



133rd Meeting of the Scientific and Statistical Committee

August 7, 2019

noon – 3 p.m.

Council Office Conference Room

Honolulu, HI

(and by Web Conference)

FINAL REPORT

Members present via teleconference: Jim Lynch, Milani Chaloupka, Graham Pilling, Debra Cabrera, Domingo Ochavillo, Michael Tenorio, Frank Camacho, Craig Severance

Members present in office: David Itano, Donald Kobayashi, Justin Hospital, Michael Seki, Erik Franklin, Mike Fujimoto (for Ryan Okano)

1. Report of the SSC Working Group

Jim Lynch, SSC Chair, summarized the review conducted by the SSC working group of the June 26, 2019, Biological Opinion (BiOp). The working group noted that the final BiOp did not incorporate comments provided by the SSC. The review covered the adequacy and integrity of the information contained in the BiOp and the reasonableness of the RPMs. The working group supported the “no jeopardy” conclusion whereby the impacts of estimated take to the listed turtle species were very low and likely negligible from a population standpoint.

The working group also concluded that the models used to assess the loggerhead and leatherback trends were sound and informative. This can be used as a basis for the management action. However, the working group emphasized that some of the RPMs contained in the BiOp are likely overly-conservative. In view of the “no jeopardy” conclusion and the negligible impacts to the turtle population, the 25 percent reduction is arbitrary and not supported by the information presented in the BiOp and may have negative impacts to the fishery. Some extra analyses are likely needed to assess the RPMs and their impacts to the fishery. SSC member Severance noted that the additional RPMs may have some unanticipated socio-economic impacts.

The SSC endorses the working group report (Appendix 1). Further, the SSC supports the no-jeopardy conclusion given the negligible impacts to both loggerhead and leatherback turtle populations. In view of the findings of the SSC working group, the SSC deems the 25 percent reduction goal in the RPM as aspirational, overly conservative, and not supported by the scientific information presented in the final BiOp. The SSC supports the development of alternative models that further evaluate the long-term viability of marine turtle species exposed to the Hawaii shallow-set longline fishery.

2. Managing Loggerhead and Leatherback Sea Turtle Interactions in the Hawaii-based Shallow-set Longline Fishery (Action Item)

Council staff presented on the history of the Hawaii shallow-set longline fishery and the management of turtle interactions. The shallow-set fishery reopened in 2004 as a ‘model’ fishery to reduce interactions. “Hard caps”, limits to the number of leatherbacks or loggerheads encountered in the fishery, have been implemented since 2004 through the Council’s own fishery management plan. The fishery operates under 100 percent observer coverage. Since the fall of 2017, loggerhead sea turtle interactions have increased. Litigation in the 9th Circuit Court in 2017 led to a hard cap regime that reduced the number of loggerhead interactions to 17/year.

The Council convened its 177th meeting on April 12, 2019 to review its recommendations from the 173rd meeting for consistency with the draft BiOp, and to consider taking final action on the management framework. The draft BiOp provided to the Council on March 28, 2019 concluded that the shallow-set longline fishery is not likely to jeopardize the continued existence of ESA-listed species, including loggerhead and leatherback turtles. However, the draft BiOp also contained Reasonable and Prudent Measures (RPMs) that were inconsistent with the Council’s recommended framework. The BiOp Review Advisory Panel was convened and reviewed the draft BiOp. The Advisory Panel provided numerous comments for NMFS to consider prior to finalizing the BiOp. The Council at its 177th meeting maintained its management framework recommendation from the 173rd Council Meeting consisting of annual fleet-wide hard caps and individual trip interaction limits; revised the recommendation for leatherback annual hard cap limits from 21 to 16 consistent with the RPMs in the draft BiOp; additionally recommended an individual trip limit of 2 leatherback turtles; and recommended an annual review of the Hawai‘i shallow-set longline fishery’s performance under the individual trip limits in the Annual Stock Assessment and Fishery Evaluation Report. The Council further requested that PIRO consider revising the RPMs for consistency with its recommended action.

