

JIMAR – PFRP ANNUAL REPORT FOR FY 2005

P.I./Sponsor Name: Kim Holland, University of Hawaii

Project Proposal Title: Investigation of Aggregation Behavior of FAD-Associated Small Yellowfin Tuna and Size-Dependant Vertical Stratification

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

1. Purpose of the Project (one paragraph)

The objectives of this project are two-fold but complimentary – first, to tag small (< 40cm) yellowfin to compare their FAD-associated aggregation behavior with that of larger fish tagged in previous experiments and second, to determine if yellowfin tuna of different sizes segregate vertically when they co-occur in aggregations of mixed size classes.

2. Progress during FY 2005 (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):

This project got off to a fast start due to a range of size classes of tunas becoming associated with various FADS around Oahu and our ability to capture these fish and apply the appropriate tags.

To date, 42 yellowfin tuna and one bigeye tuna of less than 40cm FL (32 - 40 cm, SD 2.54) have been tagged and released at FADs. Of these, 32 were tagged with pressure sensitive transmitters. In concert with these 32 releases, an additional 17 medium-sized (63-83 cm FL, SD 4.76) yellowfin were tagged with pressure sensitive tags and released at the same FADs. Thus, we have achieved the goal of telemetering a range of sizes of yellowfin tuna while they are simultaneously associated with a FAD. There have been

four recaptures of the larger size class yellowfin. One sonic tag was recovered (V9P) and re-deployed in another yellowfin.

Initial results indicate that even the smallest sizes that were tagged survive the operation successfully and are subsequently detected for many days at their points of release. Also, there does indeed appear to be a difference in the range of depths utilized by different size classes – the smallest specimens show shallower depth distributions and a smaller range of vertical movements than larger specimens coexisting at the same FADs at the same time.

3. Plans for the next fiscal year (one paragraph):

To expand the sample size by releasing more tagged tuna and to analyze this and next year's data. Project activities and results collected to-date will be presented at the 57th Tuna Conference in Lake Arrowhead, CA, May 2006 (exact meeting dates to be determined), at the annual PFRP PI meeting and other appropriate fishery science meetings where appropriate.

4. List of papers published in refereed journals during FY 2005.

none

5. Other papers, technical reports, meeting presentations, etc.

none

6. Graduates (Names of students graduating with MS or PhD degrees during FY 2005. Provide titles of their thesis or dissertation):

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

8. 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):

	JL Lead Author			NOAA Lead Author			Other Lead Author		
	FY03	FY04	FY05	FY03	FY04	FY05	FY03	FY04	FY05
Peer-reviewed									
Non-peer reviewed									

9. 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):
One (C. Meyer, PhD.)

10. 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): David Itano (B.S.) Fisheries Technician
- (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:
- Caption 2: