



NOAA
FISHERIES

SERO

Update on SBRM Review

June 2021 GMFMC Meeting

June 21, 2021

Standardized Bycatch Reporting Methodology

The purpose of this presentation is to:

- Remind the Council of the requirement to review your Standardized Bycatch Recording Methodologies (SBRM)
 - Outline what should be in a SBRM review
 - Discuss specific fisheries and SBRMs
 - Discuss progress and timing of review
- Questions about specific fisheries and bycatch reduction methods that may be applicable in our affected FMPs?

What are SBRMs?

- Definition of SBRM
 - An established, consistent procedure or procedures used to collect, record, and report bycatch data in a fishery
- Purpose of SBRM
 - Collect, record, and report bycatch data that, in conjunction with other information, are used to assess the amount and type of bycatch.

The Council has SBRMs for each Fishery Management Plan (FMP).

Councils must review SBRMs by February 21, 2022 (and review once every 5 years)

The four mandatory components of SBRM review are:

- (1) Characteristics of bycatch occurring in the fishery
- (2) Feasibility of the methodology from cost, technical and operational perspectives,
- (3) Uncertainty of the data resulting from the methodology, and
- (4) How the data resulting from the methodology are used to assess the amount and type of bycatch occurring in the fishery.

Gulf Council Managed FMPs

- Reef Fish
- Shrimp
- Coral- (No active fishery, not discussed here)
- Coastal Migratory Pelagics (Joint with South Atlantic (SA))
- Spiny Lobster (Joint with SA)

Reef Fish FMP



- **31 Species In Gulf**
- **890 Federally Permitted Commercial Vessels (NMFS 2020)**
- **Primary Gears: Longline, Vertical Line, Modified Buoy Gear**

Reef Fish FMP- Review Criterion #1

Characteristics of Bycatch

- Bycatch Reporting Methodology
 - Commercial Vessels
 - **Logbooks:** Required for all vessels, must include quantity (lb) of all species, area caught, gear, etc.
 - **Supplementary Discard Data Program:** If selected, a vessel operator must report number and average size of fish being discarded by species and reasons for discards (rolling 20% of permitted fishermen/year; each vessel/5yrs).
 - **Reef Fish Observer Program:** Observers report all catch, including protected resources (~2% of annual trips).
 - **Shark Longline Observer Program:** Observers record all catch, including protected resources (Not technically a reef fish SBRM, but provides important bycatch data).

Reef Fish FMP- Characteristics of Bycatch (Cont.)

- **For-Hire Vessels**

- **MRIP Access Point Angler Intercept Survey (APAIS)/Coastal Household Telephone Survey (CHTS)/Fishing Effort Survey (FES):** Estimates catch rates and effort for captured species.
- **Southeast Regional Headboat Survey (SRHS):** Limited headboat observer coverage, dockside sampling, discard reporting.
- **Southeast For-Hire Electronic Reporting Program (SEFHIER-Implemented in 2021):** Mandatory electronic reporting of catch and effort data for all federally permitted Gulf and South Atlantic for-hire trips.

- **Private Recreational Vessels**

- **MRFSS/MRIP CHTS or FES:** Estimates of catch and effort for captured species. Information on dead discards is obtained.

Reef Fish FMP- Characteristics of Bycatch (Cont.)

- **Amount and type of bycatch**
 - To be summarized in the report. However, the numbers are less important than if SBRMs are adequate to accurately estimate bycatch. Therefore, we won't present numbers here.
- **Importance of Bycatch in Estimating Fishing Mortality / Effect of Bycatch on Ecosystems**
 - This section will use estimates of bycatch numbers for species vs. release mortality to estimate dead discards.
 - As this report is focused on the adequacy of the SBRMs, it will not present numbers on this.

Reef Fish FMP- Review Criterion #2

Feasibility of the methodology from cost, technical and operational perspectives

Are these SBRMs feasible from a cost, operational, and technical standpoint?

