KAWELA BAY
OAHU
1 OF 3
G. BALAZS

GHB - see this Sunday

G CLASSIFIED ____ G10
On Real Estate ____ G3
People on the Move ____ G9
In the Garden ____ G7

Prepared by the staff of the Honolulu Star-Bulletin

8-23-1992

HOT PROPERTIES ✓

The Ho property offers a sweeping view of this cove.

Don Ho's Kawela Bay parcel has many views

Star-Bulletin staff

Featured!

■ Don Ho has listed his ocean-front parcel of land on the North Shore at Kawela Bay. The property, in a private gated community, is 23,522 square feet with 283 linear feet on the water.

It is on a point at the end of a private road — views range from the ocean, across the water to the Turtle Bay area, back toward the mountains and to a secluded cove.

The entertainer's property, which is fee simple, is listed at $1.5 million through Christine Morgan at Bradley Properties.

■ A canal-front home on Kainui Drive in Kailua — also known as "Duck Road" or "Duck Lane" — is being offered through Conley Dew Realtors.

The fee-simple, two-story home at 943A Kainui Drive has four bedrooms and three bathroooms and was built four years ago under ohana zoning. There are 1,960 square feet.

It is listed for $363,000 by Matt Johnson and Jack Gagen at Conley Dew.

WHATEVER HAPPENED TO? . . .

An update on stories no longer in the news

HSB 3/1/94 A3

Kawela Bay projects on hold

QUESTION: Whatever happened to the development at Kawela Bay?

ANSWER: The hotels and condominiums planned are still on hold waiting for a better economy, but progress has been made on other portions of the plan by Asahi Jyuken Hawaii Inc., which bought the land from Prudential Insurance Co.

The Links at Kuilima, an 18-hole golf course on the eastern side of the Kawela Bay land, is completed and in January was named by Golf Digest as the fourth best new resort golf course in the country, according to Norman Quon, project manager. "It is the beginning of the ambience for the new phase of the resort," Quon said.

Across the highway, the developer has completed the wastewater treatment plant, with a capacity of 1.3 million gallons per day, through aerated lagoons. That is enough capacity for all of the new development planned for the site.

The production well is being completed and that will provide 25 percent of the water needed for development, Quon said.

Asahi Jyuken was ready to go with the first hotel, a 550-room, five-star hotel for exclusive travelers, to be at the point on the bay. The hotel was designed by Group 70 International and the building permit was obtained. The developers also had a negotiated construction price from Fletcher Pacific Construction Co. in December 1990, but then the Gulf War started in January and the world economy sagged. Quon said that the working drawings are also finished for the other hotel, a 650-room four-star hotel. The project has been approved for 2,000 resort condominiums and 2,000 hotel rooms, which includes the 487-room Turtle Bay Hilton. With good economic conditions, development would occur over 20 years.

The plan also calls for preserving an ironwood tree forest and designating Kawela Bay as a marine reserve similar to Hanauma Bay. Quon said all the paperwork is done for the marine reserve and the application is at the state Department of Land and Natural Resources. The application will be activated when the hotel is constructed. The Punahoolapa marsh area already is a water bird sanctuary.

Ever wonder what happened to a person, event or issue that has been in the news? We'll find out for you if you call the City Desk at 535-8640 or write us at P.O. Box 3080, Honolulu 96802. Whatever happened to? . . . runs Wednesdays.

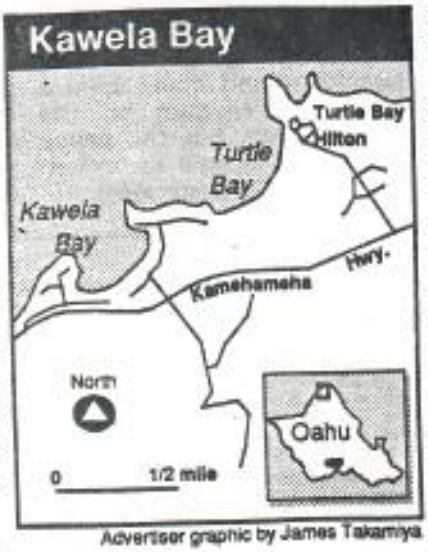
XC → S Honolulu Advertiser HA A 6-23-90

North Shore residents hoping for Kawela marine life reserve

By David Waite
Advertiser Capitol Bureau

Members of a North Shore citizens' planning group are hoping to create a marine life conservation district at Kawela Bay, similar to the one at Hanauma Bay.

