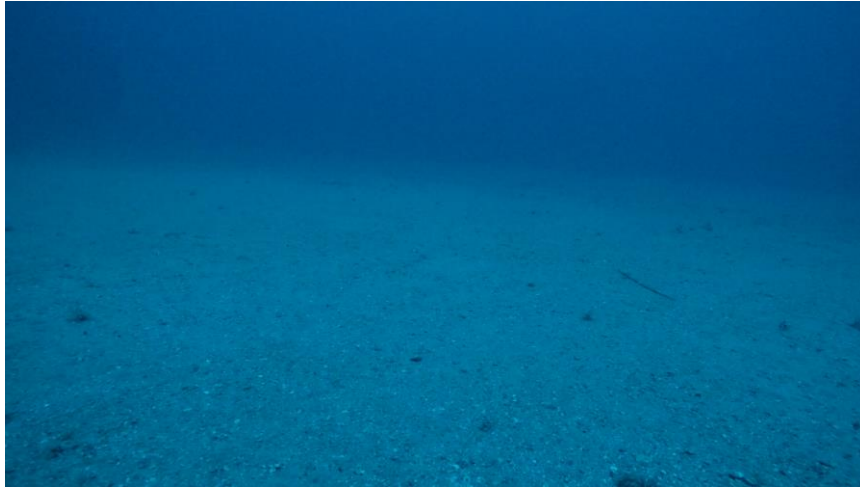
Snowy Grouper - Short Bottom Longline



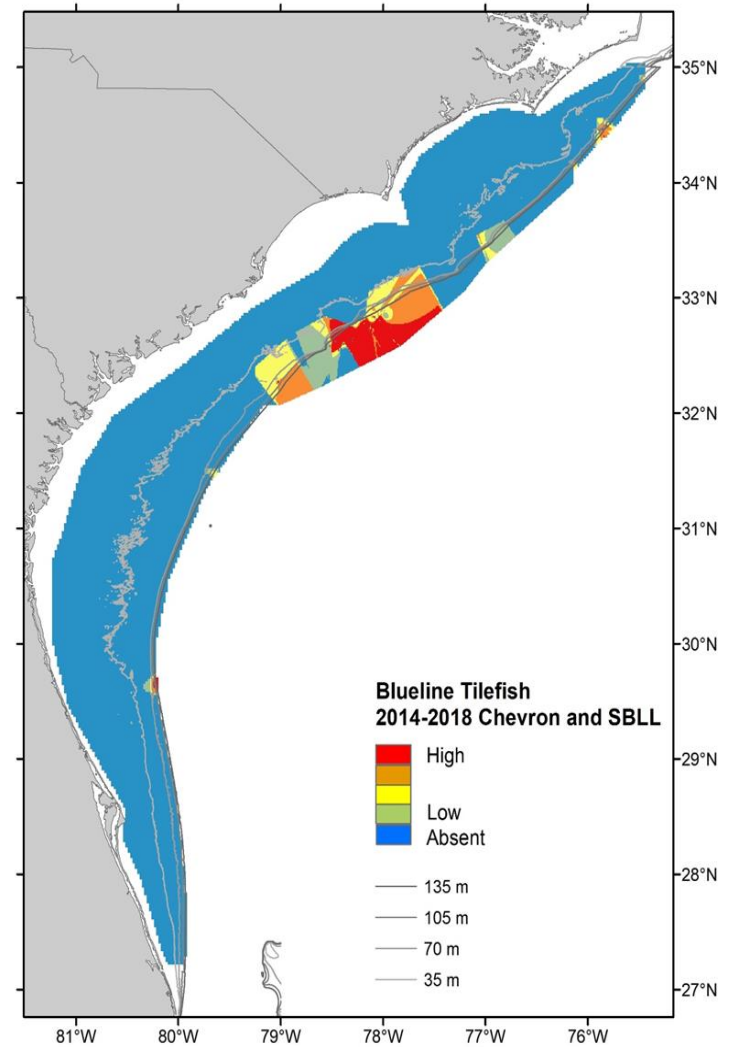
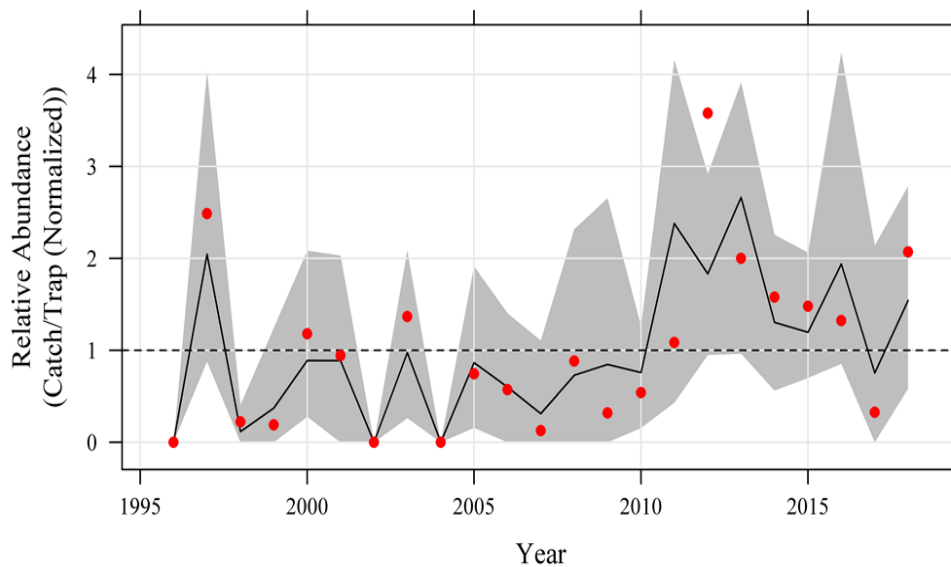
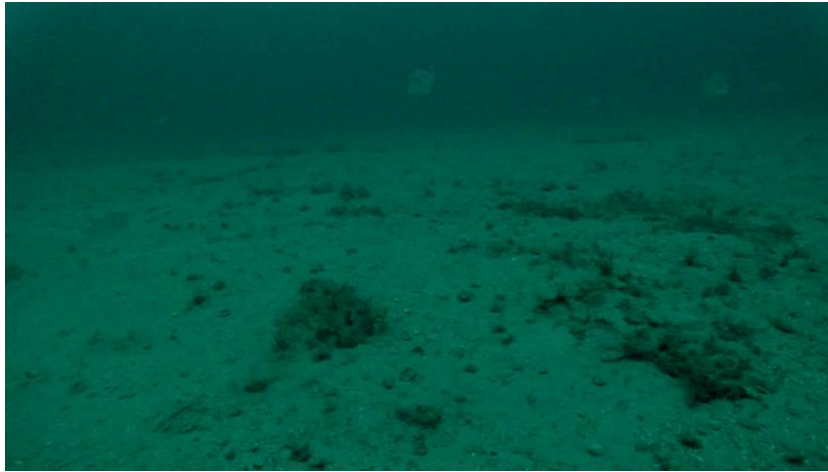
Knobbed Porgy – Chevron Trap



