



Request for Proposals

Future Stock Projections of Oceanic Whitetip Sharks in the Western and Central Pacific Ocean

Western Pacific Regional Fishery Management Council

The Western Pacific Regional Fishery Management Council (Council) is soliciting proposals for a contractor to design and conduct an analytical framework to model stock projections of oceanic whitetip sharks in the Western and Central Pacific Ocean (WCPO). The projections will utilize results from the most recent stock assessment adopted by the Western and Central Pacific Fisheries Commission, WCPFC. Conservation and Management Measures (CMMs) have been implemented on the species, including non-retention beginning January 1, 2013 and the ban of 'shark lines' in longline fisheries effective July 1, 2015. Projections are being sought to understand the potential effect of these CMMs on the oceanic whitetip stock in the WCPO. For this Request for Proposals (RFP), we invite proposals that fulfill the scope of work below. The contractor should be able to work well with Council and NMFS staff and seek their consultation throughout the project's duration.

The updated stock assessment for oceanic whitetip shark presented to the 15th WCPFC Science Committee SC15 (SC15-SA-WP-06) showed that the stock was overfished and undergoing overfishing, but also highlighted a small reduction in stock depletion, and improvements in recruitment and F-based reference points under certain catch scenarios. However, since oceanic whitetip sharks are late-maturing and fishing mortality on juveniles is high, uncertainty remains as to the effectiveness of the non-retention measure active for the last 4 years of the assessment (CMM-2011-04, non-retention of the species) and the resulting timeline for recovery. In parallel, SC15-EB-WP-04 presented new results quantifying post-release mortality for oceanic whitetip shark that were not available at the time SC12-SA-WP-06 was completed.

SCOPE OF WORK

The contractor will work closely with the Council, Pacific Islands Fisheries Science Center (PIFSC), and other partners to develop future projections for the 2019 WCPO oceanic whitetip stock assessment to assess the impacts of future fishing mortality on recovery timelines.

Under this project, population projections from 2016 to 2031 would be performed from model configurations from the 2019 stock assessment of Western and Central Pacific oceanic whitetip sharks using Stock Synthesis (Tremblay-Boyer et al, 2019). Generation time for oceanic whitetip shark are between 5 and 8 years. The 2016 projection horizon should allow the work to quantify the expected timeline for recovery for this stock, and could also inform short- to medium-term recovery plans. The projections would provide Markov Chain Monte Carlo (MCMC) projection probabilities given catch scenarios accounting for discard mortalities and candidate mitigation

measures. They would be carried out using the Stock Synthesis forecast module and implemented with stochastic recruitment in the projection period (estimated recruitment deviations) by treating the future projection period as part of the estimation period. Stochastic recruitment uncertainty in the projection period will be implemented as an approximation of the recruitment uncertainty that would have been achieved by randomly selecting annual recruitment deviation from stock recruitment parameters with a statistical distribution, noting the oceanic whitetip shark stock assessment allowed for little variation of predicted recruitments around the predicted spawner-recruit relationship.

Uncertainty scenarios would cover that already presented in the assessment and also be expanded to include new information on post-release mortality (PRM) for oceanic whitetip shark, as well as additional scenarios useful to inform mitigation measure. The modelling framework should be developed so that projections incorporating new information on discard mortality scenarios can be easily updated in the future by other scientists.

This work would be completed and reviewed by the time of the Council's 137th Science and Statistical Committee in September, 2020.

The contracting party will fulfill the following scope of work:

- Perform projections of population status from 2016 to 2031 under all uncertainty axes accounted for in the structural uncertainty grid from SC15-SA-WP-06 that were accepted by the Scientific Committee to describe the status of this stock.
- Investigate future catch or effort scenarios likely to occur.
- Investigate additional scenarios of discard rates and discard mortality based on ongoing work on post release mortality or candidate mitigation measure.
- Conduct weekly check-in calls with PIFSC and Council staff.

CONTRACT PERIOD

The contract is expected to begin June 15, 2020. The contract shall be completed no later than September 31, 2020.

ELIGIBILITY

- Principle Investigator(s) must have a demonstrated mastery in Stock Synthesize and in working with configuration files to post-process stock assessments.
- Principle Investigator(s) must have a demonstrated ability to implement the project, with a background in statistics, computer science, and data visualization.
- Principle Investigator(s) must have a demonstrated expertise with statistical platforms such as R or SAS – or any related software packages that can perform needed exercises and provide a means to reproduce the analyses.
- Principle Investigator(s) must have a demonstrated expertise with stock assessment, particularly those of elasmobranchs or pelagic fisheries.
- The contractor must be available to start the project no later than June 15, 2020;
- U.S. Federal agencies and their employees are not eligible for contractual agreements with the Council;
- Proposals will be evaluated on a competitive basis by a review committee. The selected

proposal will be funded as a contract.

REPORTING REQUIREMENTS

The contractor will be required to submit regular progress reports, a final report, and any other deliverables to be identified in the contractual agreement. All end products, reports, and other deliverables resulting from this project must be submitted to the Council. The contractor must also formally acknowledge the Council support in all publications and presentations related to the funded project. The contractor is expected to produce a high quality analysis that is appropriate for submission to a peer-reviewed scientific journal and incorporation into annual reports.

HOW TO APPLY

Proposal submissions should include the following materials:

- (1) A proposal including the following items (*maximum 3 pages*):
 - a. Name, affiliation, and contact information of the principal investigator(s)
 - b. Project narrative, example of previous projects within the scope of work for this project
 - c. Budget
 - d. List of citations, if any
- (2) A curriculum vitae or resume for each Principal Investigator (*maximum of 2 CVs per proposal; not to exceed 4 pages each*).

Proposals may be submitted by e-mail (attach materials in PDF files) or regular mail to:

Western Pacific Regional Fishery Management Council
1164 Bishop Street, Suite 1400
Honolulu, HI 96813
Email: info@wpcouncil.org

Any inquiries regarding this Request for Proposals should be directed to the contact information above. Proposals will be reviewed by a committee consisting of staff members from Council and/or Science and Statistical Committee (SSC) members.

SUBMISSION DEADLINE

Proposals must be submitted and received at the Council office by **Friday June 12, 2020**, at 5pm Hawaii Standard Time.