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August 22, 2024

TO: John Carmichael
SAFMC Executive Director

FROM: Clay Porch, Ph.D.
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Date: 2024.08.23 17:35:52 -04'00'
Director, Southeast Fisheries Science Center

SUBJECT: Requests and follow-up from June 2024 Council meeting

1. **Provide an update on the progress of SEDAR 89 and 92.**
   - *SEDAR 89 South Atlantic Tilefish - The stock assessment report has been completed and submitted to SEDAR for review.*
   - *SEDAR 92 South Atlantic Blueline Tilefish - The assessment process has been delayed to incorporate an additional Topical Working Group (TWG that was requested by the SAFMC Staff. The TWG will examine recent age information. The SEDAR staff are working on scheduling the new TWG and developing a revised project schedule.*
2. **Provide the following to inform the discussion of Key Stocks for the SEDAR Committee.**
   - **List of species managed by the SAFMC that have accepted and validated aging methods.**
     - *Refer to attached Table 1. Table 1 includes columns indicating whether species that are in SAFMC FMPs can be aged with some confidence and also whether there have been formal age validation studies performed. For reference, species that have been assessed through SEDAR are listed. Table 1 is based on expert knowledge.*
   - **Indicate how many of these stocks can have age samples analyzed, with current or projected funding levels (both agency and other grant funded staff), to support use in stock assessments updated at least every 5 years. Also note any impacts if assessment schedule is on a more frequent basis.**

- *Refer to attached Table 1 which indicates our best estimate of whether, with our current resources, a species could be aged at least every 5 years. There are some caveats, indicated in the Notes/Comments column, that scheduling affects the ability to meet that demand. Ageing is a specialized skill, and some species have a single expert who can provide ages or can provide overlap reads for a less experienced age reader in order to ensure that quality data are being provided.*

- **List of stocks that have indices of abundance that the SEFSC considers reliable and acceptable for use in stock assessments and management. Include if the index would likely be useable for interim analyses either for updating the ABC recommendation or health check.**

  - .
  - *We are investing in our FI indices and have just recently made these available in the following on-line visualization tool. https://www.fisheries.noaa.gov/data-tools/southeast-abundance-fish-and-shrimp-data-visualizer. Note: the indices presented in the tool are based on the most current dataset available for each survey. Stock status determinations cannot be inferred solely from relative abundance indices. They require the integration of indices and other data (e.g. catch, discards, life history, age composition) in a stock assessment model framework.*
  - *The SEFSC informally evaluated the index availability for stock assessment using classifications developed for a "gap analysis" exercise in 2021. Note: the quality and utility of indices is routinely evaluated during the SEDAR process, and these classifications could change.*

Index Classification

0	No indicator of stock abundance or trend in stock abundance over time.
1	Fishery-dependent catch rates (CPUE) are available, but high uncertainty about their standardization over time; or expert opinion on degree of stock depletion over time.
2	Fishery-dependent catch rates (CPUE) are sufficiently standardized to enable their use in full assessments; data from fishery-independent sources are not available or sufficient to estimate abundance trends.
3	Limited fishery-independent survey(s) provide estimates of relative abundance; however, the temporal or spatial coverage of the stock is limited or the sampling variability is high.
4	Complete fishery-independent survey(s) provide estimates of relative abundance, and the survey(s) cover a large proportion of the spatial extent of the stock with several years of tracking at a level of precision that supports assessments.
5	Calibrated fishery-independent survey(s) or tag-recapture provide estimates of absolute abundance.

