



Southeast Reef Fish Survey

2017 Update
Sampling Activities and
Relative Abundance

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SCDNR

October 2018 SSC meeting

Southeast Reef Fish Survey (SERFS)

MARMAP

SEAMAP-SA

SEFIS

R/V Palmetto



R/V Savannah



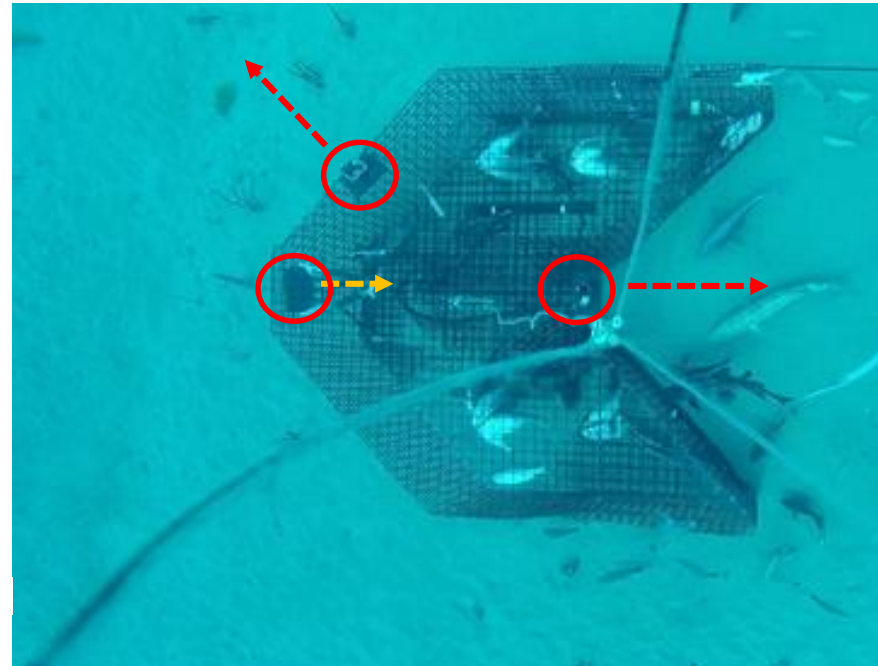
NOAA Ship Pisces



Marine Resources Monitoring, Assessment & Prediction Program
Southeast Area Monitoring & Assessment Program (South Atlantic)
Southeast Fishery-Independent Survey

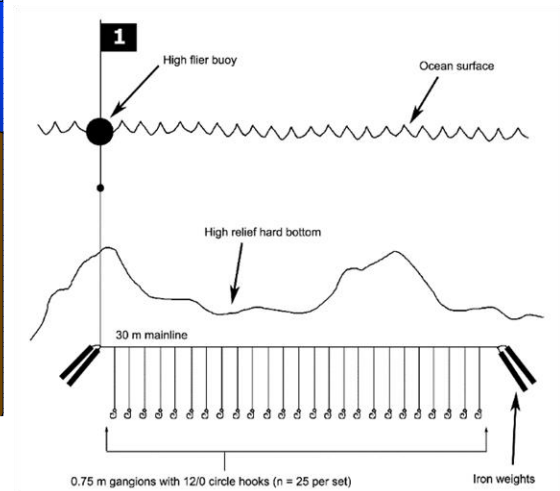
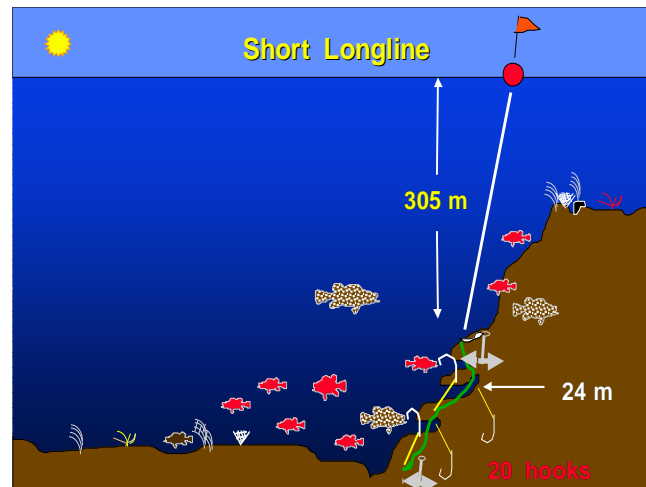
Chevron Trap

- 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.



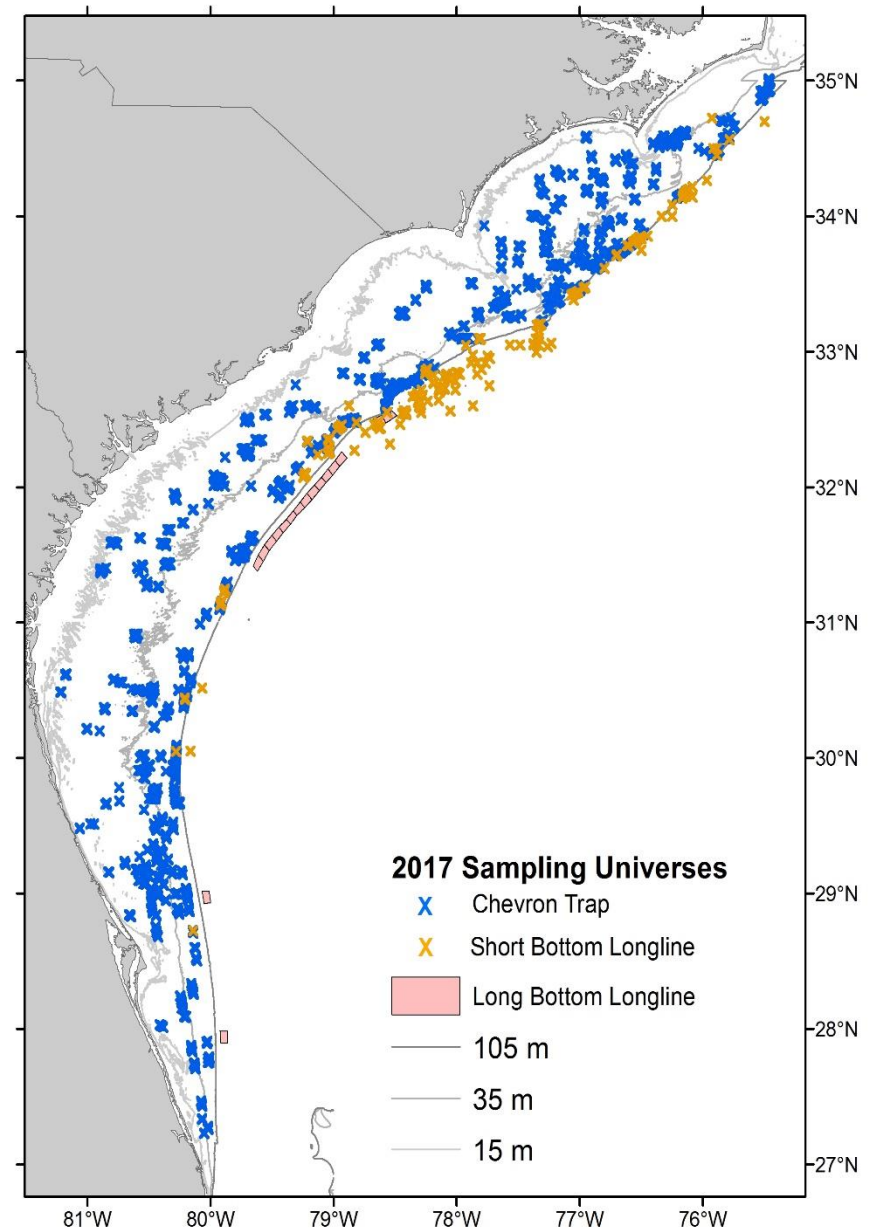
Short Bottom Longline

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



Sampling Stations

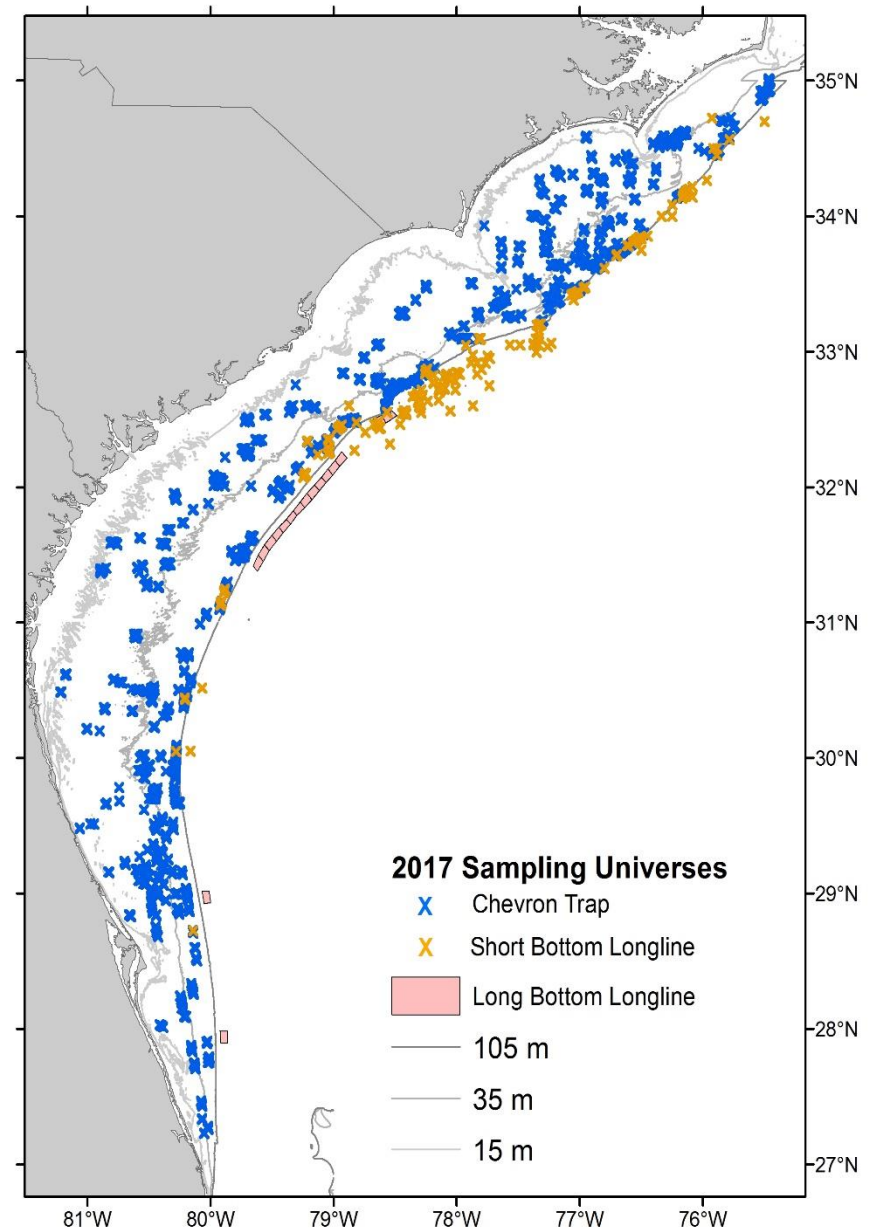
- Chevron Trap
 - $\approx 4,000$ sampling stations.
 - 1,500 – 2,000 randomly selected annually.
- Short Bottom Longline
 - ≈ 300 sampling stations.
 - 100 – 150 randomly selected annually.



