

# SSC Report to the 190<sup>th</sup> CFMC Meeting

August 11-12, 2026

Dr. Vance Vicente  
Chairman

Scientific and Statistical Committee



# SSC Meeting: JULY 7-8 2026: Meeting Overview

## Participants

### SSC

- Jason Cope
- Elizabeth Kadison
- Walter Keithly
- Richard Appeldoorn  
(*excused*)
- Jorge García Sais
- Juan J Cruz Motta
- Tarsila Seara
- Todd Gedamke
- Skyler Sagarese (*excused*)
- Vance Vicente

### DAP chairs

### SEFSC

### SERO

### Researchers

### CFMC members and staff

-Discuss Request for an Interim Update to the SEDAR 91 U.S. Caribbean Spiny Lobster St. Thomas and St. John

—Abundance Index Presentation

—Assessment Model Presentation

-Projections and Diagnostics for STT/STJ Caribbean SL SEDAR 91 Sensitivity Runs

-Projections and Diagnostics for Puerto Rico Spiny Lobster SEDAR 91 Sensitivity Runs

-Revisit Overfishing Limits and Acceptable Biological Catch Recommendations for the SEDAR 91 U.S. Caribbean Spiny Lobster Puerto Rico Assessment

-Review and Approve the SEDAR 103 Review Workshop Terms of Reference (ToR)

# SSC Meeting: JULY 7-8 2026: Meeting Overview

## Participants

### SSC

- Jason Cope
- Elizabeth Kadison
- Walter Keithly
- Richard Appeldoorn  
(*excused*)
- Jorge García Sais
- Juan J Cruz Motta
- Tarsila Seara
- Todd Gedamke
- Skyler Sagarese (*excused*)
- Vance Vicente

-Projections and Diagnostics for Puerto Rico Spiny Lobster SEDAR 91 Sensitivity Runs

-Revisit Overfishing Limits and Acceptable Biological Catch Recommendations for the SEDAR 91 U.S. Caribbean Spiny Lobster Puerto Rico Assessment

-Review and Approve the SEDAR 103 Review Workshop Terms of Reference (ToR)

DAP chairs

SEFSC

SERO

Researchers

CFMC members and staff



# SSC Meeting: JULY 7-8 2026: **Motions Approved SEDAR 91 St. Thomas - St. John**

Following a review of the additional Puerto Rico and St. Thomas/St. John sensitivity runs, the SSC made the following motions outlining model recommendations considered to be best practices for future assessments (Motions #1 and #2):

## Motion #1:

The SSC recommends use of average recruitment over a specified time frame of recent recruitment estimates as a viable alternative to using recruitments taken deterministically from the stock-recruit curve when defining recruitments in catch projections. This method is encouraged to be developed further and considered in catch projections for any stocks needing catch limits.

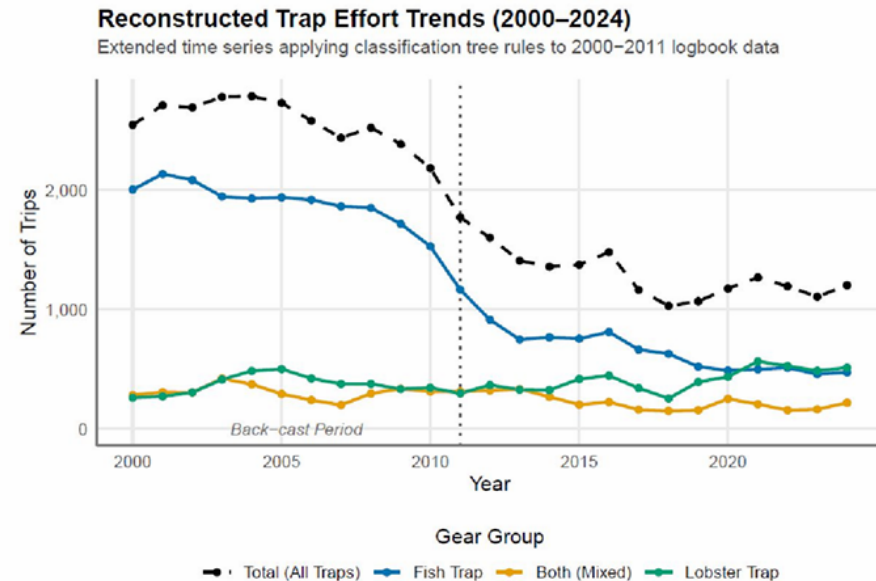
# SSC Meeting: JULY 7-8 2026: Motions Approved SEDAR 91 St. Thomas - St. John

## Motion #2:

The SSC commends the work to develop abundance indices, both fishery-dependent and -independent, for the federally managed spiny lobster stocks, and encourages further efforts to provide these important data sources.