  - *All index classifications with a score of 2 or better would be useful as a health check. In principle, all classifications with a score of 4 or better can support some form of interim analysis. Exactly how those indices would be used depends on the age classes they represent. Additional testing in a management strategy evaluation/simulation framework may be necessary to demonstrate the utility of interim analyses to the South Atlantic SSC.*

        - *Currently, no South Atlantic stocks can be assessed with indices that meet Classification 5.*
        - *For eight South Atlantic stocks, it is likely that at least one index that meets Classification 4 is available. These include: Black Sea Bass, Red Porgy, Red Snapper, Scamp, Vermilion Snapper, Gray Triggerfish, Greater Amberjack and Hogfish.*
        - *For nine South Atlantic stocks, it is likely that at least one index that meets Classification 3 is available. These include: Mutton Snapper, Red Grouper, Yellowtail Snapper, King Mackerel, Spanish Mackerel, Black Grouper, Gag Grouper, Goliath Grouper and Hogfish. In addition, SADL survey may allow Snowy Grouper, Tilefish and Blueline Tilefish to be assessed using a Classification 3 index in the near future.*
        - *For four South Atlantic stocks, it may be possible to include an appropriate index based on fishery dependent data. These include: Wreckfish, and Brown, Pink and White Shrimp.*
        - *For the remainder of the South Atlantic Stocks, fishery-dependent catch rates (CPUE) are available, but there is high uncertainty about their standardization over time, or no index is available.*
    - **Indicate how many stocks could be assessed using aged-based stock assessments on 3-, 4-, and 5-year cycles or a combination of the cycles.**
        - *From the stock assessment perspective, we are limited by the length and complexity of the projects, our ability to acquire the necessary data, and the number of leads that support SATL SEDAR assessments.*
        - *From 2020-2023, our approximate throughput was 0.65 assessments/yr/lead (excluding menhaden) therefore, assuming 4 South Atlantic leads and timely provision of data:*
            - *7-8 stocks could be assessed on a 3 year rotation*
            - *9-10 stocks could be assessed on a 4 year rotation*
            - *12-13 stocks could be assessed on a 5 year rotation*
        - *However, this estimate does not factor in flexibility to meet an urgent need, and delays in data provision could cascade through future project calendars. A more robust approach leaves 1 analyst free to address emergent needs. This also enables the Center to better ensure continuity of operations if an analyst departs. Under this scenario:*
            - *5-6 stocks could be assessed on a 3-year rotation*
            - *7-8 stocks could be assessed on a 4-year rotation*
            - *9-10 stocks could be assessed on a 5-year rotation*
        - *If more frequent management updates are desired, that can be accomplished using various approaches between stock assessments. These approaches include:*
            - *Strict updates using AVAILABLE DATA*
            - *Updated projections*
            - *Interim assessments and management procedures, but requires additional research to inform (e.g. MSE evaluation).*
    - **Describe a potential framework for updating stock condition for data-limited species to incorporate FES and revised FES estimates.**

- *The Center assumes that this question refers primarily to stocks managed using non-assessment approaches. A number of these stocks are still managed in CHTS currency, which is no longer supported by NMFS Office of Science and Technology, however existing ACLs remain in place and are monitored using in FES using historical conversions. When time and resources permit, these ACLs could be updated when new information is available (i.e. MRIP FES). The Council may find it beneficial to conduct this work following the outcome of the MRIP pilot study.*
- *The Center also notes that many ACLs are based on catch-only approaches, such as the 3rd highest estimate from an accepted time series. The Center recommends that this approach, and other methods be reconsidered during a SEDAR procedural workshop or a SEDAR project dedicated to updating the management advice for species assessed using data limited approaches. If prioritized, this could be conducted as early as 2027.*
- *Catch only methods usually do not provide estimates of stock 'condition'. For stocks with assessments, whether data limited or not, much of the initial work that we have evaluated indicates that condition as measured by relative stock status (e.g. B/Bmsy or F/Fmsy or their proxies), often remains the same even with different units of recreational inputs. While situation specific, it is relatively straightforward to assess concerns regarding if inferences on stock condition differ based on FES inputs with a single simulation run and SEFSC is conducting a desk MSE for Gulf of Mexico Spanish mackerel to evaluate impacts of FES on catch advice and to provide some suggestions for moving forward with FES estimates given their uncertainty. This may be useful for the South Atlantic to consider as well.*
- *See attached Table 2 of South Atlantic data delivery timelines*