Processing and Data

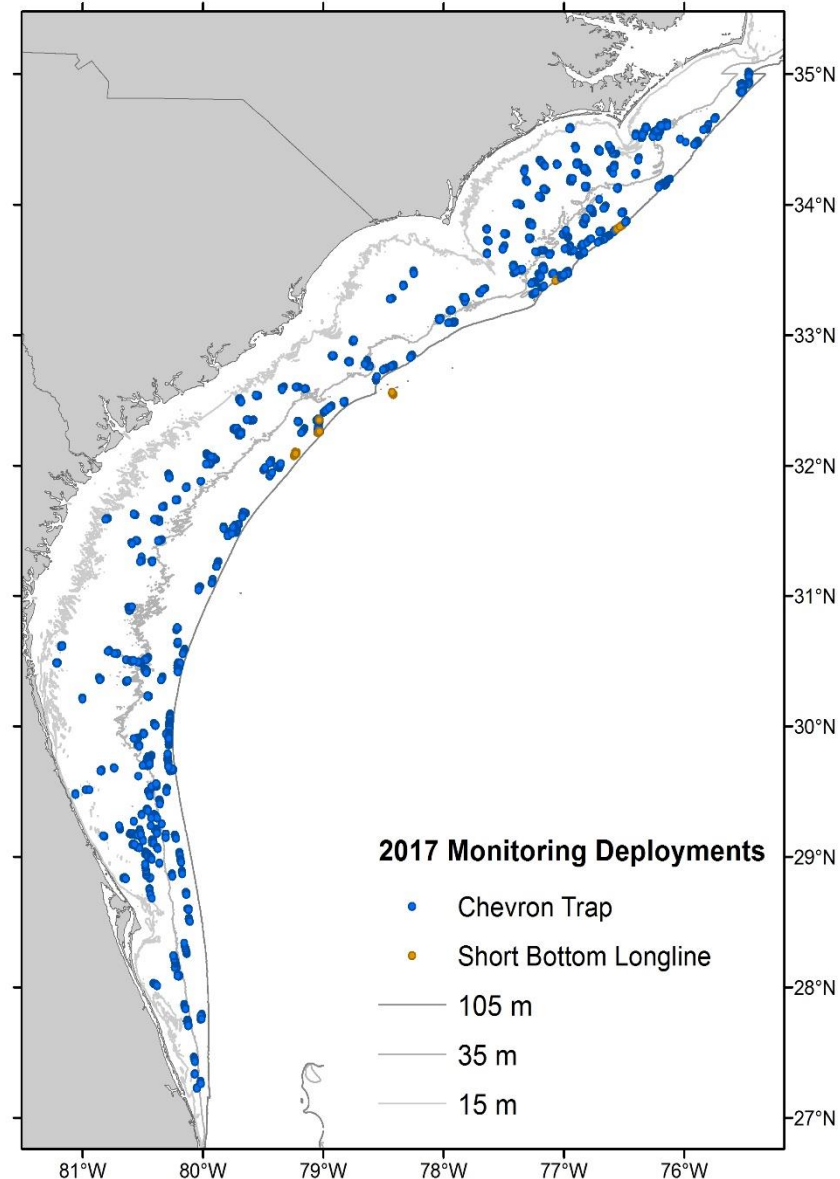
- MARMAP/SEAMAP-SA:
 - **Life history**
processing & analyses
 - **Trap and longline indices**
- SEFIS
 - **Video** processing & analyses

One combined database.



2017 Summary

- 1,574 Chevron Traps.
- 54 Short Bottom Longlines.
- 284 CTD deployments.
- 39,932 fish (65 species) collected.
- 10,513 fish (43 species) processed for life history (age, repro., etc.).



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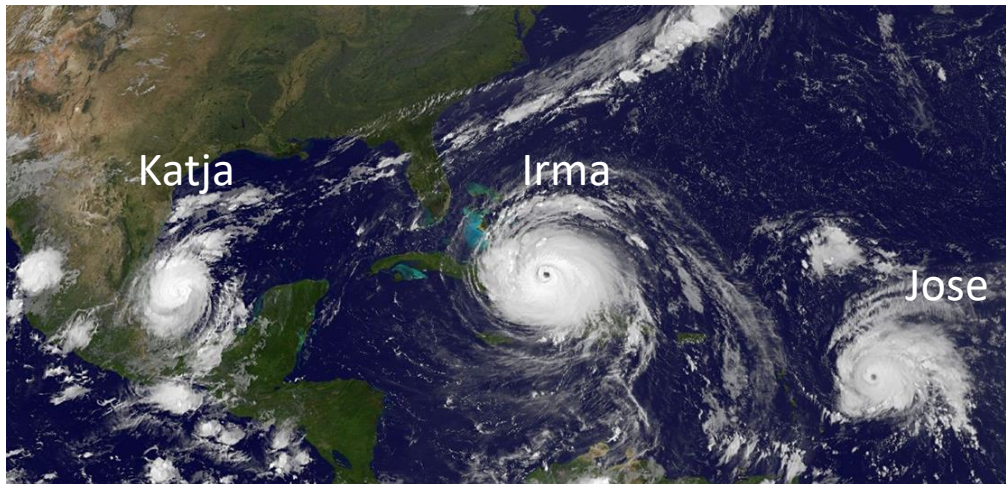
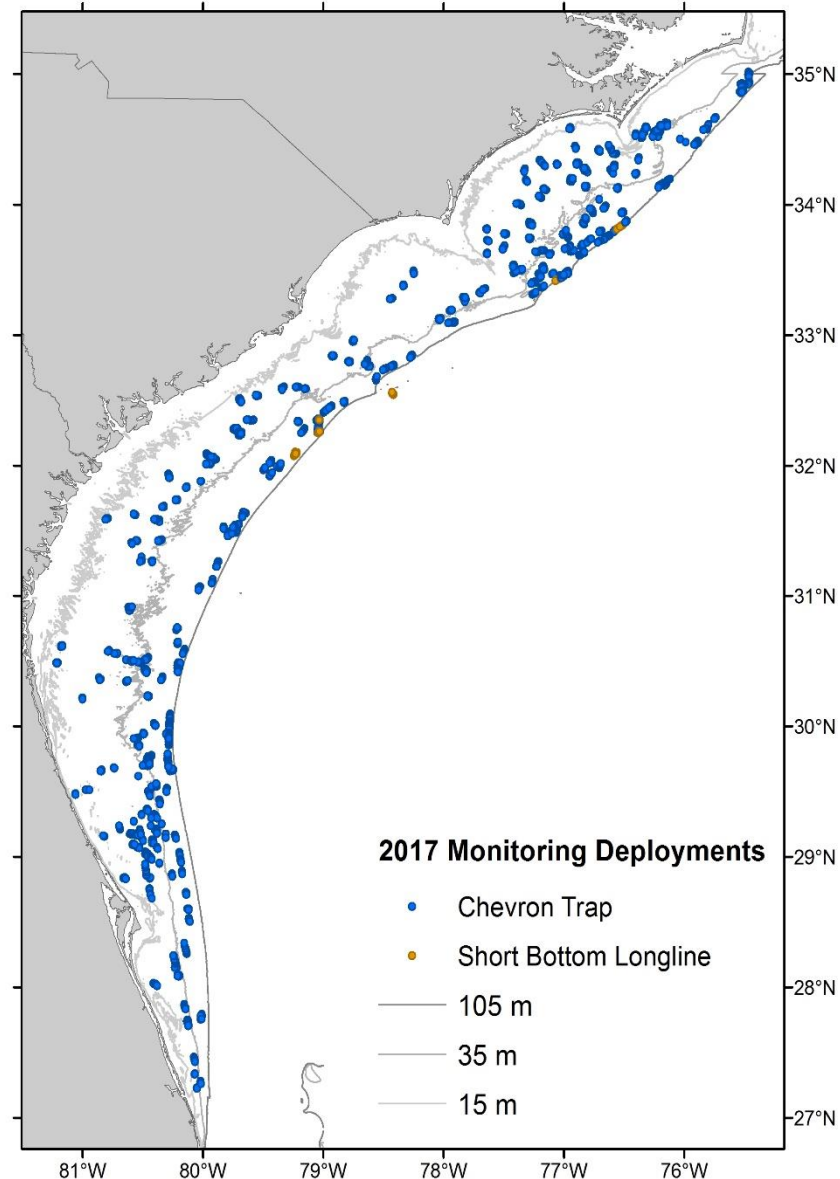


Image: NOAA – GEOS East satellite, Sept. 8, 2017)



2017 Most encountered species

Common Name	Chevron	Short Bottom Longline	Total
Tomtate	17,108		17,108
Black Sea Bass	7,634		7,634
Vermilion Snapper	3,618	2	3,620
Scup & Longspine Porgy	2,655		2,655
White Grunt	1,670		1,670
Red Porgy	1,607	5	1,612
Gray Triggerfish	1,560		1,560
Red Snapper	1,499		1,501
Bank Sea Bass	706		706
Sand Perch	476		476
Spottail Pinfish	393		393
Pinfish	117		117
Scamp	72	10	98
Almaco Jack	75	2	78
Knobbed Porgy	72	2	74
Snowy Grouper	46	13	66

Overview of CPUE

- Chevron trap (1990-2017).
- Short bottom longline (1996-2017).
- Standardization:
 - Zero-Inflated Negative Binomial model (ZINB).
 - (Previously: Delta-GLM)
 - ZINB: more appropriate method, similar trends, but reduced uncertainty.
- Annual “Trends Report”.



Trends overview

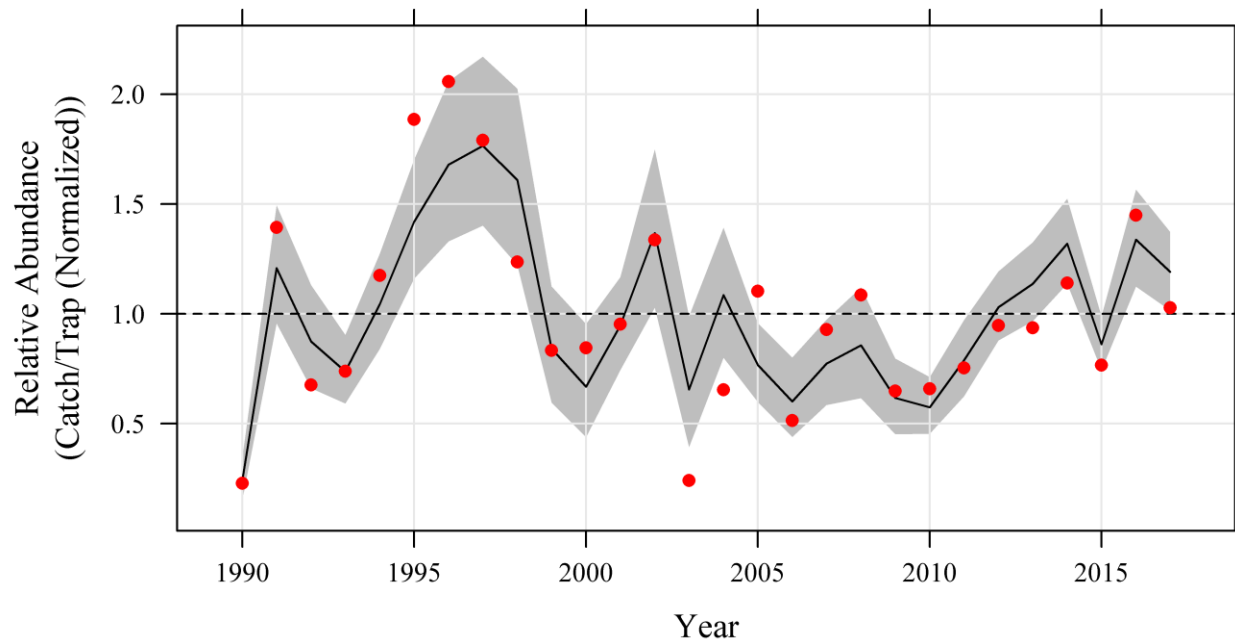
Caveats



- Summary overview, not an update of stock status.
- Constraints, stratification, units, and models for CPUE may be different from those used in (SEDAR) stock assessments (e.g. CVID).
- Not all species have been assessed or updated through SEDAR process and not all trends in analyses have been discussed in SEDAR framework.

