

CIRCULATING COPY
Sea Grant Depository

Marine Advisory Program Input -- 1974



**Sea Grant College Program
University of Hawaii**

PHOTO CREDITS:

Kauai coastline (left) courtesy of John L. Ball, Jr.,
University of Hawaii

Diamond Head Light (right) courtesy of Donald Giles,
Oregon State University

CIRCULATING COPY
Sea Grant Depository

MARINE ADVISORY PROGRAM INPUT--1974

John L. Ball, Jr., Coordinator

Miscellaneous Report
UNIH-SEAGRANT-MR-74-03
April 1974



This work is a result of research sponsored by NOAA Office of Sea Grant, Department of Commerce, under Grant No. 04-3-158-29. The U.S. Government is authorized to produce and distribute reprints for governmental purposes notwithstanding any copyright notations that may appear hereon.

ABSTRACT

This report reviews current and future marine information needs to be met by a neighbor island, marine advisory system for Hawaii. With matching local support, each field office will have the responsibility to service the marine information needs within its respective area and to feed back persistent field problems to research programs and other governmental and private entities for their attention and solution. The report contains a brief review of the people, problems, and processes that were part of the development of this plan for the first marine advisory program in Hawaii.

CONTENTS

INTRODUCTION 1
HAWAII COUNTY 2
MAUI COUNTY 5
KAUAI COUNTY 8
SUMMARY 11
CONCLUSIONS 12
REFERENCES CITED 13

INTRODUCTION

The need for a marine advisory field staff on a local or county basis has been recognized in Hawaii for some time as an addition to the present components of the growing Marine Advisory Program (MAP). These components, consisting of the information/publications and the specialist staff, have received careful attention over the past several years and are considered vital parts of the current program.

The process of determining the need for and planning of a field staff is the same one used for the formation and orientation of other program components* of the Marine Advisory Program at the University of Hawaii. The process involves calling on local people to identify specific needs and enlisting local and regional expertise to help interpret these needs and formulate programs for them.

In this case the process involved several months of discussions with individuals related in some way to the ocean. The county governments were relied upon for many of the initial contacts and much of the scheduling of visits in their respective counties. The individuals contacted were from diverse occupational backgrounds ranging from governmental agencies to commercial enterprises to private concerns in areas of recreation, environmental protection, and conservation. Sufficient time was allowed to review the objectives of the program and to discuss specific activities and problems that might relate to a local marine advisory program.

After the initial discussions, the Pacific Sea Grant Advisory Program (PASGAP) was called upon to provide experience and advice through a series of four small input meetings on the neighbor islands. The PASGAP participants, William Wick, Harvey Moore, and Graham Drew, were the same that attended the first input meeting on Oahu in 1971. Advice and program input were also sought from the Cooperative Extension System office in each county.

The input meetings dealt with the more important problems that face ocean users from the point of view of the local county or the state as a whole. While many of the problems were ones that a field staff could begin to work on immediately, some involved research issues and policy problems that need to be handled at the state or national level. Specific county problems and suggested responses are elaborated in the sections on each county.

*In planning for the information/publications component, the program made use of the experience of local groups such as the College of Tropical Agriculture and of individual consultation with personnel from other Sea Grant institutions. Part of this process was under the sponsorship of PASGAP with the assistance of William Wick, Director, Sea Grant Program, Oregon State University; Harvey Moore, Regional Extension Coordinator, National Marine Fisheries Service; and Graham Drew, Director, Resources Industries Programmes, University of British Columbia.

HAWAII COUNTY

Hawaii County had a population of 63,468 and a coastline of 266 miles in 1970 (Koebig and Koebig-Hawaii, 1972). It has two major ports; one at Hilo, the other at Kawaihae. Small boat harbors located at Reed's Bay, Kawaihae, and Honokohau are available to sports and commercial fishermen. Additional facilities including boat ramps and moorings are found at Pohoiki Bay, Wailoa River, Waiakea Pond, Laupahoehoe, Mahukona, Kawaihae, Puako, Honokohau, Kailua Bay, Keauhou Bay, Honaunau, Kaulana, and Punaluu. In a 1970-71 study by Hoffman and Yamauchi (1973), it was found that 12,300 residents pursued recreational fishing and spent approximately \$1,851,000 on this activity. This level of spending, in turn, resulted in an additional income through the multiplier effect of approximately \$1,345,000.