3. **Provide annual headboat effort and trip information for the South Atlantic, 1981-2023:**
    - **Number of trips for common trip lengths (1/2 day, whole day, multi-day).**
    - **Number of anglers per trip by trip length.**
    - **Targeted species, if available. If targeted species is not reported, provide list of top five species landed by decade and state of landing (group Georgia and Florida if there are confidentiality issues).**
    - **Trip cost by trip length. Cost should include fees paid by anglers**.
        - *All data files will be sent by COB Friday*
4. **Provide a time series of recreational effort (1981 to 2023) by species for a select group of recreational species: Black Sea Bass, Blueline Tilefish, Dolphin, Gag, King Mackerel, Red Snapper, Spanish Mackerel, and Yellowtail Snapper.**
    - **Provide total recreational effort for each species from charter boats, headboats, private vessels, and shore in an effort metric (ie, angler trips or angler hours or both) that is comparable across the recreational sector components. Base effort on trips that caught or discarded the species. Include estimates of PSE for MRIP data and estimated error for headboat data.**
        - *Data were sent to SAFMC.*
    - **Provide directed effort (MRIP Primary 1, Primary 2, landed) for each of the selected species for the modes estimated by MRIP (charter, private vessels, and shore). Include estimates of PSE.**
        - *[SEFSC provided the recreational data. PSEs were comparable to what is available from the MRIP query tool, so we advised the SAFMC that the information can be obtained on-demand from the MRIP query]*

- *Data files were prepared and sent separately. Data provided to the SAFMC in response to number 4 are at: MRIP Domain Directed Trips*

cc: Andrew Strelcheck
John McGovern
Chip Collier
John Walter
Larry Massey

Table 1

REQUEST:

- *List of species managed by the SAFMC that have accepted and validated aging methods.*
- *Indicate how many of these stocks can have age samples analyzed, with current or projected funding levels (both agency and other grant funded staff), to support use in stock assessments updated at least every 5 years. Also note any impacts if assessment schedule is on a more frequent basis.*

**** NOTE: Answers are expert opinion without doing exhaustive literature reviews for less-frequently encountered species. Answers to "every 5-yrs assessment" is highly dependent on proper scheduling and recency of assessments, i.e., if there has been a 10 year gap since the last assessment, extra time will be needed to meet the added workload.***

		Accepted ageing methods	Validated ageing	Can have age samples analyzed for assessment at least every 5 years	Impacts if more frequent? or Comments	SEDAR spp since 2002
Coastal Migratory Pelagics FMP						
	Cobia	Yes	No	Yes	Limited sample sizes received	Cobia
	Mackerel, King	Yes	No	Yes	Only one individual (NMFS Panama City Lab) currently has ageing experience, and they also have obligations to age other species. If schedules and timelines are adjusted appropriately, they can meet this workload, otherwise there could bee delays.	King Mackerel
	Mackerel, Spanish	Yes	No	Yes	Only one individual (NMFS Panama City Lab) currently has ageing experience, and they also have obligations to age other species. If schedules and timelines are adjusted appropriately, they can meet this workload, otherwise there could bee delays.	Spanish Mackerel
Dolphin Wahoo FMP						
	Dolphin	Yes	Unk	Unk	NC State ageing, not aged by Biology & Life History Branch yet	
	Mackerel, Bullet	Unk	Unk	n/a		
	Mackerel, Frigate	Unk	Unk	n/a		
	Wahoo	Yes	Unk	Unk	some ageing by Gulf Coast Research Lab - Jim Franks, not aged by Biology & Life History Branch yet	
Snapper Grouper FMP						
	Amberjack, Greater	Yes	No	Yes	Reduced time for research and age validation projects / current GOM age validation study	Greater Amberjack
	Amberjack, Lesser	No	No	n/a		
	Atlantic Spadefish	No	No	n/a		
	Grouper, Black	Yes	Unk	n/a	Florida ages and assesses	Black Grouper
	Grouper, Coney	Yes	Unk	Yes	Burton aged as research but not for assessment	
	Grouper, Gag	Yes	Unk	Yes	Reduced time for research and age validation projects	Gag Grouper
	Grouper, Goliath	Yes	Unk	n/a		Goliath Grouper
	Grouper, Graysby	Yes	Unk	Yes		
	Grouper, Misty	Yes	Unk	Unk		
	Grouper, Nassau	Yes	Unk	n/a		
	Grouper, Red	Yes	No	Yes	A limited number of individuals (NMFS Panama City/Beaufort Labs) have ageing experience, but they also have obligations to age other species. Ageing more frequently could cause delays in ageing those other species unless schedules and timelines are adjusted accordingly.	Red Grouper
	Grouper, Red Hind	Yes	Unk	Yes	Burton aged as research but not for assessment	
	Grouper, Rock Hind	Unk	Unk	Unk		