NMFS delivered the final BiOp for the Hawai‘i shallow-set longline fishery on June 26, 2019 during the 178th Council meeting. The final BiOp incorporates the Council’s recommended individual trip limit, but some discrepancies remain between the Council’s recommended action from the 177th meeting and the RPMs. These discrepancies include conditional exclusion of vessels that breach trip limits twice in a calendar year. The Council deferred final action at the 178th meeting and recommended convening a teleconference meeting to consider final action. Additionally, the Council directed staff to work with the PIRO Sustainable Fisheries Division to prepare necessary analyses incorporating the final BiOp and associated RPMs to inform final action on the management of loggerhead and leatherback turtle interactions in the Hawai‘i shallow-set longline fishery at its 179th meeting and to ensure timely review and transmittal of the amendment package following the meeting.

Council staff presented the different alternatives that the Council will consider for final action on the management of the loggerhead and leatherback turtle interactions in the Hawai‘i shallow-set longline fishery. This takes into account the non-discretionary RPMs and associated Terms and Conditions (T&C) in the final BiOp. Staff described the expected fishery outcome, effects on target and non-target stock, socio-economic impacts, and management setting of each alternative. The SSC discussed the following alternatives:

- Alternative 1: No Action (Fishery operates under current hard cap limits of 17 loggerhead and 26 leatherback interactions)
- Alternative 2: Implement the Council's Recommended Action from the 177th Council Meeting (Modify annual fleet-wide hard cap limits and establish individual trip limits for loggerhead and leatherback turtle interactions in the Hawai'i shallow-set longline fishery)
- Alternative 3: Modify loggerhead and leatherback turtle mitigation measures consistent with RPMs and T&C 1a and 1b in the 2019 BiOp, and modify loggerhead turtle hard cap limit equivalent to the ITS in the current BiOp
- Alternative 4: Modify loggerhead and leatherback turtle mitigation measures consistent with RPMs and T&C 1a and 1b, and do not set loggerhead turtle hard cap limit

The SSC noted that the alternative 1 is not supported by the best scientific information available. Alternatives 2 to 4 were viewed as being consistent with that information. Alternatives 3 and 4 that contains the additional RPMs are not commensurate with the scientific information on the fishery's impacts presented in the BiOp and the no-jeopardy conclusion. The SSC emphasized that the loggerhead turtle population is increasing and that based on the analyses, the impacts of the Hawaii shallow-set longline fishery on both loggerhead and leatherback turtle populations are negligible.

The SSC emphasized that the impact of interactions between the shallow-set longline fishery and sea turtles is low given that nearly all turtles observed in the fishery have been released alive. Further, the SSC underscored the importance of maintaining 100 percent monitoring of the fishery and improving the estimation of post-release mortality. Some members commented that they would prefer to see the management of the shallow-set longline fishery move away from hard caps, given that the impacts of this fishery on loggerhead and leatherback turtles are negligible and the loggerhead population is increasing steadily. Hence, some members favored alternative 4, but with reservations since it includes additional restrictive measures that have the potential to reduce the capacity of a valuable fishery operating on a healthy swordfish stock while not providing any meaningful conservation benefit.

On the other hand, some SSC members favored alternative 2 given it allows some flexibility to remain open with a higher hard cap in place, which is a maximum allowable take limit that ensures no negative long-term impact on the North Pacific loggerhead stock. The SSC emphasized that the BiOp did not provide the science to support the punitive aspect of the additional restrictions on vessels that reach trip limits.

The SSC noted that alternatives 2, 3 and 4 are viable, but does not recommend a specific alternative. The SSC notes that in light of the no-jeopardy finding of the BiOp, the additional RPMs are punitive and are not supported by the scientific information that the fishery has no adverse impacts to loggerhead and leatherback sea turtle populations. Some SSC members supported alternative 2 as it provides flexibility for the fishery to operate under a higher loggerhead hard cap with less punitive individual trip limits, while others supported alternative 4 as it provides more flexibility without the loggerhead hard cap limit but the additional restrictions on the trip limits were considered to be onerous. None of the SSC members recommended alternatives 1 or 3.

