



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; re-transmitted on September 11, 2023**

- Rulemaking expected to take at least 6 months

## **Council interest in measures for gag and 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 (to be addressed in a separate document)
- Black grouper included due to misidentification concerns with gag



# Considerations...

- Black Grouper
  - 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: August 2023

- What to do about gag grouper?
  - Reduce fishing mortality on male gag
  - Constrain future harvests to the ACL
  - Increase the probability of rebuilding the stock
  - Avoid increasing discards
  - Reduce vulnerability of gag during spawning to increase spawning success
  
- What to do about black grouper?
  - Alleviate misidentification issues



# Possible Management Alternatives...

- Recreational Bag Limit Reduction
- Recreational Vessel Limit
- 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





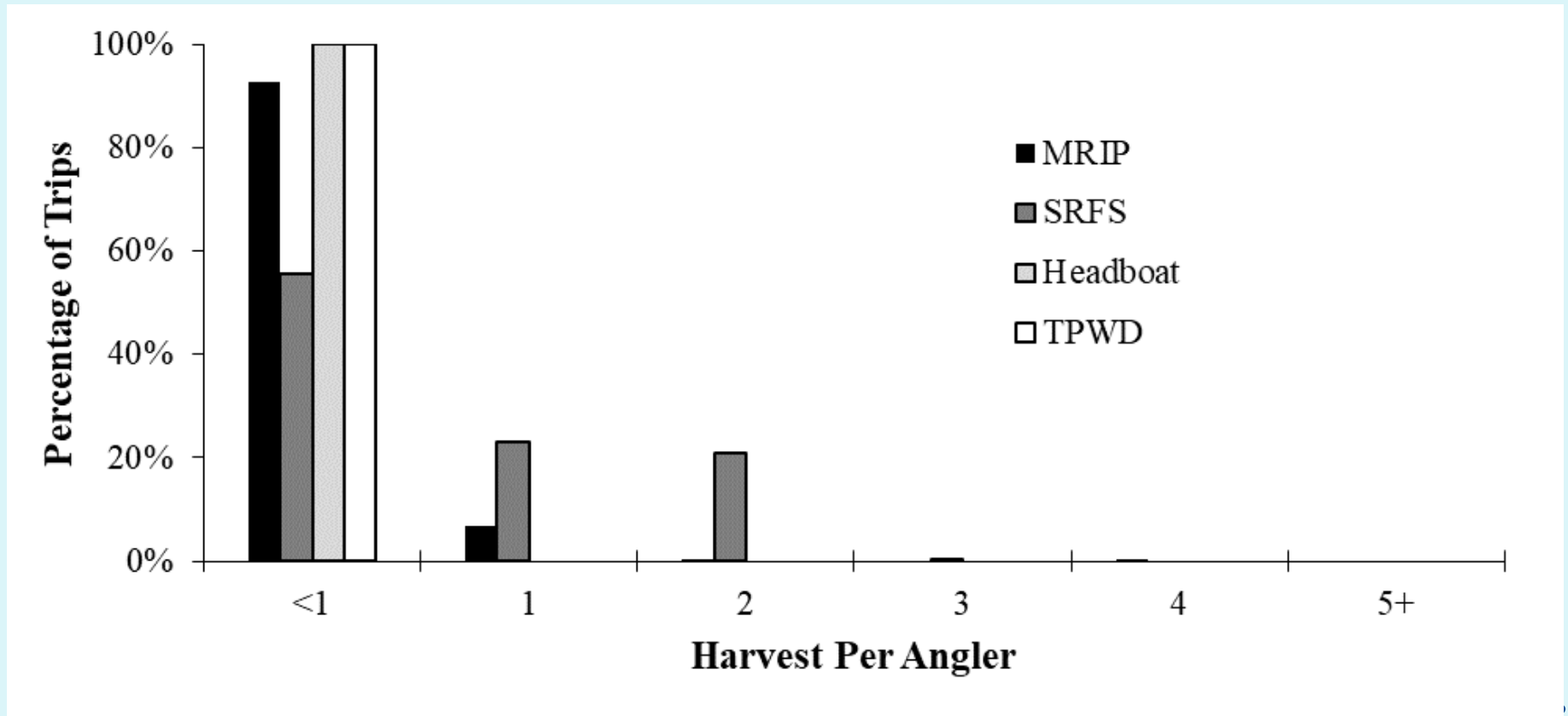
# Management Options: Recreational Bag Limit

