

## **75% of Main Hawaiian Island Reef Fishes are Depleted or in Critical Condition** ***First Comprehensive Assessment of Fish Populations Shows More Protections Needed***

(July 8, 2008) -- A new study by NOAA Biogeography and The Oceanic Institute of Waimanalo, Hawaii, shows that fish populations in the Main Hawaiian Islands are more overfished than previously thought, with three-quarters of reef fishes in a dire state.

“Many of the reef fishes in the Main Hawaiian Islands, especially sharks, jacks and parrotfish, are depleted,” said study lead Dr. Alan Friedlander, fisheries ecologist for NOAA’s Biogeography Branch and The Oceanic Institute. “There are areas in the Main Hawaiian Islands where the reefs are still healthy, so everything hasn’t collapsed yet. But we need to protect the healthy reefs, because it’s so much easier and safer to conserve now than it is to try to rebuild later.”

### Methodology

The study is the most comprehensive analysis of fish populations in the Main Hawaiian Islands. It uses the largely unfished Northwestern Hawaiian Islands (NWHI) as the baseline, or reference area. Therefore, this unique stock assessment compares populations over space rather than time.

The study measured 55 reef fish species that exist in both locations and excluded rare species. Scientists estimated biomass densities of food and aquarium fishes from visual surveys and compared the biomass for each species in the main Hawaiian Islands relative to the NWHI.

### Key Findings

75 percent of MHI species are in critical (42%) or depleted (33%) condition, with an additional 11 percent below desired level. The species in most trouble in the MHI include the largest and longest-lived, such as sharks, jacks and parrotfish. (A previous study showed apex predator biomass in NWHI to be more than 7000 times the biomass in MHI.) Finally, MHI marine protected areas do not provide a valid baseline to judge the health of fish populations because they are too small and too few.

### Recommendations

Large protected areas such as the NWHI are important for conserving biodiversity, ensuring food security and for informing scientists and managers of what a natural, healthy reef ecosystem is.

More and larger marine protected areas are needed to ensure sustainability of fisheries.

Better management and stronger fisheries regulations are needed outside marine protected areas, specifically restrictions on the use of harmful fishing methods such as gill nets and fishing on SCUBA.

### Media Contact

Dr. Alan Friedlander, [afriedlander@oceanicinstitute.org](mailto:afriedlander@oceanicinstitute.org)