JIMAR, PFRP ANNUAL PROGRESS REPORT FY 2002

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Project Proposal Title: Recreational Meta Data Project

Funding Agency: PFRP

Project Purpose and Indicative Results: The Recreational Meta-Data Project was initiated to document and compile into database formats sources of Hawaii's pelagic recreational and sports fishing information over the past 50 years. Though no official record of Hawaii's recreational fishery sector exists, there are many sources of information that do exist in the form of surveys, previous studies, club records, newspaper articles, and fishermen logbooks. Some fisheries researchers have found such irregular data sources to be valuable when examined in aggregate or over a long time frame. Thus far, tournament information from recreational fishing clubs has been our greatest source of on-going data and has provided insight as to the nature and scope of Hawaii's poorly documented pelagic recreational fishery. Using this tournament information in aggregate has allowed us to suggest that Hawaii's recreational fishery relies heavily on the existence of fish aggregating devices (FADs) for targeting pelagic fish.

Project Activities and Progress During FY 2002: We have received information on 27 different tournaments from 6 different clubs and expect to obtain information covering about 6 more tournaments in the near future. Some tournaments are well documented and we have annual information covering over 20 years of catch and effort. There has been little difficulty in getting people to promise to provide information but getting delivery of the information has been the biggest source of frustration for the project. Our field biologist, Joseph O'Malley, did a wonderful job enticing and facilitating the exchange of information with the fishing clubs, unfortunately Joseph has since quit the project for other employment and we currently have no one actively soliciting the clubs for their information. We anticipate refilling this position later this year.

The clubs that have helped the project usually provide hard copies of "radio call-in logs" or "official weigh-in slips". Not only is this information fishery-dependent, but the manner and rules by which it is collected also differs by club and tournament. This creates many challenges when looking at the data in aggregate. There is no standard methodology for reporting tournament catch and the information we received varied from tournament to tournament. Information on effort, catch, and tournament totals illustrates the unique nature of tournament reporting (Fig. 1). For example, most tournaments do not differentiate between bigeye tuna (*Thunnus obesus*) and yellowfin tuna (*T. albacares*) and these species are listed simply as "ahi". Reports listing marlin can also be one or more of several Istiophoridae species and skipjack tuna (*Katsuwonus pelamis*) is only recorded for some of the tournaments. Despite the inherent vagaries of species identification, this information does provide insight into hook up rates, catch composition, and average weight of catch (Fig. 1)



Figure 1- Summary results from a 28 boat tournament held in July, 2000 on Kauai showing total catch and average weight in pounds for each species group (Ahi=*Thunnus obesus* and *T. albacares*, Mahimahi=*Coryphaena hippurus*, Marlin=Istiophoridae, Ono=*Acanthocybium solandri*).

Data from a single tournament plotted across a time series are useful in determining cyclical peaks in catch abundance of different species (Fig. 2). Catching a thousand pound marlin is the goal of tournament participants, but the catch of mahimahi (*Coryphaena hippurus*) and ahi dominate the numerical catch totals (Fig. 2). Although Catch per unit effort (CPUE) indices do show cyclical trends in catch abundance within a single tournament and species group, CPUE trends compared across tournaments for a single species group do not appear to be correlated (Fig. 3).



Figure 2- Annual tournament held off of leeward coast of Oahu 1980-2001 showing numerical predominance of ahi (*Thunnus obesus* and *T. albacares*) and mahimahi (*Coryphaena hippurus*) over marlins (Istiophoridae) in tournament catch.



Figure 3- Catch per unit effort indices as number of marlin (Istiophoridae) per boat per day from 4 tournaments held off of the islands of Oahu and Hawaii.

Originally, we thought that we would be able to construct weight frequency charts from the radio logs in order to gain insight into size at catch trends within the tournament fishery. Unfortunately, the practice of rounding estimated weights confounded with the lack of clear species identification has somewhat muddied the picture and weight frequency charts will probably not provide much information to fisheries researchers.

Data from all tournaments combined show that participants rely heavily on fish aggregation devices (FADs) placed by the State of Hawaii. Off the leeward coast of Oahu, over 86% of the total catch from all tournaments comes from the five geographic locations that contain FADs. Catch plots from tournaments off the island of Hawaii also show that almost all of the catch for big island tournaments comes from geographical catch areas that contain FADs (Fig. 4).



Figure 4- Tournament catch locations from the island of Hawaii illustrating the importance of Fish Aggregation Device (FAD) location and the predominance of catch coming from areas that contain FADs.

Planned Project Activities for FY 2003: We feel that the information collected by this project can serve as a springboard to facilitate the continuous collection of ongoing fishing tournaments in Hawaii. Drawing a comprehensive picture of the scope and nature of Hawaii's pelagic recreational fishery is vital in understanding what has been a poorly documented fishery. This project has gone a long way towards filling the gaps in that knowledge base and points to the need to collect information from ongoing recreational activities that are still transpiring with little documentation, thus making it difficult for recreational interests to be considered when agencies weigh management issues.

In the coming year we plan to: Continue collection of fishing club and tournament data Provide non-confidential summaries of the data collected via a web site Include Hawaii Division of Aquatic Resource trolling data from charter and commercial troll vessels in our database for comparison with the tournament data Finalize parameters of the database and make it available to other researchers Explore the potential for a standardized method of catch reporting from tournaments. Evaluate data from the 1979-1981 NMFS Marine Recreational Fisheries Statistical Survey for Hawaii, and the NMFS-OMNITRACK small boat fisheries survey Publish results of study in a SOEST/JIMAR report and in a peer reviewed journal.

Papers Published in Journals During FY 2002: None.

Other Papers, Reports, and Presentations During FY 2002:

News Article: PFRP Newsletter, submitted May 2002 to be published July 2002

Oral Presentations: 51st Annual Tuna Conference, Lake Arrowhead, CA May 2002 80th Meeting of the WPRFMC Scientific and Statistical Committee, Kauai, HI May 2002 PFRP Principal Investigator's Meeting, Honolulu, HI Dec. 2001

Graduating Students with M.S. or Ph.D. Degrees During FY 2002: None.

Budget:

Item	Amount (\$)
Salaries	
Analyst/data base manager	60,000
Field assistant	25,000
Student assistance	4,000
Travel (includes one trip to Tuna Conference) 4,000
Supplies	4,700
Total	97,700

Budget FY 2002/2003