Belize Spiny Lobster FIP + FDM
Caribbean Spiny Lobster Stock Assessment Presentation
Delivered by the Belize Fisheries Department
September 7, 2023
Belize Fisheries Department Conference Room

Attendance:

Isaac Lambey (Chair) – Northern Fishermen Cooperative Society Ltd.
Elmer Rodriguez – National Fishermen Producers Cooperative Ltd.
Jason Arnold – National Fishermen Producers Cooperative Ltd.
Galento Galvez – University of Belize Environmental Research Institute
Mauro Gongora – Belize Fisheries Department
Kenneth Esquivel – Belize Fisheries Department
Abigail Quiroz – Belize Fisheries Department
Julio Maaz – Wildlife Conservation Society (WCS)
Myles Phillips – Wildlife Conservation Society (WCS)
Jané Salazar Mcloughlin – The Nature Conservancy (TNC)
Hannah St. Luce Martinez – The Nature Conservancy (TNC)
Wendy Casasola – The Nature Conservancy (TNC)

Key Notes from the Caribbean Spiny Lobster Stock Assessment presentation delivered by Belize Fisheries Department to the Belize Spiny Lobster FIP+FDM Steering Committee

- All members present were welcomed and asked to introduce themselves.
- Mr. Gongora highlighted the importance of this presentation since there is a report prepared by the Summit Foundation indicating that Belize's Fisheries Industry is in Crisis. He shared that such statements can potentially require the country to give an account of the current state of the situation.
- Mr. Gongora shared that a consultant was hired through a project to review the dataset for lobster and conduct the analysis using data from 1999-2021; noting that data from Fein Catch and Rainforest Seafood Ltd (private companies) data were added in 2017. He added that the assessment was done in collaboration with other partners such as EDF.
- Mr. Esquivel highlighted that the methods used were:
    - trends in catch
    - fishing mortality
    - virtual population analysis
    - Catch MSY
- Mr. Esquivel shared that in terms of catch, there is generally a stable pattern but there was a decrease in production (loss of fishing gear and a decrease in fishing efforts) following various hurricanes – Keith, Iris, Dean and Earl. Hurricane Early in 2016 resulted in a loss of approximated 15k traps and 9k shades; 75% of the lobster production was impacted, affecting the 2017 lobster season as well.

- There was also a decline in production in 2021 due to the pandemic, since there was a decrease in purchases from external markets.
- Mrs. Mcloughlin questioned if the production of Northern and National Coop have increased or decreased post 2017 when two (2) private companies' data received export permits and if this was included considering that they have more data in terms of exported products [in addition to 2 private companies].
- Mr. Arnold indicated that their production has been stable but perhaps could have increased if the other 2 private companies were not exporting.
- Mr. Gongora responded that when fish population is finite and you have X level of effort, and taking X amount of the population, you will end up with what is being produced for the buyers. By adding another buyer, it doesn't mean that population size will increase by x %, what it means is that the you are sharing the catch but does not mean population has increased. He added that the fishing effort prior to and after 2017 is not significant and hence the general stable pattern of population over time.
- Mr. Gongora also noted that there has been an approximate 3% annual increase in number of fishers per year with 2020 being the highest record of licensed fishers.
- Mr. Esquivel also noted that the 5oz class size is approximately 20% of total landings observed over the time period, followed by the 6oz class size. 4oz tails are approximately 12% of the total landings observed.
- Mrs. Mcloughlin questioned if the size distribution is available by year to determine any trends in size classes. Mr. Esquivel expressed that this was conducted but was not prepared for the current presentation.
- In terms of relationship of fishing mortality to spawning biomass of lobster a decrease in fishing mortality, increase in spawning biomass was observed. The 2016 hurricane decreased the number of traps and shades in the water and 75% of the lobster production was affected by hurricane. The hurricane influenced the food source, habitat and movement of lobster – lobster does not like disturbed substrate types.
- It was highlighted that the use of landing data has not been prioritized by the department because it is not consistent. The analysis used the export data from the exporting entities. A suggestion was made to digitize the data from the coops prior to 1999.
- It was highlighted that as a result of the demand for lobster after the early stages of the pandemic, a price increase occurred and an associated increase in price is projected to decrease, likely reducing the fishing mortality and effort.
- Mr. Esquivel indicated that the department has included in the Government Strategic Allocation budget to do an assessment of the # of traps in the lobster fishing industry.
- Mr. Maaz shared that the Department needs to develop the management plan and gazette the locations. He also highlighted the importance of publishing the annual report that NGOs, donors etc. can reference.
- The Fisheries Department indicated that they are willing to participate in a workshop to complete the stock assessment report and publish it. However, funding for this is not available.

- It was noted that the current trend of the lobster fishery is trending toward unsustainability; it is currently above MSY; there is a need to control and/or reduce fishing effort

The Steering Committee members provided the following recommendations:

- Strengthen the monitoring and data collection system through the Tally traceability software currently implemented at the Northern and National cooperatives
- Standardize data collection and reporting requirements among exporters
- There has been a steady increase in effort (# of licensed fishers) over time and measures need to be put in place. Department was advised to:
    - review and control a reduction in number of licensed fishers
    - manage the number of trap and shades per fisher
- For the issuing of license, establish a screening process or make it a requirement for fishers to submit a police record. Also, consider establishing an examination to test their understanding/knowledge about the Fisheries regulations. This might require providing fishers with a training before a license is issued.
- It is advisable that the Government of Belize develop a science based total allowable catch (TAC) to enable sustainable management of the lobster resources
- Increase joint patrol with Coast Guard and co-managers to minimize turf wars
- Establish a lobster quota system with the participation of fishers.
- Raise the issue of the report from Summit Foundation at the Fisheries Council level and determine next steps. The FIP Steering Committee is in support of the Fisheries Department to finalize the stock assessment report and publish the results.

Recommendations from the department's presentation

- Develop protocol and collect national effort data.
- Monitor and assess illegal fishing
- Monitor and assess unreported catch in the domestic market
- Manage the number of different gear types per fisher
- Implement early-season lobster status assessment, to guide management throughout the season
- Conduct studies to estimate weight and length conversion to catch at age at the local level
- Increase communication and collaboration among co-managers with the Fisheries Department

Action items:

- TNC to draft meeting minutes, send to the Fisheries Department for review and then share with the SC members.
- Mr. Esquivel to share presentation conducted with CRFM
- Mr. Gongora to share the Lobster Management Plan