



Tab B, No. 4(a)

Options:

Modifications to Gag and Black Grouper Recreational Retention Limits, Spatial Areas, and Commercial Management Measures



Regulatory Status

The most recent gag stock assessment (SEDAR 72 2022) estimated that gag is overfished and experiencing overfishing as of 2019

- Amendment 56 establishes a rebuilding plan for gag:
 - Revises SDC, and sets F_{MSY} proxy at $F_{40\%SPR}$; sets OY at ACL when overfished, and at 90% of MSY when not overfished
 - Sets 18-year rebuilding plan, and revises sector allocation to 65% recreational and 35% commercial
 - Sets recreational ACT at 80% of recreational ACL
 - Sets commercial ACT at 95% of commercial ACL, and sets commercial quota equal to commercial ACT
 - Sets recreational fishing season to begin September 1 and close when the recreational ACT is projected to be met



Council Motion

RF56 was transmitted to NMFS on June 27, 2023

- Rulemaking expected to take at least 6 months

Council expressed interest in additional measures for gag and also included black grouper:

- *Motion: To direct staff to develop the following options for exploration in a framework action or amendment:*
 - Lowering the gag and black grouper recreational bag limit
 - Establishing a gag and black grouper recreational vessel limit
 - Spatial areas to protect spawning gag
- *Motion carried 12 to 3 with 2 abstentions.*
- Black grouper included due to misidentification concerns with gag



Considerations...

■ Black Grouper

- Does the Council want to move forward with black grouper management measures in this document, at this time?
- Currently working on Amendment 58 to modify SWG complex ACLs
 - Black grouper is in the SWG complex
- Black grouper stock assessment (or other analysis) to start fall 2025; management advice available fall 2026...?

■ Gag

- Gag OA to start fall 2025 and be completed by mid- to late-2026
- Gag IA could be requested while the OA is in progress
 - SEFSC advises being sensitive to species in rebuilding plans



September 2023 SSC Meeting – Gag Research Review

- Review of some recent literature and data available on gag grouper
 - Movement and habitat use
 - Reproductive behavior
 - Susceptibility to environmental factors
 - Discard mortality
- What are the Council's goals and objectives for gag?
- What are the Council's goals and objectives for black grouper?



Council Goals for Gag?

- Ideas based on previous Council comments that the SSC might consider in September:
 - Reduce discard mortality for both sectors?
 - Increase recreational fishing season duration?
 - Reduce fishing pressure during gag spawning season?
 - Reduce fishing mortality on male gag?



Possible Management Alternatives...

- Recreational Bag Limit Reduction
- Recreational Vessel Limit
- New Spatial Closure(s)
- Commercial Spawning Season Closure



Management Options: Recreational Bag Limit

- Current recreational bag limits:
 - Gag: 2 per person per day (pp/pd), within 4 grouper aggregate
 - Black Grouper: 4 pp/pd, within 4 grouper aggregate
- Halving the bag limit (e.g., 2 fish to 1 fish pp/pd) is not estimated to double the fishing season duration
 - Most fishermen don't catch the bag limit