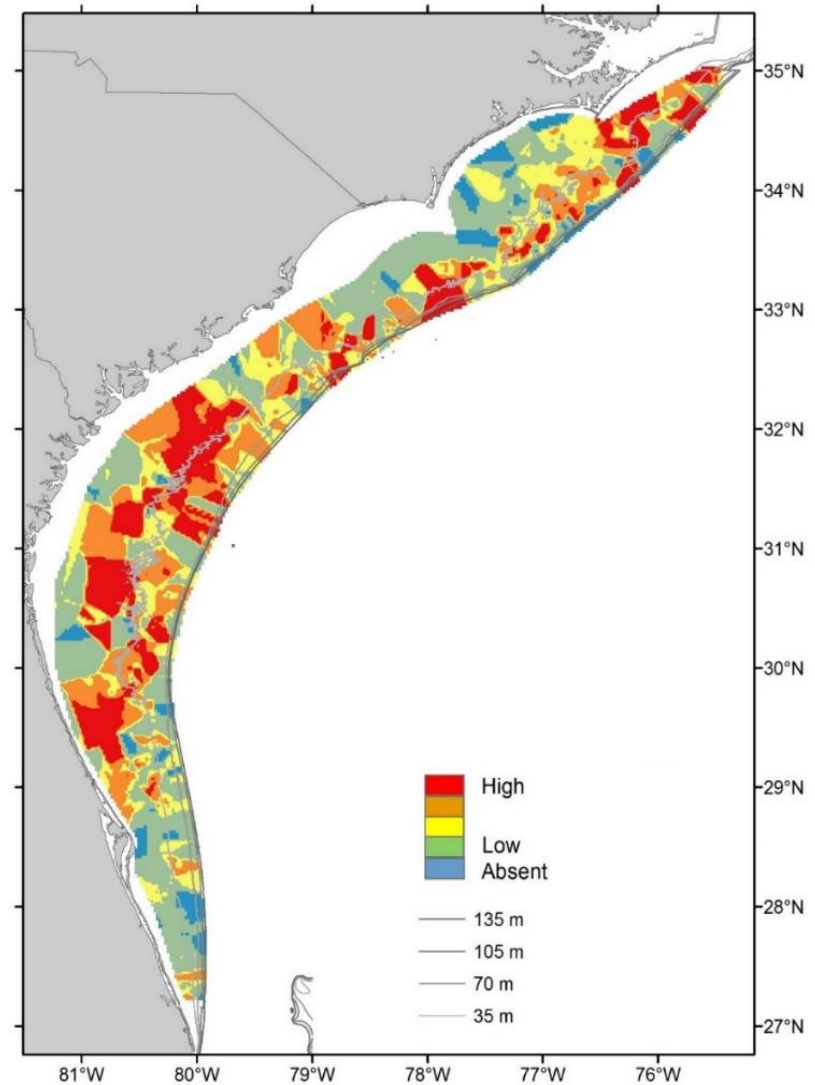
Figures

- Index graphs
 - Normalized to long term average (=1).
 - Black line = ZINB standardized index.
 - Gray area = $\pm 95\%$ CI.
 - Red dot = nominal values (not standardized).



Figures

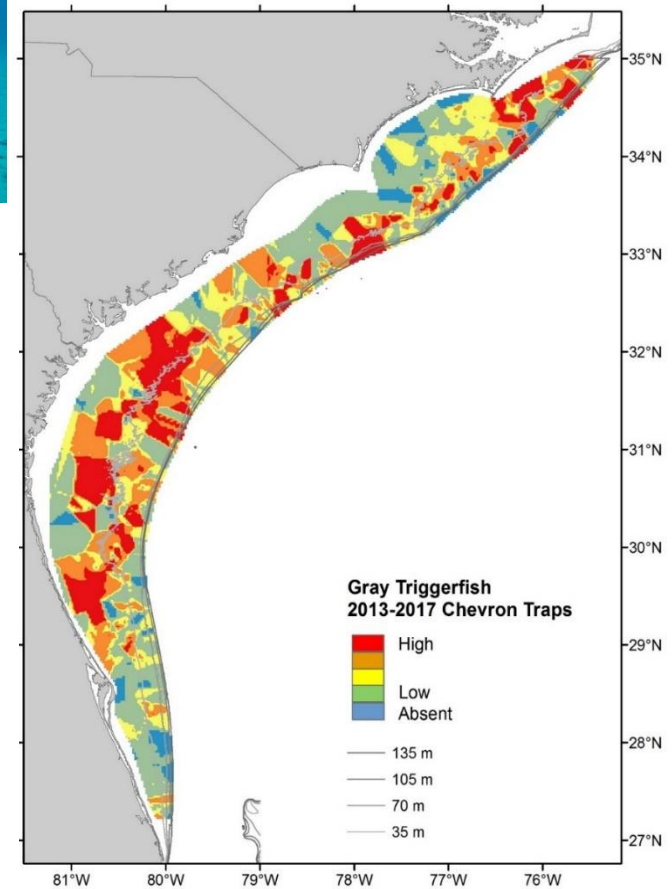
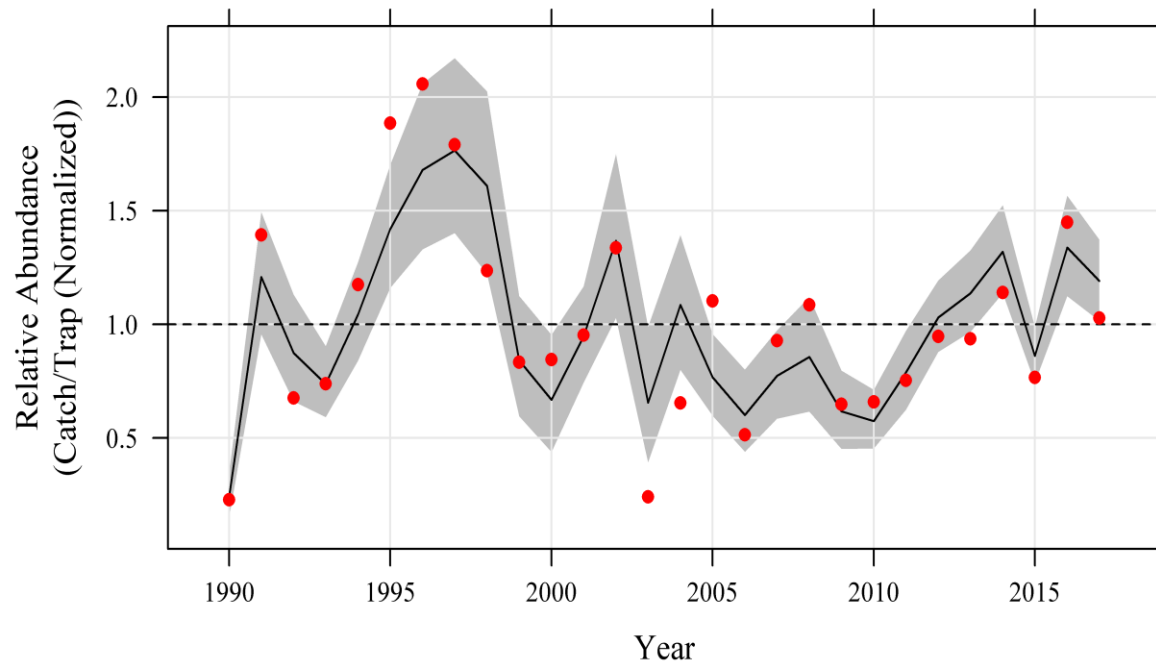
- Maps
 - Nominal CPUE in quartiles.
 - Warmer colors = higher catch.
 - 2013-2017 data.



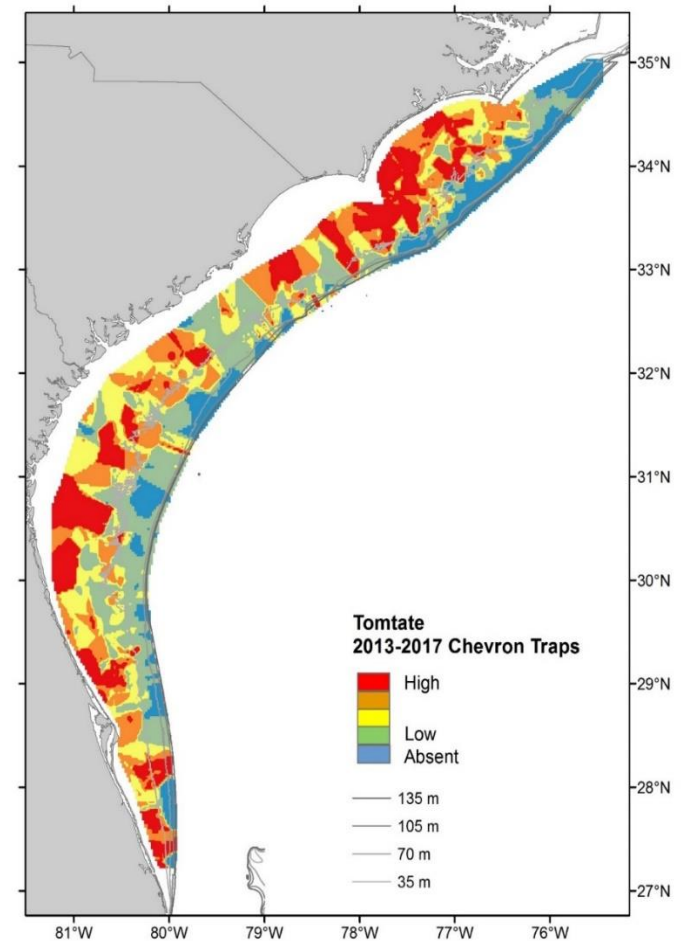
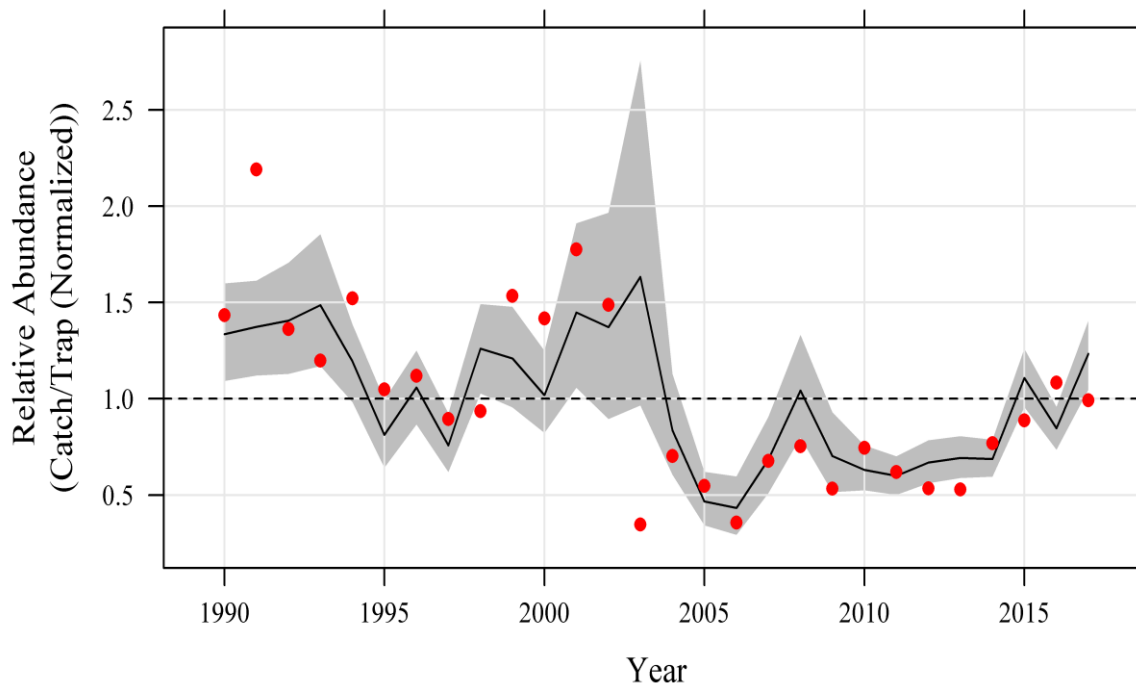
Fishery Independent Abundance Trends 2017



