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Southeast Fisheries Science Center Update Report to the CFMC

August 13, 2025



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Update topics for CFMC

***Stock assessment updates – SEDARs 84, 91, 103
SEDAR 103 Terms of Reference****

Social Science projects

Strategic Planning progress report

Data and analytical improvements update

Collaborative projects with US Caribbean partners

**** CFMC action requested***



Caribbean Fisheries Branch



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David



Derek



Katherine



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Refik



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Strategic Planning

10 ongoing projects
37 completed

Improving collaborative data collection to support fisheries management

Enhancing collaborations and workflows

Engaging regional federal, territorial, and university partners and stakeholders



Data Collection

Collaborate with regional partners and local fishers to conduct:

- Port sampling in PR and USVI
- Cooperative lobster trap surveys in PR and USVI (2025)
- Reef fish life history sampling
- Reef fish survey in PR (2024) and USVI (2025)
- Research with regional graduate students



Data Analysis and Provision

Reproducible workflows to support:

- Stock assessments
- [Western Central Atlantic Fishery Commission](#) reporting requirements
- [Caribbean Fishery Management Council](#) and external requests
- Data storage and automation
- Management Strategy Evaluation
- Aquaculture stakeholders support and capacity building



Stock Assessments

Coordinated by the SouthEast Data and Review Process

2025

[Yellowtail Snapper](#)
[Stoplight Parrotfish](#)
[Spiny Lobster](#)

2026

Procedural Workshop:
Analytical Methods



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US Caribbean Stock Assessment Updates

SEDAR 84 – Yellowtail Snapper (PR & STTJ), Stoplight Parrotfish (STX)

- Assessment Workshop Reports – have been released to the public, see SEDAR website (SEDARweb.org)
- Review workshop July 15 -18, 2025 (CIE/SSC) – *completed, RW reports being prepared by the CIE/SSC panel, addenda added to AW reports*
- *Additional models runs, as recommended by the RW panel will be explored for SSC review*
- Assessment to be reviewed by the **SSC in November ** 2025** and presented to the **CFMC in December 2025**

SEDAR 91 – Spiny Lobster (all islands)

- Assessment workshop reports scheduled for AW panel review on May 26, 2025 – *completed*
- *Assessment workshop reports under final review at the SEFSC, to be provided to SEDAR for public release by August 15, 2025*
- Assessment to be reviewed by the **SSC in September 23-25, 2025*** and presented to the **CFMC in December 2025***



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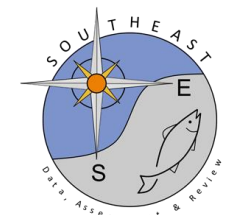
SEDAR 103 Caribbean Application of Alternate Assessment Methods

SEDAR 103

- Review and recommend options for alternative approaches to providing scientific advice to managers
 - Approaches likely to differ among species and species groups
 - ***Goal is to have analytical approaches recommended for every federally managed species in the US Caribbean***
- Organizing committee included CFMC staff, SSC, SEFSC, CIMAS, SEDAR

SEDAR 103 Caribbean Application of Alternate Assessment Methods

Terms of Reference

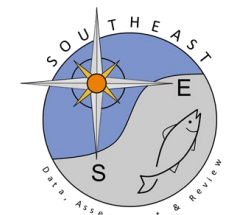


Presentation Outline

1. Methods Development Terms of Reference
2. Methods Application Terms of Reference

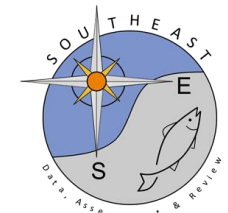
Assessment Milestones

1. Assessment begins with Scoping webinar week of October 7, 2025
2. In person workshop in April 27 – May 1, 2026 - location TBD
3. Report completed by TBD, 2026



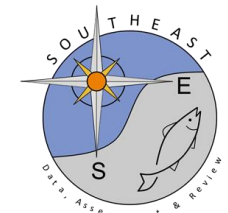
Methods Development Terms of Reference

1. Review SEFSC data triage efforts for US Caribbean species and determine what types of alternative methods may be feasible for implementation.