Commercial fishermen on Hawaii Island numbered 415 in 1972. Their ocean catch was reported as 1,090,557 pounds for a value of \$590,311. Over and above the commercial catch, subsistence and recreational fishing add to the quantities of fish taken from the waters surrounding the island of Hawaii; hence, the total reported is not an actual figure.

There is a large charter fleet primarily in the Kona area and also several tour and glass-bottom boats. These activities are keyed to the tourist industry and represent important recreational resources on the leeward side of the island. Charter SCUBA diving is also available.

In terms of development the Big Island appears to be on the threshold of significant shoreline changes associated with hotels and new highways. There is also some concern about the impact of current land use in terms of urban and agricultural waste on adjacent shoreline areas.

There is some interest in aquaculture of marine and freshwater organisms such as prawns and catfish in several areas on the Big Island. In conjunction with larger agricultural activities, aquaculture may become a significant local industry.

The following is a list of high priority problems in Hawaii County:

- Fish marketing information
- Fish handling
- Under-utilized resources such as squid
- Skipjack tuna bait
- Fuel allocations
- Harbor and aids to navigational problems
- General decline of the fishery evidenced by the decline in the number of larger vessels
- Fishing technology
- Boating safety
- Conservation education and better treatment of marine resources
- Active programs to enhance the productivity of the inshore waters

- Urban and agricultural wastes and their impact on the inshore waters
- Conflict and regulations involving sports (particularly shore fishermen) and commercial or quasi-commercial fishermen
- Enforcement of existing fish regulations
- Access to shoreline areas
- Boat ramps and safe moorings for vessels of all types
- Fish promotion at the retail level
- Organization of marine interests for effective lobbying, commercial benefits, and education
- Access to marine information and response to specific local problems
- Conflict with marine mammals

The following people participated in the development of the program for Hawaii County:

<u>Contacts and/or Participants</u>	<u>Occupation and/or Organization</u>
William Akau	Harbormaster at Kawaihae
Henry Akona, Jr.	Jeannie Marie Tours
Jack Caple	Kohala Corporation
Doug Carr	Professional Divers Hawaii
John Cahn	University of Hawaii, Hilo College
Alika Cooper	Commercial fisherman
Anthony Costa	Recreational fisherman
Henry Doi	Commercial fisherman
T. Doi	Commercial fisherman
Jack Fischer	President, Kona Charter Skippers Association
Carl Fujita	Sports Center Hawaii
Les Fujiwara	President, Kona Mauka Trollers
Robert Fukuda	Director, Department of Parks and Recreation, Hawaii County
Clarence Garcia	Kohala Corporation
Virginia Goldstein	Department of Planning, Hawaii County
Don Hashimoto	Hilo Casting Club
Tadashi Higaki	Cooperative Extension Service
Peter Hoogs	Vice-President, Kona Charter Skippers Association
Al Ignacio	State Fish and Game Division
Hideo Ikeda	Recreational fisherman

Contacts and/or Participants

Rodney Kaido
Z. Kanai
Jim Kilburn
Robert Kim
Jerry Kinney
Eddie La'au, Jr.
Steve Lambert
Fred Leslie
Edward Lingo
David Lyman
Herbert Mann
Rex Matsumo
Bart Miller
Arthur Morsereau
Ken Muranaka
Nancy Nakatani

Katsumi Nii
Earl Pacheco

Al Penrose
Lloyd Sadamoto

Sgt. Richard Santos

Dick Stanley

Dick Steven-Hazard
Raymond Suefuji

Takeo Tajiri
Patrick Tani
Alan Tyler
Don Walker
Peter Webster
Melvin Wong
Fred Zobrist

Occupation and/or Organization

Hilo Casting Club
Suisan, Inc.
Recreational fisherman
Commercial fisherman
North Kona Ice and Cold Storage
Commercial fisherman
Kona Coast Tours
State Department of Parks and Recreation
Recreational fisherman
Master mariner
Marine surveyor
Suisan, Inc.
Charter skipper at Kona
Bell Rope Marine, Inc.
Recreational fisherman
Fish and Wildlife Advisory Commission
Hawaii County

