

JIMAR ANNUAL REPORT FOR FY 2010

P.I./SPONSOR NAME: Kim Holland

NOAA OFFICE (Of the primary technical contract): NMFS/PIFSC

PROJECT PROPOSAL TITLE: Scaling Up: Linking FAD-associated Local Behavior of Tuna to Regional Scale Movements and Distribution

FUNDING AGENCY: NOAA

NOAA GOAL (Check those that apply):

- ☒ To protect, restore, and manage the use of coastal and ocean resources through ecosystem-based 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.
- ☐ Mission Support

PURPOSE OF THE PROJECT (One paragraph): To determine the geographical dimensions (size) of the ecosystem that underpins the coastal fisheries of the Hawaiian Islands – particularly the FAD fishery.

PROGRESS DURING FY Tagging activities continued using a combination of acoustic and archival tags. Additionally, considerable effort was directed at analysis of the results of tagged fish that have already been recaptured. The emerging data set is of particular interest because the “fixes” obtained when acoustic tags are detected at FADs can be used to improve methods of modeling larger-scale movements based on light-based geolocation.

To date, 39 yellowfin tuna have been double tagged of which 13 have been recaptured after varying periods of time at liberty. Of these thirteen, 8 fish displayed significant off-FAD movements prior to recapture and these tracks are being used in the modeling analysis described above. To date, the results indicate that movements of FAD-associated yellowfin do not move beyond approximately 200 miles from shore.

PLANS FOR THE NEXT FISCAL YEAR (One paragraph): Tagging will continue with the added dimension of using Mini-PATs to provide fisheries independent measures of movement. Analysis of recaptured tags will continue.

LIST OF PAPERS PUBLISHED IN REFERRED JOURNALS DURING FY 2010, in the following format: (Author or authors with last name and initials, publication year: Article title. *Journal name*, volume, page range.) For example: Charney, J.G., and A. Eliassen, 1964: On the growth of the hurricane depression. *J. Atmos. Sci.*, 21, 68-75.

OTHER PAPERS, TECHNICAL REPORTS, ETC.: “Where’d they go? The behavior of tuna after they leave FADs”. K. Holland, D. Itano and L Dagorn. Paper presented at the 61st Annual Tuna Conference. May, 2010. Lake Arrowhead, CA.

GRADUATES (Names of students graduating with MS or PhD degrees during FY 2010; 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 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			

PERSONNEL (on Subcontracts):

For projects that awarded subcontracts in the fiscal year, please provide the number of supported postdocs and students from each subgrantee.

IMAGES AND CAPTIONS (We will also be including images for the annual report.

Please send two of your best high-resolution, color images (photo, graphic, schematic) as a **JPEG or TIFF (300 dpi)** with a caption for each image. If you do not have an electronic version of the image, a hardcopy version may be dropped off at the JIMAR office located in the Marine Sciences Building, Room 312):

- Caption 1:
- Caption 2:

ACRONYMS: Please provide the complete descriptions for any acronyms used in any areas of the report. For example: UH (University of Hawaii)