The North Shore residents believe establishing a special marine management district at Kawela is a real possibility now that Kuilima Development Co. has withdrawn its requests for state and federal permission to remove silt from portions of the bay and replace it with sand and gravel.



Advertiser graphic by James Takamiya

Consultants for the developer had proposed the desilting project to help clear bay waters and to make portions of the bay's bottom more acceptable to people who will stay at the two hotels planned for construction at the bay.

Several Kawela Bay residents and members of the beach and parks access subcommittee of the North Shore Planning Committee, however, said not enough was known about the potential environmental consequences of the desilting project.

Barbara Evarts, chairwoman of the beach access subcommittee, said the developers' consultants told her applications for a state conservation district use permit and an Army Corps of Engineers permit were withdrawn earlier because of community opposition to the proposal.

"I think they were a little surprised at the level and the effectiveness of the community opposition to the proposal," Evarts said.

She said her committee intends to continue working with the developer's consultants.

xatlked SWR 5/24/90 (JS)

F/SWR13:JJN

LT Colonel Donald T. Wynn
District Engineer
U.S. Army Corps of Engineers
Fort Shafter, Hawaii 96858-5440

Dear LT Colonel Wynn:

The National Marine Fisheries Service (NMFS) has reviewed Public Notice No. PODCO 2148, Sand Fill in Kawela Bay, Kahuku, Oahu, Hawaii (10 May 1990). The applicant is Kuilima Development Company. We offer the following comments for your consideration in reviewing the application under Section 10 of the River and Harbor Act and Section 404 of the Clean Water Act.

Proposed Project

It is our understanding that the applicant proposes to place fill material (sand and gravel) in depressions on the bottom in the southeastern section of Kawela Bay. Two layers of fill will be placed - an underlayer of 1,000 cubic yards (CY) of crushed basalt gravel approximately 0.5 to 1.0 ft. thick, and an upper layer of 5,000 CY of coarse sand 1.0 to 2.5 ft. thick. The fill will cover an area of approximately 130,000 square feet or about three acres. Portions of the fill area (0.66 acres) will have been previously desilted to remove gelatinous silt and clay-sized material. The dredging of the silt material was previously authorized under Department of the Army Permit NO. PODCO-0 1857-SD. The fill material would be placed in the water by either amphibious earth-moving equipment or by hydraulic pumping. In neither case would the construction of temporary causeways in the water be required.

Background

NMFS has been involved in the Kawela Bay project for a number of years, including the lengthy review for Permit No. PODCO-0 1857-SD. During this review, which included studies by the NMFS Honolulu Laboratory, it became readily apparent that Kawela Bay contains important foraging habitat for the threatened green turtle, as well as habitat supporting juvenile and adult nearshore fishery resources. In view of this, NMFS was originally opposed to the dredging project and stated this numerous times, both in writing and during meetings. However, after much negotiation we agreed to a reduced dredging project with a number of specific conditions to mitigate impacts and compensate for loss of habitat.

One of the mitigation measures specified in Permit PODCO-0 1857-SD (issued 28 July 1988) is Special Conditions #3:

> "Dredging shall be limited to the removal of unconsolidated sediment and shall not involve alteration or excavation of the hard, consolidated substrate. Materials that cannot be removed by the hydraulic dredge will not be removed by any other means."

The rationale for NMFS recommending this condition was that the hard substrate exposed by dredging would provide new surface for colonization by benthic algae. This in turn would provide additional forage habitat for green turtles and herbivorous reef fish and could apply toward compensatory mitigation for dredging the 0.66 acre area within Kawela Bay.

Discussion

The proposed fill project would place in the bay approximately 6,000 cubic yards of new material to replace the 1,800 cubic yards of silt removed by dredging. The fill will cover approximately 3 acres of bay bottom, including all hard substrate exposed by dredging the 0.66 acre site. Therefore, one of the important mitigation conditions in Permit PODCO-0 1857-SD would be eliminated.