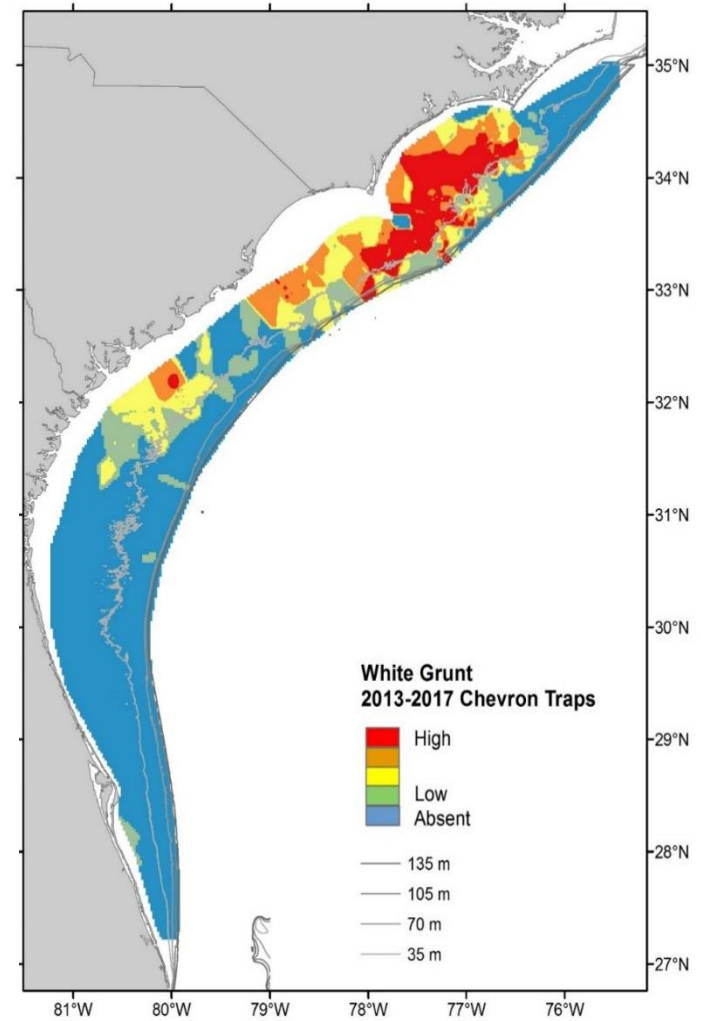
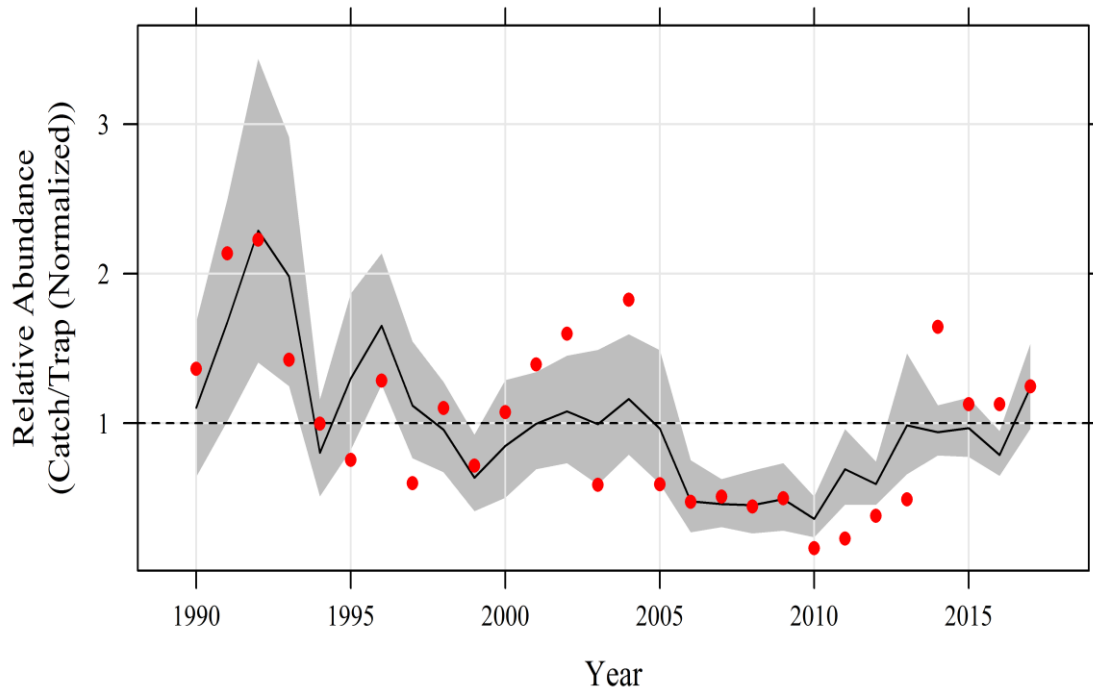
Gray Triggerfish – Chevron Trap



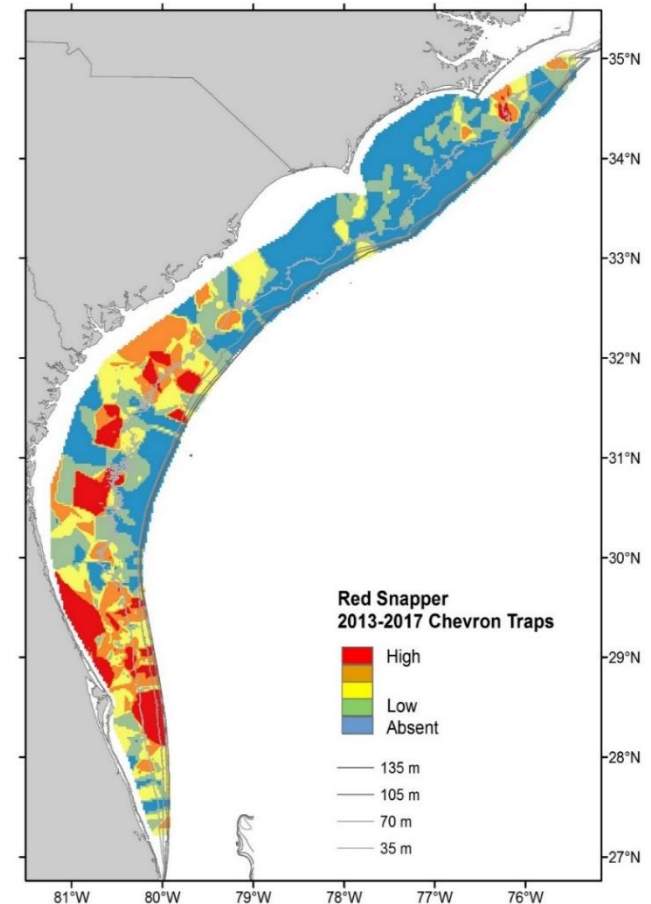
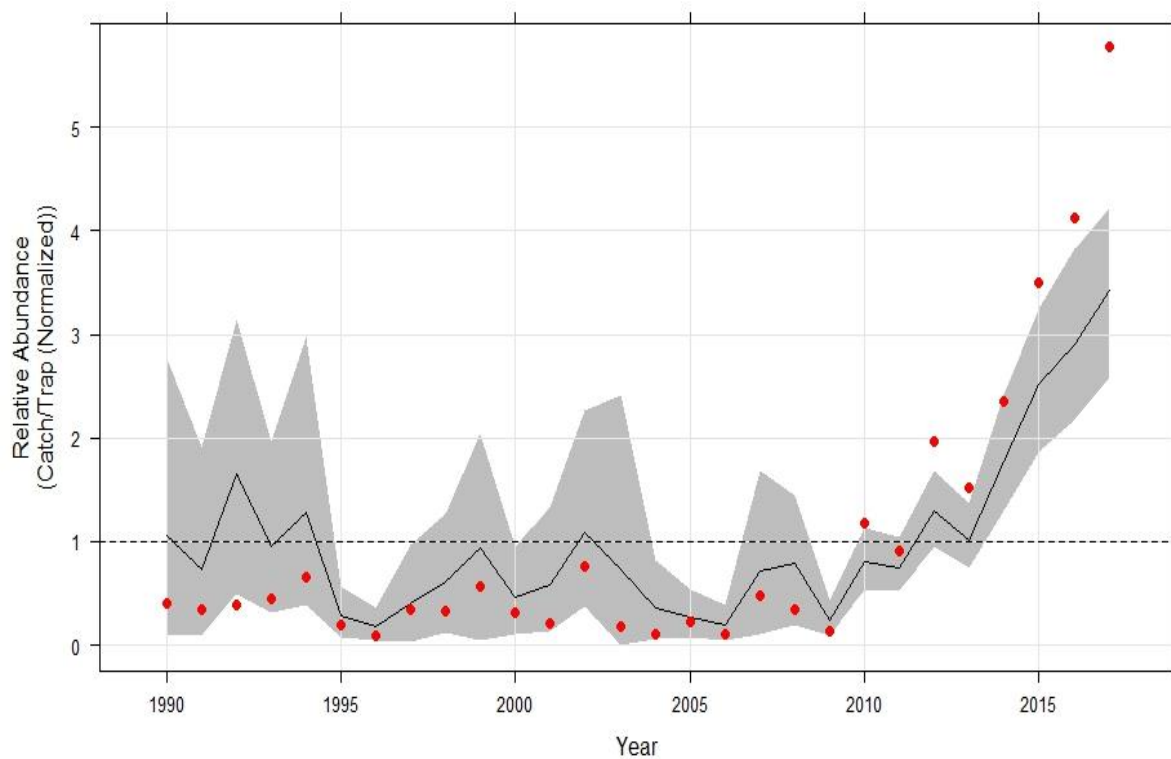
Tomtate – Chevron Trap