Hilo Bay Anglers
Fish and Game Advisory Commission,
Hawaii County

Inter-Game Fish Association
Department of Research and Economic
Development, Hawaii County

President, Wailoa Trolling Club,
and commercial fisherman

Associate Dean and Coordinator, College
of Tropical Agriculture programs
C. Brewer Co.
Director, Department of Planning,
Hawaii County

Hawaii Community College
Recreational fisherman
Kona Conservation Group
Past President, Kona Mauka Trollers
Bell Rope Marine, Inc.
Cooperative Extension Service
Neighbor Island Consultants

MAUI COUNTY

Maui County, made up of Maui, Molokai, and Lanai Islands, had a population of 46,156 in 1970 and has a coastline of 210 miles (Koebig and Koebig-Hawaii, 1972). The major ports are Kahului, Kaunakakai, and Kaunalapau on Maui, Molokai, and Lanai, respectively. Small boat harbors and ramps exist at Hana, Keanae, Kahului, Maalaea, Kalama Park, Lahaina, and Honolulu Bay on Maui; Kaunakakai on Molokai; and Manele Bay on Lanai. There were approximately 10,600 recreational fishermen in the county in 1970 (Hoffman and Yamauchi, 1973). They spent an estimated \$1,569,000 on sports fishing which, with the multiplier effect, resulted in an additional income of \$1,115,000.

Commercial fishermen of Maui County numbered 269 in 1972 with a reported ocean catch of 38,840 pounds valued at \$36,149. Again, as in the case on the Big Island, this total does not include subsistence and sports fishing.

Associated with the tourist industry in Lahaina is a charter fishing fleet. SCUBA diving charters and equipment are available through several shops. Aquaculture is an ongoing activity on Maui with interest in expanding the culture of prawns and catfish to Molokai as well.

The impact of local land use has been a significant factor in some of the inshore waters of Maui County. This is a growing concern. Hence, there is an allied need for research and information as land use patterns change and as shoreline hotel developments come about.

Harvesting black coral is a significant commercial activity which generates employment and some allied extension opportunities in safety, stock assessment, and marketing.

There is also desperate need for public educational programs which would put conservation on a firm footing. These programs are needed for people of all ages through a variety of media.

The following is a list of high priority problems in Maui County:

- Fish marketing information
- Fish handling
- Harbors and launching facilities for small craft (commercial as well as recreational)
- Fisherman training and gear demonstration
- New fishing technology which will attract new fishermen and improve the incomes of existing fishermen
- Conservation education
- Urban and agricultural wastes and their impact on the inshore waters
- Conflict between marine resource users
- Enforcement of existing regulations

- Access to shoreline areas
- Fish promotion at the retail level
- Organization of marine interests for effective lobbying, commercial benefits and education
- Access to general marine information
- SCUBA conservation particularly among recreational divers as opposed to commercial divers
- Aquacultural potential for a variety of marine and freshwater species
- Information on currents
- Coastal zone planning including historic sites
- Boating safety

The following people participated in the development of the program for Maui County:

<u>Contacts and/or Participants</u>	<u>Occupation and/or Organization</u>
Fred Bicoy	Maui Economic Opportunity
Linda Brown	Hawaii Visitors Bureau
Jeff Chang	Department of Planning, Maui County
Charlie Clark	Commodore, Maalaea Boat and Fishing Club
E. Loy Cluney	Councilman, Maui County
Peter Connally	Commercial fisherman and Conservation Council
Robert Cushnie	Koele Company
Al Deloso	Department of Parks and Recreation, Maui County
Phil Esterman	Life of the Land
Richard Grigg	University of Hawaii, Manoa
Dale Huddleson	Owner, Central Pacific Divers at Lahaina
Carl Kaiama	Water Department, Maui County
Billy Kalipi	Lokahi Pacific
Kenneth Kato	Fishfarms Hawaii
Albert Keanini	Fisherman
Helen Kepahuna	Waimakana Kai, Inc.
Captain Lilly	Harbormaster at Kahului
Tad Lucky	Manager, Skin Diving Hawaii, Maui
John Maciolek	University of Hawaii, Manoa