In addition to the above, NMFS is not convinced that the sand and gravel fill material will stay in place, particularly during the winter months when large ocean swells impact the north shore of Oahu. Should the fill material shift it will smother additional benthic habitat which will further reduce the amount of algae available for forage and could impact living corals found further out in the bay.

As mitigation for the proposed fill the applicant indicates that sea grass may colonize the sand fill area. NMFS does not feel this is appropriate mitigation for loss of habitat which supports benthic algae known to be important as forage for turtles and reef fish and which occurs naturally in Kawela Bay. In addition, it is not known if the Hawaiian seagrass (Halophila hawaiiana) would colonize sandfill within the bay or, if planted by hand, would become established. Seagrass should have naturally colonized existing sand and silt areas found within Kawela if the bay was appropriate habitat for this species.

Recommendations

It is clear that Kawela Bay provides habitat essential to marine resources for which NMFS has a responsibility. We have concurred with the plans to dredge a small amount of silt from the bay, providing mitigation to compensate for dredging impacts was made part of the permit. However, NMFS objects to the additional work proposed in Kawela Bay as described in the subject permit

application. We strongly recommend the denial of this permit.

We appreciate the opportunity to comment. Should you have any questions concerning this report or our recommendations, please contact John Naughton of the NMFS, Pacific Area Offce at 808/955-8831 in Honolulu.

Sincerely yours,

E.C. Fullerton
Regional Director

cc: F/SWR13, Naughton
FWS, Honolulu
EPA, Region 9 (E-4)
Hawaii State Div,. of Aquatic Resources
Hawaii CZM Office

HO ENTERPRISES, LTD.

FAX TRANSMITTAL

DATE: 2/25/91

TO: GEORGE BALAZS

COMPANY

ADDRESS

TELEPHONE

FAX NUMBER: 942 2062

TIME: 11:00 AM

FROM: HAUMEA

COMPANY: HO ENTERPRISES, LTD.
2005 KALIA ROAD
HONOLULU, HAWAII 96815
TELEPHONE: (808) 923-3981
FAXLINE: (808) 923-4718

NUMBER OF PAGES SENDING (INCLUDING COVER SHEET): 1

PLEASE CALL SENDER IF YOU DO NOT RECIEVE ALL PAGES.

COMMENTS: GEORGE THIS FAX IS TO INFORM YOU THAT HR HO SAID NO PROBLEM FOR YOU TO USE HIS KENEA BAY PROPERTY. SORRY IT TOOK SO LONG TO GET BACK TO YOU.

Hau

Summary of green turtle netting at Kawela Bay[a], Oahu

by
George H. Balazs
National Marine Fisheries Service
2570 Dole Street
Honolulu, Hawaii 96822-2396