- **Commercial SBRMs:**
 - Logbooks
 - Supplementary Discard Data Program
 - Reef Fish Observer Program
 - Shark Longline Observer Program (Not a reef fish SBRM)
- **Recreational SBRMs:**
 - **For-Hire**
 - MRIP
 - SRHS
 - SEFHIER
 - **Private**
 - MRFSS/MRIP

Reef Fish FMP- Review Criterion #3

Uncertainty of the data resulting from the methodology

Is level of uncertainty understood/acceptable given obstacles (financial, legal, etc.)?

- **Commercial SBRMs:**
 - **Logbooks:** High Uncertainty with discard CVs often exceeding 100%. Rare species may not be identified before discarded. Protected species potentially not reported.
 - **Supplementary Discard Data Program:** Non-reporting is an issue. Vessels may report “no discards” and still be in compliance.
 - **Reef Fish Observer Program:** At ~ 2% coverage, less accurate in estimating capture of rare species. RFOP indicates that self-reported discard rates are consistently lower than observer reported rates.
 - **Shark Longline Observer Program:** Ancillary data on reef fish discards in this fishery.
- **Recreational SBRMs:**
 - **For-Hire**
 - **MRIP (APAIS/CHTS/FES):** Self reported by fishermen, includes dockside surveys.
 - **SRHS:** Limited headboat observer coverage, dockside sampling, discard reporting. Provides a measure to estimate accuracy of self-reported headboat landings.
 - **SEFHIER:** Data forthcoming, but expected to improve data on for-hire vessels in Gulf.
 - **Private**
 - **MRFSS/MRIP:** Self-reported from Rec fishermen, including dockside surveys.

Reef Fish FMP- Review Criterion #4

How the data resulting from the methodology are used to assess the amount and type of bycatch occurring in the fishery

How are we using the SBRM data that are collected in this fishery?

- The Southeast Fishery Science Center (SEFSC) uses these data in stock assessments to incorporate bycatch into estimates of total fishing mortality.
- The Council uses SBRM-derived bycatch information to:
 - assess if new management measures are necessary.
 - develop measures/evaluate the potential impacts of measures.
- The Council's Scientific and Statistical Committee (SSC) uses information as they review the status of the fisheries and develop acceptable biological catch recommendations.
- **All aspects of fishery management in the region that have bycatch implications use data from the SBRM.**

Shrimp FMP



- Four managed shrimp species (Brown, white, pink, rock)
- Currently 1,467 federally permitted vessels in Gulf
- Primary gear: Trawls

Shrimp FMP- Review Criterion #1

Characteristics of Bycatch

- **Bycatch Reporting Methodology-Commercial vessels**
 - **Logbooks (Including electronic logbook (ELB) and cellular ELB (cELB)):** Required for all vessels; accurate calculation of vessel effort, Catch-per-unit effort at fishing locations. Must provide size/number of trawls, types of bycatch reduction devices (BRDs) and turtle excluder devices (TEDs).
 - **Gulf of Mexico Shrimp Observer Program:** Observers report all catch, including protected resources (~2% of annual trips).
 - **Other Programs (Not SBRMs):**
 - SEFSC cooperates with states to monitor fishing effort.
 - NMFS Office of Law Enforcement (OLE) maintains spreadsheet with boarding details.
 - Sea Turtle Salvage and Stranding Network: Maintains database of sea turtle strandings in the Gulf. Uses that along with observer data and other data to monitor sea turtle mortalities from fishery interactions.

Shrimp FMP- Characteristics of Bycatch (Cont.)

- **Amount and type of bycatch**
 - Shrimp generally constitute less than 1/3 of the fishery catch.
 - Will be summarized in the report, the focus of this document is to analyze whether SBRMs are adequate to accurately estimate bycatch. Therefore, we won't present numbers here.
- **Importance of Bycatch in Estimating Fishing Mortality / Effect of Bycatch on Ecosystems**
 - Shrimp trawl gear can affect the abundance of species that are targeted by other fisheries.
 - The ecological effects of bycatch mortality are the same as fishing mortality from directed fishing efforts.
 - Little is known about the status of finfish and invertebrate species that are present in shrimp trawl bycatch in the greatest numbers, because they aren't generally targeted in any fisheries.