## Conclusion

- This classification approach offers a data-driven method to categorize historical effort.
- Extends trap-specific time series by 10 years, maximizing the utility of logbook data for indices of abundance and associated sensitivity runs of the SEDAR 91 stock assessment.



# SSC Meeting: JULY 7-8 2026: Motions Approved SEDAR 91 Puerto Rico

## Motion #3

The SSC recommends using the projected OFLs and MSY proxy (Spawning Potential Ratio 30%) for the Standard Error 0.1 model scenario using the Standard Stock Recruitment Relationship (SRR) presented in Table 1 of the Puerto Rico Spiny Lobster Updated Projections and Sensitivity Trajectories presentation (SEDAR 91 Puerto Rico Spiny Lobster Assessment).

Table 1: PR Spiny Lobster: Projected Overfishing Limits (OFL) and MSY SPR Proxy for the SE = 0.1 model scenario in pounds. SRR represents the projections based on the stock recruitment relationship. Catch values for the interim years (2025 and 2026) are equal to the three-year geometric mean of recent landings (2022-2024).

| Scenario                         | 2025<br>Interim | 2026<br>Interim | 2027    | 2028    | 2029    | Mean<br>2027-<br>2029 |
|----------------------------------|-----------------|-----------------|---------|---------|---------|-----------------------|
| OFL Standard SRR                 | 568,757         | 568,757         | 597,111 | 557,309 | 541,153 | 565,191               |
| OFL Recent Recruitment (2015-21) | 568,757         | 568,757         | 700,448 | 650,443 | 631,197 | 660,696               |
| OFL Low Recruitment (2001-11)    | 568,757         | 568,757         | 386,239 | 364,234 | 353,591 | 368,021               |
| MSY SPR Proxy (SRR)              | 522,888         | 522,888         | 522,888 | 522,888 | 522,888 | 522,888               |
| MSY SPR Proxy (Recent)           | 522,855         | 522,855         | 522,855 | 522,855 | 522,855 | 522,855               |
| MSY SPR Proxy (Low)              | 525,794         | 525,794         | 525,794 | 525,794 | 525,794 | 525,794               |

# SSC Meeting: JULY 7-8 2026: **Motions Approved SEDAR 91 Puerto Rico**

## Motion #3 (Continued)

The rationale is the high recruitment scenario is greatly influenced by the most recent CPUE data point. The high recruitment coming from that one data point needs more data to establish its strength. While considering alternative recruitment scenarios is supported by the SSC (see previous motion), in this particular assessment and data scenario, the most risk-neutral projection choice is to use the recruitments coming from the stock-recruit relationship specified in the model. Creating the most risk-neutral projections also allows a more straightforward treatment of the ABC buffer (meaning, not double dipping of uncertainty).

# SSC Meeting: JULY 7-8 2026: Motions Approved SEDAR 91 Puerto Rico

## Motion #4

The SSC recommends using the time varying OFL projections for 2027-2029 from the SEDAR 91 Puerto Rico Spiny Lobster stock assessment that uses the stock-recruitment relationship to define future recruitments (see Table 1 in the Puerto Rico Spiny Lobster Updated Projections and Sensitivity Trajectories presentation). Using constant catches (while simple in their constancy) when fishing down to an estimated MSY can create complications if carried beyond more than 2-3 years. Following the actual changes in catches down to the MSY is the most transparent and straightforward approach, but also should recognize that catches will continue to decline down to the MSY value.

Table 1: PR Spiny Lobster: Projected Overfishing Limits (OFL) and MSY SPR Proxy for the SE = 0.1 model scenario in pounds. SRR represents the projections based on the stock recruitment relationship. Catch values for the interim years (2025 and 2026) are equal to the three-year geometric mean of recent landings (2022-2024).

| Scenario                         | 2025<br>Interim | 2026<br>Interim | 2027    | 2028    | 2029    | Mean<br>2027-<br>2029 |
|----------------------------------|-----------------|-----------------|---------|---------|---------|-----------------------|
| OFL Standard SRR                 | 568,757         | 568,757         | 597,111 | 557,309 | 541,153 | 565,191               |
| OFL Recent Recruitment (2015-21) | 568,757         | 568,757         | 700,448 | 650,443 | 631,197 | 660,696               |
| OFL Low Recruitment (2001-11)    | 568,757         | 568,757         | 386,239 | 364,234 | 353,591 | 368,021               |
| MSY SPR Proxy (SRR)              | 522,888         | 522,888         | 522,888 | 522,888 | 522,888 | 522,888               |
| MSY SPR Proxy (Recent)           | 522,855         | 522,855         | 522,855 | 522,855 | 522,855 | 522,855               |
| MSY SPR Proxy (Low)              | 525,794         | 525,794         | 525,794 | 525,794 | 525,794 | 525,794               |