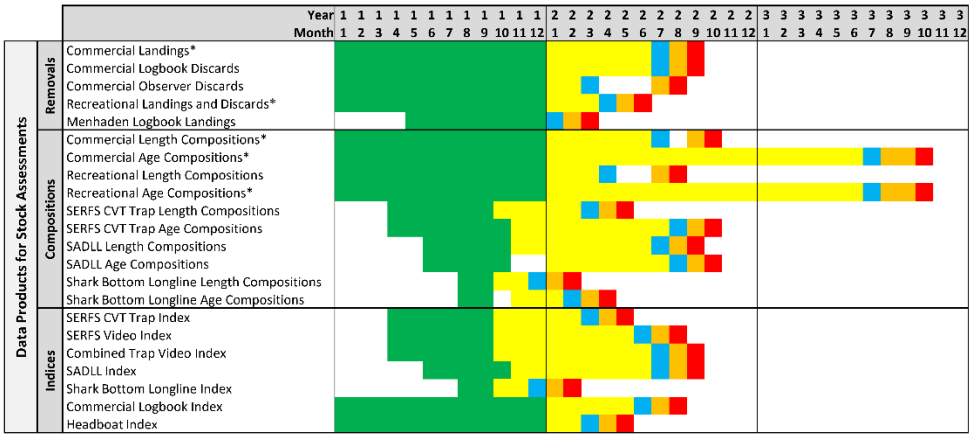
		Accepted ageing methods	Validated ageing	Can have age samples analyzed for assessment at least every 5 years	Impacts if more frequent? or Comments	SEDAR spp since 2002
	Grouper, Scamp	Yes	No	Yes	Done in conjunction with YMG/reduced time for research and age validation projects, Bennetec issue for validation planned	Scamp
	Grouper, Snowy	Unk	No	Unk	Current age validation project	Snowy Grouper
	Grouper, Speckled Hind	Yes	Unk		MS thesis	
	Grouper, Warsaw	Unk	Yes		GOM validation	
	Grouper, Wreckfish	Yes	Unk		few samples	
	Grouper, Yellowedge	Yes	Yes			
	Grouper, Yellowfin	Yes	Unk			
	Grouper, Yellowmouth	Yes	Unk	Yes	Last scamp SEDAR included yellowmouth/reduced time for research and age validation projects	
	Grunt, Cottonwick	Unk	Unk			
	Grunt, Margate	Yes	Unk			
	Grunt, Sailors Choice	Unk	Unk			
	Grunt, Tomtate	No	Unk			
	Grunt, White	Yes	Unk	Unk	reduced time for research and age validation projects	
	Hogfish	Yes	Unk		Florida ages and assesses	Hogfish
	Jack, Almaco	Yes	Unk			
	Jack, Bar	Unk	Unk			
	Porgy, Jolthead	Yes	Unk			
	Porgy, Knobbed	Yes	Unk			
	Porgy, Longspine	Unk	Unk			
	Porgy, Red	Yes	Yes	Yes	age validation study complete	Red Porgy
	Porgy, Saucereye	Unk	Unk			
	Porgy, Scup	Unk	Unk			
	Porgy, Whitebone	Yes	Unk			
	Rudderfish, Banded	Unk	Unk		often confused with amberjack	
	Sea Bass, Bank	Unk	Unk			
	Sea Bass, Black	Yes	Yes	Yes	Current age validation study	Black Sea Bass
	Sea Bass, Rock	Unk	Unk			
	Snapper, Blackfin	Yes	Unk		Caribbean ageing	
	Snapper, Cubera	Yes	Unk			
	Snapper, Gray	Yes	Unk			
	Snapper, Lane	Yes	Unk			
	Snapper, Mutton	Yes	Unk		Florida assesses	
	Snapper, Queen	Yes	Unk		Puerto Rico samples aged	
	Snapper, Red	Yes	Unk	Yes	Unknown	Red Snapper
	Snapper, Silk	Yes	Unk		Puerto Rico samples aged	
	Snapper, Vermilion	Yes	Unk	Yes	Needs a two year lag time	Vermilion Snapper
	Snapper, Yellowtail	Yes	Unk		Samples shipped to FWRI	Yellowtail Snapper
	Tilefish, Blueline	Yes	No		Although they can be aged, there is little confidence if the ages are correct; Current age validation study underway	Blueline Tilefish