- Bag Limit Analysis:
- Years: 2020 to 2022
  - Southeast Region Headboat Survey (SRHS), headboats
  - MRIP-FES, shore mode
  - SRFS, private vessel mode
  - Texas creel survey, private and shore modes
  - N = 4,930 trips with gag and 150 trips with black grouper
- **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

- Harvest per angler:



- MRIP FES (n = 1,168 trips), SRFS (n = 397 trips), headboat (n = 3,359 trips) and TPWD (n = 6 trips)

# Management Options: Recreational Bag Limit - Possibilities

- Reduce gag recreational bag limit to 1 fish per person per day:

Proposed Bag Limit (# of fish)	MRIP Predicted Change in Landings	SRFS Predicted Change in Landings	SRHS Predicted Change in Landings	TPWD Predicted Change in Landings
2 pp/day	0%	0%	0%	0%
1 pp/day	-1%	-22%	0%	0%



# Management Options: Recreational Bag Limit - Possibilities

## Action 1, Alternative 1: No Action (2 gag per person per day)

Year	ACL*	ACT	Predicted Landings	Closure Date	Days Open	Reduced Effort Predicted Landings	Reduced Effort Closure Date
<b>2024</b>	288,000	230,000	1,003,531	Oct 19	49	858,019	Oct 25
<b>2025</b>	399,000	319,000		Nov 1	62		Nov 6
<b>2026</b>	499,000	399,000		Nov 8	69		Nov 14
<b>2027</b>	613,000	490,000		Nov 16	77		Nov 23
<b>2028</b>	751,000	600,000		Nov 25	86		Dec 4

## Action 1, Alternative 2: Reduced bag limit (1 gag per person per day)

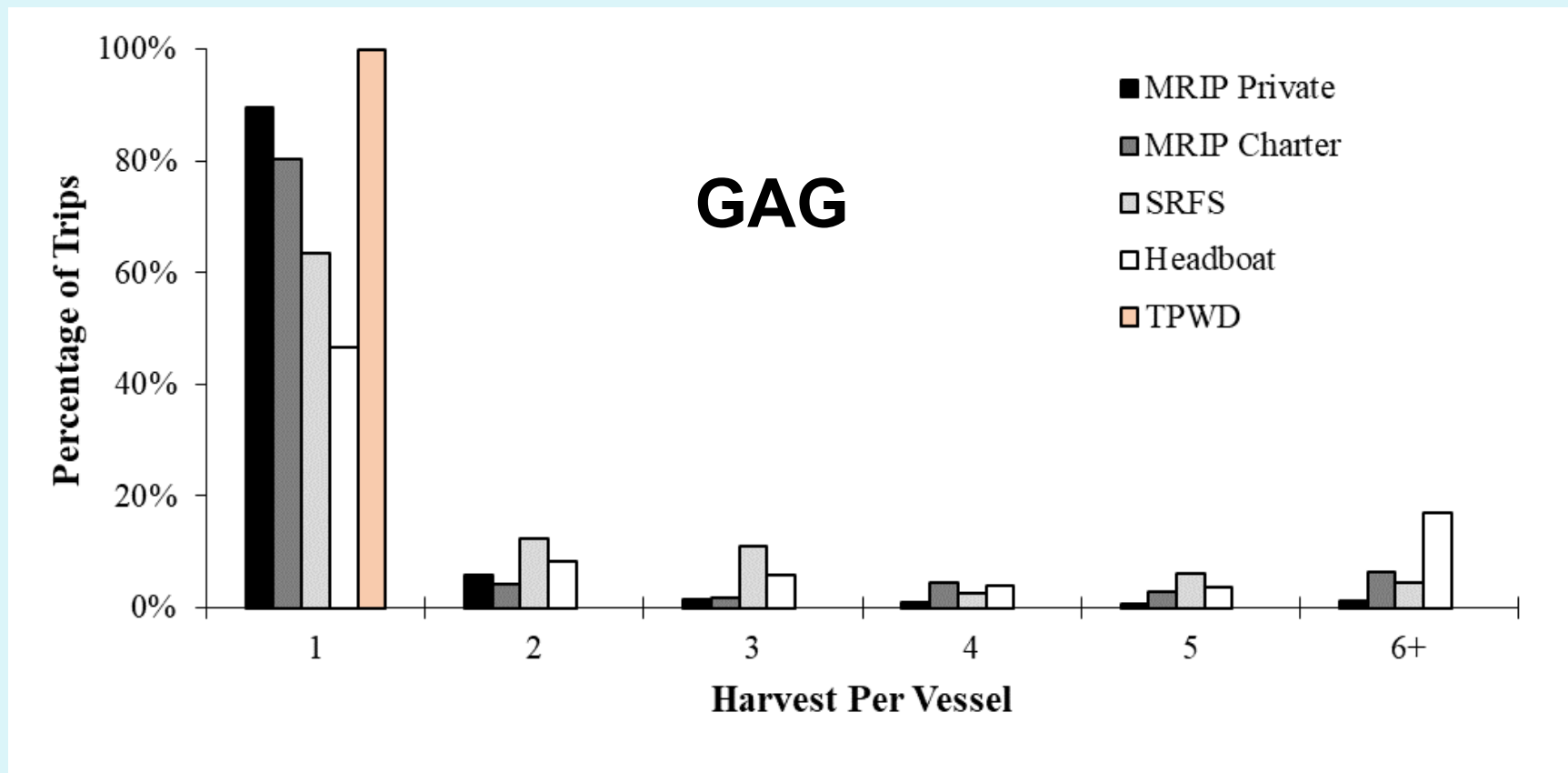
Year	ACL*	ACT	Predicted Landings	Closure Date	Days Open	Reduced Effort Predicted Landings	Reduced Effort Closure Date
<b>2024</b>	288,000	230,000	796,486	Oct 28	58	680,996	Nov 3
<b>2025</b>	399,000	319,000		Nov 8	69		Nov 14
<b>2026</b>	499,000	399,000		Nov 17	78		Nov 24
<b>2027</b>	613,000	490,000		Nov 27	88		Dec 6
<b>2028</b>	751,000	600,000		Dec 9	100		Dec 21