3. Public Comment

A member of the public thanked the SSC for working on this issue for so long. None of the alternatives are commensurate to the impact the fishery has on loggerhead and leatherback sea turtles, which is negligible with respect to impact on the species' populations. As stated in the comment letter, Hawaii Longline Association (HLA) favored the use of incidental take statements (ITS) as limits under which all other domestic US fisheries operate. The Hawaii shallow-set longline is an important fishery that provides 50 percent of the nation's swordfish supply has been overregulated. He mentioned that NMFS seems to be more concerned with its bad track record in court. HLA will never support hard caps and opposes the conditional vessel limits. He inquired on the alternative modeling approaches for the fishery and for use in BiOps and expressed that the SSC's discussion on the matter is a positive development.

A council member inquired on nesting population versus the population itself. He perceives discrepancies between the two estimations. He noted that the population growth rate per year years to a surplus of ~8,000 turtles a year and the removal of 36 a year is negligible. He also inquired on the status of line-cutters to reduce trailing gear and increase post-release mortality. Council staff replied that there was cooperative research underway supporting the development of line-cutters and that a new tag was in development with Dr. T Todd Jones at PIFSC.

A council member requested that the SSC consider removing conditional vessel limits from either of the alternatives.

The meeting adjourned at 2:30 p.m.

Review of National Marine Fisheries Service Biological Opinion for the Shallow-set Longline Fishery

SSC Working Group Members: Dr. Milani Chaloupka, Dr. Ray Hilborn, Jim Lynch (SSC Chair), Dr. Steve Martel (abstaining), Dr. Shelton Harley (abstaining).

Summary of Review: A working group of the Western Pacific Fishery Management Council, Scientific and Statistical Committee (SSC), reviewed the June 26, 2019, Biological Opinion (BiOp). This version of the BiOp was purportedly revised in response to comments submitted by the SSC.

As an initial matter, SSC reviewers did not note many, if any changes, made in response to prior SSC comments on the draft BiOp. One reviewer noted that it appears that no substantive changes had been made in response to SSC comments. This suggests that BiOp authors were either unwilling to consider SSC comments, or were under considerable time pressure, and unable to consider such comments. In the future, SSC reviewers recommend that BiOp authors leave sufficient time to consider, and possibly discuss, SSC comments with SSC reviewers provided on draft BiOps. In the absence of doing so, SSC reviewers are unable to adequately comply with National Standard 2, and make recommendations to the Council regarding whether recommendations for management action are based on the Best Available Scientific Information.

SSC reviewers focused on the adequacy and integrity of information contained in the BiOp, as well as the reasonableness of Reasonable and Prudent Measures contained in the BiOp to avoid and minimize the impacts of take. SSC reviewers concluded that the level of analysis provided in the BiOp justified the “no jeopardy” conclusions. In fact, all reviewers concluded that the impacts of estimated take to listed turtle species were very low, and likely negligible from a population standpoint.

At the request of the SSC Chair, Dr. Milani Chaloupka conducted a more in-depth evaluation of the risk analysis and models used in the BiOp. Dr. Chaloupka’s review is attached as Exhibit A. Dr. Chaloupka concluded that the Bayesian state-space population models used to assess loggerhead and leatherback trends were sound and informative and provided a sound basis for the assessment of management actions. While the risk analyses for the green and olive ridley turtle stocks were less comprehensive than for either loggerheads or leatherbacks, the analyses were adequate for the final BiOp. Dr. Chaloupka recommended that future analyses make use of a modelling-based assessments to further evaluate the long-term viability of the marine turtle species exposed to the Hawaii-based shallow-set pelagic longline fishery.

Finally, reviewers concluded that several of the RPMs contained in the BiOp were likely overly-conservative, and likely to result in unnecessary impacts to the fishery. For example, in view of the negligible impacts of the fishery on listed turtle species, SSC reviewers found no support for measures requiring an additional 25 percent reduction in sea turtle interactions. Reviewers noted that the choice of a 25 percent reduction was arbitrary, and not supported by information presented in the BiOp. SSC reviewers believe that RPMs contained in the BiOp should be re-evaluated by BiOp authors, particularly when modelling-based assessments are implemented to evaluate the proposed fishery.

