



## Who we are

- Private regional non-profit research organization
- Represent commercial seafood and fishing industry
- Virginia to Texas
- Administered over 600 research grants since 1976

# Cooperative Bottom Long Line Survey to Augment Fisheries Independent Reef Fish Data Collection in the Deepwater Snapper-Grouper Fishery of the South Atlantic United States

Award #NA15NMF4330221 (GSAFF #134)

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and

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# Background

## Review of Fishery-Independent survey programs in SE US Atlantic waters 2012 NOAA-SEFSC Beaufort

### NMFS Program Review- SEFSC (2013):

*“The MARMAP BLL program, in its current configuration, has not afforded useful information for stock assessments”*

*“ ... this [BLL] program should either be expanded... to a spatial and temporal scale to make it useful for stock assessments, or ended.”*

*“... some type of industry partnership should be considered.”*

# Funding

Saltonstall- Kennedy (S-K) Award:  
#NA15NMF4330221 to the GSAFF

Complementary study: NMFS-SEFSC internal  
support for Tilefish life history survey - NC

# Objectives

- Through a science and industry based collaborative research program, establish the utility of a critical long-term fisheries independent bottom long line (BLL) survey for deep-water snapper-grouper species in the U.S. South Atlantic, specifically golden and blueline tilefish; and
- Provide critical life history data for deep-water snapper-grouper species that are currently under-sampled for use in stock assessments.

