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# Framework Amendment 4 to the Puerto Rico Fishery Management Plan:

Modification of Status Determination Criteria and Management  
Reference Points for the Triggerfish Stock Complex

Sarah Stephenson, NMFS-SERO Caribbean Branch  
183<sup>rd</sup> Caribbean Fishery Management Council Meeting  
December 5-6, 2023



# Southeast Data, Assessment, and Review (SEDAR) 80

- The Puerto Rico queen triggerfish stock assessment (SEDAR 80) was presented to the Scientific and Statistical Committee (SSC) at its August 2022 meeting.
- Revisions to the model were reviewed at the SSC's October 2022 meeting and then finalized during the SSC's November-December 2022 meeting.
- Recreational catches were combined with those of the Commercial Trap fleet.
  - overfishing limit (OFL) and acceptable biological catch (ABC) projections from SEDAR 80 were for the queen triggerfish stock.



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# Council Decisions

- At the December 2022 Council meeting, the SSC Chair recommended two approaches for the OFL and ABC that were projected from SEDAR 80:
  - constant OFL and ABC values based on 3-yr average projections from years 2024-2026, or
  - OFL and ABC values that change each year for 2024, 2025, and 2026.
- The Council selected the approach that uses a constant OFL and ABC value and selected an acceptable probability of overfishing ( $P^*$ ) of 0.40.
- At the August 2023 Council meeting, the Council directed staff to move forward with the queen triggerfish amendment to the Puerto Rico FMP.
  - SEDAR 80 for St. Croix and St. Thomas/St. John remains in progress



# Puerto Rico Fishery Management Plan

- Queen triggerfish is managed as part of the Triggerfish stock complex with ocean and gray triggerfish.
- Queen triggerfish was selected as the indicator stock for the complex.
  - Management measures and ACL monitoring are based on landings of queen triggerfish only, but apply to the entire complex.
- Triggerfish stock complex classified in Tier 4a of the Council's ABC Control Rule.
  - Data Limited: No Accepted Assessment Available and the stock has relatively low vulnerability to fishing pressure.
  - Set the Sustainable Yield Level (SYL) as the OFL proxy.



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# Commercial and Recreational Management

- During the SSC process for setting management reference points, the commercial and recreational SYL and ABC values were calculated independently (Appendix G in Puerto Rico FMP).
- During the FMP process, the commercial and recreational SYL and ABC values were added together to set management reference points for the stock complex.
- For the Triggerfish stock complex, the commercial component of each reference point is 91.77% and the recreational component is 8.23%.

Reference Point	Total (Stock Complex)	Commercial Component	Recreational Component
SYL (OFL proxy)	190,636 lbs	174,946 lbs	15,690 lbs
ABC	95,318 lbs	87,473 lbs	7,845 lbs
ACL*	90,552 lbs	83,099 lbs	7,453 lbs

\*For the Triggerfish stock complex, the ACL was set equal to 95% of the ABC.

# Framework Amendment to the Puerto Rico FMP

- Based on SEDAR 80 for Puerto Rico Queen Triggerfish, the Triggerfish stock complex would change from a Tier 4a classification to a Tier 3.
  - Data Limited with an Accepted Assessment Available
- Management reference points that are defined but not specified (no number calculated) would be updated:
  - maximum sustainable yield (MSY) = 0.217
  - maximum fishing mortality threshold (level of fishing mortality above which overfishing is occurring) = 0.217
  - minimum stock size threshold (biomass level below which the stock complex is considered overfished) = 79 metric tons



# Framework Amendment Proposed OFL and ABC

- OFL for the Triggerfish stock complex would be reduced from 190,636 lbs to 118,283 lbs.
- ABC for the Triggerfish stock complex would be reduced from 95,318 lbs to 91,810 lbs.

