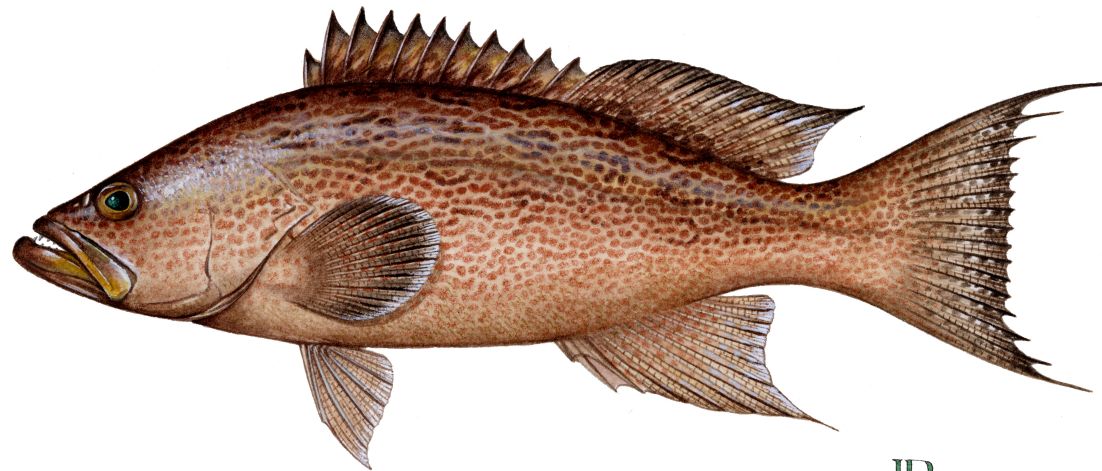


**SEDAR 68:
Discard Mortality Ad-Hoc
Working Group:
Discussion Summary**



SCAMP

Mycteroperca phenax

General Summary

- Discussed the TORS
- Reviewed available discard data from various groups:
 - SAFMC – Scamp Release App Data / MyFish Counts App
 - *Julia Byrd, Mike Errigo, Chip Collier*
 - MOTE – Electronic Monitoring Data
 - *Carole Neidig, Max Lee, Daniel Roberts*
 - FL-FWCC – State Survey Data
 - *Dominique Lazarre*
 - NOAA – At-Sea Observer Data
 - *Sarina Atkinson, Kevin McCarthy*
 - NCSU – Acoustic Telemetry Study
 - *Brendan Runde*
- Discussed next steps

Summary of Results - SAFMC

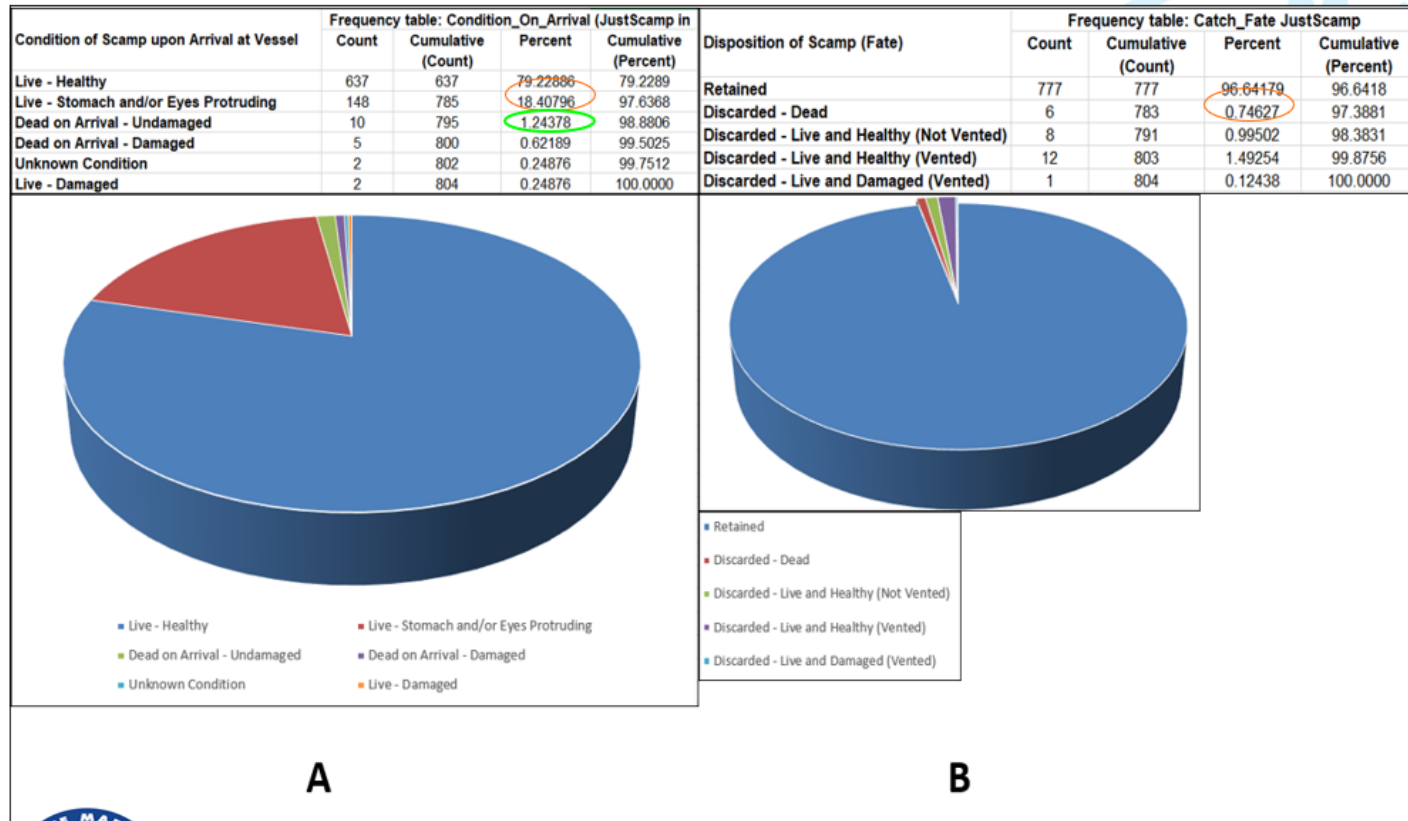
SAFMC Scamp Release: Anecdotal Information

