

JIMAR/PFRP ANNUAL REPORT FOR FY97

Project Title:

Hawaii pelagic fishing vessels economics (RCUH # 2046/2123)
aka *Hawaii Fleet, Industry, and Vessel Economics (HIFIVE)*

Principal Investigator: Samuel G. Pooley, Honolulu Laboratory,
NMFS

Associate Investigators: Rita Curtis¹, Marcia Hamilton, Stephen
Huffman², Michael Travis

Funding Agency: NOAA/Pelagic Fisheries Research Program/JIMAR

1. Purpose of Project

The objective of this research is to provide fishery management information based on the economic characteristics and dynamics of the Hawaii longline and troll-handline fishing fleets, i.e., to determine ...

- what are the economic components of fishing effort
- what makes fishing effort endogenous,
- how do these inter-relate with fishery management decisions?

The project was scheduled for 3 years (to conclude mid-1997) and was extended for a 4th year in early 1997 (RCUH # 2123). It consists of two major components: a detailed economic analysis of the Hawaii-based domestic longline fishery; and, comprehensive information on the cost-earnings of the small boat pelagic fishery in Hawaii, including charter boats.

2. Progress during FY97

Progress in FY97 has centered on four areas: completing initial economic analysis of longline fishing dynamics; collection of basic information from the small boat pelagic fishery;

¹ Curtis left the project in 1996 to return to the University of Maryland for doctoral studies.

² Huffman left the project in 1997 to gain a degree in Education.

publishing results on the small boat pelagic fishery; and preparing work on the charter boat segment of the study.

- Longline cost-earnings information completed & reported (Hamilton, et. al., 1996)
- Longline fishing dynamics analysis substantial progress (but work in year 4 will be required to take full advantage of work to date): Curtis and Travis) [Paper submitted for publication by Curtis, 1997. Preliminary results presented at Lake Arrowhead '97 by Travis]
- Commercial troll-handline cost-earnings information completed (Hamilton). [Draft report under review.]
- Initial collaboration with two new projects:
 - Travis-Strand on longline fleet movements
 - McConnell-Hamilton on recreational pelagic fishing [Preliminary results presented at Lake Arrowhead]
- Investigation of alternative management structures
 - Neubauer³ review of public decision literature

Detailed economic analysis of the longline fishery has resulted in one paper submitted for publication (Curtis) and two papers nearly ready for submission (Travis). These cover the following topics: institutional and regulatory environment of the Hawaii longline fishery; supply-response of the longline fishery; and economic analysis of fishing effort as applied to swordfish longline fishing.

This latter component of the project is also related to the Travis and Strand project on the movement of longline fishing vessels between the U.S. mainland and Hawaii (a significant change which was anticipated by project staff in 1994 and which had a demonstrable impact on the fishery in 1995), and an on-going dissertation project by Curtis through the University of Maryland.

The troll-handline cost-earnings study was initiated in late-1995 with development of an information collection approach and instrument. The fishing community was informed of the project through an article by Hamilton and Huffman in Hawaii Fishing News.

³ Deane Neubauer, University of Hawaii Department of Political Science.

Pre-testing was initiated in early 1996 and full fielding by Hamilton, Huffman, and Miller⁴ was conducted in 1996 with over 500 interviews completed on Oahu, Kauai, Maui, Molokai, Lanai, and the Big Island.

The draft troll-handline cost earnings report categorizes vessel owners by the significance of fishing income, ranging from full-time commercial to purely recreational. This report is in its final publication stage.

The small boat and charter boat component of the project collaborates with three additional JIMAR projects: a JIMAR visiting scientist project (Walker⁵) on the socio-anthropology of the distinction between recreational and commercial fishing in Hawaii (a thesis project at the University of Washington), extended into an analysis of the sociology of charter boat fishing (Walker, 1997), and a PFRP recreational valuation project with principal investigator Kenneth McConnell of the University of Maryland which began in mid-1996.

3. Plans for 1997/98

- **Completion of longline dynamics research: Travis and Curtis**

Completion and publication of longline vessel economic dynamics research and description of industrial structure is the primary objective for the analytical stage of this project. Curtis' paper is under review and Travis was able to present results at Lake Arrowhead.

The longline cost-earnings analysis will be extended into a spatial model of supply response; a comparison of set, trip and vessel economic analysis for the longline fleet; and cost-earnings activity analysis of the Hawaii charter-boat fishery. (The latter was anticipated for the third year under the small boat component of this project, but because of the need to make that study more broadly based, the charter boat sector will not be covered this year.) Year 4 would conclude the longline analysis.

⁴ Kristen Miller, University of California at Santa Cruz student assistant.

⁵ Walker's work is not technically part of the HIFIVE project, since she was funded out of the JIMAR visiting scientist program. However she collaborated with the HIFIVE project throughout her tenure in Hawaii.

- **Cost-earnings of charter boat fishing (not part of McConnell project): Hamilton**

The charter boat cost-earnings analysis will mirror the troll-handline component of this project, with information collected from all islands. In addition, the project will collaborate with sports fishing tournament interests to provide more information on the intersection of small boat and charter boat fishing and the sports fishing component of the tourism and ocean recreation industry in Hawaii.

- **Analysis of charter boat patrons motivations (demand for charter boat services): Hamilton.**

Work on compiling economic information on charter boat patrons, including use of hypothetical valuation techniques, will also be conducted through 1997.

4.5. List of Papers and Technical Reports (attached)

6. Names of graduates. None.

Publications & Reports

Curtis, Rita E.

1996. Spatial allocation of effort: a discrete choice model of short run supply response in the Hawaii longline fishery. (Dissertation project with the University of Maryland, Department of Agricultural and Resource Economics.)

Curtis, Rita E.

1996. Short-run supply response in a multi-species fishery. (Paper submitted to professional journal for publication.)

Hamilton, Marcia S., Rita E. Curtis, Michael D. Travis.

1996. Cost-earnings study of the Hawaii-based domestic longline fleet. SOEST Publication 96-03. University of Hawaii: Honolulu, HI.

1996. Hawaii longline vessel economics. Marine Resource Economics. 11(2): 137-140.

Travis, Michael D.

1997. Regulatory changes and their impact on Hawaii's longline fishery. (Forthcoming paper.)

1997. Fishing effort, power, and capacity: the importance and evolution of terminology in fisheries science. (Forthcoming paper.)

Walker, Julie.

1997. Sociology of Hawaii charter boat fishing. SOEST JIMAR Contribution 97-309. University of Hawaii. 50 p.

1996. Masters thesis. University of Washington.

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May 29, 1997