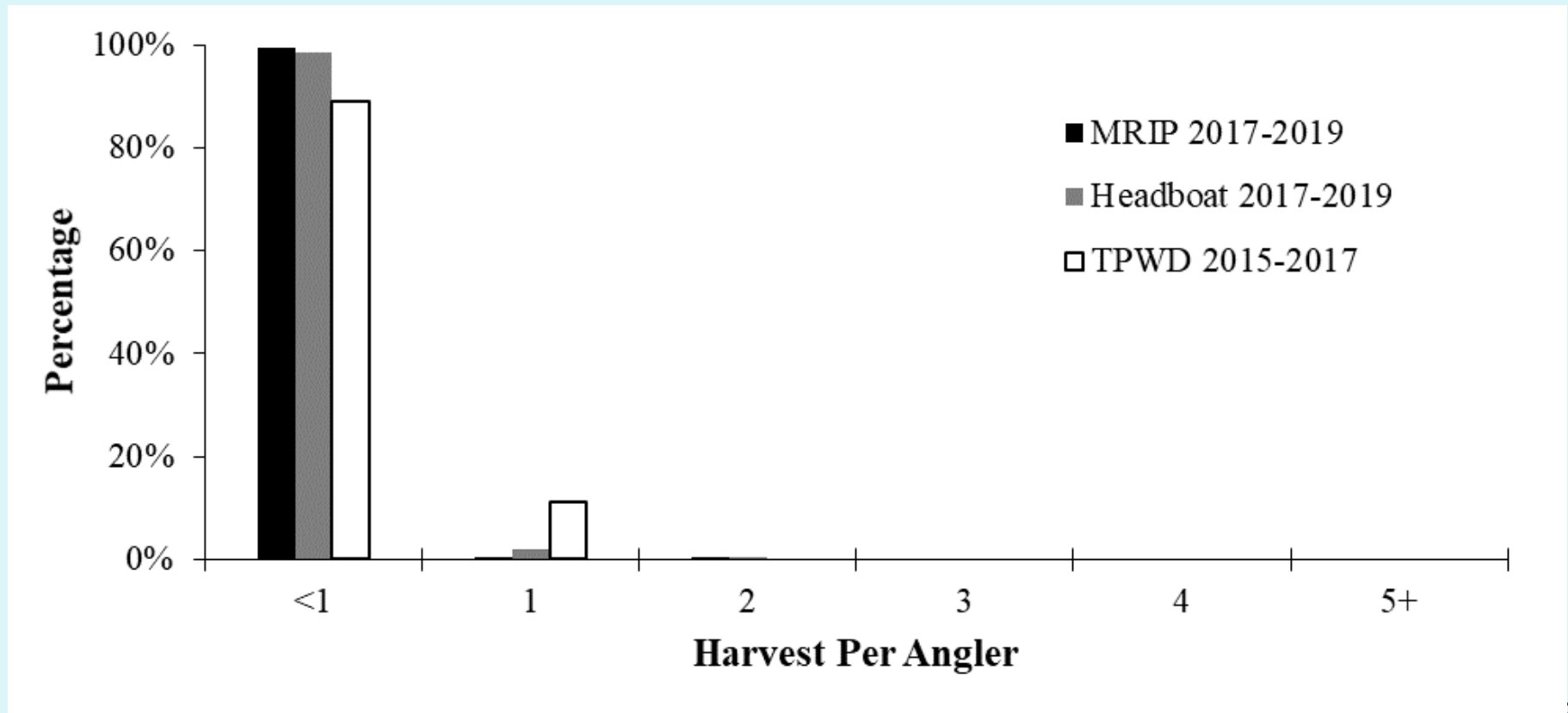
Management Options: Recreational Bag Limit

- Preliminary bag limit analysis for gag:
 - Done prior to RF56 development; can be updated with data used for SEDAR 72 (2022)
- Recent Gulf recreational catch-effort data
 - MRIP-CHTS (private + for-hire), SRHS: 2017 – 2019
 - TPWD: 2015 – 2017
 - $n = 3,471$ trips that harvested gag
- **Reducing gag bag limits from 2 fish per person to 1 fish per person would functionally have no impact**
 - 99% of all trips sampled did not harvest over 1 gag per angler



Management Options: Recreational Bag Limit

- Mean harvest per angler:



- MRIP-CHTS (private + for-hire, n = 1,311 trips), SRHS (n = 2,151 trips) and TPWD (n = 9 trips).