Reviewer Report: Review of final Biological Opinion for the Hawaii Pelagic Shallow-set Longline Fishery

Dr Milani Chaloupka ^{1,2,3}

1. Ecological Modelling Services Pty Ltd, Australia
2. School of Biological Sciences, University of Queensland
3. WPRFMC Science and Statistical Committee

July 26, 2019

Background

NMFS issued its final BiOp for the Hawaii pelagic shallow-set longline fishery on June 26, 2019. The Council has requested that the SSC review this final BiOp and provide comments on it by August 7, 2019.

The task was to focus on effects analyses and the Reasonable & Prudent Measures (RPM) and associated Terms and Conditions. This reviewer was asked to focus specially on loggerhead and leatherback marine turtles in the context of this final BiOp in a manner that would complement ongoing analyses that are being performed by PIFSC.

Review Findings and Recommendations

The management actions proposed in the final BiOp for the continued authorization of the Hawaii pelagic shallow-set longline fishery:

- are unlikely to jeopardize the long-term population viability of the marine turtle stocks exposed to this fishery
- are unlikely to negatively impact any critical species-specific habitat for those marine turtle stocks

It is recommended that future BiOp assessments:

- use updated post-release mortality rate estimates for estimating the consequences of incidental capture of threatened species

Tasks

The specific review questions were as follows:

1) Does the BIOP adequately evaluate the impacts of sea turtle take on the loggerhead and leatherback turtle species, and are the conclusions contained in the BIOP supported by the best available scientific information?

Finding: Yes

Comments: Comprehensive and thorough assessment of the risks of exposure to the Hawaii pelagic shallow-set longline fishery and the possible consequences of that exposure.

The Bayesian state-space population models used to assess loggerhead and leatherback trends were sound and informative and provided a sound basis for the assessment of management actions.

The risk analyses for the green and olive ridley turtle stocks exposed to this fishery were less comprehensive than for either loggerheads or leatherbacks, but were adequate for this final BiOp.

Overall, the risk exposure assessment is based on the best available science.

2) Are the Reasonable and Prudent Measures contained in the BiOp appropriate to minimize the impacts of the take of loggerhead and leatherback sea turtle species?

Finding: The RPMs and associated Terms and Conditions further minimize the impacts of take; however, the need for such RPMs and Terms and Conditions are not well-supported by available information.

Comments: The action agency has adopted a risk-averse approach that is likely too conservative given the negligible impact that the Hawaiian-based pelagic longline fishery has on the long-term viability of north Pacific marine turtle stock.

3) To what extent do each RPM contribute toward the 25% reduction goal?

Finding: All 6 RPMs contribute to a potential 25% reduction in the permitted annual take limit

Comments: But the action agency has adopted a risk-averse approach that might be too conservative given the negligible impact that the Hawaiian-based pelagic longline fishery has on the long-term viability of north Pacific marine turtle stock. The 25% reduction goal is arbitrary in application but an aspirational goal nonetheless.

4) Review impacts analysis for alternatives to be considered by the Council for final action and provide advice on: b. Impacts to loggerhead and leatherback turtles

Finding: The permitted annual take limits for 16 leatherback and 36 loggerhead immature marine turtles is highly conservative. The species-specific annual take levels of immature turtles would not affect the long-term viability of these north Pacific stocks — mature turtles are not caught incidentally in this fishery.

Comments: A thorough modelling-based assessment should be undertaken to rigorously define demographically meaningful limits of acceptable take on the long-term viability of the marine turtle species exposed to the Hawaii-based shallow-set pelagic longline fishery.

I understand that PIFSC is currently undertaking this modelling task. I believe that a comprehensive demographically-based stochastic simulation model of population dynamics could provide additional information regarding the impacts of the fishery on sea turtle populations.