	Year	OFL (lbs)	ABC at P* of 0.40 (lbs)
Variable approach	2024	124,540	96,670
	2025	117,500	91,200
	2026	112,810	87,560
Constant approach	Average	118,283	91,810



# Preliminary Purpose and Need Statements

- The purpose of this framework amendment is to update management reference points for the Triggerfish stock complex under the Puerto Rico FMP to account for the SEDAR 80 queen triggerfish stock assessment and application of the Council's ABC Control Rule.
- The need for this framework amendment is to update management measures for the Puerto Rico Triggerfish stock complex based on best scientific information available to prevent overfishing and achieve OY, consistent with the requirements of the Magnuson-Stevens Act.





# Council Decisions



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# Annual Catch Limits

- An ACL is the amount of a fish that can be taken by fishermen over a 1-year period.
- The ACL is derived from the ABC, reduced by the Council's **management uncertainty** buffer.
  - How confident managers feel the ACL will control the amount of fish caught in a certain year and how much error there might be in the reported catch.
- The Magnuson-Stevens Act states that ACLs cannot be greater than the ABC recommended by the Council's SSC.
- An ACL can apply to a single species or to a group of species (for example, the Puerto Rico Triggerfish stock complex).
- The ACL serves as the basis for triggering accountability measures.
- ACLs are only applicable in federal waters.



# Selecting Management Uncertainty Buffer

- The Puerto Rico FMP considered three alternatives for the management uncertainty buffer for the Triggerfish stock complex:
  - Zero uncertainty – the ACL is equal to the ABC.  
*Reported catch represents true harvest; catch is not likely to exceed the ACL.*
  - **5% uncertainty – the ACL is equal to 95% of the ABC.**  
*Assumes a thorough, but not complete, understanding of the factors influencing management decisions and the ability to apply those decisions in a timely and effective manner.*
  - 10% uncertainty – the ACL is equal to 90% of the ABC.



# Action to Set the ACL from the ABC

- Does the Council want to use the same management uncertainty buffers used in the Puerto Rico FMP to set the ACL from the ABC for the Triggerfish stock complex?

Alternative	Total ACL (lbs)
Alternative 1. No Action*	90,552
Alternative 2. $ACL = ABC$	91,810
Alternative 3. $ACL = ABC \times 95\%$	87,220
Alternative 4. $ACL = ABC \times 90\%$	75,829

\*Would not be based on the best scientific information available for the Puerto Rico Triggerfish stock complex.

- Does the Council want to consider different management uncertainty buffers?



## Sector ACLs

- Depending on the management uncertainty buffers selected, the same percentages used during the Puerto Rico FMP process would be used to set the commercial and recreational ACLs for the Triggerfish stock complex:

Alternative	Total ACL (lbs)	Commercial ACL <sup>1</sup> (lbs)	Recreational ACL <sup>2</sup> (lbs)
Alternative 1. No Action*	90,552	83,099	7,453
Alternative 2. ACL = ABC	91,810	84,254	7,556
Alternative 3. ACL = ABC x 95%	87,220	80,041	7,178
Alternative 4. ACL = ABC x 90%	75,829	75,829	6,800

\*Would not be based on the best scientific information available for the Puerto Rico Triggerfish stock complex.

<sup>1</sup> Commercial ACL is 91.77% of the total ACL   <sup>2</sup> Recreational ACL is 8.23% of the total ACL.

- At this time, no information is available to revisit the sector allocations (the percentage of the total ACL used for each sector).

# Queen Triggerfish Landings

Year	Commercial Landings	Recreational Harvest
2000	67,568	9,990
2001	82,999	19,501
2002	58,853	1,838
2003	67,306	3,690
2004	96,424	1,152
2005	53,892	9,222
2006	44,015	636
2007	32,364	809
2008	55,982	35,148
2009	47,005	9,031
2010	45,566	7,646
2011	50,106	495
2012	75,693	11,021
2013	63,932	2,198
2014	71,577	36,978
2015	71,329	27,577
2016	65,874	2,714
2017	39,660	-
2018	52,359	-
2019	55,631	-

- Catch information from Table 5 in the SEDAR 80 Queen Triggerfish – Puerto Rico stock [assessment report](#).
- For years 2001-2019, all landings reported for species in the Triggerfish stock complex (ocean, gray, queen) were queen triggerfish.
  - 2001 landings were 99.99% queen
- Since 2012, the majority reported from Puerto Rico waters.
- Commercial landings of queen triggerfish are below the current ACL (83,099 lbs).
- No accountability measures triggered.

