

Recommendations for Improvement of the Research Track/Operational Assessment Process

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Introduction

In 2014, the Southeast Fisheries Science Center and others proposed a number of changes designed to increase both throughput and thoroughness of stock assessments. One of these changes was a shift to research and operational assessments similar to what is used in some other regions. The research assessment track was intended to produce a peer-reviewed stock assessment model that would be updated in subsequent operational assessments for management advice. This cycle would increase quality because research track assessments would not be rushed to completion under a strict project schedule. They were also expected to increase throughput because data providers would not have to recalculate data inputs multiple times as they did during the benchmark process. The first operational assessments (OA) were conducted in 2019 and the first Research Track (RT) assessment, Gulf and South Atlantic Scamp¹ began with a Stock ID process in June 2019. The SEDAR assessment reports were released in September 2021. The subsequent operational assessment of Gulf Scamp will be reviewed by the GMFMC SSC in September 2022, and the Atlantic stock by the SAFMC SSC in January 2023. Unfortunately, the RT/OA has not achieved the efficiencies we expected. While thoroughness has certainly increased, throughput has decreased. This document covers issues and concerns that have been noted by the Science Center staff, and makes recommendations for improvements to increase the throughput and timeliness of stock assessments.

Issues with the current RT/OA process and recommended solutions:

Problem #1: The expected product of the RT process is inconsistent with reduced impact on data providers.

- The initial guidance suggested the RT product is a “thoroughly documented, independently peer reviewed assessment and report.” This is not consistent with the expectation that we would not require data provision for a RT assessment and would rely on provisional information (e.g. from a previous assessment).

Solution: When used for assessed species, the product of a RT assessment should be a report describing the evaluation of the specific issues addressed during the RT assessment process. **Note:** first time assessments will require data provision and a longer project calendar.

Problem #2: Scope of the research track process is exhaustive and lacks specific defined goals and timelines. This has led to an increased demand on data providers and analysts.

- Provisional data has been considered unsatisfactory, or not appropriately stratified to address questions that arise.
- Participants request multiple analyses before they are willing to make decisions.
- Participants expect the Center staff to conduct all analytical work to inform decisions.
- Participants defer decisions and schedule additional unplanned meetings due to the lack of an end date.

Solution: Specific terms of reference (TORs) should be developed for each RT assessment that describe the relevant questions to be addressed during the RT process. The schedule should include fixed due dates for final decisions.

Problem #3: The RT assessment process lacks technical leadership and coordination.

- Chair responsibilities are not clearly defined, and the duration of the obligation is unclear.
- There is no funding to support the chair. It has not been possible to identify volunteers.

Solution: The responsibilities of the chair must be further defined, and qualified candidates identified (e.g. CIE experts, SSC members). Proper funding for the chair should be established. Administrative tasks not assigned to the Chair should be executed by SEDAR staff.

Note: The SEFSC has hired a project manager within SFD-DAAS who will assist the Center to coordinate data provision and monitor assessment project milestones.

¹ <https://sedarweb.org/sedar-68>

Problem #4: OAs that follow RT assessments are extremely difficult to plan, and have not produced the expected gains in efficiency.

- TORs for OAs following a RT are not available until after the review phase.
- Issues not resolved by the RT process lead to additional Topical Working Groups (TWGs).
- TWGs may require numerous informal meetings between SEDAR organized meetings. Guidance regarding membership and communications between participants and external members requires further clarification.
- Non-noticed meetings reduce efficiency as they require the Center to provide substantial administrative support (e.g. take attendance, provide notes, email doodle polls and reminders).
- Some TWGs are intended to review assessment model fits, but that has complicated the timing of data provision which must be completed long before those TWGs meet.

Solution: A specific statement of work must be developed for each TWG and a schedule with deadlines must be established. Non-noticed meetings should operate with this specific agenda and timeframe. The length of the project schedule must be scaled to the number of TWGs and the scope of the TORs.

Problem #5: OA TORs (including those independent of RT processes) are often too vague, or too exhaustive and/or prescriptive, leading to separate but related issues.