# Management Options: Recreational Vessel Limit

- Vessel limit analysis for gag and black grouper:
  - Same data as used for bag limit analysis
- Harvesting 1 gag or fewer per vessel:
  - Most shore trips (>90%)
  - About 80% of for-hire trips
  - About 60% of private vessel trips
  - About 45% of headboat trips
  - All TPWD trips
- Nearly all recreational trips harvest 1 or fewer black grouper per vessel

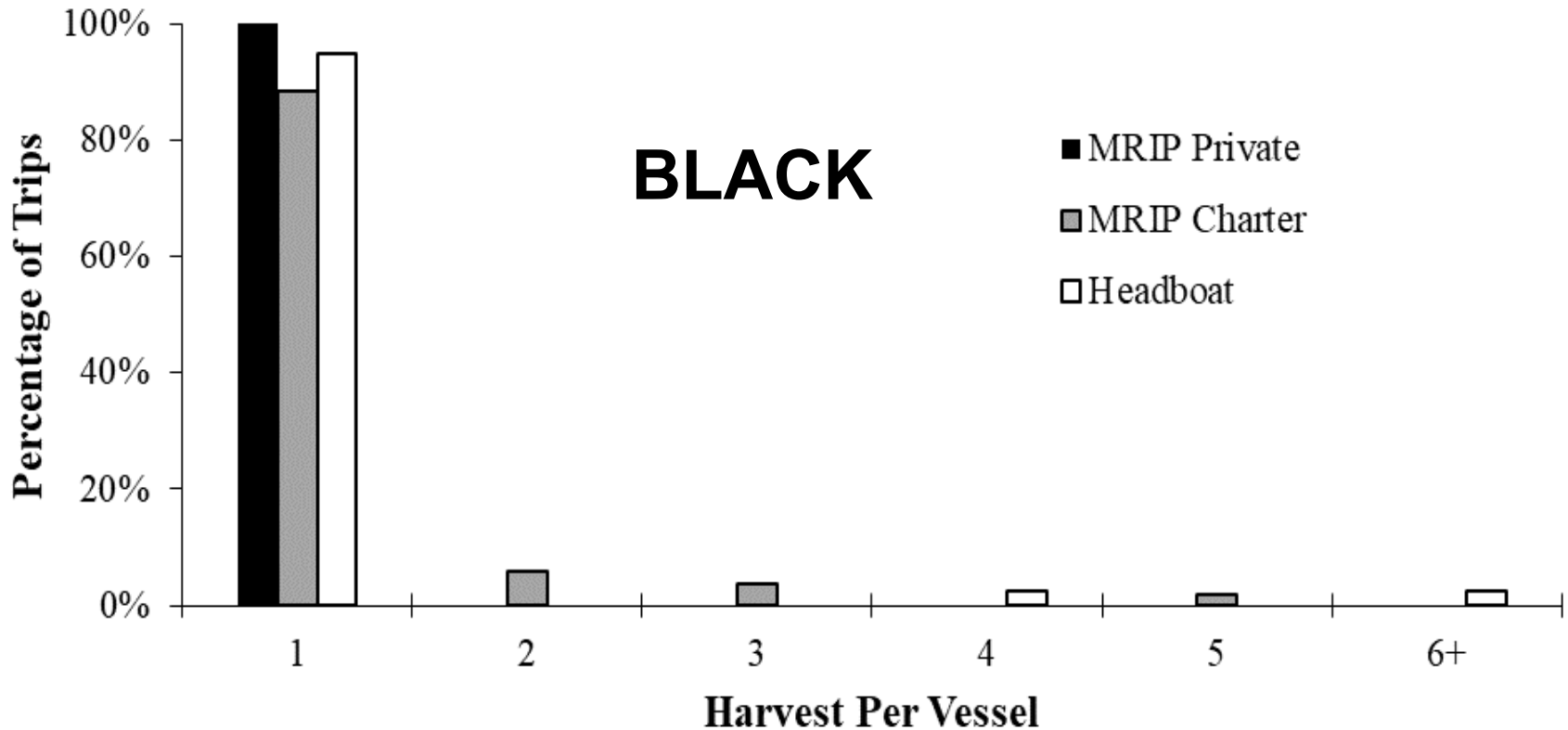


# Management Options: Recreational Vessel Limit



- MRIP FES (n = 1,168 trips), SRFS (n = 397 trips), headboat (n = 3,359 trips) and TPWD (n = 6 trips)

# Management Options: Recreational Vessel Limit



- MRIP FES (n = 1,168 trips), SRFS (n = 397 trips), headboat (n = 3,359 trips) and TPWD (n = 6 trips)

# Management Options: Recreational Vessel Limit

## Action 2, Alternative 1: No Action (No vessel limit)

Year	ACL*	ACT	Predicted Landings	Closure Date	Days Open
2024	288,000	230,000	1,003,531	Oct 19	49
2025	399,000	319,000		Nov 1	62
2026	499,000	399,000		Nov 8	69
2027	613,000	490,000		Nov 16	77
2028	751,000	600,000		Nov 25	86