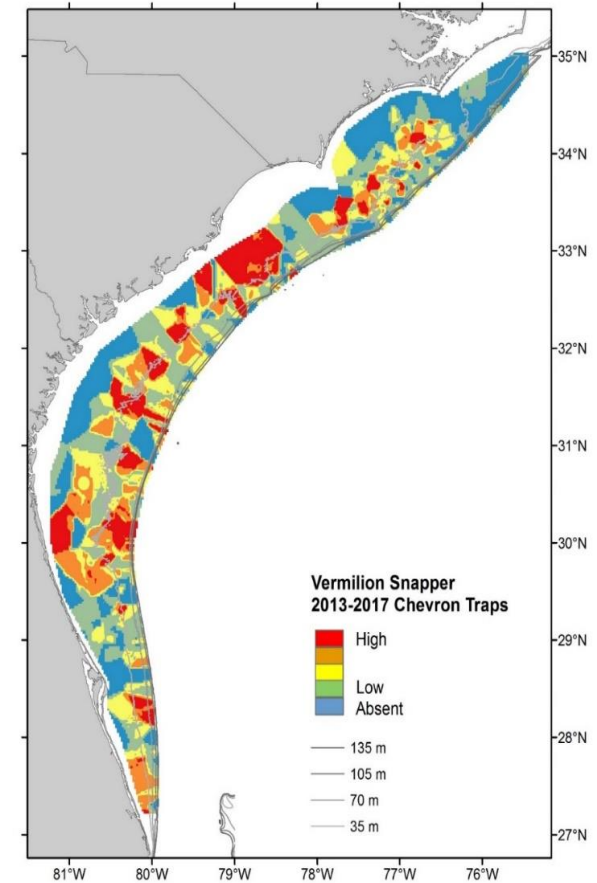
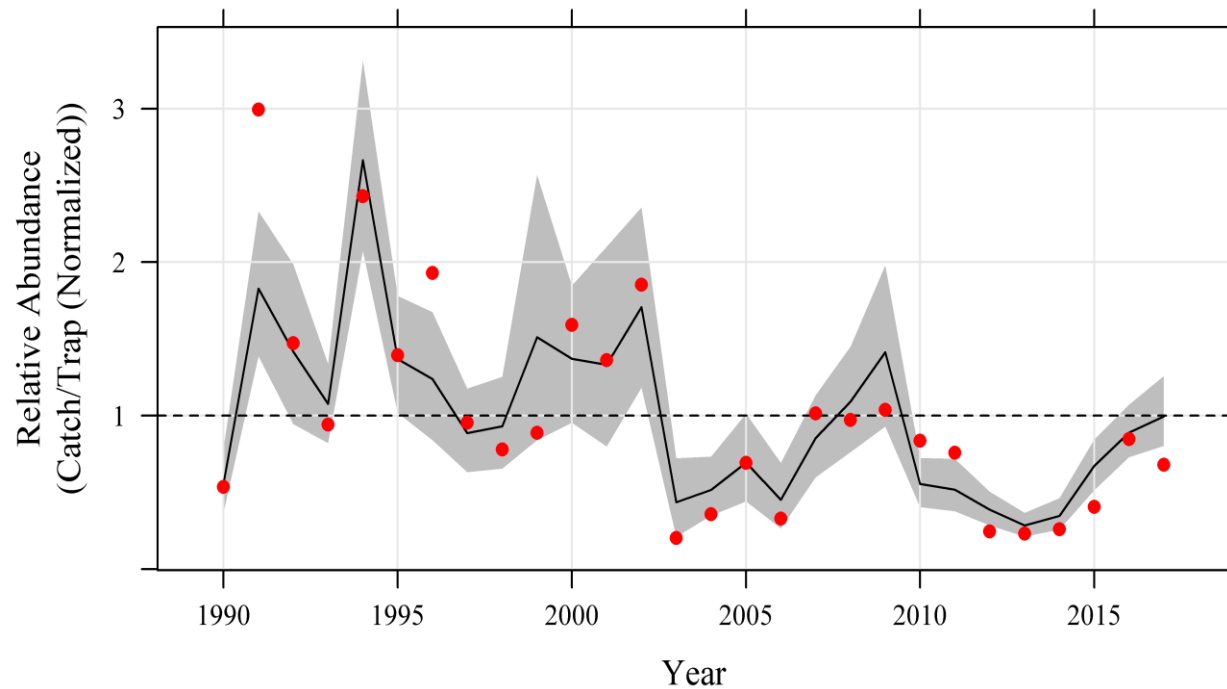
White Grunt – Chevron Trap



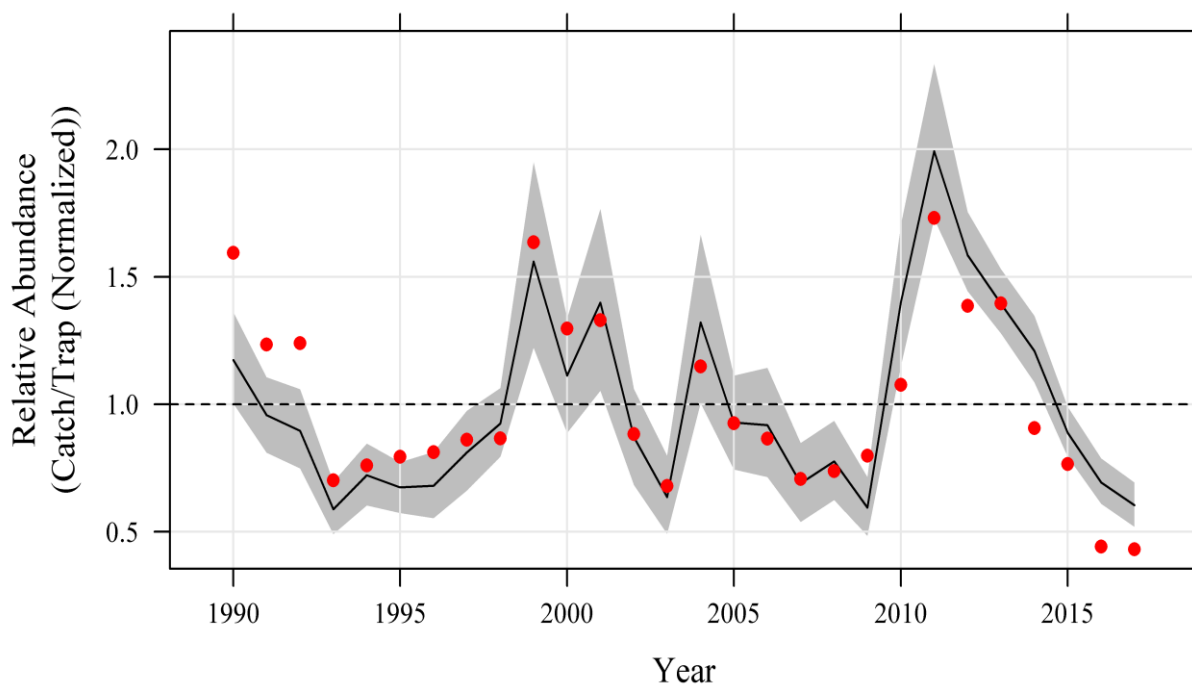
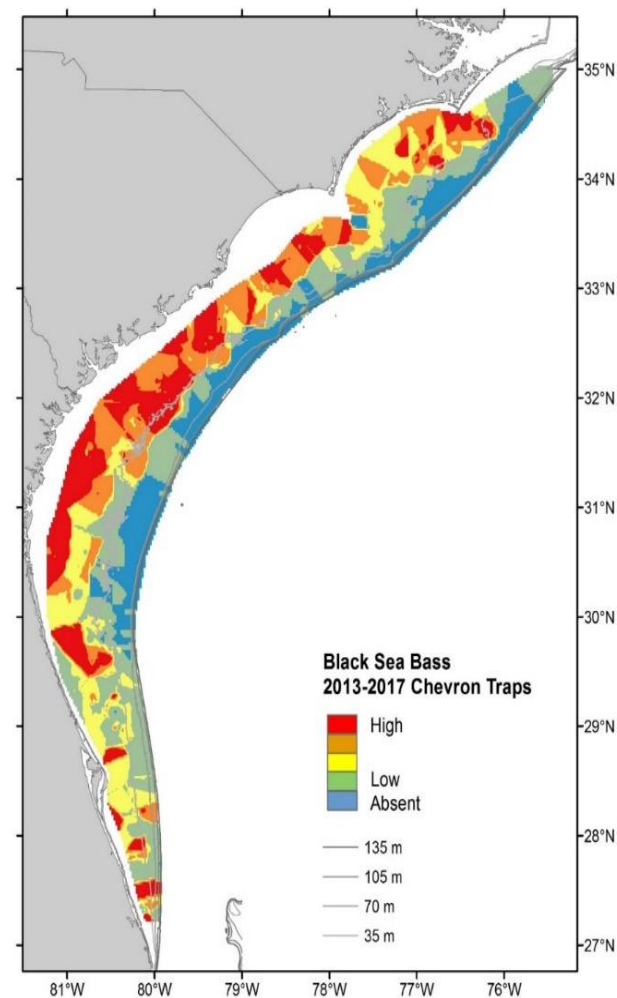
Red Snapper – Chevron Trap



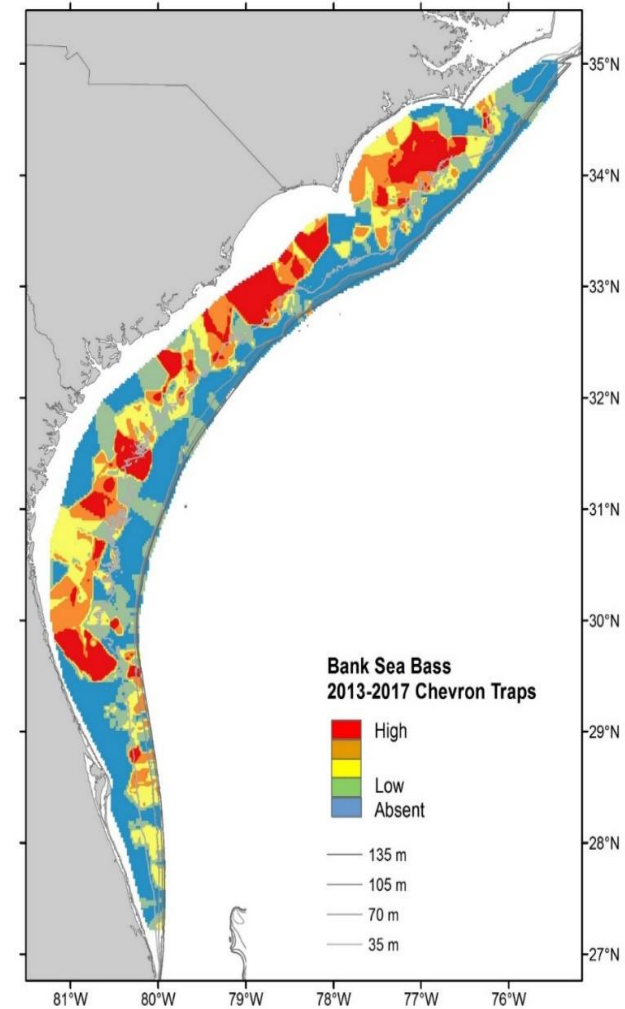
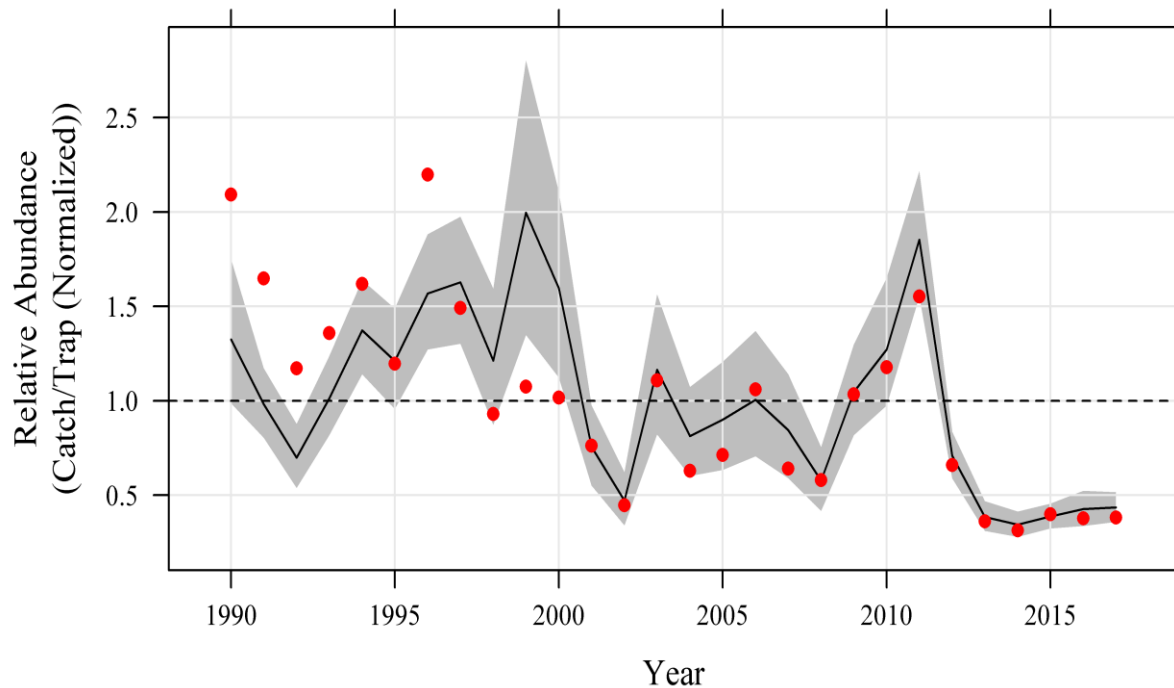
Vermilion Snapper – Chevron Trap