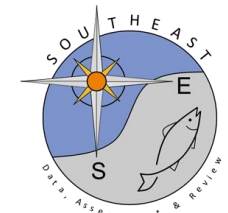
Methods Development Terms of Reference

2. Examine non-traditional approaches to single species assessments to provide information for consideration in management. Additionally, consider novel ecosystem-based fishery management approaches that have not been applied in the US Caribbean. Approaches to be evaluated might include (but not limited to):
 - a. ecosystem reference points
 - b. ecosystem productivity or biodiversity approaches
 - c. portfolio approach
 - d. empirical management procedures



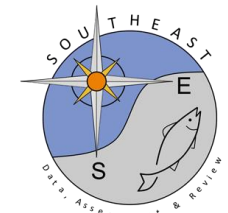
Methods Development Terms of Reference

3. For the species listed in the island-based FMPs, provide recommendations of specific analytical procedures for developing management advice that will meet legal mandates when using tools that are alternative or complementary to conventional stock assessment.



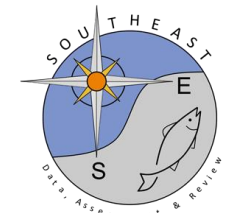
Methods Development Terms of Reference

4. Provide research recommendations to advance development and implementation of other methods and necessary data collection that could be most easily applied in the US Caribbean; i.e., tools that are alternative or complementary to conventional stock assessment.
5. Prepare a report documenting the methods and analyses reviewed and the recommendations made by the panel.



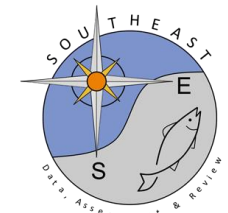
Methods Application Terms of Reference

1. Apply approaches recommended at the model development workshop to some or all of the species listed in the island-based FMPs.
2. Review and recommend analytical approaches to ensure that the results are scientifically sound and, following the review and consent of the SSC, will provide information useful for management advice.



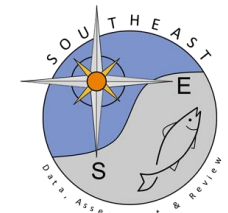
Methods Application Terms of Reference

3. Provide recommendations to guide future SEDAR assessments in the US Caribbean.
4. Provide recommendations to further the development of analytical methods and necessary data collection that could be most easily applied in the US Caribbean; i.e., tools that are alternative or complementary to conventional stock assessment.



Methods Application Terms of Reference

5. Prepare a report documenting the application of recommended approaches to species listed in the island-based FMPs. Evaluate and discuss the strengths and weaknesses of the methods used given the available data.





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Social Science Projects

Oral History Projects

- St. Croix oral history interviews September 3 - 12, 2025
- Collecting additional oral histories in Puerto Rico in 2025
- St. Thomas Oral Histories now in the Voices Database with existing Puerto Rico histories to be added
- Writing a paper that discusses the use of oral histories as a means if incorporating Local Ecological Knowledge into Fisheries Management
- Examining perceived and experienced changes in the marine environment, particularly regarding Sargassum
- Interviewing St Croix lobster fishermen regarding the history of lobster fishing in St Croix



Queen Conch and Spiny Lobster stakeholder workshops

- Identify the main environmental (biological, ecological, climate, oceanography) and socioeconomic factors affecting lobster and conch fisheries.
- Understand changes in the ecology, biology, economy and commerce of lobster and conch
- Understand annual fishing practices and routines and reliance on other species throughout the year
- Understand overall management preferences and management objectives for lobster and conch fisheries



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Strategic Planning Update

Caribbean Strategic Planning

- **Objective** – collaboratively identify data improvement strategies to enhance stock assessment and fisheries management advice for Puerto Rico and the U.S. Virgin Islands
- **Projects** – 53 short-term projects total (39 SEFSC, 14 Regional)
 - 37 completed, 10 in progress, 6 remaining
- **Publishing** – workshop reports as Tech Memos; Manuscript in prep
- **Future steps** – Continue to accomplish projects; Plan for projects operational needs
- **Deliverables** – <https://sefsc.github.io/SFD-CFB-Caribbean-Strategic-Planning/>
- **Guiding the work of CFB** – Coordination to optimize resource usage; Strengthened working relationships; Operationalized automation for data processes; Open science principles