Management Options: Recreational Bag Limit - Possibilities

- Reduce black grouper bag limit to match gag bag limit
- Pros:
 - If there is an issue with misidentification, this would reduce the probability of inadvertent harvest of gag
- Cons:
 - No stock assessment of black grouper validating a stock condition similar to gag, so a bag limit reduction may not be necessary for black grouper



Management Options: Recreational Bag Limit - Possibilities

- Reduce gag recreational bag limit to 1 fish per person per day
- Pros:
 - ...?
- Cons:
 - No appreciable reduction in F from lowering gag bag limit
 - Reduction in F may be negated by discard mortality, especially on vessels carrying multiple anglers
 - 50% bag limit reduction \neq doubling of recreational fishing season duration
 - Preliminary analysis indicates that decreasing the bag limit to 1 fish would have little to no effect on recreational fishing season duration



Management Options: Recreational Vessel Limit

- Vessel limit would allow for alternative to reducing individual bag limit
- Would require anglers to understand the difference between the individual bag limit and the vessel limit
- Would be defined as “per day”, allowing for the current multi-day trip limit for appropriately equipped for-hire vessels
- Headboat exemption?



Management Options: Recreational Vessel Limit

- Preliminary vessel limit analysis for gag
 - Done prior to RF56 development; can be updated with SRFS
- Recent Gulf recreational catch-effort data
 - Data: MRIP-CHTS (private + for-hire), SRHS, and TPWD = 3,471 trips that harvested gag
 - MRIP: ~50% of vessels reported harvesting more than one gag
 - SRHS: ~60% of headboats reported harvesting more than one gag
 - TPWD: ~10% of vessels in Texas harvested more than one gag
- Most trips (>80%) harvest 4 gag or less, except headboats
- Exempting headboats may reduce negative social and economic effects; would also reduce positive biological effects



Management Options: Recreational Vessel Limit - Possibilities

- Establish a combined vessel limit for gag and black grouper:
 - E.g., 2, 3, 4 fish per vessel per trip?
- Pros:
 - Doesn't matter if landed fish are gag or black grouper; easier for enforcement and anglers struggling with identification
- Cons:
 - More rapid harvest of gag, which are more abundant than black grouper in the Gulf;
 - Gag and black grouper have different spatial distributions
 - May result in a marked reduction in allowable retention for vessels with multiple anglers (e.g., larger private vessels, for-hire)



Management Options: Spatial Closures

- Current year-round spatial closures pertinent to gag:
 - Madison-Swanson (FL), Steamboat Lumps (FL)
- Current partial-year spatial closures:
 - The Edges (FL), 20-Fathom Break (FL)
- Gag occur from AL east and south into southwest FL
- Black grouper occur from west-central through southwest FL and the FL Keys
- Spatial overlap in southwest FL
- All areas far offshore; recreational enforcement is difficult