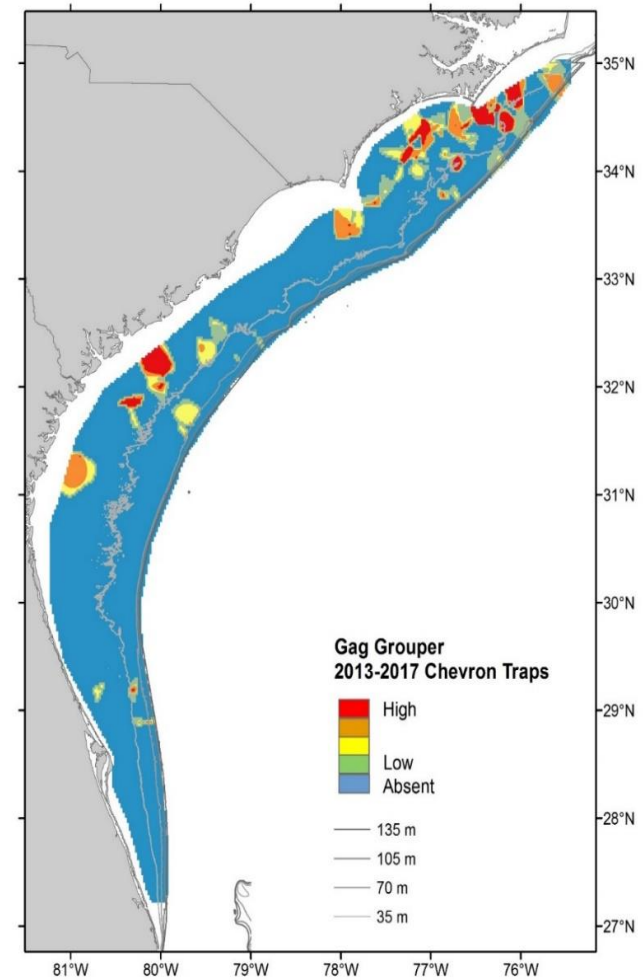
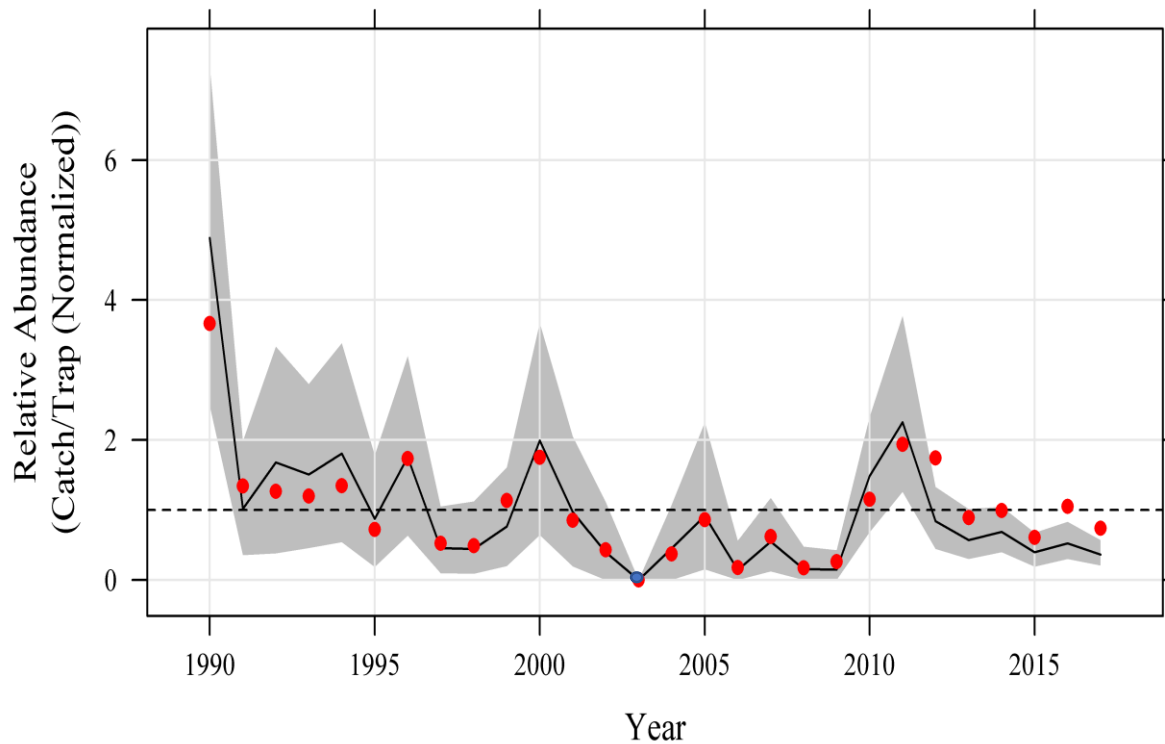
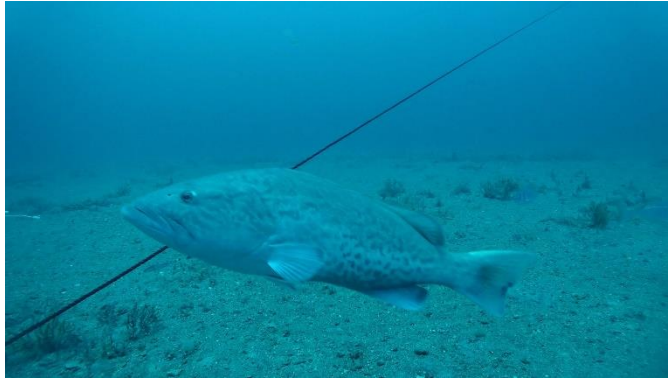
Black Sea Bass – Chevron Trap



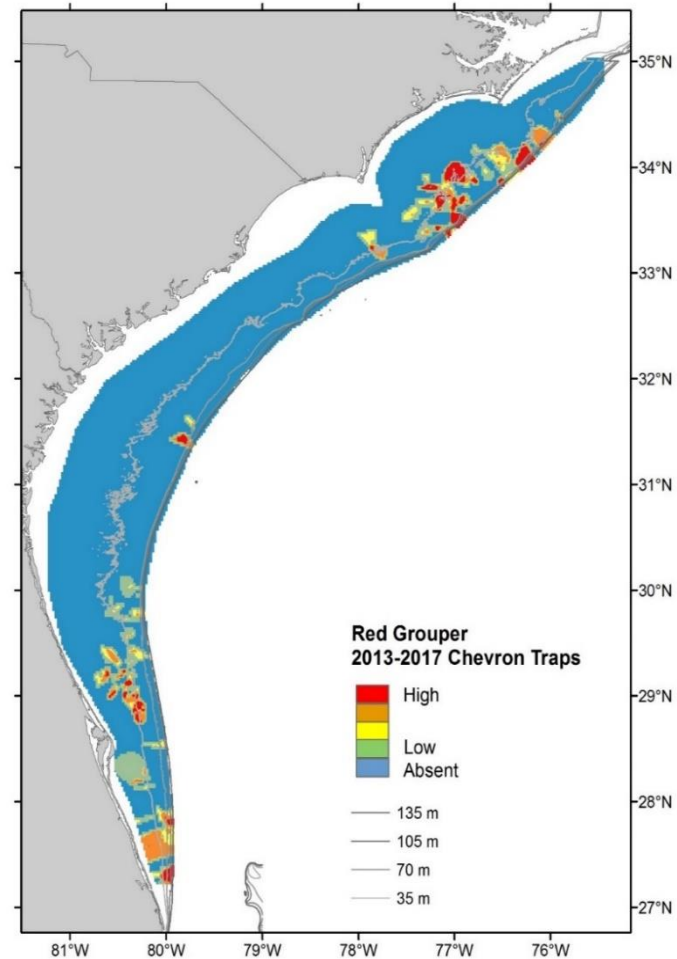
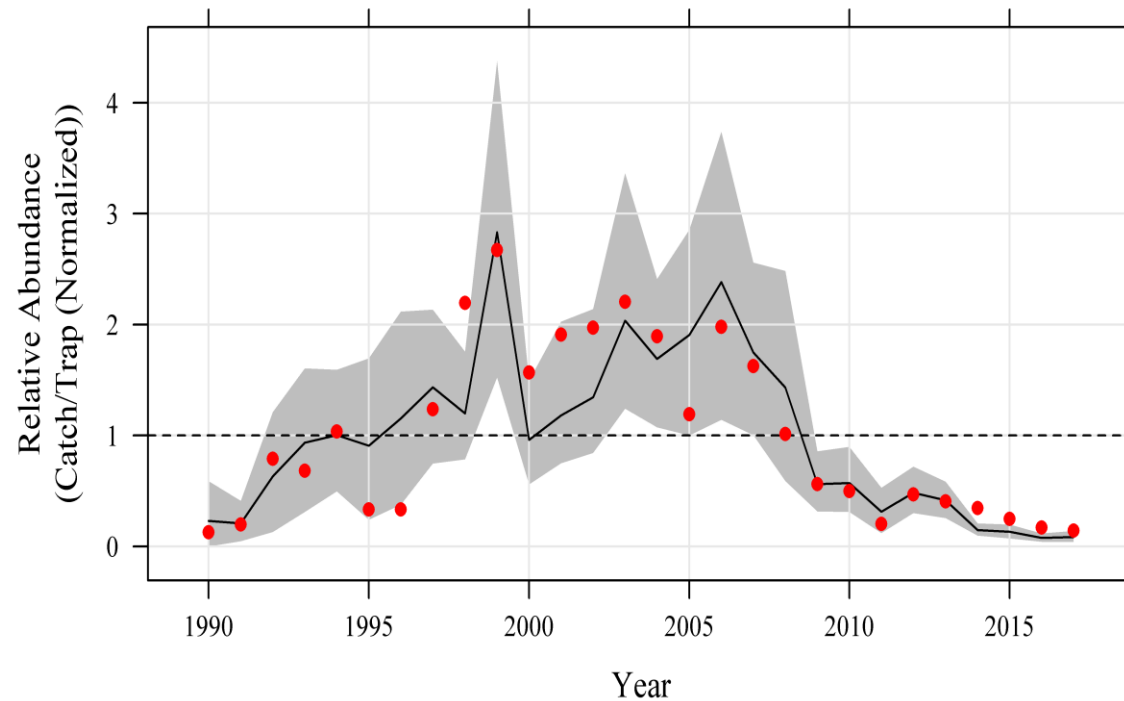
Bank Sea Bass – Chevron Trap