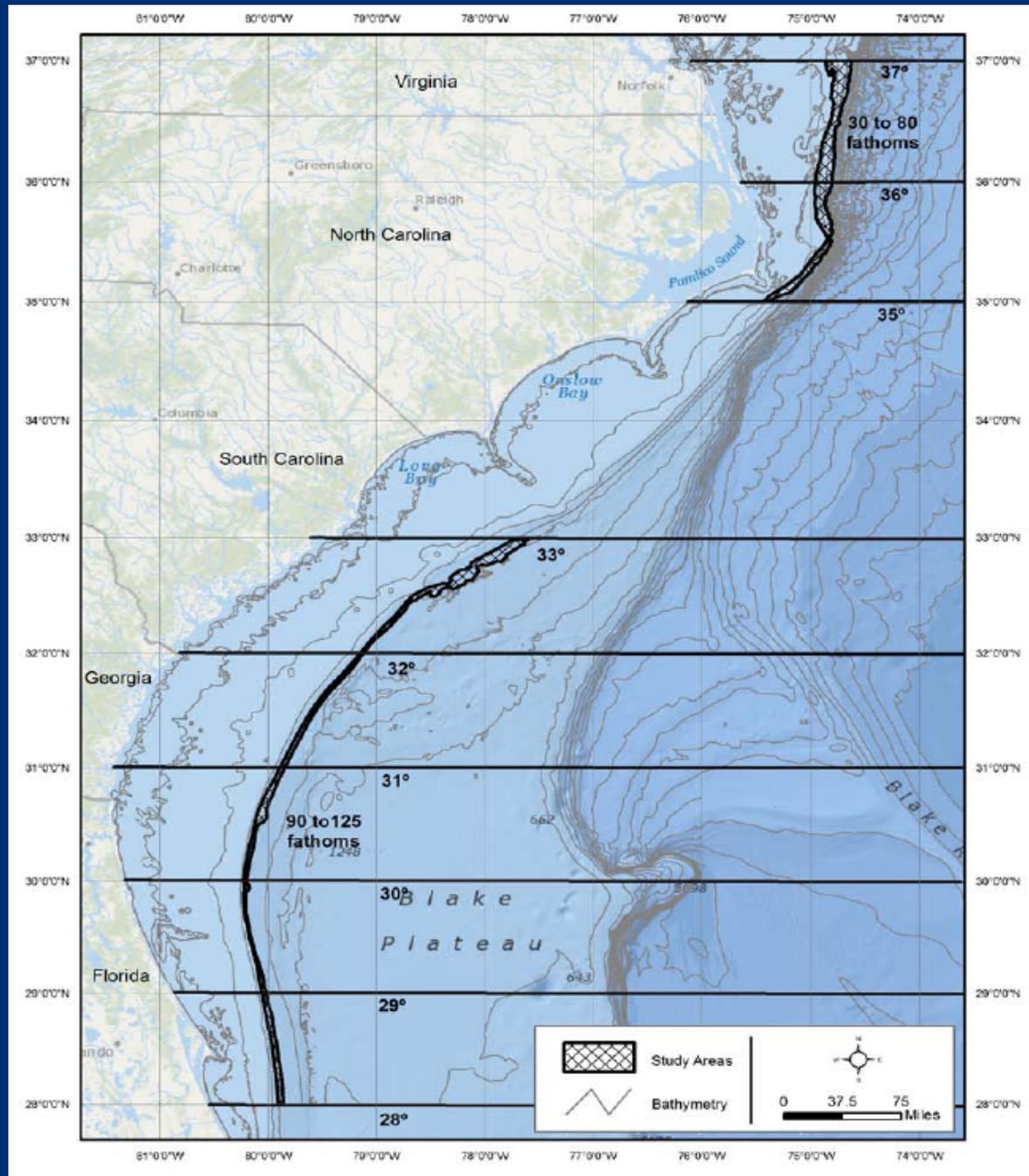
# Study Design

- Randomly sample deepwater habitat
- Varying depth range
- Stat Zones / Lat Bands
- Funded for 38 sea days
- Originally planned to utilize MARMAP standardized sampling protocol
- Industry vessels

Sampling Range	
Latitude band	Latitude range
7	36 - 37°
6	35 - 36°
5	32 - 33°
4	31 - 32°
3	30 - 31°
2	29 - 30°
1	28 - 29°



- 30 – 80 fa for northern bands
- 90 – 125 fa for southern bands
- bands 33-35 regularly sampled by MARMAP/SEFIS surveys



# Challenges

## MARMAP Standardized LBL Gear

- Deployed independently - 1 mile sections
- Will not deploy in bottom current  $> \sim 2.5$  knots

## Characteristics of Southern Range

- Proximity to Florida Current, rarely less than 3 knots
- 1 mile sections have high probability of gear loss

## Characteristics of Northern Range

- Golden tilefish primarily targeted with vertical hook and line gear
- Difficult to harvest blueline tilefish with MARMAP LBL gear configurations

# Modified Sampling Protocol

## Gear Comparison Analysis

- Deploy 4 miles of continuous gear
  - Alternating 1 mile segments of standard MARMAP gear and standard commercial BLL gear (i.e. “captain’s choice”)
- Continue to utilize MARMAP sampling protocols and randomly sampled bottom

## Biological Sampling

- Add age, growth, reproduction, and genetic samples to the SC-DNR collections/database for priority deep-water species

# Gear Comparison



## MARMAP Standard Gear

Leader: 20" length, 200 lb. test

## Captain's Choice (left)

Leader: 72" length, 400 lb. test

# Gear Comparison



MARMAP Standard Bait  
Whole Squid



Captain's Choice Bait  
Cut Squid

# Gear Comparison



- MARMAP Standard Hooks
  - Crimp, no swivel

- Captain's Choice
  - Added swivel



# Information Recorded:

- Gear information – full descriptions/measurements of all deployed gear
- Sampling site — trip number, station number, gear, set and haul start and stop times, latitude and longitude, soak time, number of hooks set/lost, water depth, surface and bottom temperature
- Length / Frequency - species, length, weight



# Life History information

- All fish harvested were retained for life history information work-up
  - Fish retained under an LOA
  - Sharks released, most unsampled
- Work-up includes:
  - Otoliths
  - Gonads
  - Fin clips (DNA)
- All harvested fish are donated after work-up

# Preliminary Results/Observations

- 14 stations
- 217 tilefish harvested
  - Standard gear: 47
  - Captain's Choice: 107
  - Altered Standard: 63
- Both gears successfully catching targeted fish
- Observed some gear loss/failure with standard gear
- A case of “retrieveability vs. catchability”

# Application of Results

- Demonstration of a Bottom Longline gear survey and sampling protocol that can be expanded throughout the South Atlantic region
- Cross-calibration of historical MARMAP LBL CPUE information with a standardized commercial BLL gear CPUE
- Production of an “economically-feasible” and repeatable annual survey for the South Atlantic deep-water snapper-grouper complex

# Questions?



***OUCH!!!!!!***