## Action 2, Alternative 2: Establish a 4 fish per vessel limit

Year	ACL*	ACT	Predicted Landings	Closure Date	Days Open
2024	288,000	230,000	842,843	Oct 25	55
2025	399,000	319,000		Nov 6	67
2026	499,000	399,000		Nov 15	76
2027	613,000	490,000		Nov 24	85
2028	751,000	600,000		Dec 5	96



# Management Options: Recreational Vessel Limit

## Action 2, Alternative 3: Establish a 3 fish per vessel limit

Year	ACL*	ACT	Predicted Landings	Closure Date	Days Open
2024	288,000	230,000	743,715	Oct 31	61
2025	399,000	319,000		Nov 11	72
2026	499,000	399,000		Nov 20	81
2027	613,000	490,000		Dec 1	92
2028	751,000	600,000		Dec 14	105

## Action 2, Alternative 4: Establish a 2 fish per vessel limit

Year	ACL*	ACT	Predicted Landings	Closure Date	Days Open
2024	288,000	230,000	600,632	Nov 7	68
2025	399,000	319,000		Nov 20	81
2026	499,000	399,000		Dec 1	92
2027	613,000	490,000		Dec 15	106
2028	751,000	600,000		No Closure	122

# Management Options: Recreational Vessel Limit - Possibilities

- Establish a combined vessel limit for gag and black grouper:
- 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
  - Increased discards, highgrading
  - 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, headboats)