Shrimp FMP- Review Criterion #2

Feasibility of the methodology from cost, technical and operational perspectives

Are the SBRMs implemented and in use feasible from a cost, operational, and technical standpoint?

- **ELB/cELB:** Modification currently being discussed
- **Gulf of Mexico Shrimp Observer Program (SPGM):** Expected to continue
- **Other Programs:** Expected to continue largely independent of Council
 - SEFSC cooperates with states to monitor fishing effort
 - NMFS OLE boardings
 - Sea Turtle Salvage and Stranding Network

Shrimp FMP- Review Criterion #3

Uncertainty of the data resulting from the methodology

Is the level of uncertainty understood/acceptable given obstacles (financial, legal, etc.)?

- **SPGM is best method for estimating discard rates/species**
- **Logbook data provides reliable effort of fishing data and location**
 - **Some biases in logbook data (inaccurate reporting of bycatch, protected species; low compliance rates)**
 - **Logbooks more useful for effort by area; info on capture of rare species.**
- **Using SPGM (catch/discard rates) combined with logbook data (for effort) is best method overall for estimating bycatch.**

Shrimp FMP- Review Criterion #4

How the data resulting from the methodology are used to assess the amount and type of bycatch occurring in the fishery

How are we using the SBRM data that are collected in this fishery?

- SEFSC uses these data in stock assessments to incorporate bycatch into estimates of total fishing mortality.
- The Council uses SBRM-derived bycatch information to:
 - assess if new management measures are necessary
 - develop measures/evaluate the potential impacts of measures.
- SSC uses information as they review the status of the fisheries and develop acceptable biological catch recommendations.
- **All aspects of fishery management in the region that have bycatch implications use data from the SBRM.**

Coastal Migratory Pelagics (CMP) FMP



- Jointly managed with South Atlantic
- King mackerel, Spanish mackerel, cobia
- Primary gear: Trolling, handline, gillnet

CMP FMP- Review Criterion #1

Characteristics of Bycatch

- Bycatch Reporting Methodology
 - Commercial Vessels
 - **Logbooks:** Required for all vessels, must include quantity (lb) of all species, area caught, gear, etc.
 - **Supplementary Discard Data Program:** If selected, must report number and average size of fish being discarded by species and reasons for discards (rolling 20% of permitted fishermen/year; each vessel/5yrs). Must also report reason.
 - **Southeast Gillnet Observer Program:** Covers all anchored, strike, or drift gillnet fishing, regardless of species, year round in Gulf.
 - Recreational Vessels
 - Charter/Headboat:
 - **MRIP (AP AIS/CHTS/FES)** - Estimates catch rates/effort for captured species.
 - **SRHS** - Limited headboat observer coverage, dockside sampling, discard reporting.
 - **SEFHIER (2021)** - Mandatory electronic reporting of catch and effort data for all federally permitted Gulf and South Atlantic for-hire trips.
 - Private angler:
 - **MRIP** - Estimates of catch and effort for captured species. Info on dead discards.



CMP FMP- Characteristics of Bycatch (Cont.)

- **Amount and type of bycatch**
 - Characterized by low discards (highest when trolling).
 - Summarized in report.
- **Importance of Bycatch in Estimating Fishing Mortality / Effect of Bycatch on Ecosystems**
 - Bycatch mortality rates vary from ~5% (cobia) to ~100% (king mackerel gillnet).
 - The ecological effects of bycatch mortality are the same as fishing mortality from directed fishing efforts.

CMP FMP- Review Criteria #2

Feasibility of the methodology from cost, technical and operational perspectives

Are the SBRMs implemented and in use feasible from a cost, operational, and technical standpoint?