Toolbox working group



- **Objective** – to support the management bodies in the region by determining appropriate alternative methods and approaches to inform management with the available data
- **SEDAR 103** – Caribbean Application of Alternate Assessment Methods



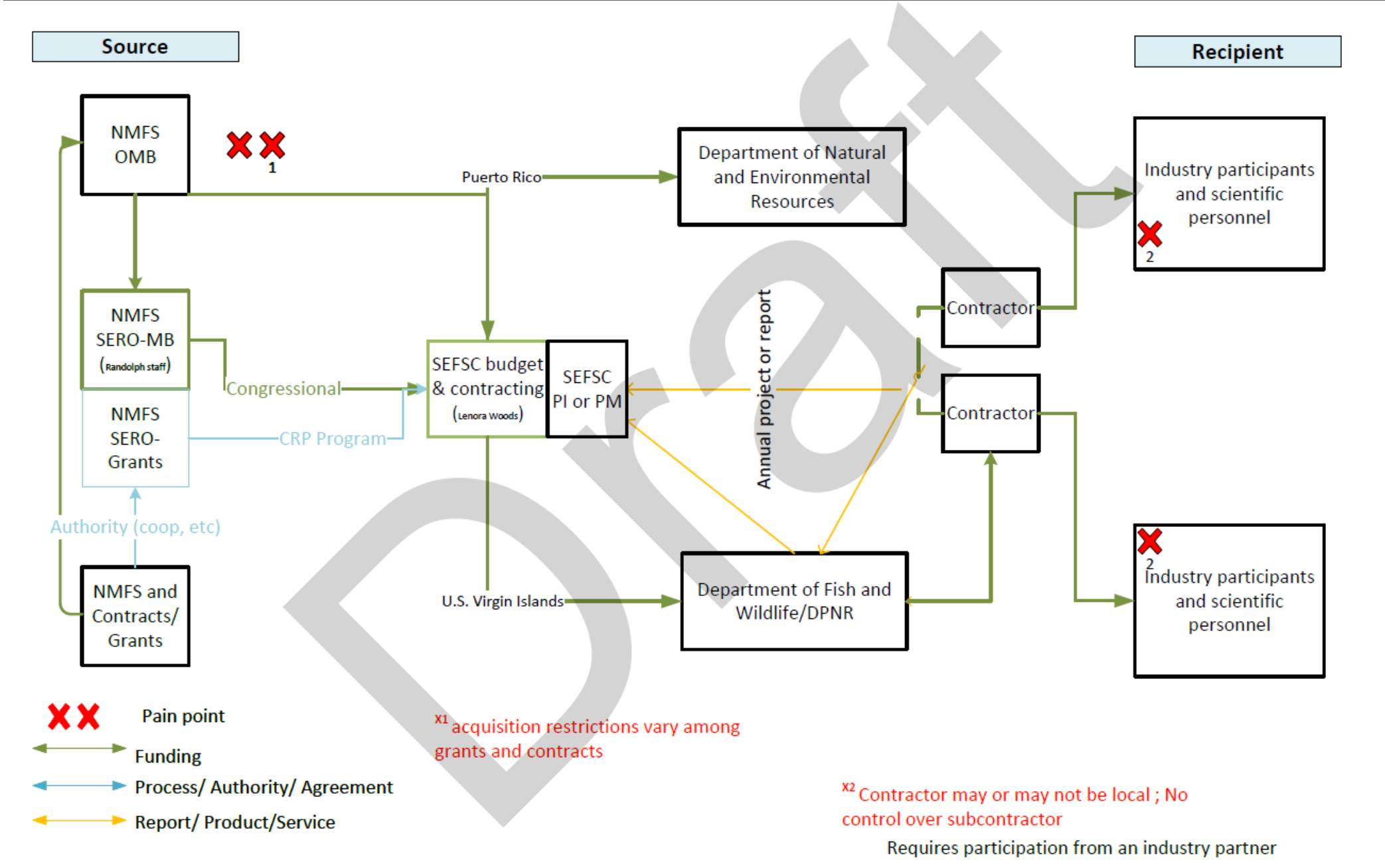
Governance working group



- **Objective** – to define needs and mechanisms for establishing a funding governance structure for an informative, transparent funding framework to facilitate coordination of activities