Ichiro Maehara	Director, Parks and Recreation, Maui County
Paul Mancini	Lokahi Pacific
Joe Medeiros	State Fish and Game Division
Richard Morita	State Fish and Game Division
Howard Nakamura	Director, Planning Department, Maui County
Al Okamoto	Molokai High School Science Teacher
Noah Pekelo	State Fish and Game Division
Ed Schmidling	State Fish and Game Division
Glen Shepherd	Maui Community College
Dan Shigeta	Cooperative Extension Service
Mr. Shimabukuro	Valley Hardware
Rene Sylva	Fisherman
Wayne Uemae	Deputy Director, Department of Public Works, Maui County
James Uno	Maalaea Store
Ricki Yasui	Coordinator, Department of Economic Development, Maui County

KAUAI COUNTY

Kauai County had a population of 29,761 in 1970 and has a coastline of 113 miles (Koebig and Koebig-Hawaii, 1972). There are two major harbors capable of handling commercial shipping. These are Nawiliwili and Port Allen. Small boat harbors and/or boat launching ramps and mooring sites are available at Hanalei, Waikaea Canal, Kaumualii, Wailua, Nawiliwili, Niunuu, Kukuiula, Port Allen, and Kikiaola.

A 1970-71 study on recreational fishing (Hoffman and Yamauchi, 1973) revealed that 7000 Kauai residents participated in this activity. They spent an estimated \$1,102,000 on fishing which, with the multiplier effect, resulted in an additional increase in income of \$809,000 during the same period.

Commercial fishermen in 1972 numbered 101. They landed a reported catch of 263,921 pounds for a value of \$126,447. As is common throughout the state, there are only a handful of full-time fishermen when compared with the total number of licensed commercial fishermen. State law prohibits the sale of fish without this license; hence, there is an inflated number of fishermen and an apparent low average of gross earnings. There is also a significant body of part-time fishermen who supplement their regular incomes by fishing on weekends. Many of these individuals are important harvesters of marine resources.

Kauai has some interesting possibilities for aquaculture. However, there is a definite need for detailed information covering a wide variety of subjects including public health, soils, ponding, nutrition, financing, as well as the more basic information on management and biology.

Shoreline developments are of concern on Kauai and there is an immediate need for the planners, developers, and private citizens to come into contact with the backlog of existing information and to articulate their requirements for additional information that might come from the Marine Advisory Program and research. Natural and agricultural runoff are other areas of concern.

Kauai also needs a continuing program of marine education especially in the conservation area. Throughout the state, people of all ages and occupations need to understand the underlying physical, biological, and social aspects of ocean resource use.

The following is a list of high priority problems in Kauai County:

- Fish marketing information and organization
- Fish handling
- Coastal, shoreline, and highway erosion
- Fuel allocations
- Small boat harbors and launching ramps on the windward side
- Conservation education
- Fish marketing

- Fishermen educational program
- Urban and agricultural waste and their impact on the inshore environment
- Marine user organizations for effective resource management
- Malaysian prawn culture as well as other species
- Boating safety
- Access to marine information
- Science programs for 4-H and other youth programs
- Supportive vocational training programs such as welding, mechanics, and carpentry

The following people participated in the development of the program for Kauai County:

<u>Contacts and/or Participants</u>	<u>Occupation and/or Organization</u>
Commander H.H. Abe	Pacific Missile Range
John Akana, Jr.	Commercial fisherman
Larry Andrade	Recreational fisherman
Sidney Bird	Kauai High School Science Teacher
Bill Chu	Department of Parks and Recreation, Kauai County
Kenneth Chu	Garden Island Outboard Club
Ramon de la Pena	Director, Economic Development Department, Kauai County
Carl Forsen	Harbormaster at Nawiliwili
Guy Fujiuchi	Kauai Community College
Bob George	Kauai High School Science Teacher
Paul Hansen	Pacific Missile Range
Bill Higa	Kauai Community College Science Instructor
John Higgens	General Manager, Smith's Motor Boat Service, Inc.
Sam Lee	State Department of Land and Natural Resources
Koichi Masaki	Commercial fisherman
Jim McDowall	Kauai High School Science Teacher
Wilson Miyashiro	Superintendent, Department of Public Works and Director, Division of Parks and Recreation
Hisao Munechika	Fish wholesaler/retailer
Brian Nishimoto	Director, Department of Planning, Kauai County