- Commercial
 - Logbooks
 - Supplementary Discard Data Program
 - Southeast Gillnet Observer Program
- Recreational
 - Charter/Headboat:
 - MRIP (APAIS/CHTS/FES)
 - SRHS
 - SEFHIER (2021)
 - Private angler: MRIP

CMP FMP- Review Criterion #3

Uncertainty of the data resulting from the methodology

Is the level of uncertainty understood/acceptable given obstacles (financial, legal, etc.)?

- **Commercial SBRMs:**
 - **Logbooks:** High Uncertainty. Protected species potentially not reported.
 - **Supplementary Discard Data Program:** Non-reporting is an issue. Vessels may report “no discards” and still be in compliance.
 - **Gillnet Observer Program:** Gives accurate estimates of bycatch for gillnet fisheries.
- **Recreational SBRMs:**
 - **For-Hire**
 - **MRIP (APAIS/CHTS/FES):** Self reported by fishermen, includes dockside surveys.
 - **SRHS:** Limited headboat observer coverage, dockside sampling, discard reporting. Provides a measure to estimate accuracy of self-reported headboat landings.
 - **SEFHIER:** Data forthcoming, but expected to improve data on for-hire vessels in Gulf.
 - **Private**
 - **MRFSS/MRIP:** From Rec fishermen, including dockside surveys. Self-reported.

CMP FMP- Review Criterion #4

How the data resulting from the methodology are used to assess the amount and type of bycatch occurring in the fishery

How are we using the SBRM data that is collected in this fishery?

- SEFSC uses these data in stock assessments to incorporate bycatch into estimates of total fishing mortality.
- The Council uses SBRM-derived bycatch information to:
 - assess if new management measures are necessary
 - develop measures/evaluate the potential impacts of measures.
- SSC uses information as they review the status of the fisheries and develop acceptable biological catch recommendations.
- **All aspects of fishery management in the region that have bycatch implications use data from the SBRM.**

Spiny Lobster FMP



- Jointly managed with South Atlantic
- Primary gear: Traps, diving, hoopnets/bullnets

Spiny Lobster FMP- Review Criterion #1

Characteristics of Bycatch

- Bycatch Reporting Methodology
 - **Commercial Fishery**
 - **Logbooks**: Required for all vessels, catch and discards
 - **Sea Turtle Strandings and Salvage Network**
 - **Recreational Vessels**
 - FWC monitor bycatch of spiny lobster, low discards
- **Amount and type of bycatch**
 - Low discards (~8-15%)
 - Most of the finfish caught in commercial spiny lobster traps are juveniles that escape within 48 hours
 - Summarized in report
- **Importance of Bycatch in Estimating Fishing Mortality / Effect of Bycatch on Ecosystems**
 - Mortality of commercially and recreationally important finfish is negligible (Matthews and Donahue 1997).

Spiny Lobster FMP- Review Criteria #2

Feasibility of the methodology from cost, technical and operational perspectives

Are the SBRMs implemented and in use feasible from a cost, operational, and technical standpoint.

- **Commercial**

- Logbooks

- **Recreational**

- Operated by Florida Fish and Wildlife Commission (FWC)