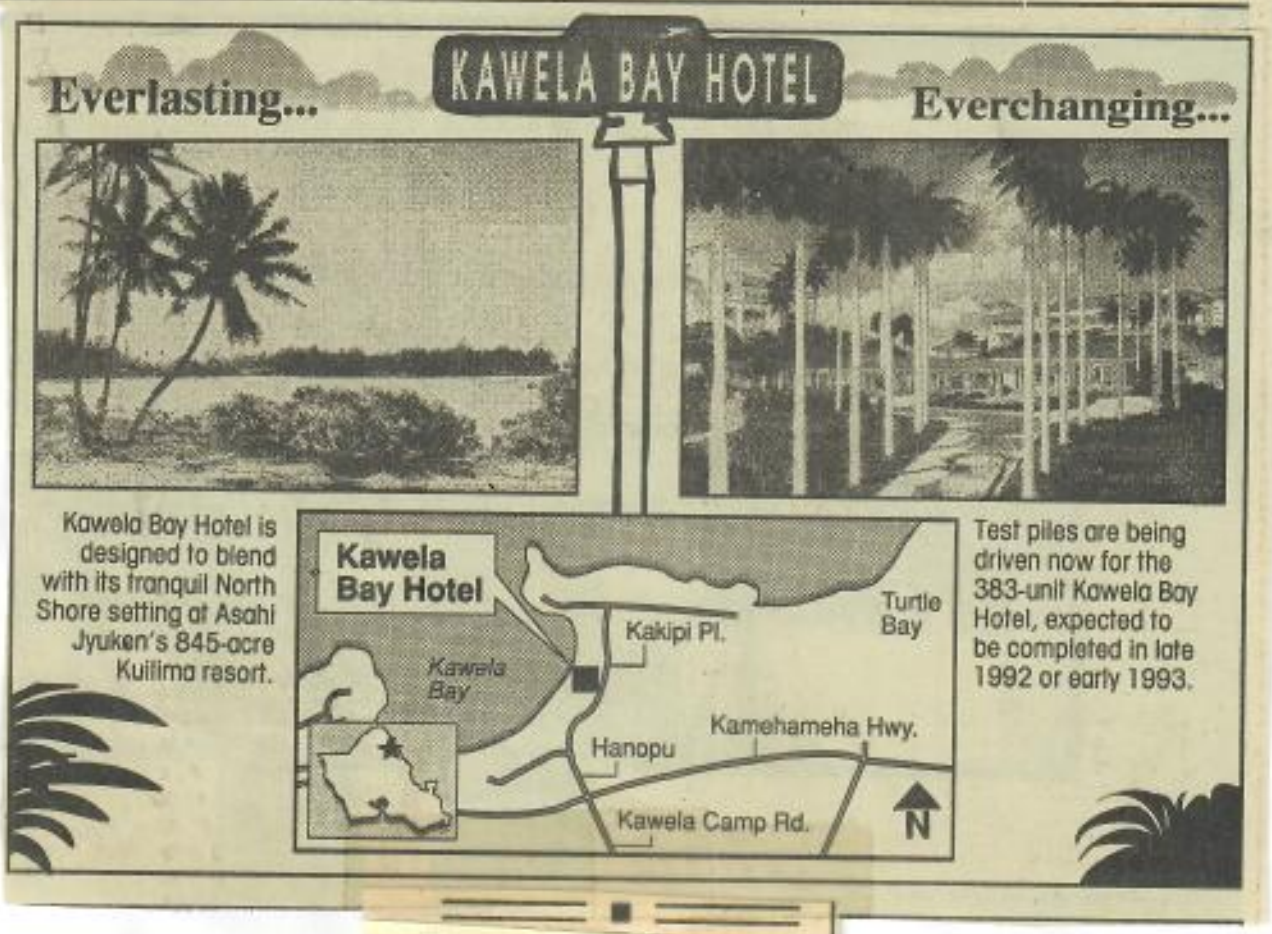
Study date	Net length (m)	Hours of netting	Netting efforts (meter-hrs)	No. turtles captured	Catch per unit effort
26-28 Mar 85	60	40	2,400	19	.008
15-16 Apr 85	36	15	540	6[b]	.011
27-28 Jun 85	36	12	432	5	.012
2-3 Jul 85	36	12	432	6[c]	.011
20-21 Feb 86	36	14	504	1	.002
28-29 Mar 90	42	8	336	1	.003
			Total	38	

Total no. of turtles--35

[a]All netting conducted off Don Ho's property at the northwestern side of the bay where conditions are acceptable.

[b]Includes one recapture.

[c]Includes 2 recaptures, 1 of which had already been recaptured on 15 April 1985.



My most favorite place is Kawela Bay. Some of the things I did are swimming, fishing, crabbing, and building bonfires.

I am sad that they are going to develop the Bay. My family has spent our weekends and summers there for generations. There will never be another place for us like Kawela Bay.

I am very grateful that I was able to spend time there.

Matthew Moss

GHB

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center Honolulu Laboratory
2570 Dole St. • Honolulu, Hawaii 96822-2396

April 4, 1990 F/SWC2:GHB

Mr. Murray Eisner
57-435 Hono Kawela Drive
Kahuku, HI 96731

Dear Mr. Eisner:

Many thanks for your recent letter regarding sea turtles (green turtle, Chelonia mydas), at Kawela Bay. I appreciate the interest and information that you and your wife have periodically conveyed to me over the past 5 months. Your concern for the turtles, and the habitat upon which they depend, is truly commendable. Since first visiting Kawela Bay in 1985, I have been pleased to find an exceedingly high level of interest and enthusiasm for sea turtle research and conservation among longtime Kawela Bay residents such as yourself.

