

Transition Plan for Utilization of Reef Fish Catch Estimates Produced by States' Surveys:  
Timeline Milestones

(Note: These milestones are not necessarily sequential, and more than one may be undertaken simultaneously in the final timeline.)

**Introduction: Long-Term Goals of Gulf Transition Plan Milestones:**

- 1) Identify any needed design changes to improve the accuracy of all survey programs, thereby minimizing differences in estimates.**
  - a) Achieved through: Milestones I, III, IV and VII.
- 2) Incorporate state data into the federal science and management process while maintaining the needed consistent, regional time series.**
  - a) Achieved through: Milestone I, II, IV, and VII
- 3) Develop a single, publicly accessible, standardized database to house all the recreational fishing data streams in the Gulf of Mexico.**
  - a) Achieved through: Milestones III and V
- 4) Develop guidelines and best practices to inform future decision-making regarding BSIA when overlapping statistically valid data streams exist** (note: while the transition team will be developing guidance, it does NOT have the authority to make BSIA determinations).
  - a) Achieved through: Milestone V
- 5) Maintain clear and open lines of communication between the Transition Team and all affected stakeholders about progress toward the above goals.**
  - a) Achieved through: Milestone VI

**Milestones:**

- I. Develop a research plan for understanding the drivers of differing catch estimates and the sources and effects of non-sampling error among the Gulf red snapper surveys. Use this and other relevant information to inform an independent expert review of the surveys and associated calibration methods to assess relative accuracy of estimates and recommended survey design and implementation improvements.
  - A. Evaluate survey error, conduct nonsampling error studies, identify possible survey improvements to reduce error.
    1. Inventory current survey sponsors' assessment of survey design research completed, in progress, planned and identified as needed.
    2. Commission MRIP statistical consultants to develop a roadmap for a research program that can identify corresponding design changes to improve accuracy and minimize differences in estimates among the survey programs.

3. Prepare a suggested timeline, including time for conducting studies and ID funding for the studies and the ultimate evaluation.
    4. Present information outlined above, discuss among Workshop participants and add/revise as appropriate at Workshop. A primary Workshop outcome is expected to be to adopt a research and analysis plan.
  - B. Following the Workshop, release the research and analysis plan, including content that discusses the purpose and need for the research program (including the “why now”? question), and identifies the partners that will lead and coordinate the research and evaluation of research products.
    1. Initiate a coordinated research program among the Gulf partners that more fully elaborates on the timing and sequence of the program outlined at the Workshop.
    2. Develop a funding strategy, carry out the necessary research, and compile the findings.
  - C. Contract for an independent expert review of survey and calibration methods once sufficient information on sources and magnitude of non-sampling and other survey error is available (see endnote).
    1. Complete initial draft of Terms of Reference for review and discuss/revise at Jan. 2022 Workshop
    2. Identify potential mechanisms for recruiting and assuring independence of peer reviewers (have relied on CIE and Survey Research Methods Section of ASA in the past).
- II. Continue to work toward finalizing calibration:
  - A. At the 1/22 Workshop, make a final determination whether calibrated state estimates can be integrated into a single Gulf-wide estimate for the affected species:
    1. If not possible, put this to bed;
    2. If this question can not be determined at present, identify requirements to determine the feasibility at a future time, setting reasonable expectations for so doing;
    3. If it is possible, have MRIP consultants write a plan with requirements and timeline for completing the methodology.
      - a) Include consideration and discussion of limitations of methodology and any other considerations that should be addressed to manage expectations.
  - B. Also at the 1/22 Workshop, determine whether we will continue to use the ratio-based calibration method indefinitely, or if we will collaboratively work to develop an accepted model-based method. Consider questions of scalability and stability of calibrated estimates and any other potential unintended consequences of calibration choice(s).
    1. If the decision is to retain the ratio-based method, the search for a calibration method is over.

- a) Consider the pros and cons of ratios:
          - (1) Pros: Exact conversion possible; simple;
          - (2) Cons: Applied to the final estimates; species specific - while basic approach is transferable; ratios and criteria used will differ.
        - b) Address need to address and characterize inter-annual variation in ratios, i.e. how the ratios would be applied (averages, moving averages, periodically updated)
      - 2. If a model-based method is desired, outline the steps needed to complete it, the expected timeline, and roles and responsibilities of partners.
        - a) Identify and evaluate (with consultant support) modelling options and assumptions
      - 3. Use a ratio based approach in the interim while a model based approach is being developed. The model could use ratios as inputs. Consider a single, standardized Gulf-wide calibration approach vs. separate approaches for sub regions or species groups, e.g.:
        - a) a time series involving FL centric species (most of catch coming from FL) and/or
        - b) a time series involving Gulf distributed species (Most of the catch from 2 or more states)
      - 4. Consider and seek agreement on how timelines/calibration processes relate to the progression from 1A to 1B to 1C (if possible) in the context specifically of SEDAR 74 and subsequent assessment schedules.
      - 5. Decisions related to making calibrations readily available.
- III. Interim Measures Until Step IV is Completed
- A. Data management and storage requirements: Determine requirements, which partner(s) will take it on, funding requirements and mechanisms.
  - B. Data use for:
    - 1. Management: currently management (SERO) does use state survey data for Texas and Louisiana. Management is not currently using state survey data from Mississippi, Alabama, and west Florida but instead uses MRIP data in these three states. However, management will change and use state survey data from those three states (MS, AL, and FL) if the stock assessments use the state survey data to set new catch limits.
    - 2. Stock Assessments, make a case-by-case decision via the SEDAR process which calibrated data sets to use.
  - C. Complete studies/analyses flowing from I above.
- IV. Determine and resolve unmet requirements for use of estimates from State Survey Certification Decision Memos
- A. Generally, these include the following for each survey:
    - 1. integration,
    - 2. calibration,
    - 3. peer review,
    - 4. apply to time series

