Background

A “Species of Concern” (SOC) is a species or vertebrate population for which there is concern or great uncertainty about its status. SOC are not listed under the Endangered Species Act (ESA) and are not protected by the ESA. As resources permit, NOAA Fisheries conducts a review of the status of each SOC to determine if it warrants listing as an endangered or threatened species under the ESA. NOAA Fisheries believes it is important to highlight species for which listing may be warranted so that Federal and state agencies, Native American tribes, and the private sector are aware of which species could benefit from proactive conservation efforts.

The Species of Concern list:

- Identifies species potentially at risk;
- Identifies data deficiencies and uncertainties in species’ status and threats;
- Increases public awareness about those species;
- Stimulates cooperative research efforts to obtain the information necessary to evaluate species status and threats; and
- Fosters voluntary efforts to conserve the species before listing becomes warranted.

In the Pacific Islands Region, there are four Species of Concern:

- Humhead wrasse – *Cheilinus undulatus*
- Bumphead parrotfish – *Bolbometopon muricatum*
- Hawaiian reef coral – *Montipora dilatata*
- Inarticulated brachiopod – *Lingula reevii*
Proactive Species Conservation Grant Programs

External Grant Program
Funding for projects led by state and territory management agencies is available through our Proactive Species Conservation External Grant Program. Due to limited funds for fiscal year 2012, no new external grant proposals were funded. However, ongoing external grants (multi-year grants) were partially funded.

Internal Grant Program
Additional funding for NOAA biologists working as Principal Investigators on projects implementing research or conservation measures to improve the status of Species of Concern is available through our Proactive Species Conservation Internal Grant Program. Due to limited funding, no internal grant proposals were funded for 2012.

Though no new internal grant proposals were funded, some internal grant funding was provided for Dr. Roldan Muñoz of NOAA Fisheries Southeast Fisheries Science Center to present his research at the 2012 International Coral Reef Symposium held in Australia. Dr. Muñoz’s research, titled “Extraordinary Aggressive Behavior from the Giant Coral Reef Fish, Bolbometopon muricatum, in a Remote Island Reserve” was funded by the 2010 Internal Grant Program. Results of the study indicate that giant bumphead parrotfish form true spawning aggregations with temporal and spatial consistency at Wake Atoll around the full and last quarter moons. A dominant feature of the mating system includes aggressive male defense and pair spawning in shallow depths (surface to < 4 meters). The spatial extent of the aggregation encompassed 0.6 hectares, suggesting spawning site closures as a potentially feasible management action in other locations. This publication (Muñoz et al. 2012) can be found on our website at www.fpir.noaa.gov/PRD/prd_species_of_concern.html.

Regional Projects Involving Pacific Islands Species of Concern

University of Hawaii
Despite funding shortfalls for grant proposals this year, Dr. Cindy Hunter and a class of undergraduate researchers from the University of Hawaii at Manoa continued gathering baseline data on two species of concern: the Hawaiian reef coral (Montipora dilatata) and the inarticulated brachiopod (Lingula reevii). The Internal Grant Program has funded three years of baseline data on these two species and continuing these projects has provided valuable insight to better inform management strategies to encourage their survival in the wild. Dr. Hunter provided NOAA Fisheries with three technical reports from research completed in 2012, which can be found on our website at www.fpir.noaa.gov/PRD/prd_species_of_concern.html:

- “Effects of Salinity, pH, Opheodesoma spectabilis and Gracilaria salicornia on Lingula reevii Abundance in Kaneohe Bay, Hawaii”
- “Effects of Temperature, Salinity, pH, Reef Size, and Tripneustes gratilla on the distribution of Montipora dilatata in Kaneohe Bay”
- “Environmental Effects on Spatial Distribution of Montipora dilatata in Kaneohe Bay”

Hawaii Institute of Marine Biology
Drs. Zac Forsman and Rob Toonen from the Hawaii Institute of Marine Biology (HIMB) also continued with a project that the Internal Grant Program has funded in past years. The HIMB lab at Coconut Island, Oahu, Hawaii recently developed and successfully demonstrated a new genomic approach that results in data for a significant portion of the coral genome. This method will greatly clarify species boundaries in coral, particularly for the M. dilatata species complex. This project is particularly important since the M. dilatata clade or complex (including M. flabellata and M. turgescens) was recently proposé for listing as a threatened species under the ESA. M. dilatata technical reports can be found on our website at www.fpir.noaa.gov/PRD/prd_species_of_concern.html.