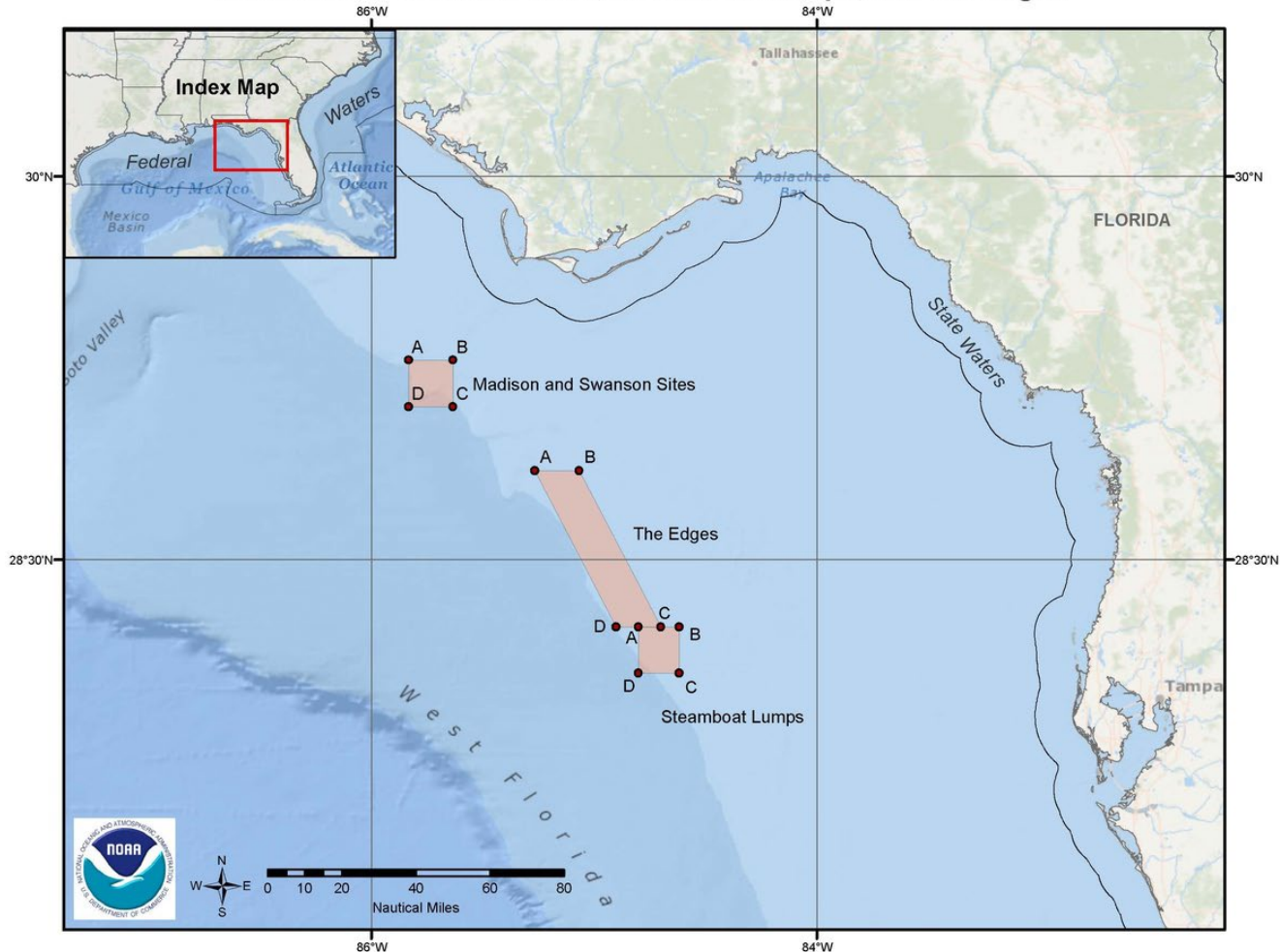
Management Options: Spatial Closures

- Could consider extending partial-year closure(s) to year-round
 - Being closed for part of the year functionally only delays potential fishing mortality
 - Fishermen can just fish that area when it isn't closed
- E.g., The Edges:
 - Partial closure in Amendment 30B
 - Closed Jan 1 – Apr 30
 - 390 nm² gag spawning region northwest of Steamboat Lumps
- 20-fathom break? Or deeper?



Management Options: Spatial Closures

Madison and Swanson Sites, Steamboat Lumps, and the Edges



Ocean Basemap from ArcGIS.com
Sources: GEBCO, NOAA, CHS, OSU, UNH, CSUMB, National Geographic, DeLorme, NAVTEQ, and Esri



Management Options: Spatial Closures - Possibilities

- Establish a new spatial area closure to protect spawning gag.
- Pros:
 - May reduce fishing mortality on gag spawning stock biomass
 - May alleviate fishing mortality on males and improve reproduction
 - May have tangential benefits for species on the same habitat as gag



Management Options: Spatial Closures - Possibilities

- Establish a new spatial area closure to protect spawning gag.
- Cons:
 - Evaluation of closed area efficacy is very time and data intensive
 - Difficulty of recreational enforcement directly correlated to spatial area size and distance from shore/population centers
 - Possibility for considerable economic burden
 - Transit limitations, harvest restrictions, etc.
 - Does not directly constrain the fishing mortality rate (F) of the stock; if F is too high, a spatial closure will not prevent overfishing.
 - May prevent achieving OY for other species that occur in potential closed areas



Other Measures?...