		Accepted ageing methods	Validated ageing	Can have age samples analyzed for assessment at least every 5 years	Impacts if more frequent? or Comments	SEDAR spp since 2002
	Tilefish, Golden	Yes	No	Unk		Tilefish (presumed to be Golden or Complex)
	Tilefish, Sand	No	Unk			
	Triggerfish, Gray	Yes	Yes	Yes	age validation study complete	Gray Triggerfish
	Triggerfish, Ocean	Unk	Unk			

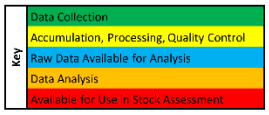
Table 2

South Atlantic Region Fisheries Data Timelines

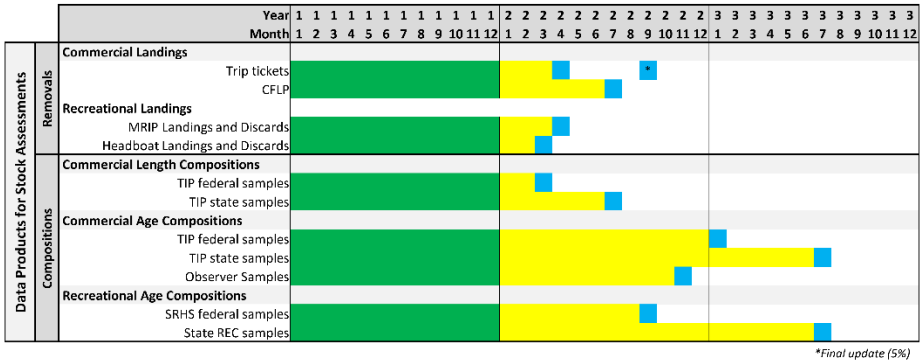
NOAA's Southeast Fisheries Science Center compiled this timeline of primary data sources used in U.S. South Atlantic federal fisheries stock assessments. These figures display a generalized timeframe for data collection, data processing, quality checks, availability of raw data, analysis, and availability for use in assessments.



Additional details on page 2



Additional Details for South Atlantic Region Data Timelines



More Information

- These timelines are region-specific. A similar product has been developed for the Gulf of Mexico.
- Other unique data sources not listed here may be used depending on which species is being assessed.
- These timelines are not static and can vary by year, species, and other influences.
- It's important to note that these data availability timelines directly determine the terminal year of stock assessments.
- NOAA Fisheries is working closely with the states to effectively incorporate additional state data sources into the stock assessment process.

Stock Assessment Information

To learn more about the stock assessment process, visit the Southeast Data, Assessment, and Review website:

www.sedarweb.org

Questions and Feedback

To ask questions or provide feedback on these timelines, please contact:

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National Marine Fisheries Service
Southeast Fisheries Science Center

www.fisheries.noaa.gov/sefsc