# 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>					Gray	Black	Black	Black	Black	Gray		
Coastal Migratory Pelagics	Spanish Mackerel	Scombridae	<i>Scomberomorus maculatus</i>				Gray	Black	Black	Black	Black	Black	Black		
Red Drum	Red Drum	Sciaenidae	<i>Sciaenops ocellatus</i>								Black	Black	Black	Black	
Reef Fish	Gray Triggerfish	Balistidae	<i>Balistes capriscus</i>					Gray	Black	Black	Black	Black			
Reef Fish	Greater Amberjack	Carangidae	<i>Seriola dumerili</i>			Black	Black	Black	Black	Black	Black	Black			
Reef Fish	Almaco Jack	Carangidae	<i>Seriola rivoliana</i>				Gray	Black	Black	Black	Black	Black	Black	Black	
Reef Fish	Speckled Hind	Epinephelidae	<i>Epinephelus drummondhayi</i>								Black	Black	Black		
Reef Fish	Goliath Grouper	Epinephelidae	<i>Epinephelus itajara</i>							Black	Black	Black	Black		
Reef Fish	Red Grouper	Epinephelidae	<i>Epinephelus morio</i>		Gray	Black	Black	Black	Black	Black	Black	Black	Black		
Reef Fish	Nassau Grouper	Epinephelidae	<i>Epinephelus striatus</i>	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Reef Fish	Yellowedge Grouper	Epinephelidae	<i>Hyporthodus flavolimbatus</i>		Gray	Black	Black	Black	Black	Black	Black	Black	Black	Black	
Reef Fish	Warsaw Grouper	Epinephelidae	<i>Hyporthodus nigritus</i>				Gray	Black	Black	Black	Black	Black	Black		
Reef Fish	Snowy Grouper	Epinephelidae	<i>Hyporthodus niveatus</i>								Black	Black	Black		
Reef Fish	Black Grouper	Epinephelidae	<i>Mycteroperca bonaci</i>	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Reef Fish	Yellowmouth Grouper	Epinephelidae	<i>Mycteroperca interstitialis</i>	Gray	Gray	Gray	Black	Black	Black	Black	Black	Black	Black	Black	
Reef Fish	Gag Grouper	Epinephelidae	<i>Mycteroperca microlepis</i>	Gray	Gray	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Reef Fish				Gray	Gray	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Reef Fish				Gray	Gray	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
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Reef Fish											Black	Black	Black	Black	Black
Reef Fish											Black	Black	Black	Black	Black
Not Federally											Black	Black	Black	Black	Black
Not Federally											Black	Black	Black	Black	Black
Not Federally											Black	Black	Black	Black	Black
Not Federally Managed	Sheepshead	Sparidae	<i>Archosargus probatocephalus</i>		Gray	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
			<b>Number species (all)</b>	11	13	13	19	19	20	16	18	15	9	7	5
			<b>Number species (peak)</b>	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>Trigloporus capricornis</i>												
Reef Fish	Greater Amberjack	Serranidae	<i>Seriola lalandi</i>												
Reef Fish	Almaco Jack	Serranidae	<i>Seriola lalandi</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>Hyporhamphus flavolimbatus</i>												
Reef Fish	Warsaw Grouper	Epinephelidae	<i>Hyporhamphus nigritus</i>												
Reef Fish	Snowy Grouper	Epinephelidae	<i>Hyporhamphus 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	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>												
<b>Number species (all)</b>				11	13	13	19	19	20	16	18	15	9	7	5
<b>Number species (peak)</b>				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

- A note about The Edges:
  - Closed seasonally, from January – April
  - Recent research showed 0% male gag (n = 140)
- Stress-induced ovarian “plugs”:
  - Form under severe stress in mature female spawning fish
    - E.g., fishing, environmental stress, predatory stress
  - Can prevent a mature female from spawning for the rest of that spawning season



# Management Options: Commercial Closed Season - Possibilities

- Stress-induced ovarian “plugs”:



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# 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
  - Could reduce occurrence of canceled spawning due to stress
- 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
  - 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	Commercial Spawning Season Closure
Decrease Discards	X	X	X
Increase Recreational Season Duration	X	√	N/A
Decrease Fishing Mortality During Spawning Season	N/A	N/A	√
Decrease Fishing Mortality on Males	X	X	X

# Questions?