- **Scamp Grouper releases are not common during the open shallow water grouper season (May – December). The reason for discards during the open season is typically due to undersized fish (size limit in the South Atlantic is 20in TL), not due to possession limits. Many indicated they do not typically see undersized fish. Some thought that could potentially be due to where they are fishing (depths and locations) or bait or hook size.**
 - Several fishermen, in particular for-hire and recreational fishermen, noted they **don't fish as much in the winter and typically bottom fish less when the shallow water grouper season is closed (January – April)**. Some noted they are more likely to release Scamp Grouper in early spring when fishing effort is starting to increase, but the shallow water grouper closure is still in place.
 - Several fishermen noted that **Scamp Grouper catches have become less common in recent years**. Some indicated this could potentially be due to abundance, others noted it was hard to get bait to the bottom where you would typically catch grouper due to large numbers of Red Snapper.
 - **Scamp Grouper tend to be in deeper water than some other shallow water grouper species**. This may impact the number of encounters with Scamp compared to other shallow water grouper species (e.g. Gag, etc.).
- Limited number of release reports, but app fields allow for collection of some key information such as size and depth of fishing trips
 - Provides anecdotal reports of fishermen perspective of the scamp fishery and discarding behavior

Summary of Results – Mote

Scamp Condition Upon Arrival (A) and Disposition (Fate) (B)

August 2016 to July 2019 (n=804)



MOTE.ORG

- Collected data from 804 Scamp from July 2016 to July 2019
 - 3.35% of scamp were discarded
 - 0.75% of scamp were discarded dead

Summary of Results – NOAA Observers

NOAA
FISHERIES
SERVICE



South Atlantic – Vertical Line

Lower bound of release mortality using only onboard condition

Depth Bin (m)	Number of Scamp Discarded	Number of Trips	Percent Alive*	Percent Dead
<40	146	24	100 %	0 %
41-60	343	24	100 %	0 %
>60	2	15	99.4 %	0.6 %
Total	491	43	99.8 %	0.2 %

* Including scamp alive with barotrauma

Upper bound of release mortality using a combination of onboard condition and disposition

Depth Bin (m)	Number of Scamp Discarded	Number of Trips	Percent Alive	Percent Dead*
<40	146	24	84.9 %	15.1 %
41-60	343	24	76 %	24 %
>60	2	15	89.7 %	10.3 %
Total	491	43	83.5 %	16.5 %