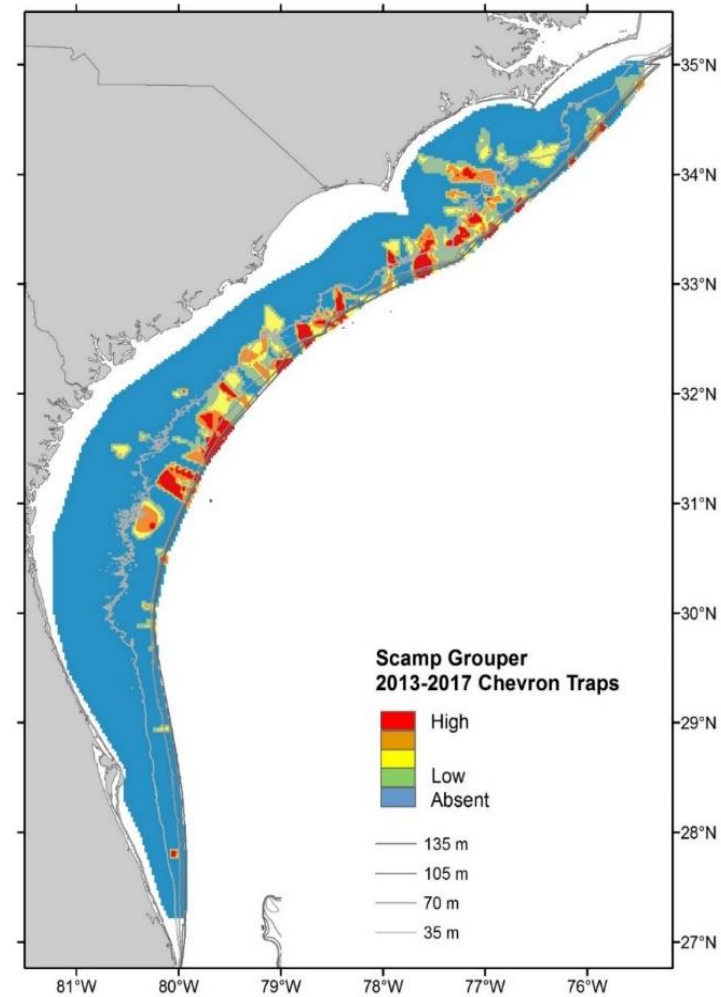
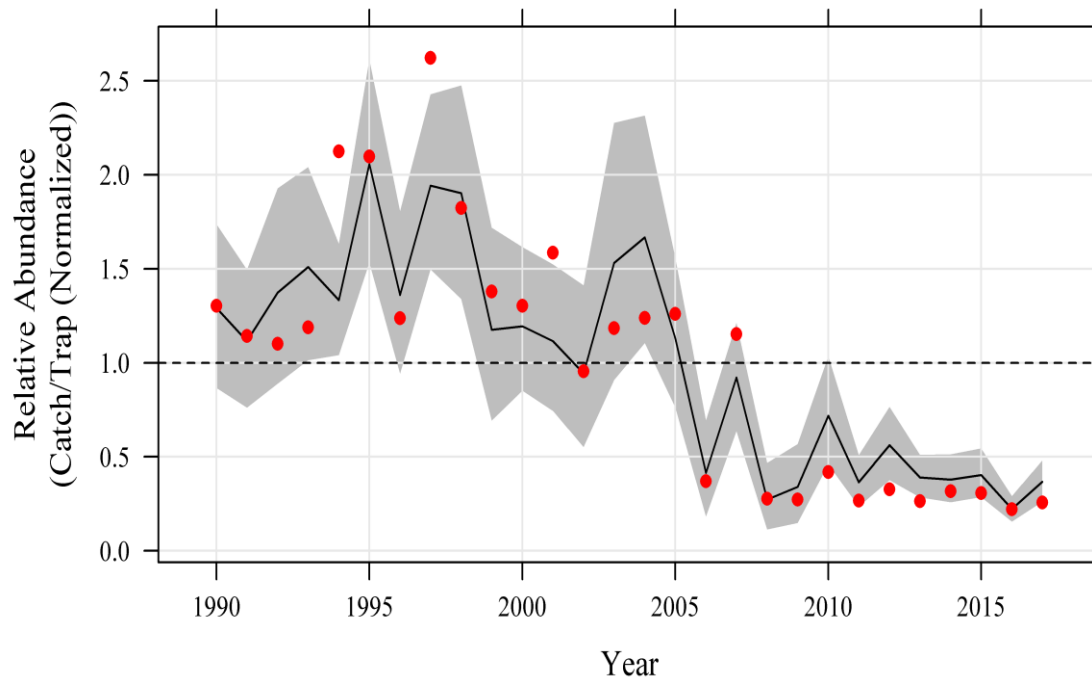
Gag – Chevron Trap



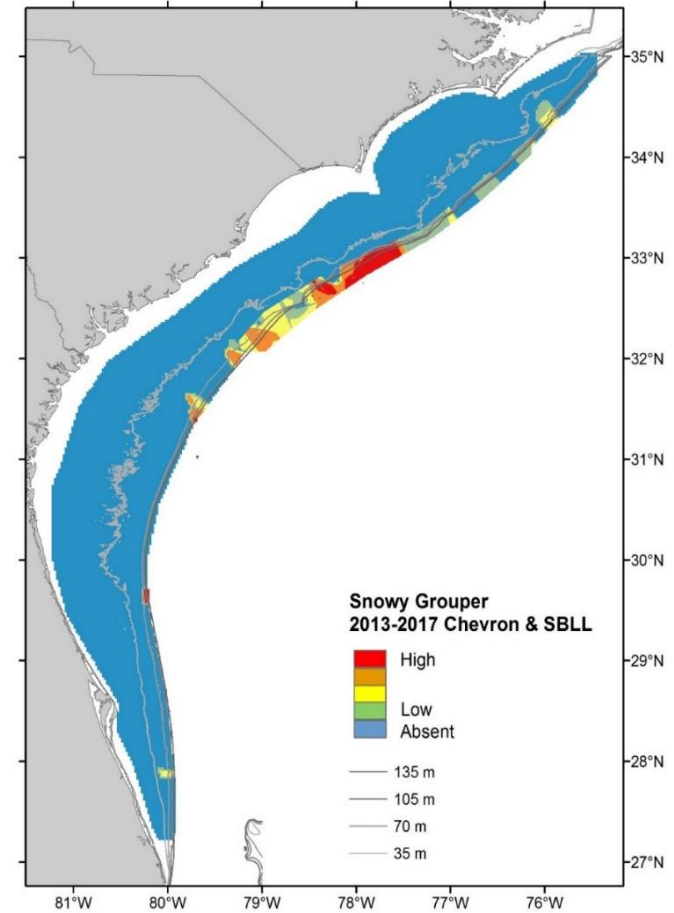
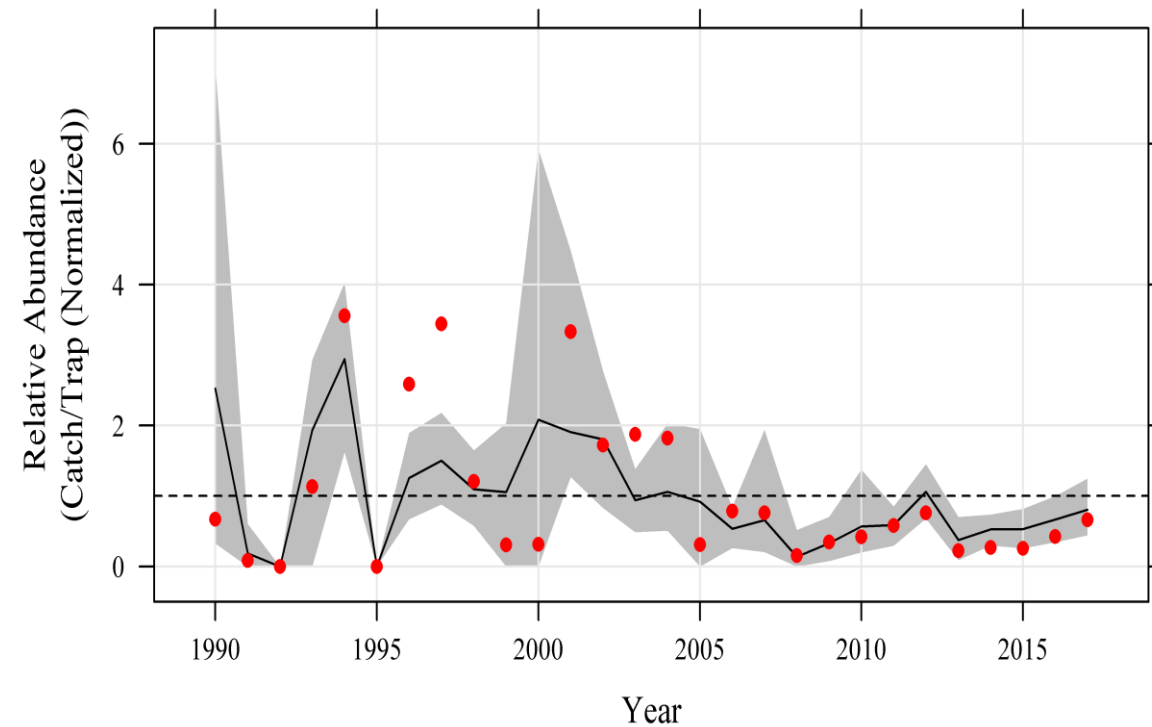
Red Grouper – Chevron Trap



Scamp – Chevron Trap

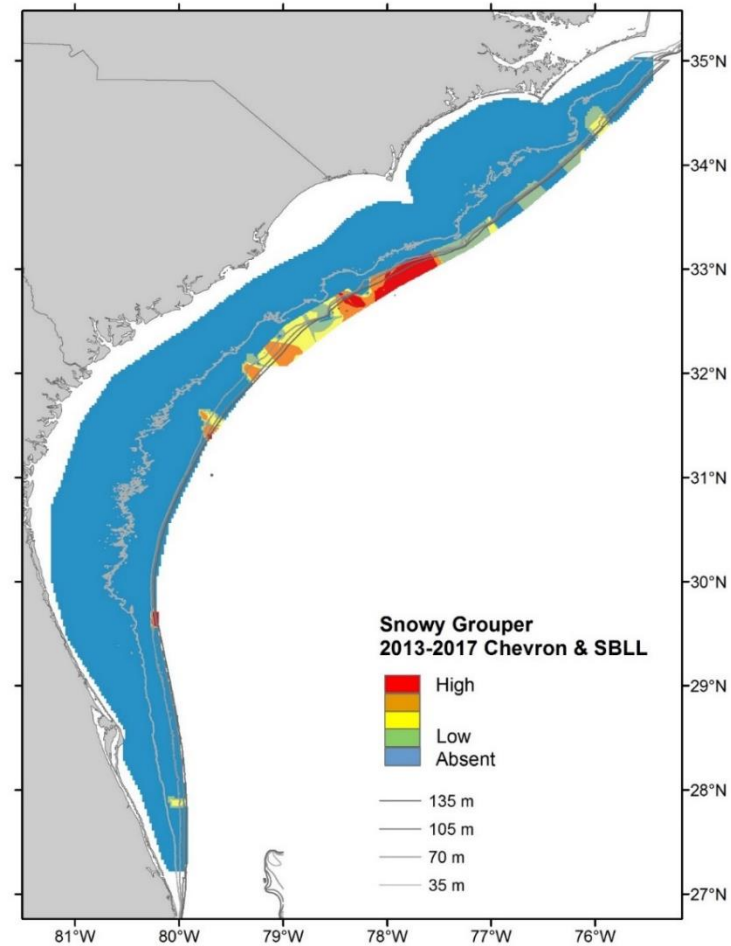
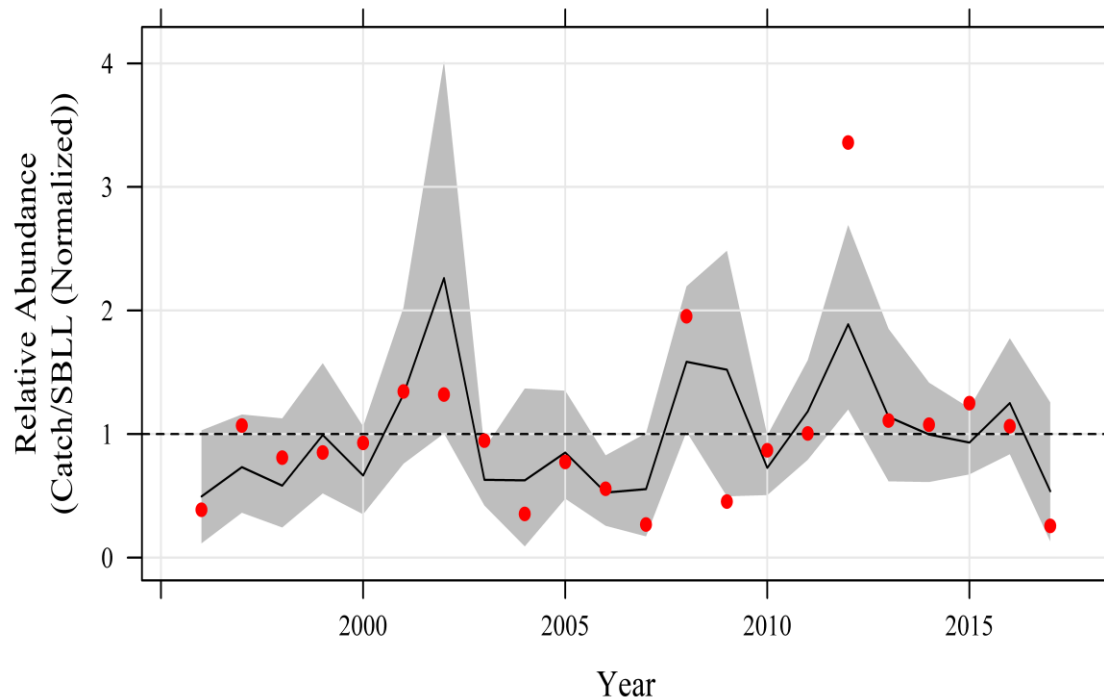