# Accountability Measures

- What happens if an Annual Catch Limit is exceeded?
  - If landings go over the ACL, the Council and NMFS must take action to make sure that the next year's harvest stays at or below the ACL. This action is called an **accountability measure (AM)**.
  - AMs are management measures designed to help prevent overfishing.
  - AMs are required for Fishery Management Plans.



# Accountability Measures (continued)

## Trigger

- Process for comparing landings to the annual catch limit.
- Considers if overage was due to enhanced reporting.
- An AM is triggered if landings exceed the ACL, unless NMFS finds that the overage was because data collection improved.

## Application

- Process for determining how long a closure is needed.
- Describes when the closure would occur in the year, depending on number of days needed to close.
- The length of the closure would be calculated starting from September 30 and going toward January.
- If Jan. 1 – Sept. 30 not long enough, then additional days will be added to the closure starting from October 1 and going toward the end of the year.





# Puerto Rico Sector-specific Accountability Measures

- If landings for both sectors are available, then total landings (commercial + recreational) would be compared to the total ACL (commercial ACL + recreational ACL).
  - If the total ACL is exceeded, then the AM would be triggered\* for the sector(s) that exceeded its ACL.
- If landings for one sector are not available, the ACL for the sector with available data would become the ACL for the stock/stock complex.
  - If landings exceed the ACL, the AM would be triggered\* for all fishing.

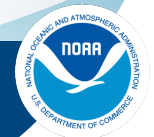


# Triggerfish stock complex ACL monitoring example

Calendar Year	Most Recent Landings Available*	Triggerfish ACL in Place in Year of Most Recent Landings	Years used in ACL Monitoring (per FMP)	Landings used in ACL monitoring	ACLs compared to Landings	If AM applied, ACL compared to average landings
2024	2022	83,099	2-year average	Average 2021-2022	Average ACLs from 2021-2022	2024 ACL (TBD)
2025	2023	83,099	3-year average	Average 2021-2023	Average ACLs from 2021-2023	2025 ACL (TBD)
2026	2024**	TBD	3-year average	Average 2022-2024	Average ACLs from 2022-2024	2026 ACL (TBD)