Contacts and/or Participants

Toyo Shirai

Grace Takabayashi

Herman Texeira

Sonny Waialeale

Dr. Edward T. White

Richard Yano

James Yamada

Thomas Yamasaki

Occupation and/or Organization

Manager, Wailua Municipal Golf Course

Kauai High School Science Teacher

Department of Economic Development,
Kauai County

Operator of Waialeale Tour Boat
Business

Provost, Kauai Community College

Kauai High School Science Teacher

State Fish and Game Division

Department of Planning, Kauai County

SUMMARY

While each county has its own unique problems with respect to the marine environment, there are several common threads that run through the state as a whole. These have been and continue to be the highly organized and capitalized extractive and non-consumptive uses of the marine environment, the impact of man's other activities on the factors that influence the quantity and quality of our marine resources, and the sustenance and enjoyment that can be obtained from the sea by casual users.

Presently, there is a general pattern of use not unlike that of the ancient Hawaiians. A much smaller proportion of the population extracts a full-time living from the ocean than does that portion of the population which has a continued, yet intermittent relationship with the ocean. Like the early Hawaiians, there is an equivalent of ocean voyaging or specialized fishing in the form of the present shipping industry and the more specialized and capital-intensive modern fisheries and aquaculture.

The problems reported throughout the state attest to a broad spectrum of marine advisory opportunities. There is a universal concern for several of our commercial fisheries as well as for the more important inshore commercial/recreational fisheries. On one hand is a concern for technology such as fish handling and marketing; on the other is a desperate need for general public education aimed at an appreciation of the biological and physical factors that regulate marine productivity.

Just over the horizon is the need for statewide expertise on the culture of prawns and other aquatic organisms. Farmers are now seeking preliminary information on feasibility and requisite resources in terms of land, water, feed, and so on. To date, the State Fish and Game Division has been able to handle these requests, but there is need in the future for specially trained personnel.

Another need is input into the planning processes that are critical on all of the islands. Private developers as well as government planners are seeking information on land use alternatives and the impact on our inshore environment. Residents have a large stake in the resulting economic impact and the quality of their environment. Facilities, safety, quality, organization, and information are problems that confront the casual marine user, whether as a weekend commercial fisherman or a beginning surfer. These are all opportunities for the Marine Advisory Program. Many of these problems will be shared among the counties while some will be for a specific county such as resolving the Hilo mullet allocation between net fishermen and pole fishermen. The interviews and meetings that are the subjects of this report found many important problems that were strictly of a local nature.

CONCLUSIONS

Within the local economic and social confines and the geographical districts that form the neighbor island counties, there is a definite need for sources of marine information and ways for local problems to come to the attention of researchers, government agencies, private business, and the general public.

This need would be best met with a local representative of the Sea Grant Marine Advisory Program. As there are three neighbor island counties, the immediate need is for three field representatives. As a permanent resident and with local matching support in terms of office space and the like, the MAP representative would be expected to work on the unique problems of his county and take part in and advantage of statewide programs on common problems.

This report contains a list of both types of problems. Many of those individuals who participated in the interviews and meetings are concerned about such things as office space and the future guidance of the local program. These individuals have been formed into advisory councils. These advisory councils will help evaluate success and re-shape the goals of the local program.

A final observation is that the expertise of subject matter specialists needs to shift as problems are solved and/or as other governmental agencies assume these responsibilities. Occasionally short-term expertise may be required on special problems.

REFERENCES CITED

- Hoffman, Robert G., and Hiroshi Yamauchi. 1973. *Impact of recreational fishing expenditures on the state and local economies of Hawaii*. UNIHI-SEAGRANT-AR-72-02. Sea Grant College Program, University of Hawaii, Honolulu.
- Koebig and Koebig, Hawaii. 1972. *Statewide boat launching facilities master plan*. Prepared for Harbors Division, Department of Transportation, State of Hawaii.
- Peyton, Patricia (ed.) 1972. *Marine resource development*. PASGAP 4. Published for Pacific Sea Grant Advisory Program by Washington Sea Grant Advisory Services, University of Washington, Seattle.