- **Goals** – 1) ***Create conceptual models of current funding***, collaborations, and structures, 2) Benchmark other regional funding mechanisms that address bottlenecks, 3) Modify conceptual models to streamline processes and address gaps
- **Deliverables (planned)** – Conceptual models of current funding structures (including pain points) for funding programs and mechanisms (CFMC, CIMAS, Cooperative Agreements, CRCP, CRP, CSP, federal grants, FIN, Interjurisdictional Fisheries, MRIP, Sea Grant, SEAMAP-C, Sportfish Restoration Program)



Cooperative Research Program (internal) funding flow
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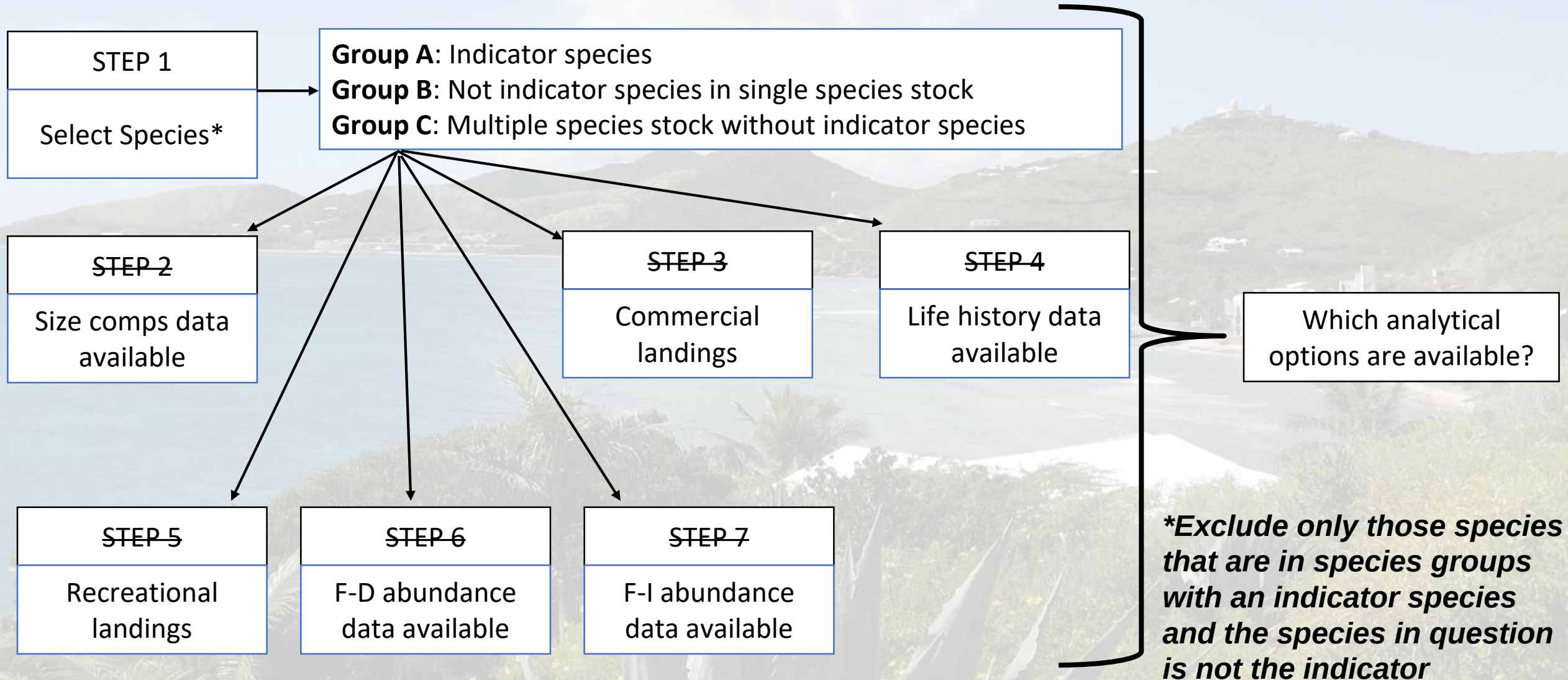