- SSCs have requested substantial revisions (outside the accepted TORs) because they are not satisfied with the limitations of the OA TORs.
- OAs with exhaustive TORs and/or numerous TWGs are essentially benchmarks and greatly reduce potential assessment throughput.
- Increased throughput is highly dependent on the number of TWGs and the exhaustiveness of the OA TORs.

Solution: Allow the Center to prepare statements of work. The Council should provide a prioritized species list and a list of research/assessment questions pertaining to each species. The Center will develop proposed statements of work based on Council priorities and Council/SSC input.

Achieving higher throughput and timeliness of management advice

Despite our best intentions, the current RT/OA assessment process has greatly increased workload, particularly for data providers. In order to achieve higher assessment throughput and more timely management advice it is essential to reconsider our current processes. In addition to the solutions listed above, we strongly recommend moving toward a “Portfolio Approach”. Essentially, the Science Center would offer a number of tools ranging from Research Track to simple Management Procedures (**Table 1**). It is important to note that the resources required for each approach vary significantly (**Figure 1**). A first time RT/OA assessment cycle may take more than 36 months to produce management advice if it requires a stock ID process. It also involves a large number of data providers and analysts. An OA process may take 6-18 months depending on the scope of the TORs and the number of TWGs. Interim assessment (IA) processes are rapid once a method is accepted (which could be stock-specific).

There is a growing interest and application of management procedures that are simulation tested through management strategy evaluation (MSE). MSEs can require various degrees of investment. Desk MSEs can be relatively fast and can answer specific questions when the management objectives are predetermined. Full, stakeholder-inclusive MSEs are valuable when the management objectives need to be defined during the process, but are much more labor intensive. In either case, the primary objective of an MSE is to develop management procedures (MP) that are robust to uncertainties such as non-stationarity and climate change. MPs are also efficient applications for some stocks (e.g. dolphin fish) for which traditional stock assessments may be challenging to apply. MSEs can require substantial initial investment to develop and evaluate, but once they are complete, MPs allow rapid and efficient production of management advice (**Figure 1**). Desk MSEs can be conducted over several months by 1-2 analysts, whereas full stakeholder MSEs generally require multiple staff in cooperation with stakeholders over several years.

The key to moving toward the portfolio approach is to allow the Center the discretion to propose the appropriate assessment tool, and develop appropriate TORs and project schedules. This requires a paradigm shift as currently the Council typically develops the proposed SOW/TORs assuming a certain number of stock assessment slots. We recommend that each November, the Councils provide a prioritized species list and a list of research/assessment questions pertaining to each species. In response, the Center will develop proposed statements of work based on

Council priorities and Council/SSC input. These will be finalized during the Spring SEDAR Steering Committee meeting. The concept of “slots” should be made more flexible. Relying primarily on more time-consuming processes will result in reduced assessment throughput, but is possible to significantly increase the frequency and timeliness of management advice by using the most efficient assessment tool that is appropriate.

Table 1. Assessment portfolio approach to advice provision

Type	Status	OFL/ABC	Requirements	Comment
1a Research Track	no	no	Varies	Very time consuming, does not produce management advice. Should be used infrequently, and primarily for first time assessments. If used for an assessed species, TORs should be very specific
1b Operational Assessment - High	yes	yes	Full and updated data provision. New information to be evaluated.	An operational assessment that requires several topical working groups, or requires extensive revisions to the previous model
1c Operational Assessment - Med	yes	yes	Previous accepted assessment. Full and updated data provision. New information to be evaluated.	An operational assessment with 1-2 TWGs and moderate revisions to the previous model
1d Operational Assessment - Low	yes	yes	Previous accepted assessment. Full and updated data provision. New information to be evaluated.	An operational assessment with 0-1 TWGs and minimal revisions to the previous model
1e Update assessment	yes	yes	Previous accepted assessment. Full and updated data provision.	A strict update assessment
2a Interim Assessment – Model Based	maybe	yes	assessment model, updated data	(e.g. SATL Yellowtail Snapper)
2b Interim Assessment – Indicator Based	maybe	yes	Previous accepted assessment model, index or another indicator	(e.g. Gulf Red Grouper)
2c Interim Assessment - Custom	no	yes	assessment model, unique data, e.g. Great Red Snapper Count	(e.g. Gulf Red Snapper with GRSC)
3 MSE-tested Management Procedure , e.g. ICCAT BFT, South Atl. Dolphinfish	maybe	yes	index, MSE-testing	Laborious to develop, but management advice that results can be updated quickly and efficiently