NOAA Fisheries Pacific Islands Fisheries Science Center
In 2011, Dr. Allen Andrews of NOAA Fisheries Pacific Islands Fisheries Science Center and collaborators received funding from the Internal Grant Program to perform a project entitled, “Bomb radiocarbon dating to validate ages of humphead wrasse (Cheilinus undulatus) and bumphead parrotfish (Bolbometopon muricatum).” Bomb radiocarbon dating of these iconic fishes of Indo-Pacific coral reefs provided validated age estimates for each species. A validated age of approximately 40 years was determined for bumphead parrotfish and this specimen was not the largest known fish. Preliminary age data for humphead wrasse provided support for age estimation procedures up to approximately 30 years. Findings for each species were most successful for specimens collected on the Great Barrier Reef and growth zone counting in otolith (ear bone) sections appears to be accurate. Specimens from Guam will require additional research on the behavior of the bomb radiocarbon signal in the region to provide definitive age data. All work was carried out beginning in early 2012. At present, a manuscript for publication is in progress and further details on the study will be made available on our website after peer review and publication.
Updates on Pacific Islands Region Species of Concern

**Bumphead Parrotfish**

On January 4, 2010, NOAA Fisheries received a petition from WildEarth Guardians requesting that the bumphead parrotfish be listed as an endangered or threatened species under the ESA, and that critical habitat be designated. On April 2, 2010, NOAA Fisheries published a 90-day finding (75 FR 16713) concluding that the petition provided substantial scientific or commercial information indicating that the petitioned action may be warranted. NOAA Fisheries established a Biological Review Team (BRT) comprised of federal scientists to conduct a status review to assess the bumphead parrotfish's risk of extinction. The status review report was published as a NOAA technical memorandum in September 2011. In September 2012, NOAA Fisheries published a management report, which evaluated management activities affecting the bumphead parrotfish across its range, to supplement the status review. More information (including the current status of the petition response) and supporting documents, such as the status review report, management report, and the Federal Register publications, can be found at [www.fpir.noaa.gov/PRD/prd_bumpheadparrotfish.html](http://www.fpir.noaa.gov/PRD/prd_bumpheadparrotfish.html).

**Hawaiian Reef Coral**

On October 20, 2009, NOAA Fisheries was petitioned by the Center for Biological Diversity to list 83 species of coral under the ESA; one of the petitioned corals was the Hawaiian reef coral (*M. dilatata*). On February 10, 2010, we published a 90-day finding stating that the petitioned action may be warranted for 82 coral species (including *M. dilatata*) (75 FR 6616). We established a BRT of federal scientists to examine the status of the 82 coral species in question and evaluated the extinction risk for each species in a status review report. Separately, NOAA Fisheries’ Pacific Islands and Southeast Regional offices drafted a management report to evaluate management activities affecting coral species across their range, including existing regulatory mechanisms and conservation efforts. Given the petition's scale and the precedential nature of the issues, in April 2012 NOAA Fisheries determined that our decision-making process would be better informed if we took additional time to allow the public (and other experts and entities) to review and provide information related to the status review report and draft management report prior to issuing our decision in response to the petition by December 1, 2012. The status review report and draft management report were available for public comment for 90 days during the summer of 2012 (77 FR 22749). Information from the public in the Pacific Islands was solicited via a scientific workshop (June 18, 2012) and a public listening session (June 25, 2012) in Honolulu (77 FR 30261), as well as via other meetings, presentations, and webinars.

More information (including the current status of the petition response) and supporting documents, such as the status review report, management report, and the Federal Register publications, can be found at [www.fpir.noaa.gov/PRD/prd_coral.html](http://www.fpir.noaa.gov/PRD/prd_coral.html).

**More Information about the Species of Concern Program**

Please visit our Species of Concern websites for more information:

www.fpir.noaa.gov/PRD/prd_species_of_concern.html and

www.nmfs.noaa.gov/pr/species/concern/