# SSC Meeting: JULY 7-8 2026: Motions Approved SEDAR 91 Puerto Rico

## Motion #5

The SSC recommends the Puerto Rico Spiny Lobster be considered a Tier 2 stock under the ABC Control Rule included in the Puerto Rico Fishery Management Plan following the SEDAR 91 stock assessment. The assessment uses multiple data types, including a relative index of abundance (which was not included in the former SEDAR 57 stock assessment), and estimates process dynamics through time-varying recruitment. It is also able to quantify both within and among model uncertainty useful for P\* buffer consideration. The SSC has determined this meets the current requirements of a Tier 2 stock. Moved by Jason Cope; seconded by Elizabeth Kadison.

| Tier 2: Data Moderate       |                                                                                                                                                                                                                             |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Condition for Use, MSY, SDC | Data-moderate approaches where two of the three time series (catch, stage composition, and index of abundance) are deemed informative by the assessment process, and the assessment can provide MSST, MFMT, and PDF of OFL. |
| ABC                         | Same as Tier 1, but variation of the PDF of OFL ( $\sigma$ ) must be greater than $1.5 \sigma_{\min}$ (in principle there should be more uncertainty with data-moderate approaches than data-rich approaches).              |

Table 2.4.1. Caribbean Fishery Management Council Acceptable Biological Catch Control Rule from Action 4, Preferred Alternative 3.



| Tier 2: Data Moderate                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Condition for Use, MSY, SDC                         | Data-moderate approaches where two of the three time series (catch, stage composition, and index of abundance) are deemed informative by the assessment process, and the assessment can provide MSST, MFMT, and PDF of OFL.                                                                                                                                                                                                                                                                                                              |
| ABC                                                 | Same as Tier 1, but variation of the PDF of OFL ( $\sigma$ ) must be greater than $1.5 \sigma_{\min}$ (in principle there should be more uncertainty with data-moderate approaches than data-rich approaches).                                                                                                                                                                                                                                                                                                                           |
| Tier 3: Data Limited: Accepted Assessment Available |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Condition for Use                                   | Relatively data-limited or out-of-date assessments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| MSY                                                 | MSY proxy = long-term yield at proxy for $F_{\text{MSY}}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SDC                                                 | MFMT = $F_{\text{MSY}}$ proxy<br>MSST = $0.75 * \text{SSB}_{\text{MFMT}}$ or proxy<br>OFL = Catch at MFMT                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ABC                                                 | ABC determined from OFL as reduced (buffered) by scientific uncertainty <sup>4</sup> and reflecting the acceptable probability of overfishing <sup>2</sup> <ul style="list-style-type: none"> <li>a. Where the buffer is applied to the PDF of OFL when the PDF is determined from the assessment (with <math>\sigma \geq 2\sigma_{\min}</math>)</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>b. Where <math>\text{ABC} = \text{buffer} * \text{OFL}</math>, where buffer must be <math>\leq 0.9</math></li> </ul> |

Table 2.4.1. Caribbean Fishery Management Council Acceptable Biological Catch Control Rule from Action 4, Preferred Alternative 3.

# SSC Meeting: JULY 7-8 2026: **Motions Approved SEDAR 91 Puerto Rico**

## Motion # 6

The SSC recommends using a  $\sigma_{\min}$  of 0.5 with the assigned Tier 2 multiplier of 1.5 and (assuming a Council-chosen  $p^*$  of 0.45) to calculate ABCs from the OFLs projected from the SEDAR 91 Puerto Rico spiny lobster assessment.

*SEDAR 91 – Index SE = 0.1, Standard SRR*

*Tier 2,  $\sigma_{\min} = 0.5$ , and provisional  $p^* = 0.45$*

| <i>Reference point (pounds)</i> | <i>2027</i>    | <i>2028</i>    | <i>2029</i>    |
|---------------------------------|----------------|----------------|----------------|
| <i>OFL</i>                      | <i>597,111</i> | <i>557,309</i> | <i>541,153</i> |
| <i>ABC</i>                      | <i>543,406</i> | <i>507,184</i> | <i>492,481</i> |

# Update on SEDAR 103 U.S. Caribbean Application of Alternative Assessment Methods

## About SEDAR 103:

- Review and recommend options for alternative assessment approaches to better inform management of US Caribbean federally managed species.
  - Approaches likely to differ among species and species groups.
  - Goal is to have analytical approaches recommended for most federally managed species in the US Caribbean.
- Data webinars started in January 2026 and finalized in July 2026.
- In-person Method Development Workshop next week
- SSC reviewed and approved **Method Review Terms of Reference**

