

## JIMAR ANNUAL REPORT FOR FY 2008

P.I./SPONSOR NAME: Kim Holland, Laurent Dagorn, David Itano

NOAA OFFICE (Of the primary technical contact): PIFSC

PROJECT PROPOSAL TITLE: "**Trophic Ecology and Structured-Associated Aggregation Behavior in Bigeye and Yellowfin Tuna in Hawaiian Waters**",

FUNDING AGENCY:

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

PURPOSE OF THE PROJECT (One paragraph): To use various electronic tags and acoustic survey methods to document the behavior and feeding ecology of tuna associated with FADs and other topographical features.

PROGRESS DURING FY 2008 During the reporting period, effort was split between analysis and publication of papers (see below) and ongoing field work which included the release of additional tagged fish. Of particular importance was the opportunity to work with commercial fishermen to deploy electronic tags on bigeye tuna associated with a private FAD (PFAD) on Maui. Understanding the FAD associated behavior of bigeye is a high priority in Hawaii and throughout the Pacific. The collaboration with fishermen and work on PFADs will continue in the upcoming year.

PLANS FOR THE NEXT FISCAL YEAR. The remaining funds will be utilized in two ways. First, they will be used to acquire additional telemetry equipment to maintain existing levels of coverage of FAD-associated behavior, especially that of big-eye tuna that are currently underrepresented in telemetry samples. Second they will be used to conduct field trials in Hawaiian waters of an autonomous echo sounder that has been constructed and completed initial testing.

LIST OF PAPERS PUBLISHED IN REFERRED JOURNALS DURING FY 2008,

Dagorn L, Holland K, Dalen J, Brault P, Vrignaud C, Josse E, Moreno G, Brehmer P, Nottestad L, Georgakarakos S, Trigonis V, Taquet M, Aumeeruddy R, Girard C, Itano D, Sancho G. 2007. New instruments to observe pelagic fish around FADs: satellite-linked acoustic receivers and buoys with sonar and cameras. In: Lyle J.M., Furlani D.M., Buxton C.D. (Eds), Cutting-edge technologies in fish and fisheries science. *Australian Society for Fish Biology Workshop Proceedings, Hobart, Tasmania, August 2006, Australian Society for Fish Biology*.

Dagorn, L. C., K.N. Holland and D. G. Itano. 2007. Behavior of Yellowfin (*Thunnus albacares*) and Bigeye (*Thunnus obesus*) tuna in a network of fish aggregating devices (FADs). *Marine Biology*. 151(2): 595-606.

Holland, K.N and R.D. Grubbs. 2007. Tunas and billfish at seamounts, in: Pitcher, T.J. et al. (Eds.) *Seamounts: ecology, fisheries & conservation. Fish and Aquatic Resources Series, 12: pp. 189-201*. Blackwell Press

**OTHER PAPERS, TECHNICAL REPORTS, ETC.:**

GRADUATES (Names of students graduating with MS or PhD degrees during FY 2008; 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	3		
Non-Peer Reviewed			

**PERSONNEL:**

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: Retrieving an acoustic data logger from a FAD