- Commercial closure during the spawning season



Management Options: Commercial Spawning Season Closure

- Gag and black grouper managed under the Grouper-Tilefish IFQ program
 - Initial purpose included allowing commercial fishermen to fish when it was best for them to do so
 - Previous system of trip limits, seasons, and size limits was ineffective for fishermen, and increased regulatory discards
- Gag spawning peaks in February and March
- Black grouper spawning peaks from January – March

Management Options:

Commercial Closed Season: Examples

- Commercial catch share programs with closed seasons:
- North Pacific Halibut
 - International Pacific Halibut Commission sets ACLs
 - Usually open mid-March 15 through mid-November
 - Safety at sea, catch monitoring and processing, bycatch
- North Pacific Crab
 - Seasons set by AK, open October 15, and close between April and May
 - Molting and mating, catch processing, markets
- AK Rockfish
 - Seasonal openings based on harvest gear used

Management Options: Commercial Closed Season

FMP category	Common name	Family	Scientific name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Coastal Migratory Pelagics	King Mackerel	Scombridae	<i>Scomberomorus cavalla</i>												
Coastal Migratory Pelagics	Spanish Mackerel	Scombridae	<i>Scomberomorus maculatus</i>												
Red Drum	Red Drum	Sciaenidae	<i>Sciaenops ocellatus</i>												
Reef Fish	Gray Triggerfish	Balistidae	<i>Balistes capriscus</i>												
Reef Fish	Greater Amberjack	Carangidae	<i>Seriola dumerili</i>												
Reef Fish	Almaco Jack	Carangidae	<i>Seriola rivoliana</i>												
Reef Fish	Speckled Hind	Epinephelidae	<i>Epinephelus drummondhayi</i>												
Reef Fish	Goliath Grouper	Epinephelidae	<i>Epinephelus itajara</i>												
Reef Fish	Red Grouper	Epinephelidae	<i>Epinephelus morio</i>												
Reef Fish	Nassau Grouper	Epinephelidae	<i>Epinephelus striatus</i>												
Reef Fish	Yellowedge Grouper	Epinephelidae	<i>Hyporthodus flavolimbatus</i>												
Reef Fish	Warsaw Grouper	Epinephelidae	<i>Hyporthodus nigrilus</i>												
Reef Fish	Snowy Grouper	Epinephelidae	<i>Hyporthodus niveatus</i>												
Reef Fish	Black Grouper	Epinephelidae	<i>Mycteroperca bonaci</i>												
Reef Fish	Yellowmouth Grouper	Epinephelidae	<i>Mycteroperca interstitialis</i>												
Reef Fish	Gag Grouper	Epinephelidae	<i>Mycteroperca microlepis</i>												
Reef Fish															
Reef Fish															
Reef Fish															
Reef Fish															
Reef Fish															
Reef Fish															
Reef Fish															
Reef Fish															
Not Federally															
Not Federally															
Not Federally															
Not Federally Managed	Sheepshead	Sparidae	<i>Archosargus probatocephalus</i>												
Number species (all)				11	13	13	19	19	20	16	18	15	9	7	5
Number species (peak)				3	5	10	9	8	8	8	7	4	2	1	3
				Q1			Q2			Q3			Q4		

