

Project: Proactive Species Conservation Program – Assessment of status and habitat specificity and development of a draft archipelagic management plan for *Cheilinus undulatus* (humphead wrasse) and *Bolbometopon muricatum* (bumphead parrotfish) in the Mariana Islands.

STATEMENT OF WORK

Background or Problem Statement

The National Marine Fisheries Service (NMFS) defines a Species of Concern (SOC) as a species that is not being considered actively for listing under the Endangered Species Act (ESA) but for which significant concerns or uncertainties regarding its biological status and/or threats exist (69 FR 19975). The purpose of the NMFS SOC Program is to conduct proactive conservation activities under the ESA to preclude the listing of future species, rather than addressing the recovery needs of a species listed. Two of the Pacific Islands Region Species of Concern are the humphead wrasse, *Cheilinus undulatus*, and the bumphead parrotfish, *Bolbometopon muricatum*.

This project aims to contribute to the conservation and understanding of these two SOC, the humphead wrasse, *Cheilinus undulatus*, and the bumphead parrotfish, *Bolbometopon muricatum*. Both species are considered rare (IUCN Endangered and Threatened) throughout their range and it is widely recognized that both species warrant increased management and conservation efforts. The project proposes to assess the status and habitat specificity of both species in Guam, develop a draft outreach and education campaign, as well as develop a draft management plan for the two species in the U.S. Commonwealth of the Mariana Islands (CNMI) and U.S. Territory of Guam. The archipelago spans across 466 miles and includes 15 islands, all within the known range of both SOC.

The project aims to complement the work completed during a 2008-2009 funded NMFS Proactive Species Conservation Program project in the CNMI by expanding the project to include the densely populated island of Guam, by conducting a directed tagging study at a site in the moderately populated island of Saipan, and by drafting an adaptive archipelagic management plan for both fish species in the Mariana Islands.

Goals and Objectives

Goal 1: Random, stratified underwater visual surveys, and manta tows where possible, will be conducted by divers along fore-reef slopes at multiple sites around Guam and within the lagoonal habitat of Cocos Lagoon. Collaboration will also occur with NMFS Pacific Islands Fisheries Science Center on data collected on their biennial research cruises to Guam and CNMI, where possible.

Goal 2: Interviews with fishermen, divers, and other knowledgeable individuals will provide past and present abundance, catch rates, and aggregation site data.

Goal 3: Acoustic tagging of terminal and initial phase *C. undulatus* on Saipan to obtain information on home range size, diel activity, and aggregations.

Goal 4: An education and outreach program will be drafted to educate the public about SOC issues and begin to build support for voluntary compliance of future management recommendations and regulations.

Goal 5: Data collected from this project and from a similar project in CNMI will be used to guide the development of a draft integrated, adaptive SOC management plan in the Mariana Islands.

Expected outcomes and benefits of the proposed activities:

This study will address data gaps in our knowledge of both fish SOC by identifying areas of importance to SOC conservation on Guam to complement the data currently being collected for CNMI. It is anticipated that this data, which is scientifically robust, will eventually enhance the future stakeholder acceptance of extant, proactive SOC conservation efforts and lay the groundwork for stakeholder buy-in when developing fisheries regulations. Objective information on SOC population status will allow evaluation of present fisheries regulations and are necessary to provide justification for development of appropriate changes to creating a future cross-jurisdictional SOC fisheries management plan. Preliminary efforts to educate and engage stakeholders will build support for voluntary compliance with recommendations and future regulations to enhance SOC populations.

Specific Tasks

The contractor will be responsible for performing the following tasks:

1. Produce a quantitative assessment of the abundance and distribution of *Cheilinus undulatus* and *Bolbometopon muricatum* on Guam's coral reefs and associated habitats to complement similar data currently available for CNMI.
2. Produce a qualitative assessment of recent (1950-present) SOC abundance and habitat preference on Guam to complement data available for CNMI. Collect information on abundance, catch, and habitat preference. Collect information on observations of aggregation and spawning.
3. Gather quantitative data on *C. undulatus* home range and behavior patterns using acoustic tagging to support development or adaptation of spatial management measures such as Marine Protected Areas.
4. Raise awareness of SOC status and build support for voluntary conservation through outreach activities.
5. Begin drafting an integrated, adaptive SOC management plan for *C. undulatus* and *B. muricatum* that will eventually integrate management actions by both the government of Guam and the CNMI.

Project Timeline

Mos. 1/2	Mos. 3/4	Mos. 5/6	Mos. 7/8	Mos. 9/10	Mos. 11/12
Guam reef surveys	Interviews	Acoustic tagging	Develop draft outreach campaign message	Develop draft archipelagic management plan	Final report compilation
Guam lagoon surveys	Literature search	Semi-annual report compilation			Final report submission
		Semi-annual report submission			

Deliverables

1. Results of the assessment of status and habitat specificity for *C. undulatus* and *B. muricatum* in Guam will be due in a semi-annual progress report by March 31, 2010.
2. Development of a draft archipelagic outreach and education campaign message and draft archipelagic management plan will be submitted as a final report by September 30, 2010.

Period of Performance

The period of performance for this project is from October 1, 2009 through September 30, 2010.

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