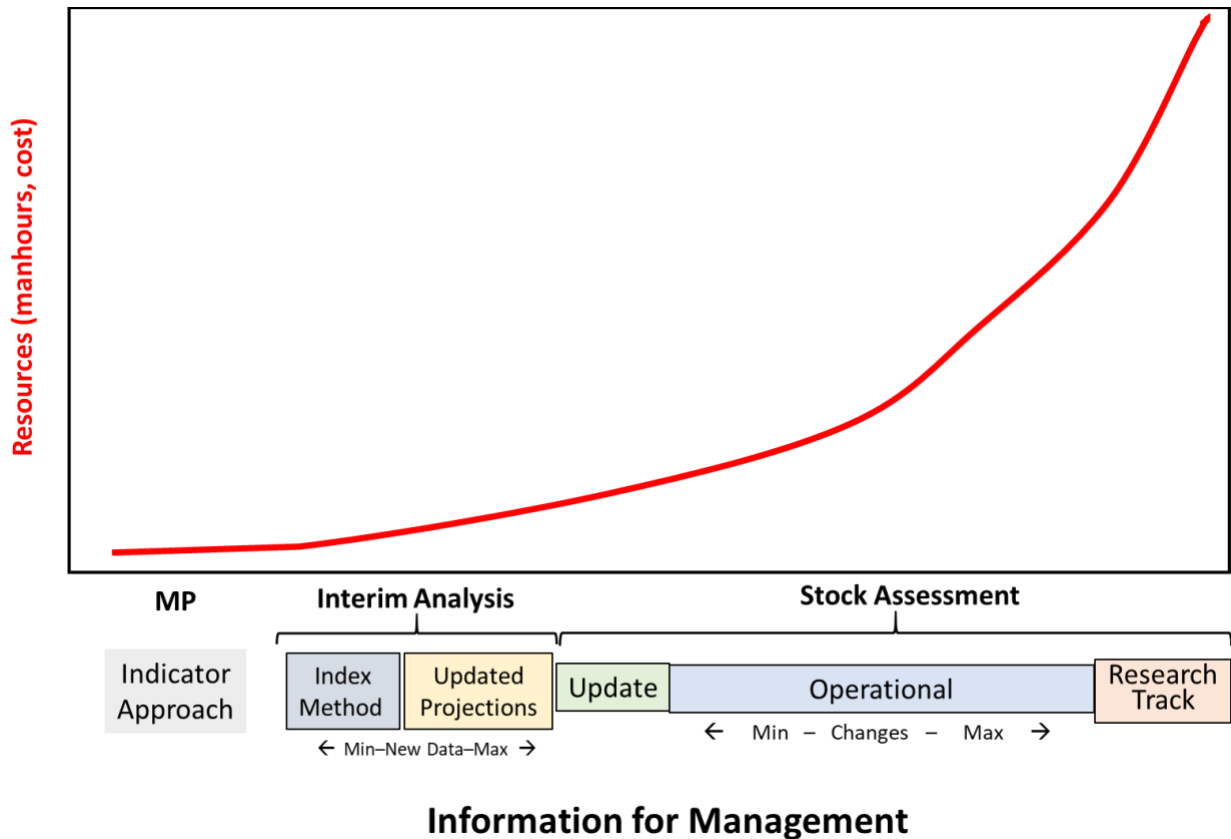


Figure 1. The resources required to implement each assessment tool in the portfolio. Note: while interim assessments and management procedures offer the greatest throughput, they require time to develop and evaluate before they can be used to develop management advice.