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Data and Analytical Improvements Update

Data Triage Process



Data and Analytical Improvements

- Caribbean Trip Interview Program Modernization Project - *complete*
 - Length composition data from port sampling
 - Developed improved data accuracy, quality control, and analysis
- WECAFC Data Provisioning – *funding not renewed in FY25*
 - WECAFC data provisioning processes aligned with Data Collection Reference Framework (DCRF) – US Caribbean, Gulf, and Atlantic
- Outlier Analysis SEDAR 91 Caribbean Spiny Lobster – ***other species?***
 - Collaborative project between Puerto Rico DRNA and the SEFSC resulting from the SEDAR 91 Data Workshop
 - ***ACL implications***

Data and Analytical Improvements

- Calculation of Puerto Rico Correction Factors 2020 - present
 - Collaborative project between Puerto Rico DRNA and the SEFSC resulting from the SEDAR 91 Data Workshop
 - ***ACL implications***
- Species and Gears on the Island-Based Catch Records Forms
 - USVI - Numerous form changes over time, particularly prior to ~2000, but also 2011, 2016, 2019
 - ***ACL implications***

Recommendations

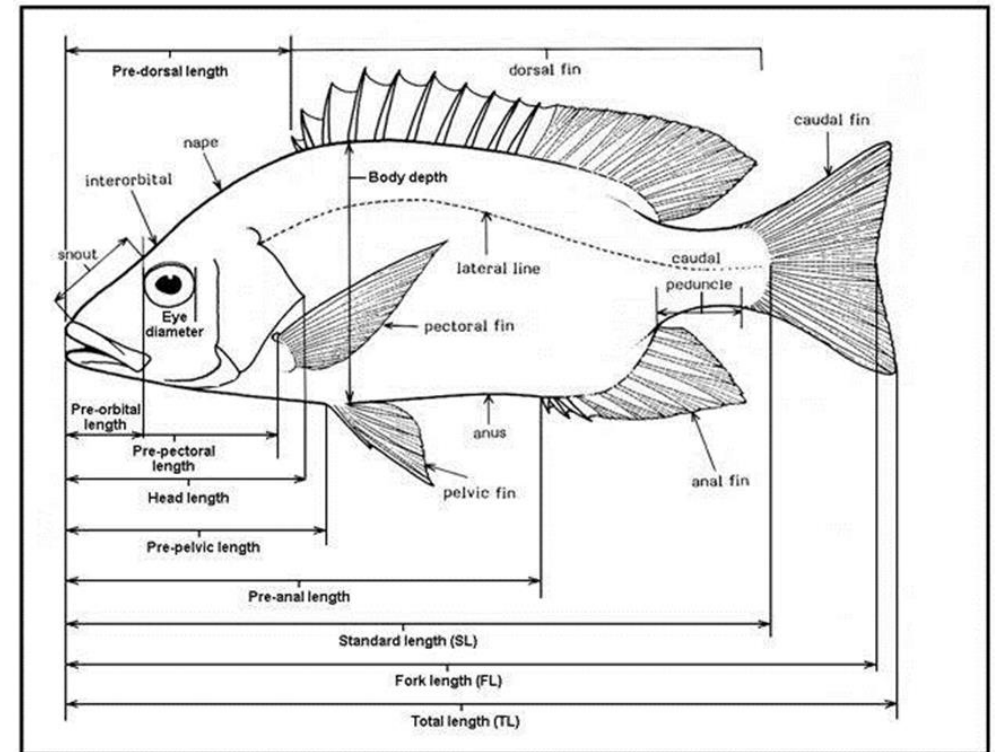
- Systematic review of trip level landings outliers – all islands
- Systematic review of Puerto Rico commercial landings correction factors
- Resolve database incompatibilities and calculate Puerto Rico correction factors by year and coast
- Systematic review of Commercial Catch Logbooks/Reports to determine species missing from the forms
- *SSC/CFMC review of ACLs in light of above items*

