WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

Request for Proposals

Mapping Coral Reef Fisheries in the Mariana Islands

October 29, 2015

Background Information

Island scale and within-reef spatial variation in fishing effort is not well understood in the Mariana Islands. Additionally, fisherman knowledge about effort and fish habitat are invaluable to fisheries management. The goal of this project is to identify and map coral reef fishing grounds to inform more accurate stock assessments, catch reporting, and descriptions of essential fish habitat or habitat areas of particular concern in the Mariana Islands. The objectives of this project are as follows:

1. Map fishing effort for the top 10 priority species in Guam and CNMI;
2. Identify important habitats for juvenile and adult life stages of key target species using local and traditional ecological knowledge collected from fishermen
3. Identify areas of high fishing effort for different key targeted fish species
4. Inform fishermen about the status of fisheries, and collaborate with fishermen in forming appropriate fishing regulations and work towards implementation for more sustainable fishing practices.

Scope of Work

The species to be focused on will include those identified in a Productivity and Susceptibility Analysis done for Guam and CNMI through previous NOAA CRCP-funded projects on stock assessments. This analysis provided the Council with an idea of which species are more vulnerable to overfishing. The top species from these analyses that will be further looked at in this project include:

Guam	CNMI
Aprion virescens	*Kyphosus vaigiensis*
Varioloa louti	*Cheilio inermis*
Cheilinus trilobatus	*Leptoscarus vaigiensis*
Lethrinus rubrioperculatus	*Cheilinus trilobatus*
Scarus schlegeli	*Epinephelus merra*
Kyphosus vaigiensis	*Monotaxis grandoculis*
Monotaxis grandoculis	*Lethrinus atkinsoni*
Hipposcarus longiceps	*Siganus spinus*
Epinephelus merra	*Acanthurus lineatus*
Naso unicornis	*Kyphosus cinerascens*

TASK DESCRIPTION AND METHODOLOGY

There will be 4 parts to the proposed project, which will include: 1) collation of existing data 2) data collection through participatory mapping and GPS 3) data validation and analysis 4) stakeholder workshops

Data collation and collection - The first phase of the project will involve identifying and collating existing marine datasets into a GIS database. The Commercial Biosampling Project collects data including the spatial and temporal distribution of species and size composition of fish catch for coral reef fisheries, bottomfishing and sportsfishing around the Northern Mariana Islands. Creel survey data will also be used. Existing data will be mapped, with the goal of producing automated reports where possible.

Qualitative interviews will be undertaken combined with the use of maps and plastic overlays and/or digital whiteboards to identify fishing grounds and important habitat for different key target fish species, using a method similar to NOAA's participatory mapping methods, in a workshop setting. The project will also verify fishing boat activity using GPS loggers which will be deployed on fishing boats to provide high resolution spatial data on fishing activity.

Data validation and analysis – One of the main aims of the project is to geographically map coral reef fishery fishing grounds to provide additional source data for determining potential differences in species composition, size structure, productivity (in terms of CPUE) and species seasonality. Trends in fishing effort will be identified through visualization and spatial analysis and described in a final report. Data validation will occur through presentation and soliciting feedback from fishermen in the second and third workshops. GPS data will be evaluated for use in improving existing catch reporting programs, particularly with respect to enhancing creel survey sampling coverage and separating federal and local landings. Important habitat information will inform reviews of Essential Fish Habitat and Habitat Areas of Particular Concern for federally managed species.

Stakeholder workshops – Three workshops will be organized for the fishing community throughout the duration of the project. The first will involve participatory mapping of fishing grounds and important habitat. Participants in the GPS data collection will receive GPS units, data collection forms, and training in the first workshop. A second will be held in month 8 to present initial results and assess progress and acquire comments or concerns. A third will be held on completion of the project to present the derived results and maps, and identify further projects and activities of interest to the fishing communities.

Cooperative Strategy, Integration and Long-Term Implementation:
This project would entail collaboration with the local fishery management agencies of Guam and the CNMI to obtain creel survey and biosampling data. To attain success, the project will collaborate with various fishing clubs and fishing cooperatives. Based on discussions with the Council's advisory panel, island coordinators and local contractors, fishermen participation in workshops is promising. Providing the GPS unit as an incentive will increase workshop participation. The results of this project will serve as a baseline of the fishing grounds for various fisheries to inform marine planning and habitat management. These fishing ground locations will be evaluated to determine the extent to which the information is captured by the current data collection systems of each respective jurisdiction. Once evaluated, the principal investigator will collaborate with WPacFIN and the FDCRC to make adjustments to the data collection system to ensure creel survey effort samples are representative of the fishing effort. This will be part of the long-term implementation of the data collection programs.

TASK SCHEDULE AND DELIVERABLES

Schedule

This is a two year project, but contracting and funding for the second year is contingent upon availability of funds. The first year will focus on Guam and the second on CNMI. In developing your proposal, please limit the project narrative and budget to Guam for the first year of work.

Deliverables

1. Work Plan with survey design for GPS tracking
2. Participatory mapping geodatabase with fishing grounds and EFH info per species with map book – Guam first year, CNMI second
3. Geodatabase with existing information, map docs, and map book
4. Annual Report
5. Monthly progress reports

All proposals shall be submitted by November 15, 2015. Proposals should be sent by email to Rebecca Walker (Rebecca.Walker@noaa.gov) or by fax (808 522-8226) or by mail: Western Pacific Regional Fishery Management Council, 1164 Bishop St., Ste. 1400, Honolulu, HI 96818. Proposals must contain the following three items: 1) qualifications, 2) project narrative, and 3) budget. Ideally, the contractor will have experience with participatory mapping in marine environments in the Western Pacific Region and familiarity with fisheries data collection programs in the Marianas. Funding for this project is through the Coral Reef Conservation Program.