SSC Report to the Caribbean Fishery Management Council

August 2022

SSC Met August 1-2
Issues Discussed

- SEDAR 80 Queen triggerfish – Puerto Rico
- SSC Research Plan Recommendations

SEDAR 80

- Recognizing that the data-limited approach to stock assessment is new and still somewhat exploratory in nature, the SSC spent a day and a half reviewing the results of the assessment for Queen Triggerfish in Puerto Rico

- This covered all aspects of the analysis:
  - Data
  - Model
  - Indices
  - Results
  - Recommendations

SEDAR 80

- The analysis was based on the Stock Synthesis approach
  - Landings data
  - Length structure
  - Abundance index based on trap catch/effort
  - Abundance index based on visual census

SEDAR 80

Landings Data

- Stock Synthesis assumes that landings data are reliable
- The SSC felt this assumption was questionable
  - Expansion factors are designed to estimated overall catch
  - Their reliability decreases moving toward specific species
  - Yet, queen triggerfish is not targeted but taken as by-catch
  - Suggests QT landings my track overall landings
  - Recent port-sampling data show measured landings on the same order of reported landings w/o expansions factor
  - Use of gear (e.g., traps, diving) has changed since 1983
  - Are other factors affecting reporting and catch
    - *Diadema* (black urchin) die-off; tax protests

SEDAR 80

Landings Data

- Model required estimation of landings prior to 1983
- First couple of years show high but declining landings
- Are these representative of landings prior to 1983?
  - *Diadema* die-off at that time reduced main QT prey
  - Is decline due to that?
  - But die-off thought due to high density caused by predator removal
  - Total landings across all species were declining at that time

SEDAR 80

Length structure

- Appeared to be the most robust data for the assessment, but:
  - Length data alone will not provide reference point estimates
  - Assessment sensitive to estimate of L_∞
- Growth estimates based on local stocks
- But two oldest individuals may disproportionally affect L_∞

SEDAR 80

Abundance index based on visual census

- Standard NCRMP survey (uses cylinders), but extended back
- Included:
  - transect surveys
  - La Parguera surveys
  - mixed size classes
- NCRMP targets coral reef habitat (not primary QT habitat)
- NCRMP limited to 100 ft (QT known to occupy deeper depths
- Similarly, La Parguera seascape not representative of QT habitat
- Not clear how adjustment of different size bins was done

SEDAR 80

- SEFSC emphasized the need for a valid assessment BEFORE other steps could be taken to track species performance besides catch
  - E.g., mean length, CPUE
- SSC felt OK to move forward
- But uncertainties required more attention
- Alternate reality impacts (for data landings data)
- Sensitivity analyses
- Use of Monte Carlo Bootstrap Ensembles

SEDAR 80

- SEFSC emphasized the need for a valid assessment BEFORE other steps could be taken to track species performance besides catch
  - E.g., mean length, CPUE
- SSC felt OK to move forward
- But *uncertainties* required more attention
- Alternate reality impacts (explore alternative landings data)
- Sensitivity analyses
  - E.g.: L , Natural mortality, Length structure
- Use of Monte Carlo Bootstrap Ensembles
- Eliminate use of visual census data

SEDAR 80

Moving Forward

- SEFSC recommended that they explore options for data alternatives and targets for sensitivity analysis
- Then bring these back to the SSC for review before undergoing full reassessment
- The SSC agreed with this recommendation

Research Recommendations

- Last formal attempt by the SSC was in 2014
- Had 2 hours to discuss
- Discussion was weighted by
  - The 2014 plan
  - Presentations on port sampling and life-history
  - New developments
    - EBFM, (h)(2) flexibilities*, e-Reporting, Digital tools, etc.
- Produced a bullet list of research priorities as starting point
- No discussion or formal ranking, not necessarily inclusive

*for setting OFLs/ABCs/ACLs when catch data are insufficient

Research Recommendations

- The SSC had limited time to further discuss and elaborate on research recommendations
- Only minor adjustments made
- No attempt was made to prioritize recommendations
- It was suggested to provide rationale for recommendations based on perceived management needs and/or potential actions to further illustrate for the CFMC why each recommendation is included