Morphometrics

Morphometric conversions are required to produce many necessary data products in federal management of marine stocks and ecosystems.

Phase 1 - FY 22 FIS Project - Complete
Development of a Morphometric Conversions Database

Phase 2 - FY 24 FIS Project - Ongoing
Development of Decision Tool to Identify “Recommended” Equations



Management History

A complete and accurate time series of fishery management actions are necessary for credible and efficient stock assessments and ACL monitoring. Previous management history documents lacked standardization and were hard coded for analyses.

Phase 1 - FY 20 FIS Project - Complete

Development of a Management History database

Database populated with management actions published in the Federal Register through 2021 for 13 fishery management plans including US Caribbean

Phase 2 - Ongoing

*Keep the database **up-to-date** and*

process management actions to create an accurate time series

Develop processing steps to transform data into a useable format for analyses, the councils, and partners.





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Fishery Independent Projects



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Collaborative Projects with US Caribbean Partners

Ongoing Projects with Regional Partners

- Fishery independent lobster trap survey in cooperation with Puerto Rico commercial fishers and local scientific consulting firm
 - Second year of sampling to develop an index of recruitment to the fishery
- Collection of life history samples in Puerto Rico
 - Collected samples sent to SEFSC Panama City laboratory and USC Aiken
 - Parrotfish samples analyzed by Jesus Rivera

Ongoing Projects with Regional Partners

- Puerto Rico Recreational Port Sampling Support
 - Port sampling underway 2024-present; focus on vessels, shore based fishing in future
- USVI Port Sampling (all sectors) Collaboration
 - Field testing electronic measuring system



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Ongoing Projects with Regional Partners

Puerto Rico deep water snapper survey

- Hook & line and video survey in cooperation with Puerto Rico fishers and local scientific consulting firm
- Two years of surveys in Puerto Rico at depths of 50-450m
- Additional years with survey now 20-450m – that survey now overlaps with the NCRMP/RVC diver survey

Ongoing Projects with Regional Partners

NCRMP/RVC diver survey

- Survey conducted every two years, all islands (sampling ongoing in US Caribbean this year)
- Depths of 0-30m; some years to 50m
- Only long term FI survey that has supplied abundance indices for stock assessments

Queen Conch Surveys

- Fishery independent diver survey
- Population surveys are in their final year:
 - - 2023 - St. Thomas and St. John
 - - 2024 - St. Croix
 - - 2025 - Puerto Rico (planned for September in conjunction with SEAMAP-C program)

Genetic connectivity study:

- - sequencing and bioinformatic analysis of samples from the Florida Keys, Dry Tortugas, USVI, and PR is nearly complete
- - additional samples have been collected from the BVI, Saba, and Grand Cayman with efforts under way to acquire samples from the Turks and Caicos, Tobago, Barbados, Belize, and Bermuda by end of year

Projects Begun, Additional Work Contingent Upon Continued Funding

- Research Associate to integrate and coordinate fishery independent sampling surveys in the US Caribbean – *Hired*
- Incorporating AI/machine learning to improve fishery independent Queen Conch surveys
 - Prototype camera system
 - *Field testing and AI development funding rescinded*

Projects Lost to Funding Cuts

- *Extend existing Puerto Rico lobster recruit survey into the US Virgin Islands*
- *Extend existing Puerto Rico reef fish hook and line survey into US Virgin Islands and include shallower water sampling sites (20-450m)*

Questions??