* Including scamp with barotrauma and released dead

- Provide an upper and lower bound estimate of immediate mortality for the vertical line fleets in each jurisdiction, and an additional estimate of bottom long line for the Gulf of Mexico
 - Lower Bound – Includes only fish that were dead on arrival
 - Upper Bound – Includes dead on arrival, fish with barotrauma injuries, and dead discards

Summary of Results – FL FWCC

Immediate Mortality Proxy

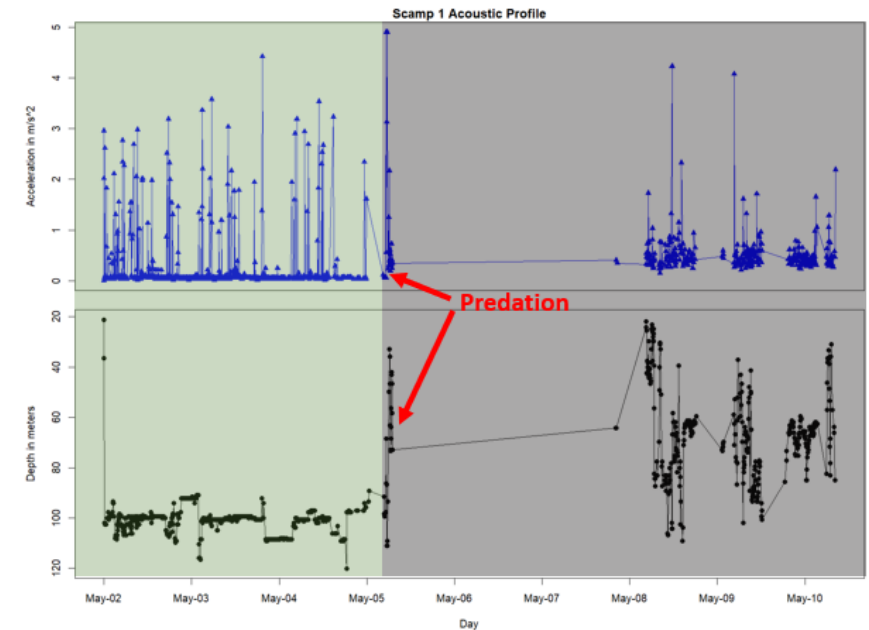
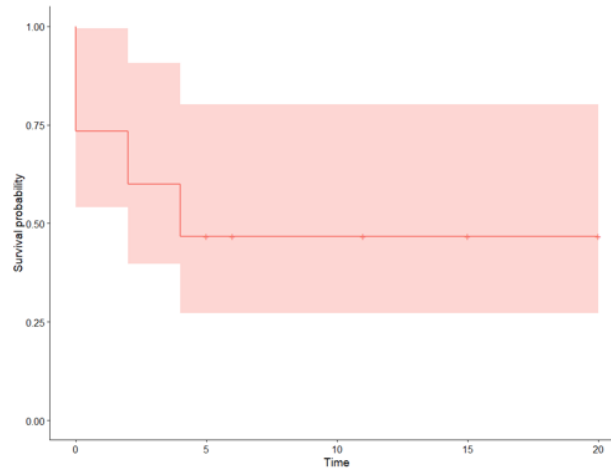
Release Condition	Gulf of Mexico				South Atlantic			
	<i>Charter</i>	<i>%</i>	<i>Headboat</i>	<i>%</i>	<i>Charter</i>	<i>%</i>	<i>Headboat</i>	<i>%</i>
Good	320	95.81	1283	88.36	6	100.00	87	75.65
Fair	6	1.80	92	6.34	0	0.00	18	15.65
Bad	7	2.10	46	3.17	0	0.00	7	6.09
Dead	1	0.30	31	2.13	0	0.00	3	2.61
<i>Total</i>	<i>334</i>	<i>100.00</i>	<i>1452</i>	<i>100.00</i>	<i>6</i>	<i>100.00</i>	<i>115</i>	<i>100.00</i>
Lower	1	0.30%	31	2.13%	0	0.00%	3	2.61%
Upper	14	4.19%	169	11.64%	0	0.00%	28	24.3%

- Summary trip depth data from the charter and private fishing fleets by coast
- Provided an immediate mortality proxy based on observed release condition
 - Consistent barotrauma data were not available through the data set to concert these immediate mortality levels to match the NOAA Commercial Observer dataset, but created an upper and lower bound
 - Lower Bound – Dead Discards
 - Upper Bound – Fish with any impairment (Fair, Bad, Dead or hook injuries)