Research Recommendations

Improve Commercial, Recreational and Charter Landings Data

- Analyze the recent port-sampling report of PR landings
  - improve port sampling
  - expansion factor estimation and application
  - length composition
- Improve landings data collection via digital tools
- Evaluate the expansion factors for PR
- Evaluate digital formats for reporting and validate vs paper reporting
- Initiate a port-sampling study of landings in the USVI

Orange indicates action already in progress or formally scheduled

Research Recommendations

Collection of biological data for life-history/population parameters

- Improve biological data collection (e.g., using digital or genetic tools): age and growth, reproduction, maturation, feeding habits

- Timely prioritization of collection by species (using e.g., IBFMPs, SEDAR)
  - Review and formalize stock prioritization process

Effort estimation

- Develop alternate estimation methods

Research Recommendations

EBFM and Ecological Aspects

- Evaluate effectiveness and impacts of closed areas
- Develop habitat maps from existing NOS multibeam/lidar data and from exploration missions, survey transect data
- Review of status of spawning aggregations within closed areas
- To evaluate the closed season relative to the spawning seasons
- Trophic ecology studies
- Investigate the functional ecology of our habitats
- Construct an electronic species habitat database

The SSC noted that further EBFM recommendations will be forthcoming as an output from the EBFM TAP

Research Recommendations

Prepare for (h)(2) flexibilities

- Simulations to test alternate ACLs for (h) (2) flexibility
- How to incorporate uncertainty into defining ABCs from OFLs
- Collect life history information

Monitoring and Surveys

- Monitoring program of fish populations in closed and open areas
- Develop video methods for surveys
- Cooperative fisheries-based surveys
- Train and delegate to fishers' fisheries monitoring activities

Research Recommendations

Socio-Economic data for management

- Determine the economic values of fisheries that can be used in assessing benefits and costs of alternative management measures
- Periodic systematic collection of data to provide a baseline and comparative basis for social impact assessments
- Research to assess and integrate Local Ecological Knowledge into decision-making

Facilitate the above with:

MOU between the Council, SEFSC and territories for monitoring and data collection activities

SSC Charter

- The SSC requested that written guidance be prepared for SSC members covering roles, responsibilities, conflicts of interest, etc.
- The SSC noted that the MSA guidance is too general, and that other councils provide additional guidance to their SSC
- General Council stated that the CFMC Standard Operational Procedures contain this type of information and could be made available to the SSC
- The SSC requested that this be done

Conflict of Interest

- During the meeting, Virginia Shervette, as an outside listener, posted in the chat that there was an appearance of a conflict of interest between Todd Gedamke, as an SSC member, and the NOAA-funded Puerto Rico Port Sampling and Catch Validation Project that was conducted by MER Consultants, of which Todd Gedamke is a principal partner.
- General Council stated that conflict of interest within the SSC is limited to recommendations on peer-review, and reminded all that SSC members are required annually to submit financial conflicts of interest forms.

Conflict of Interest

- Todd Gedamke reminded the SSC that this accusation was reminiscent of previous allegations of conflict of interest coming from the USVI, which were not substantiated, and again requested a formal clarifying statement from General Council.
- He then recused himself from all further SSC business until his name, and that of MER Consultants is cleared in a document from General Council

Conflict of Interest

Comments by the SSC Chair

- The Council is reminded that this accusation, in addition to being identical to those raised in 2017, follows the similar accusation made by Mr. Julian Magras within the context of his DAP report at the last Council meeting.
- A formal request to the council concerning the validity and consequences of the accusation at the last council meeting is still pending.
- The role of the SSC is to provide independent scientific advice. This cannot happen if the SSC is subject to bias, pressure from stakeholders or fear of removal on the basis of uninformed and unsubstantiated charges.
- Unfortunately, this may lead to changes in how SSC meetings are conducted, with discussion limited to SSC members and those presenting reports to the SSC.

National SSC (SCS7)

- NSSC | Aug 15-17 | 9:00 a.m. (AKDT)/ 1:00 p.m. (AST)| Sitka, AK

- **Case Study 8***: Multivariate approaches for EBFM implementation in the U.S. Caribbean*

- Webpage with agenda: http://www.fisherycouncils.org/ssc-workshops/scs-7

  - Zoom Link: https://us06web.zoom.us/j/82475089609
  - Meeting ID: 824 7508 9609
  - Passcode: 003197

- The meeting will be streamed for the public (listen-only mode)