

**JIMAR-PFRP Annual Progress Report
FY 2004**

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Project Proposal Title: Ecological Characterization of American Samoa's Alia Small-scale Longline Albacore Fishery.

Funding Agency: PFRP-JIMAR

1. Purpose of the project and indicative results.

Purpose.

The purpose of the project is to characterize the American Samoa small-scale alia longline fishery for albacore in terms of catch composition, catch per unit effort of marketable species, incidental catch rates (live releases) and bycatch (dead and non-viable discards) of finfish and protected species. The small alia boats cannot accommodate fishery observers due to severe space limitations and safety considerations. As an alternative means to gain understanding of the ecological character of the fishery, the project has contracted one-hundred fifty (150) alia longline fishing sets that require the captains to 1) retain the entire catch (with the exception of sharks and protected species), 2) maintain a tally of the catch indicating the status of the fish when hauled (alive or dead), 3) provide detailed information on the day's fishing to data collectors, 4) use a GPS to record information on the location of the set and, 5) allow the catch to be identified to species, weighed and measured after landing.

The project will also test fishermen's knowledge of how to increase the percentage and viability of live albacore retrieved on longline gear. Experimental alia longline sets designed to test a strategy involving the modification of the typical alia fishing technique during the full moon sequence will be conducted. The relationship between the moon phase and percentage of live and dead albacore caught during the other longline sets monitored in the project will also be evaluated.

Indicative results.

- Designed data collection system, forms and user-friendly fish tally sheet for use at sea by the alia captain and crew.
- Recruited the owner/manager of several alia boats, captains and crew to participate in the project in American Samoa.
- Recruited a data manager and 2 data collectors in Pago Pago.

- Recruited a community leader to assist the PI's in oversight of the data collectors who are young men from his village.
- Purchased supplies for the project.
- Trained the data manager and data collectors on their respective roles in the project.
- Trained the alia owner/manager, alia captains and crew on their data collection and reporting responsibilities and the use of the GPS.
- To date, 92 alia longline sets have been completed and data collected.

2. Progress during FY 2004. Provide a thorough discussion of accomplishments and problems.

Accomplishments.

Project preparation.

The project began with planning and preparation of the data collection system including user-friendly waterproof fish tally sheets for captains to use at sea, purchasing equipment and supplies, and organizing the data collection system. Local coordination is facilitated through a local community leader (Henry Sesepasara, former head of American Samoa Department of Marine and Wildlife Resources), the alia owner/manager (Eo Mokoma who pioneered the American Samoa alia longline fishery), and the data manager (Daiana Aitaoto, experienced with fishery data) who were recruited to help ensure the performance of the alia captain, crew and the data collectors and the data quality.

Training.

The data manager and data collectors were trained on their respective tasks and responsibilities. The alia owner/manager, captains and crew were trained on their data collection and reporting responsibilities and the use of the GPS to determine the location of the line setting and hauling phases. The use of the GPS quickly proved useful to the fishermen in recovering lost gear and improving crew safety by increasing navigation capabilities.

Data collection sequence.

The alia crew notifies the data manager (and data collectors) when they are going to depart on a fishing trip. The two data collectors are notified to be prepared to meet the boat at the end of the trip. Alia fishing trips consisting of a single longline set begin early in the morning and the boats return to port late at night. The data collectors debrief the captain while the fish are being unloaded. They determine from the captain the location of the set by collecting GPS readings, the timing of the line setting and hauling phases, the number of hooks set, the number of hooks lost and other pertinent data. The data collectors also determine from the captain (and his fish tally sheet) if there were any live fish releases, or dead or non-viable fish discards, or interactions with protected species.

On the dock, fish are identified to species, weighed, and the fork length is recorded. The initial status (live or dead) of the fish when retrieved (indicated by small caudal fin clips) is determined, checked against the captain's fish tally sheet and recorded.

Raw data sets are delivered to the data manager in Pago Pago the following day. The data set is checked, entered into an Excel spreadsheet and then sent to the PI's in Honolulu.

Data quality control.

After the data collection began, the PI's monitored data collection activities during the initial alia longline trips. One of the PI's went on two alia fishing trips to give the captain and crew additional hands-on training on the use of the GPS and the data recording requirements. The data collection system was further monitored by following the sequence from the notification of the data manager about an alia trip, to the observation of the data collectors meeting the boat, debriefing the captain and collecting data followed by the delivery to the data manager. She checks the raw data for incomplete records or questionable data before data entry. When necessary, she contacts the data collectors for clarification and in some cases alerts the PI's to potentially questionable data for them to resolve. After the raw data sheets are sent to Honolulu, the PI's check the accuracy of the data once again. Any questions about the data sets are sent to the data manager who follows up with the data collectors, alia owner/manager, captain and crew.

As an additional quality control measure, the community leader working with the project team went on a fishing trip with the alia to observe the crew and captain during the fishing operations and their performance of data collection and reporting responsibilities.

Number of sets completed.

To date, ninety-two (92) alia sets have been monitored and the data sets entered.

Experimental longline sets.

The alia owner/manager and alia captains were interviewed and asked how the percentage of live albacore might be increased. They were also asked how the viability of those fish hauled alive might be improved. They have noticed that the albacore tend to at more shallow depths near and during the full moon than the rest of the month. Experimental alia longline sets will be conducted during the full moon sequence at shallower depths than normal sets and hauled in a way to attempt to minimize the rupture of swim bladders.

Problems.

During the initial trip to American Samoa by the PI's to recruit data collectors, establish the data collection system and to begin training of personnel, Hawaiian Airlines unexpectedly suspended flights between Pago Pago and Honolulu. This was because of damage to the runway caused by heavy rain weeks before the trip began. Return flights were postponed for weeks and alternative return travel plans became necessary. The PI's were forced to return to Honolulu via Apia (Samoa), Nadi (Fiji) and finally back

to Honolulu. Hawaiian Airlines has refused to reimburse for the greatly increased cost of the return trip, claiming that the problem was not their fault and therefore not their responsibility. This has greatly impacted the project travel budget. Additional funds if available, are requested to offset this set back.

3. Plans for the next fiscal year.

Continue monitoring the alia sets and compile the set data. Return to Pago Pago in May to conduct additional verification of the performance of the captain and crew and the data collectors in their data reporting and collection duties. Data sets will be analyzed, and figures and tables will be prepared to present alia catch composition, CPUE, BPUE of finfish bycatch and incidental catch rates of protected species (if any). Information on the percentage of fish retrieved alive and dead will be reported. Other information will be presented including the location of the fishing effort, the line setting and hauling sequence, the number of hooks fished, type of bait used and other information on the alia fishing effort.

Experimental longline sets will be made and monitored to determine if alternative fishing methods can improve the frequency and viability of live albacore suitable for future tagging studies. Experimental fishing sets are planned to coincide with the full moon sequence in early June and later in the summer months. The final report will be prepared and presented.

4. List of papers published in refereed journals during FY 2004.

None.

5. Other papers, technical reports, meetings presentations, etc. (related to the project).

PFRP PI's Meeting. December 9, 2003. A Self-portrait of American Samoa's Alia Albacore Longline Fishery. Presenter Paul Bartram.

6. Names of students graduating with MS or PhD degrees during FY 2004. Include title of thesis or dissertation.

None. Does not apply.

7. For multi-year projects, provide budget for the next year on a separate page.

Project period is 12-months, does not apply.