Summary of Results – NC State

NC State scamp data – Results

- 16 individuals descended
 - 1 fish never detected
 - Survival estimate for 15 scamp: 0.47 (0.27, 0.80)
- 2 individuals released at surface (no venting)
 - 1 floated
 - 1 swam, died same day



- Acoustic telemetry was used to observe the fate of scamp descended with SeaQualizer descender devices
- Compared acceleration / depths of released-alive fish to sacrificial known-dead releases
- Scamp were captured with hook and line
- Depth range of captures between 195-380 ft (60-116 m)

Scamp Reference Documents

Species	Region	Citation	Size Range (mm)	Depth (m)	Discard Mortality Rate
Scamp	South Atlantic - NC (Snowy Wreck MPA)	RD40: Runde & Buckel 2018	514-690 mm TL	Caught: 60-115 Released with Seaqualizer: 46 or 61	Not reported (NR)
Scamp, Snowy Grouper & Speckled Hind	South Atlantic - NC (Snowy Wreck MPA)	RD40: Runde & Buckel 2018	Not reported (NR)	Caught: 60-120 Released with Seaqualizer: 46 or 61	Overall grouper discard survival rate: 0.90 (4 days post-release) 0.60 (8 days post-release) 0.50 (14 days post-release)
Scamp	NE Gulf of Mexico	RD31: Pulver 2017	211-892 mm stretched TL (Mean: 407.7)	12.8-163.07 (Mean: 65.99)	Overall predicted immediate mortality: 35% Near 60 m. depth: 50% predicted immediate mortality
Scamp	South Atlantic - SC	RD29: Stephen & Harris 2010	Not reported (NR)	20-80 (most caught approx. 50-70)	Discard Rate: 44.55% Immediate Release Mortality: 97.78%
Scamp	South Atlantic - NC-FL	RD39: Gulf and South Atlantic Fisheries Foundation (GSAFF) Overall Program, 2008-2013	NR	Mean: 129-170	NR
Scamp	South Atlantic - Onslow Bay, NC	RD30: Rudershausen et al. 2007	254-991 mm TL (Mean: 704)	28.2 - 61.2	Immediate Mortality: 23%
Scamp	NE Gulf of Mexico (west FL shelf)	RD33: Wilson & Burns 1996	300-580 mm FL	44	Survival Rate: 100%
Scamp	South Atlantic - SC	RD28: Collins 1996	NR	21	NA

Commercial Mortality Estimates

Gulf of Mexico

- Mote
 - Maximum Immediate mortality – 3.35% (MOTE)
- NOAA Observer
 - Bottom Longline Immediate Mortality:
 - 6.6% to 69.2%
 - Vertical Line Immediate Mortality:
 - 0.0% to 41.8%

South Atlantic

- NOAA Observer
 - Vertical Line Immediate Mortality:
 - 0.2% to 16.5%

Recreational Mortality Estimates

Gulf of Mexico

- FL-FWCC
 - Charter Immediate Mortality Proxy
 - 0.30% to 2.13%
 - Headboat Immediate Mortality Proxy
 - 2.13% to 11.64%

South Atlantic

- FL-FWCC
 - Charter Immediate Mortality Proxy
 - NO IMMEDIATE MORTALITY OR INJURY (0%)
 - Headboat Immediate Mortality Proxy
 - 2.61% to 24/3%
- *NC State Study*
 - *53% [20% to 73%]*
 - *Inverse of survival rate presented*

Discard Mortality TORs

- Review available research and published literature.
 - Consider research directed at scamp as well as similar species from the southeastern United States and other areas.
 - **Addressed by review of the NC State Acoustic / Descender Study and Mote Marine Lab**
- *Provide estimates of discard mortality rate by fishery, gear type, depth, and other feasible or appropriate strata.*
 - ***Immediate mortality estimates continue to be available from the private and commercial fleets, but likely does not properly capture post-release mortality***
- *Provide estimates of uncertainty around recommended discard mortality rates*
 - ***Providing uncertainty around immediate mortality estimates may not be appropriate***
 - ***Estimation from the NC State study provides confidence interval derived from an empirical study, but may not be fleet specific***
- Document the rationale for recommended rates and uncertainties.
 - ***General consensus was that use of the estimates provided by the Runde study would provide the most defensible estimates***
 - ***Some concern about how the depth range associated with the study compares to capture depths in the recreational fleet***

Recommend Discard Mortality Rates

- Commercial Rate –
 - Upper Bound –
 - Lower Bound –
 - Rationale –
- Recreational Rate –
 - Upper Bound –
 - Lower Bound –
 - Rationale –