# Methods Review Workshop Terms of Reference

1. Evaluate the data used in the analytical methods(s), addressing the following:
  - a. Are data decisions made by the analysts sound and robust?
  - b. Are data uncertainties acknowledged, reported, and within normal or expected levels?
  - c. Are data applied properly within the analytical method(s)?
  - d. Are input data series reliable and sufficient to support the analytical methods and findings?
2. Evaluate the methods used to evaluate the fisheries ecosystem including stocks, stock complexes, natural assemblages, socioeconomic factors, environmental variables and/or anthropogenic drivers taking into account the available data.
  - a. Are methods and/or approaches scientifically sound and robust?
  - b. Are the analytical methods appropriate given the available data?

# Methods Review Workshop Terms of Reference

3. Evaluate the analytical findings with respect to the following:
  - a. Can the results be used to inform management in the U.S. Caribbean?
  - b. Can the results be used to determine reference points for stocks, stock complexes, and/or ecosystems? What information helps you reach this conclusion?
4. Comment on the degree to which methods used to evaluate uncertainty reflect and capture the significant sources of uncertainty in populations, assemblages, habitat characteristics, socioeconomic factors, environmental variables, data sources, and analytical methods. Ensure that the implications of uncertainty in technical conclusions are clearly stated.

## Methods Review Workshop Terms of Reference

5. Consider application methods discussed during Development and Application stages and make any additional recommendations regarding alternate application methods, such as when data collection programs have longer time series available. Clearly denote research and monitoring that could improve the reliability of, and information provided by, future evaluations.
6. Provide guidance on key improvements in data or modeling approaches that should be considered when scheduling the next assessment.

# Methods Review Workshop Terms of Reference

7. Provide recommendations on possible ways to adapt the SEDAR process to accommodate or implement the analytical method(s) identified during SEDAR 103.
8. Prepare a Peer Review Summary summarizing the Panel's overall conclusions and recommendations.



# SSC Meeting: JULY 7-8 2026: **Motions Approved SEDAR 103**

## Motion #7

Motion to approve the Terms of Reference for SEDAR 103.

# SEDAR 103 U.S. Caribbean Application of Alternative Assessment Methods

## SEDAR 103 Schedule 2026

| Tentative date       | Webinar/workshop                                                                                 | Status |
|----------------------|--------------------------------------------------------------------------------------------------|--------|
| January to July 2026 | Scoping Webinar and Data Webinars                                                                | Done   |
| August 17-21, 2026   | <b>In-Person Method Development Workshop (Miami, FL)</b>                                         | Next   |
| September 2026       | Post-workshop Webinar 1                                                                          | Next   |
| September 2026       | Deadline for Final Development Working Papers                                                    | Next   |
| October, 2026        | Draft Method Development Reports to Panel for Review                                             | Next   |
| October, 2026        | Post-workshop webinar 2<br>• <i>Finish workshop discussions and begin assessment application</i> | Next   |
| October, 2026        | Report Comments due to Editors                                                                   | Next   |
| November, 2026       | Final Report to SEDAR Staff                                                                      | Next   |
| November, 2026       | Assessment Application Working Papers to SEDAR Staff                                             | Next   |



SEDAR 103 Workflow  
Source: SEDAR

# SEDAR 103 U.S. Caribbean Application of Alternative Assessment Methods

## SEDAR 103 Schedule 2026-2027 -TBD

| Tentative date    | Webinar/workshop                                                    | Status |
|-------------------|---------------------------------------------------------------------|--------|
| November 2026     | Assessment Application Webinar 1                                    | Next   |
| December 2026     | Assessment Application Webinar 2                                    | Next   |
| January 2027      | Assessment Application Webinar 3                                    | Next   |
| February 2027     | Assessment Application Webinar 4                                    | Next   |
| February 22, 2027 | Draft Assessment Application Reports to Panel for Review            | Next   |
| March 8, 2027     | Report Comments due to Editors                                      | Next   |
| March 2027        | Final Report to SEDAR Staff                                         | Next   |
| March 2027        | Final Distribution to Review Panel                                  | Next   |
| Spring 2027       | In-Person Review Workshop                                           | Next   |
| End of Workshop   | First Draft Review Reports                                          | Next   |
| May 2027          | Review Workshop Panel Drafts due to Chair                           | Next   |
| June 2027         | Review Workshop Addenda/Revision Reports due to Chair & SEDAR Staff | Next   |
| June 2027         | Review Workshop Panel Reports due to SEDAR Staff                    | Next   |
| June 2027         | Complete Assessment Report Submitted to SAFMC/SERO/SEFSC            | Next   |