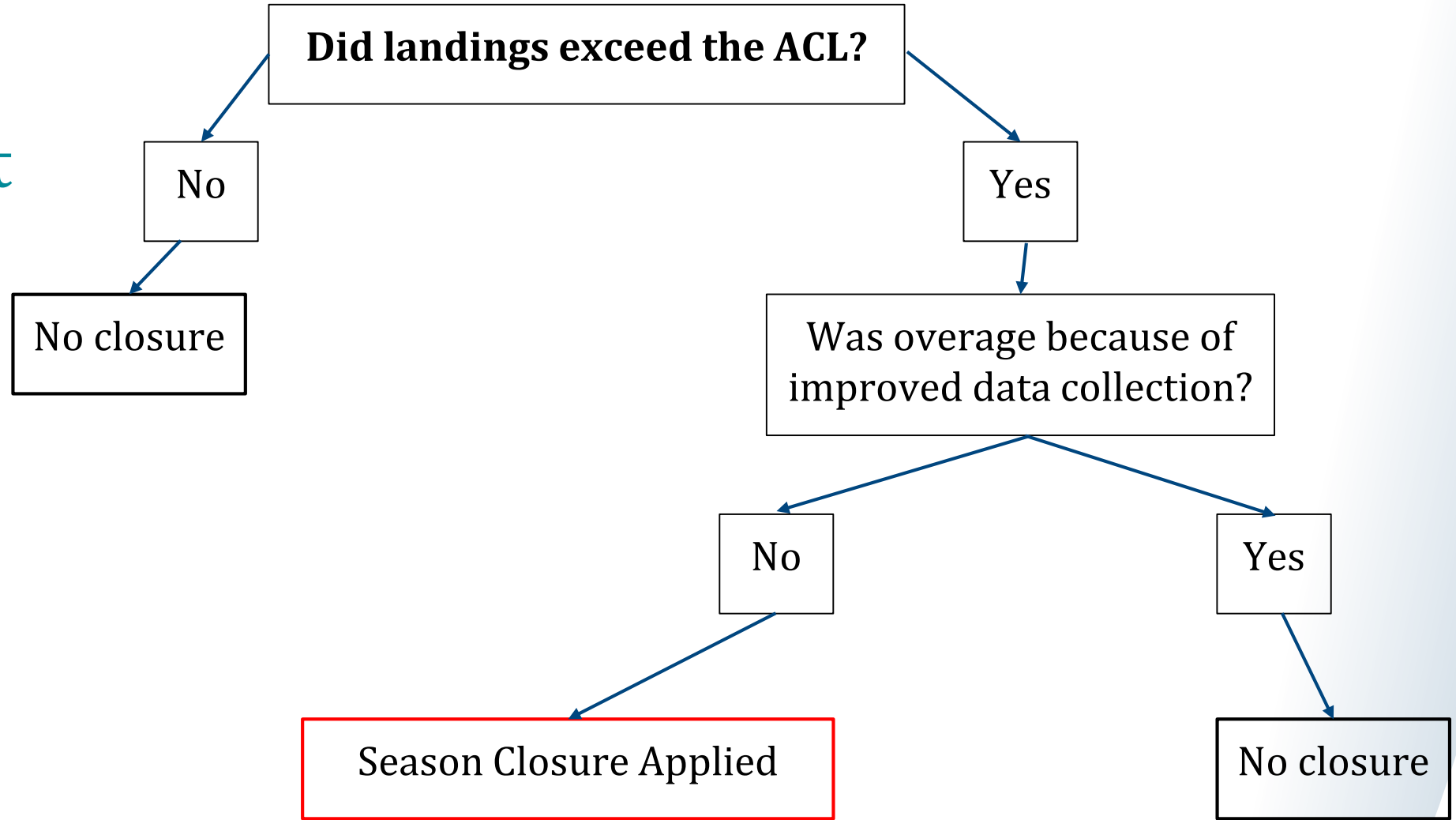
\*Assuming a 2-year delay in availability in the commercial landings, which was typical before electronic reporting delays.

\*\*Assuming new ACLs for the Triggerfish stock complex are in place in 2024.



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# Caribbean AM Flow Chart (Reef Fish & Spiny Lobster)



Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
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# Action Items and Next Steps

December  
2023

- Council identifies what management uncertainty buffers to use for the Triggerfish stock complex and analyze in the Framework Amendment to the Puerto Rico FMP.

Jan-Mar  
2024

- IPT develops draft amendment and if possible, prepares full amendment.
- Staff prepares draft codified text (regulations) for Council review.

April  
2024

- Council reviews draft amendment and selects preferred alternative.
- If possible, Council approves amendment for submission to Secretary of Commerce (allowing for staff to make editorial edits).