**SHELF Egg Project, showing
peak (black) and prominent
(gray) spawning by month for
Gulf species**

Stallings et al. 2023

Management Options: Commercial Closed Season

FMP category	Common name	Family	Scientific name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Coastal Migratory Pelagics	King Mackerel	Scombridae	<i>Scomberomorus caeruleus</i>												
Coastal Migratory Pelagics	Spanish Mackerel	Scombridae	<i>Scomberomorus maculatus</i>												
Red Drum	Red Drum	Sciaenidae	<i>Sciaenops ocellatus</i>												
Reef Fish	Gray Triggerfish	Balistidae	<i>Molopsanus caeruleus</i>												
Reef Fish	Greater Atlantic Reef Fish	Merulidae	<i>Merulius meruli</i>												
Reef Fish	Almaco	Almaco	<i>Almaco</i>												
Reef Fish	Speckled Hind	Epinephelidae	<i>Epinephelus drummondhayi</i>												
Reef Fish	Goliath Grouper	Epinephelidae	<i>Epinephelus itajara</i>												
Reef Fish	Red Grouper	Epinephelidae	<i>Epinephelus morio</i>												
Reef Fish	Nassau Grouper	Epinephelidae	<i>Epinephelus striatus</i>												
Reef Fish	Yellowedge Grouper	Epinephelidae	<i>Hyporthodus flavolimbatus</i>												
Reef Fish	Warsaw Grouper	Epinephelidae	<i>Hyporthodus nigrilus</i>												
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Reef Fish	Black Grouper	Epinephelidae	<i>Mycteroperca bonaci</i>												
Reef Fish	Yellowmouth Grouper	Epinephelidae	<i>Mycteroperca interstitialis</i>												
Reef Fish	Gag Grouper	Epinephelidae	<i>Mycteroperca microlepis</i>												
Reef Fish	Scamp	Epinephelidae	<i>Mycteroperca phenax</i>												
Reef Fish	Yellowfin Grouper	Epinephelidae	<i>Mycteroperca venenosa</i>												
Reef Fish	Hogfish	Labridae	<i>Lachnolaimus maximus</i>												
Reef Fish	Mutton Snapper	Lutjanidae	<i>Lutjanus analis</i>												
Reef Fish	Red Snapper	Lutjanidae	<i>Lutjanus campechanus</i>												
Reef Fish	Cubera Snapper	Lutjanidae	<i>Lutjanus cyanopterus</i>												
Reef Fish	Vermilion Snapper	Lutjanidae	<i>Rhomboplites aurorubens</i>												
Reef Fish	Tilefish	Malacanthidae	<i>Lopholatilus chamaeleonticeps</i>												
Not Federally Managed	Southern Flounder	Paralichthyidae	<i>Paralichthys lethostigma</i>												
Not Federally Managed	Spotted Seatrout	Sciaenidae	<i>Cynoscion nebulosus</i>												
Not Federally Managed	Black Drum	Sciaenidae	<i>Pogonias cromis</i>												
Not Federally Managed	Sheepshead	Sparidae	<i>Archosargus probatocephalus</i>												
Number species (all)				11	13	13	19	19	20	16	18	15	9	7	5
Number species (peak)				3	5	10	9	8	8	8	7	4	2	1	3
				Q1			Q2			Q3			Q4		

Spawning months

Stallings et al. 2023

Management Options:

Commercial Closed Season - Possibilities

- Establish a commercial fishing season closure for gag and black grouper
 - January through April? February through March?
- Pros:
 - Would alleviate direct fishing pressure during spawning activity
- Cons:
 - Could increase regulatory discards during spawning closure
 - But, evidence of commercial vertical line fleet ability to redirect effort in 2023
 - Would impact markets re: availability of gag and black grouper
 - Would require future action to change
 - Positive effect of spawning closures on SSB questionable for many species, and has not been demonstrated yet for gag



Decision Matrix:

What we think we know

Goals	Recreational Bag Limit	Recreational Vessel Limit	Spatial Closure	Commercial Spawning Season Closure
Decrease Discards	X	X	X	√
Increase Recreational Season Duration	X	√	X	N/A
Decrease Fishing Mortality During Spawning Season	N/A	N/A	X	√
Decrease Fishing Mortality on Males	X	?	?	√

Questions?