Red Porgy – Chevron Trap



Blueline Tilefish – Short Bottom Longline





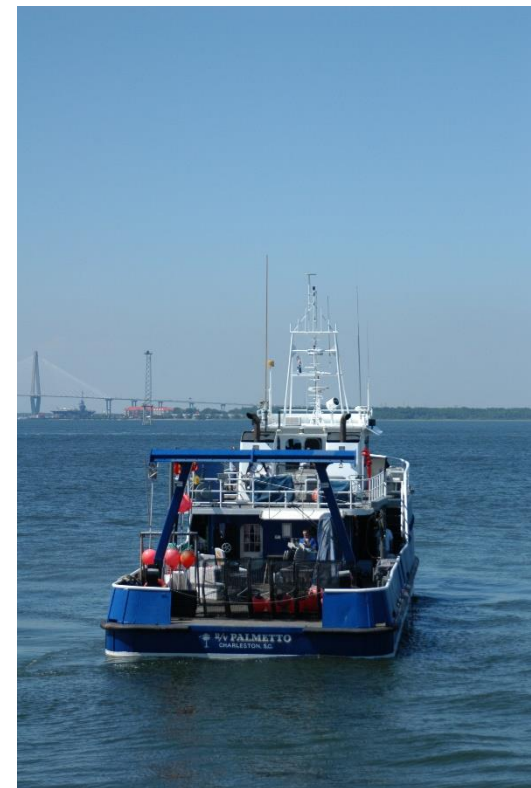
2019 SERFS update

Sampling Season:

April 29th – October 19th

Planned: 11-14 cruises ≈ 100 days at sea

Completed: 14 cruises = 100 days at sea





Acknowledgements:

MARMAP/SEAMAP-SA/SEFIS
Staff & Students
Research Vessel Crews

Past and Present





Questions