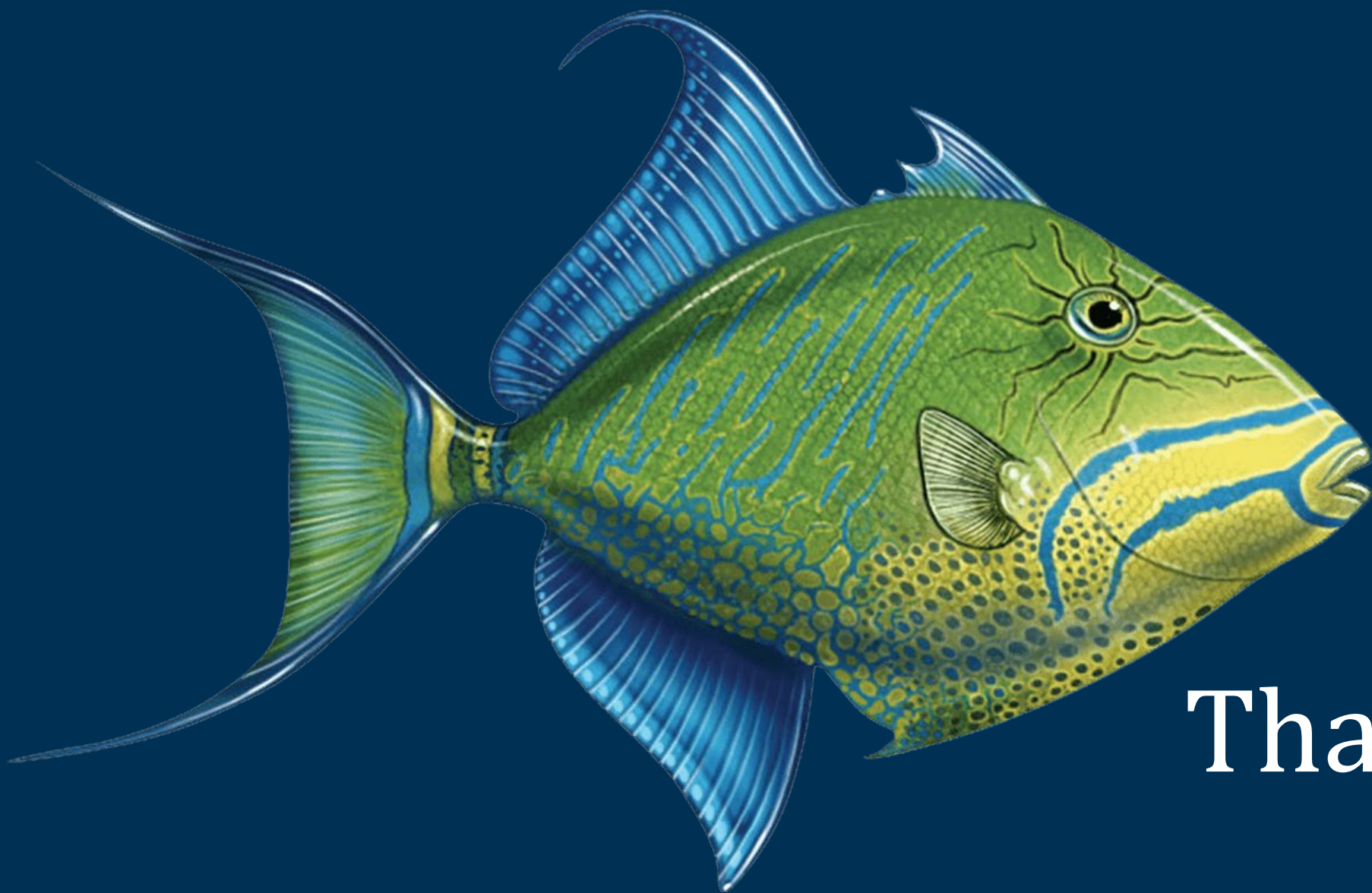


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# Additional Considerations

- Improving the process for developing amendments that are based on future SEDAR assessments:
  - What is the Council's acceptable risk of overfishing ( $P^*$ ) for the species?
  - Would the Council always prefer the constant-catch approach (for example, using the average of the projected OFLs and ABCs)?
  - Are there any discussions/questions for the Council's SSC in light of the lack of recreational data and sector-specific management in Puerto Rico?





Thank You



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