

## JIMAR – PFRP ANNUAL REPORT FOR FY 2008

P.I./Sponsor Name: Jeffrey Polovina, Michael Seki, John Sibert

NOAA Office (Of the primary technical contact): PIFSC

Project Proposal Title: Describing the Vertical Habitat of Bigeye and Albacore Tunas and Post Release Survival for Marlins in the Central Pacific Longline Fisheries with Pop-up Archival Transmitting Tags

Funding Agency: NOAA

NOAA Goal (Check those that apply):

- To protect, restore, and manage the use of coastal and ocean resources through ecosystem-base management
- To understand climate variability and change to enhance society's ability to plan and respond
- To serve society's needs for weather and water information
- To support the nation's commerce with information for safe, efficient, and environmentally sound transportation

Purpose of the Project (one paragraph)

To describe the vertical habitat and horizontal movements of bigeye and albacore tunas and other pelagic fishes in the central Pacific. These tunas are target species in longline fisheries in both Hawaii and American Samoa, and an understanding of the habitats and movements of these species is needed as a background to fisheries management.

Progress during FY 2008 (One-two paragraphs, including a comparison of the actual accomplishments to the objectives established for the period, and the reasons for slippage if established objectives were not met): We used data from pop-up tags deployed on 29 bigeye tunas to describe their vertical habitat in the central North Pacific. While bigeye are know for foraging between 300-400m depths during the day, we found that in cooler surface waters they spent substantially less time at these depths and hence we're less vulnerable to deep-set longline gear. We developed a model that predicted bigeye habitat depth based on latitude, quarter, and sea surface temperature. This work was presented at the Cliotop Symposium and has been submitted for publication.

Plans for the next fiscal year (one paragraph):

Melanie Abecassis will work with Dr. Patrick Lehodey, CLS, to build a Sepodym spatial, multi-species pelagic ecosystem model for swordfish, loggerhead sea turtles and pelagic longline fisheries. This model will allow us to examine impacts of various fisheries management strategies on loggerhead sea turtle bycatch in the longline fisheries targeting swordfish.

List of papers published in refereed journals during FY 2008.

Evan Howell, Donald Hawn, and Jeffrey Polovina. In Review. Spatiotemporal variability in bigeye tuna (*Thunnus obesus*) dive behavior in the central North Pacific Ocean. *Prog. In Oceanogr.*

Other papers, technical reports, meeting presentations, etc.

Talks at Tuna Conf, PFRP meetings, Clitop Symposium.

Graduates (Names of students graduating with MS or PhD degrees during FY 2006.

Provide titles of their thesis or dissertation):

Awards (List awards given to JIMAR employees or to the project itself during the period):

Publication Count (Total count of publications for the reporting period and previous periods categorized by NOAA lead author and Institute (or subgrantee) lead author and whether it was peer-reviewed or non peer-reviewed (not including presentations):

	JI Lead Author	NOAA Lead Author	Other Lead Author
Peer Reviewed			
Non-Peer Reviewed			

Students and Post-docs (Number of students and post-docs that were associated with NOAA funded research. Please indicate if they received any NOAA funding. For institutes that award subcontracts, please include information from your subgrantees):

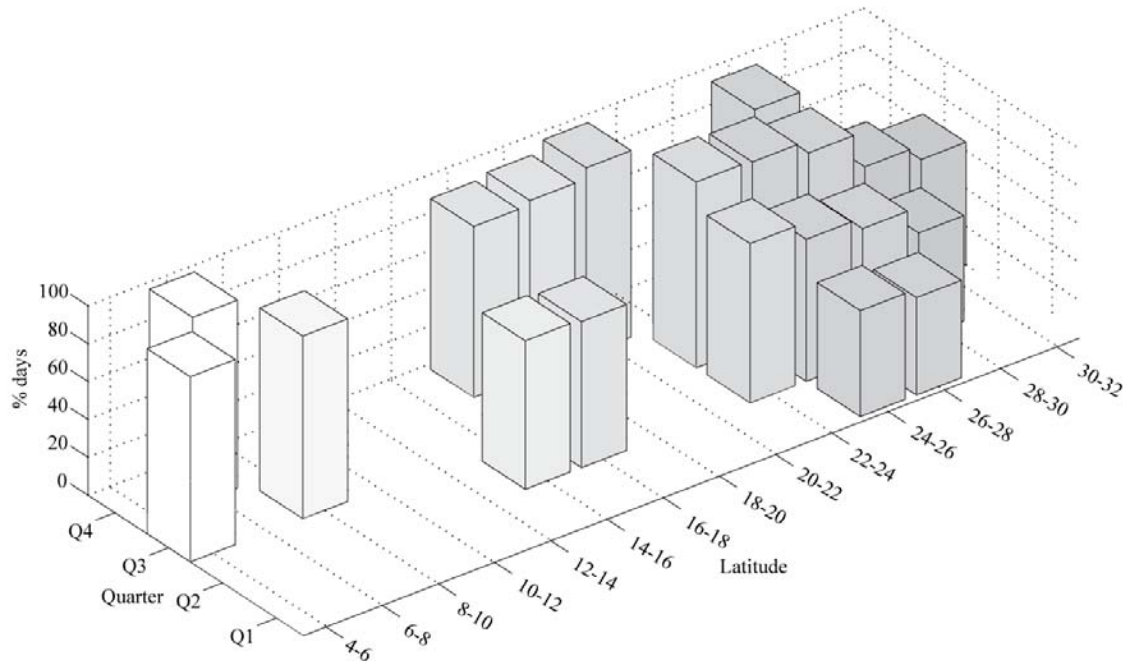
Personnel:

(i) Number of employees by job title and terminal degree that received more than 50% support from NOAA, including visiting scientists (this information is not required from subgrantees): Oceanographer M.S. – 1 employee , Fishery Biologist B.S. - employee

(ii) Number of employees/students that received 100% of their funding from an OAR laboratory and/or are located within that laboratory.

(iii) Number of employees/students that were hired by NOAA during the past year:

11. Images and Captions (JIMAR will be including images in the annual report. Please send two of your best high-resolution, color images (photo, graphic, schematic) as a JPEG or TIFF with a caption for each image. Hardcopies of images can be dropped off at the JIMAR office if no electronic versions are available.



● Caption 1: The model predicted percentage of days with expected potential vulnerability of bigeye tuna to longline gear pooled by the quarter of the year and 2° latitude bins based on the geolocation estimates