Spiny Lobster FMP- Review Criterion #3

Uncertainty of the data resulting from the methodology

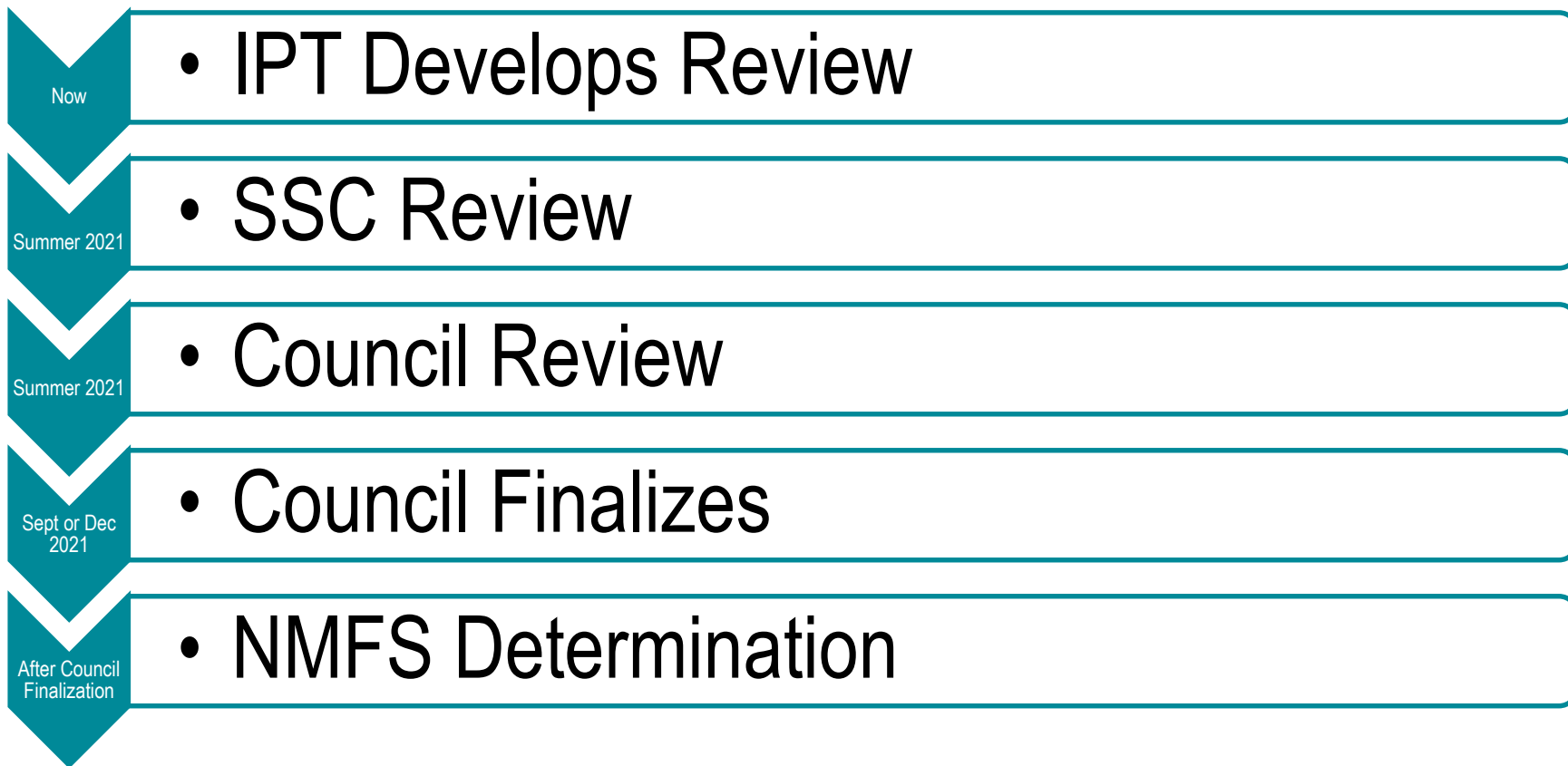
- The uncertainty of the data resulting from the SBRM has been evaluated through analyses associated with regulatory and FMP amendments implementing the Spiny Lobster FMP. Bycatch levels are low for both sectors.

Spiny Lobster FMP- Review Criterion #4

How the data resulting from the methodology are used to assess the amount and type of bycatch occurring in the fishery

- The Councils use SBRM-derived bycatch information to:
 - assess if new management measures are necessary
 - develop measures/evaluate the potential impacts of measures.

Next Steps



FMP Amendment???

Questions?