- B. Also address any individual, specific next steps from Certification Memos, including SnapperCheck Conditions of Certification requirements.
- V. To increase transparency and assure data access, establish a common database for storing state survey data and estimates that meets the needs of stock assessments and management uses.
  - A. All relevant state survey data/estimates to be made available through GulfFIN will include:
    - 1. To be started by GulfFIN in March:
      - a) raw intercept data (e.g., trip-level catch, biological samples) and all survey estimates (e.g., strata-level estimates of catch and effort);
      - b) all survey variables and associated metadata (of the variable list);
    - 2. Longer term items:
      - a) provision, at some point, for combining state survey data/estimates with that from other surveys, requiring standardized field names and allowable values (this will not involve changing any pre-existing fields, simply developing value-added fields that are defined the same across surveys);
      - b) a comparison of state variables to those in other surveys;
      - c) decisions on the finest “possible” resolution at which state variables can be defined (i.e., standardized across surveys) without unnecessary loss in information;
      - d) all necessary metadata to be submitted as a SEDAR reference document(s), which will allow assessment analysts to evaluate and defend the scientific merits of state survey data/estimates. These documents should include a description of the:
        - (1) Data and any (MRIP:state) calibrations used in producing “final” estimates
        - (2) Diagnostic and comparison plots
        - (3) Any associated QA/QC
        - (4) A more thorough list of metadata requirements is outlined in the “*Recreational Landings Data Consideration*” document, circulated to regional partners as part of SEDAR 74
  - B. In addition to making the state surveys available for use, additional analyses will be needed to determine whether state surveys are the BSIA for SEDAR assessments:
    - 1. Data Exploration – strata-level comparisons of state vs. MRIP data/estimates to identify possible non-sampling errors in each survey (i.e., sources of bias) and to characterize/quantify the random error in survey estimates (i.e., precision). This evaluation may include the relative reliability (e.g., standard error) of those calibrations needed to standardize estimates across species (target vs. non-target), modes, waves (in-season vs. out-of-season), or catch metrics (landings vs. discards).

2. Methodology for applying published agency Guidelines and Policy Directive to the question of determining BSIA for these data sets.
  - C. For those cases in the future where state surveys are determined to be BSIA, additional steps will be:
    1. develop appropriate calibrations (see II above), the nature of which will depend on the chosen “currency” of the assessment;
    2. Species-specific calibrations for any other species included in the Transition Plan.
      - a) Address missing modes in state survey data. This might include evaluating each data source for the most appropriate proxy. We will need to know what kinds of considerations there are for including different data elements from multiple data sources.
  - D. Assure that there are appropriate processes in place as needed in the future to update current SEFSC data flows to replace MRIP with state surveys. These data flows provide the necessary inputs for SEDAR assessments and SERO monitoring, both of which require BSIA. This will require:
    1. validations that state survey data/estimates are being carried through data flows properly (i.e., correct catch estimates, no duplication of size records across surveys, etc.);
    2. survey-specific decisions on how to incorporate state survey data ;
    3. Application of appropriate conversions and removal of overlapping (MRIP) estimates.
- VI. Prepare and execute a communications plan for sharing status/progress information across the Transition Team Subgroup member agencies and externally. The MRIP CET would be in the lead for preparing the plan in consultation with the MRIP Southeast Communications Working Group.
- A. Transition Team members: The plan will include regular (bimonthly?) meetings of the Transition Team Subgroup to monitor progress, revise and update partner and consultant tasks as needed, and to assure all partners are fully informed about the status and timeline of the Transition.
  - B. State communications: actively work with state partner members of the Transition Team Subgroup to plan meeting outcomes, set expectations, and create the workshop and meeting agendas, and actively and regularly communicate with state directors throughout the process.
- VII. Make final decisions on survey and calibration method changes going forward permanently. Complete the Transition Plan reflecting these decisions. Consider a FINAL (hopefully!) Transition Team Workshop for this purpose. Note that this decision will need to include consideration of:
- A. Possible phased implementation, i.e. calibration and data use prior to and following completion of independent survey review per IC.
    1. Include consideration of a hybrid approach that puts the transition on two tracks: (1) initiate transition using available data; (2) complete research plan and revise data collection designs/calibration/integration as indicated by the results. Under this Hybrid Approach, all available rec catch series

would be used in assessments while research is ongoing, including different ways the data might be incorporated into the assessment models or how outputs from separate model runs might be integrated into final results.

- B. Sector allocations of catch going forward;
- C. Potential need for further transition planning and calibration for use of estimates derived from other methods including SEFHIER.

**Endnote:**

The intent is that the roadmap will outline a program that, when executed, will enable a well-informed and final independent review that addresses the following questions posed in the Joint Explanatory Statement for Division, B--Commerce, Justice, Science, and Related Agencies Appropriations Act, 2021:

- (1) an independent assessment of the accuracy and precision of both the Federal and State recreational catch data programs in the Gulf of Mexico;**
- (2) recommended improvements to be made to the Federal and State recreational catch data programs in the Gulf of Mexico to improve accuracy and precision;**
- (3) an independent assessment, based on the results of the two prior items, to how best to calibrate the Federal and State recreational catch data programs in the Gulf of Mexico to a common currency.**