

JIMAR – PFRP ANNUAL REPORT FOR FY 2006

P.I./Sponsor Name: Keith Bigelow, Adam Langley and John Hampton

Project Proposal Title: Fishery Dynamics in the Samoan Archipelago

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 purpose of the project study will concentrate on the dynamics of south Pacific albacore. Major objectives include: 1) analyze the spatial and temporal dynamics and fishery interaction of longline fisheries within and around the American Samoa EEZ, 2) comparison of albacore fishery dynamics in other Pacific Island Countries and Territories (PICTs) longline fisheries and 3) improvements to the regional albacore stock assessment.

2. Progress during FY 2006 (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 was funded in November 2004 with a scheduled two-year duration.

Objective 1: A Fisheries Researcher was recruited in FY2005 and started working on the project in January 2006. Longline logbook data were merged with oceanographic data (e.g. sea surface temperature, ocean color, dynamic height and subsurface temperature measurements) using spatio-temporal information. The resulting dataset is used to investigate the spatio-temporal variations of the American Samoa based longline fishery. The preliminary exploratory statistical (GLM) analysis conducted indicates that landings are largely explained by vessel size and effort. Since the variability of the data around the mean is large (catch data are skewed) further analysis will be conducted to determine what role oceanography represents in explaining catch and CPUE.

Objective 2: A co-PIs completed an analysis of south Pacific albacore dynamics for the Fiji and French Polynesia longline fisheries. Results indicate that catch and CPUE appear directly related to seasonal fluctuations and trends in fisheries in adjacent EEZ waters are likely to be influenced by similar variations in oceanographic conditions. Inter-annual variation in albacore catch rates were also evident in most of the PICT fisheries. The sustained period of low catch rates that commenced in late 2002 appears to be attributable to inter-annual variation in oceanographic conditions and at a local scale, very high levels of fishing effort appear to be capable of causing localized depletion of albacore tuna.

Objective 3: Considerable reappraisal of the underlying model structure of the south Pacific albacore stock assessment was conducted in July 2005. Investigations of the model structure included: appropriate stratification of the model spatially and by fishery, investigation of the performance of the model to the assumptions of seasonal movement between model regions, ability to estimate age specific natural mortality, and various sensitivity analyses with regard to the assumptions of the number of age classes and initial conditions.

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

Plans for the remaining fiscal year of the project will concentrate on fishery dynamics in the Samoan archipelago. Aspects of the albacore availability and local depletion effects will be analyzed with various statistical models. Within the newly established observer program in A. Samoa, time-depth recorders will be deployed on longlines to monitor gear depth. Results from the project will be presented at various fora including a forum on south Pacific albacore fisheries sponsored in September 2006 by the Western Pacific Regional Fisheries Management Council and the PFRP PI meeting in November 2006.

4. List of papers published in refereed journals during FY 2006.

None

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

Helu, S. 2004. An evaluation of recent trends in albacore catches in the domestic longline fisheries operating in the South Pacific Ocean and the evaluation of a proposed alteration to the area strata presently used in stock assessment for albacore. WP SA-8, SCTB17, 9-18 August, 2004.

Langley, A. and J. Hampton. 2005. Stock assessment of albacore in the south Pacific Ocean. WP SA-3, WCPFC-SC1, Noumea, New Caledonia, 8-19 August 2005.

Langley, A. 2006. The south Pacific albacore fishery: a summary of the status of the stock and fishery management issues of relevance to Pacific Island countries and territories. SPC Oceanic Fisheries Programme, Tech. Rep. No. 37.

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

Provide titles of their thesis or dissertation):

None

7. Awards (List awards given to JIMAR employees or to the project itself during the period): None
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		
	FY04	FY05	FY06	FY04	FY05	FY06	FY04	FY05	FY06
Peer-reviewed									
Non-peer reviewed							1	1	1

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):
None

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):

This grant provided salary support for Marco Kienzle (PFRP/JIMAR, Fisheries Research Analyst, c/o Pacific Islands Fisheries Science Center).

- (ii) Number of employees/students that received 100% of their funding from an OAR laboratory and/or are located within that laboratory. None

- (iii) Number of employees/students that were hired by NOAA during the past year:
None

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.
Not applicable

12. For multi-year projects, provide budget for the next year on a separate page. Contact Dodie Lau to confirm whether or not your project is to receive continuation funds (e.g., year 2, year 3), and for budget preparation assistance, lau@hawaii.edu