

A Workshop on Length-Based Methods in Fisheries Analysis in the Solomon Islands

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Many researchers operating in the national fisheries organizations of South Pacific countries work in a situation where they are individually responsible for the survey, assessment, development and management of a range of marine and freshwater resources. These resources are harvested by a variety of gears utilized by fishermen ranging from purely subsistence, with total annual catches of less than 200 kgs, to commercial fishermen operating in fisheries that harvest thousands of tonnes each year.

In the South Pacific, these responsibilities rest with young nationals who, in many circumstances, have had minimal formal training in fisheries biology and fisheries stock assessment or population dynamics. The administration of island countries they work in no longer receive the large amount of assistance that occurred earlier and expatriate expertise, unless supported by an aid agency, is too expensive to be supported by the relatively small budgets allocated for fisheries management and research by island governments. Rarely do biologists charged with this responsibility have the formal qualifications and experience that would assist with project design, data collection, analysis and documentation.

In order to address the problems that exist in the South Pacific region with regard to the collection and analysis of data with which fisheries could be effectively and efficiently managed, the South Pacific Forum Fisheries Agency (FFA) commissioned a study of the fisheries research needs of the region. The study (Fakahau and Shepherd 1986) which was funded by the International Center for Ocean Development (ICOD) and the Canadian International Development Agency (CIDA), identified many areas where countries could be assisted with fisheries research.

Recommendations from the study focused on improving communications between countries in the region and organizations and expertise outside the region who have similar research interests. In the

area of stock assessment, the review recommended closer liaison between institutions and national fisheries departments within the region and organizations such as ICLARM with special interests and capabilities in research on small-scale fisheries. In order to improve the changes of the recommendations being implemented, FFA established the South Pacific Research Coordination Unit which ICOD agreed to fund for a period of three years commencing in 1988.

One of the first activities of the Unit involved the organization of a workshop to examine the use of length frequency data as a tool in fish population assessment in the South Pacific region. The two-week workshop held in Honiara, Solomon Islands from December 5 to 17, 1988 was funded by ICOD, the United States Agency for International Development (USAID), ICLARM and FFA. The Solomon Islands Fisheries Division of the Ministry of Natural Resources provided the venue in the new headquarters building recently provided under Australian aid.

The building has a fully air-conditioned computer room which contains eight work stations for micro computers. The stations are currently provided with Hewlett Packard 150's and Vectras. The Vectras, which have EGA screens and 20 megabyte hard disks, were used for the workshop. In addition, the building contains a well-furnished lecture room complete with most teaching aids and so provided an ideal venue.

The workshop concentrated on the ELEFAN suite of programmes and this component of the two-week period occupied all the day sessions. Felimon Gayanilo, Jr., who worked on the development of the package together with Ms. Mina Soriano and Dr. Daniel Pauly at the Manila headquarters of ICLARM, was the instructor for this period. John Hampton from the South Pacific Commission joined the group for night sessions during the second week to introduce participants to other computer-based

software packages that also utilize length frequency information. Participants were particularly interested in the MULTIFAN commercial package recently released by Otter Software from Canada. Throughout, it was stressed that attempts should always be made to validate the results of analysis of length-frequency data no matter what method is employed for the analysis.

Participants came from seven countries in the region; Solomon Islands and Kiribati both sent two participants with one each coming from Papua New Guinea, Fiji, Western Samoa, Tonga and Vanuatu. Each brought length data that they or others had collected in their countries. As a result, length frequency data for species from a variety of taxa and habitats including shallow water lethrinids, deep water eteline snappers, pelagic stolephorid anchovies and penaeid prawns were analyzed

during the two-week period. The participants thus experienced the application of these methods of analysis to a variety of different data sets and situations.

At the conclusion of the workshop, participants discussed their results during an oral presentation. In addition, they documented their work. The papers that follow in this and subsequent issue of "Fishbyte" are a selection of the results of the two-week programme in Honiara.

References

- Fakahau, S.T. and M.P. Shepherd. 1986. Fisheries research needs in the South Pacific information required for effective management and development of fisheries of island states of the South Pacific. Forum Fisheries Agency (FFA)/International Centre for Ocean Development (ICOD)/Canadian International Development Agency. 94++

Population Dynamics of the Commercially Important Baitfish Species *Stolephorus* *heterolobus* in Solomon Islands*

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Introduction

During 1971 and 1972, a survey was carried out by Taiyo Gyogyo of Japan to assess the skipjack tuna, *Katsuwonus pelamis*, and baitfish resources in Solomon Islands waters. This led in 1973 to the signing of a joint venture agreement between the Solomon Islands government and Taiyo Gyogyo, and the development of a local skipjack tuna industry. The Surihama fishermen of Okinawa were employed to operate a fleet of vessels to capture

skipjack tuna, utilizing the pole-and-line fishing technique. The pole-and-line industry has grown to such extent that in 1986, a fleet of 34 vessels caught a total of 38,645 tonnes worth \$50 million in foreign export earnings for Solomon Islands.

Baitfishing

The pole-and-line method of catching skipjack tuna from surface schools cannot be employed

*Preliminary results based on a paper written during a Workshop on Length-Based Methods in Fisheries Analysis, Dec. 5-17, 1988, Honiara, Solomon Islands.