Snowy Grouper - Chevron Trap

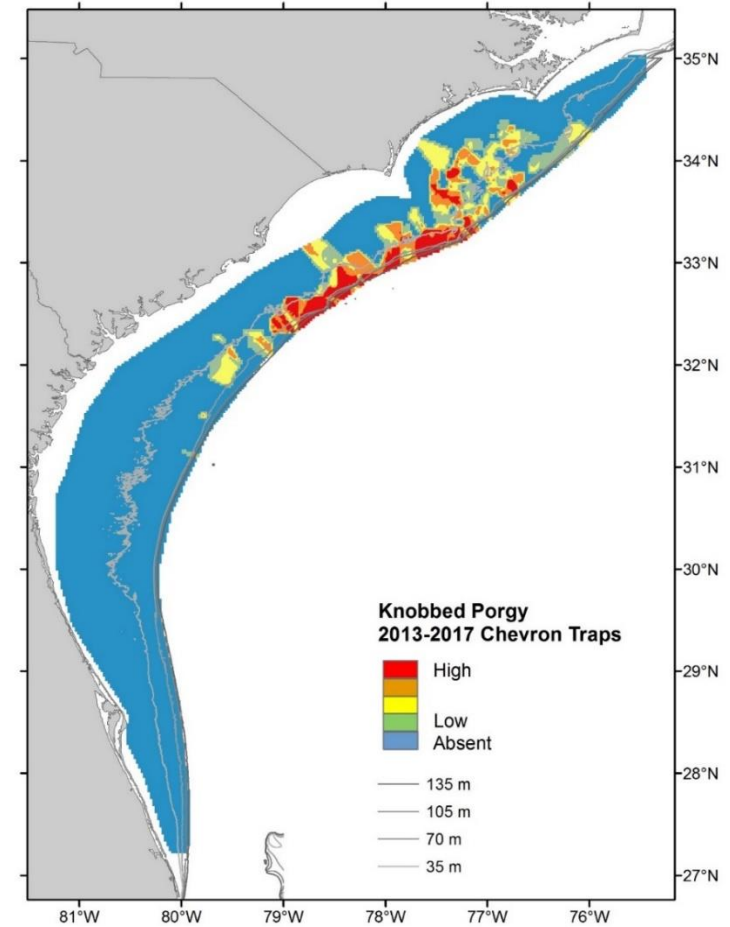
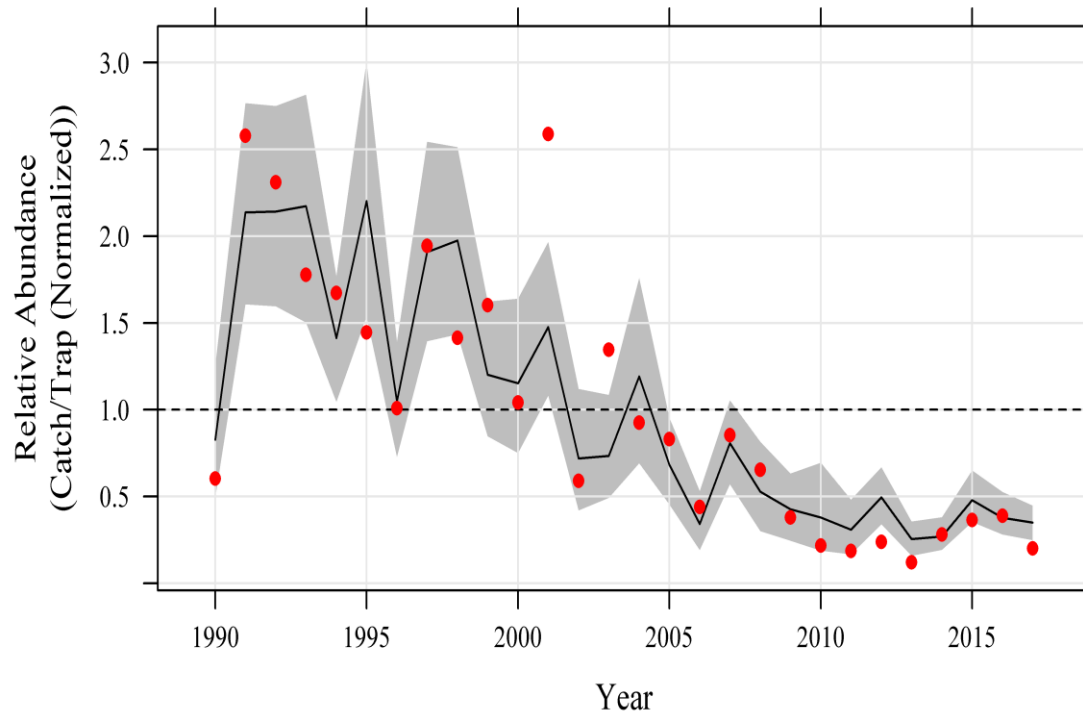


Snowy Grouper

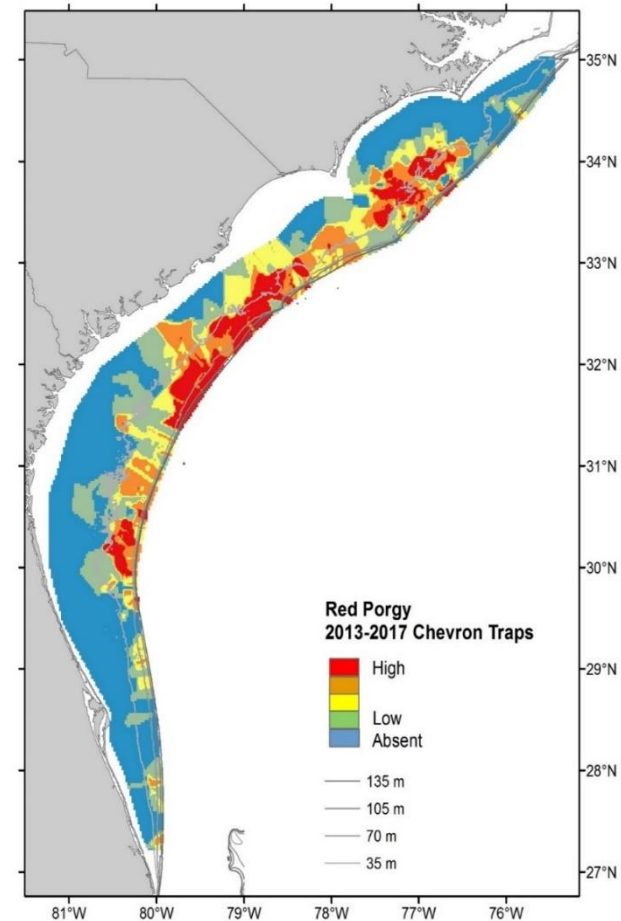
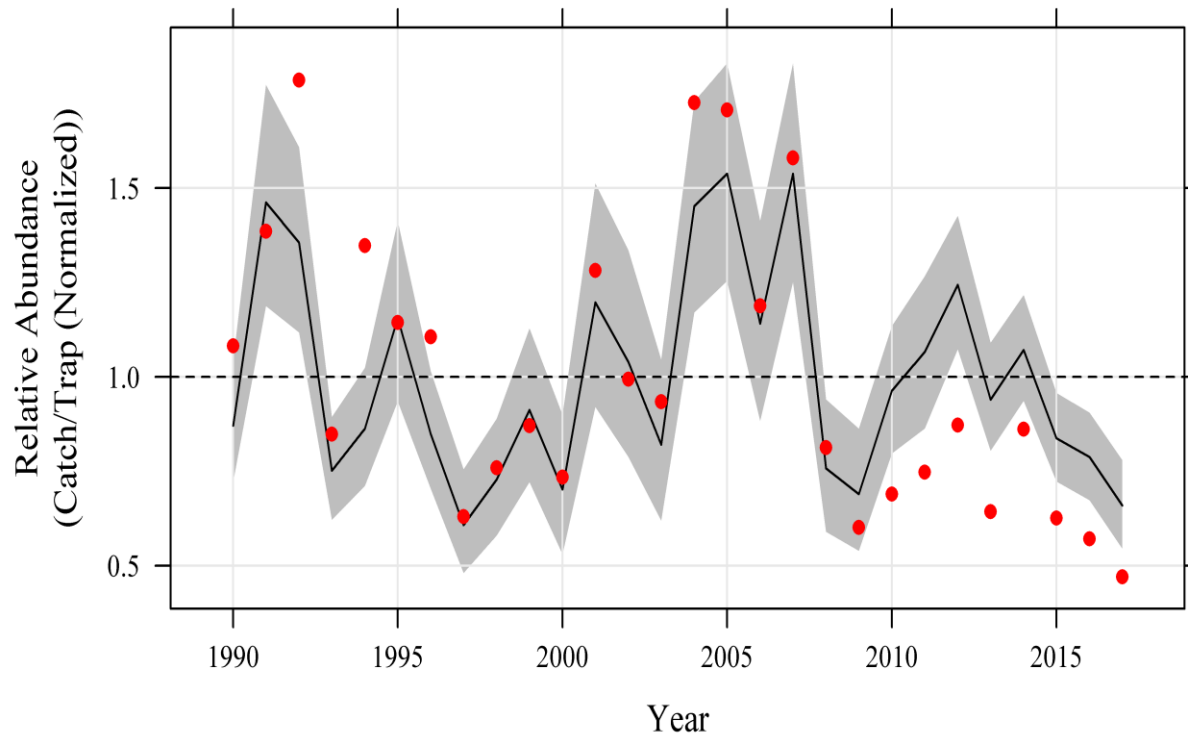
Short Bottom Longline



Knobbed Porgy – Chevron Trap



Red Porgy – Chevron Trap





2018 SERFS update

Sampling Season:

April 24th – October 5th

SCDNR:

Planned \approx 100-110 days at sea

Days at sea completed:

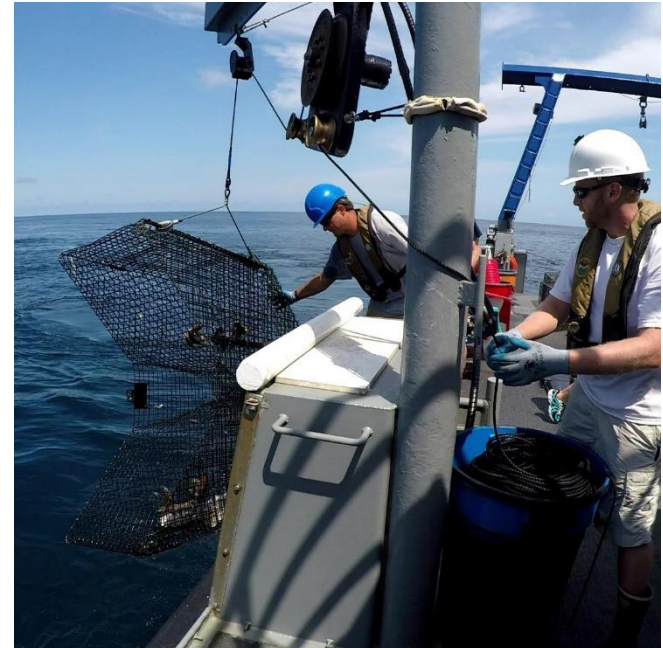
Palmetto = 42.5 days

Lady Lisa = 4.5

Cruises : 10 (17 total)

Chevron: 643 (1,750 total)

SBLL: 72





Acknowledgements:

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

Past and Present





Questions