Your question about the number of turtles using Kawela Bay can only be answered in terms of my "best professional estimate." Unfortunately, absolutely reliable methods for statistically censusing sea turtles in their marine habitats do not exist. During the course of our low-intensity studies at Kawela Bay, I have personally captured and tagged 37 turtles. Consequently, there are, of course, at least that many turtles using the Bay. During October and November of 1985, Robert Forsyth and I witnessed 15-20 turtles feeding together close to shore at the east end of the Bay. And more recently, on the morning of December 13, 1989, I picked up 197 fecal pellets freshly washed ashore that came from green turtles. The pellets contained (among other things) digested fragments of Codium, a benthic alga that grows on hard substrate in Kawela Bay. Based on the above findings, coupled with my experiences capturing and tagging turtles in a more intensive fashion elsewhere in Hawaii, I would estimate that somewhere between 50 and 150 turtles use Kawela Bay, mainly for foraging purposes (probably at night). My lower estimate of 50 is undoubtedly very conservative, considering that 37 turtles have been tagged, but only 2 have been recaptured.

Again, thank you for your interest. I hope that I have answered your difficult question with some degree of satisfaction.

Sincerely,

George H. Balazs
Zoologist

Paradise of the Pacific
1936 48(9):1

Ka Wai O Ke Kala

The Water of Forgiveness

By Emma Ahuena Taylor

The little Spring of Forgiveness, Purification and Healing of the *God Kane of Io* is situated at the upper extremity of Kawela Bay, between Kamehameha Highway and almost at the edge of the sea, near where the feathery-leafed wild *koa* shrub shades the lane, carpeted by purple *lupens.* Where the *po-hue-hue* vine with bright purple nodding flowers creep along the sand beside the dainty white flowered *hina-hina* and lush *nau-paka* plant of legendary fame and where the *kowali* climbs and trails over vari-hued *lantana* and snuggles its pale bell-like blossoms amongst the tiny starry blue *konohono* that grows there.

Just close to this patch of rioting wild-flower colors, hidden beneath a pile of debris, one may find to-day, the once noted spring of *Ka Wai O Ke Kala*—The Water of Forgiveness. About a stone's throw from this spot, facing the beach, is the site of the ancient abode of the austere and stately high priests, the *Kahuna poo-Kanaka,* who were the guardians of the spring.

This sacred precinct was *kapu,* that is forbidden. The priests used the spring water for absolution before performing a religious ceremony. They had to be purified before and after.

Mecca of many pilgrims in search of health in olden days, was this spring. Even as late as a few years ago.

The *Kahuna Lapa-au,* or Medical Priest, would send his patients there, to drink of this peculiar healing water, and live on a diet of certain fish and seaweed, found in Kawela Bay. Most always an incantation was made to the spring, pleading for health.

Inquiring of an aged fisherman of Kahuku, why this spring water was not used to-day, he replied in cryptic language:

"Ua hala Ka Uhu (parrot fish), *ua ma-alo ihola-ua hoi akula i makapu-u—nou ka hala!"* which, translated is, "The *uhu* fish has gone—it has just dodged (the net). It has returned to *Makapu-u*—yours was the fault". He meant that it was our fault that this knowledge was lost through lack of appreciation of ancient remedies and customs.

September 3, 1987 F/SWC2:GHB

MEMORANDUM FOR: F/SWR1 - John J. Naughton

THRU: F/SWC2 - William G. Gilmartin
F/SWR1 - Doyle E. Gates

FROM: F/SWC2 - George H. Balazs

SUBJECT: Kawela Bay sea turtle foraging habitat

Thank you for the recent copied letter concerning Kawela Bay. As I mentioned to you earlier, I'll be meeting with Dr. Sherwood Maynard (NOP-Manoa) to plan for a project at Kawela patterned after my work at Punaluu on the Big Island.

One point of clarification is needed. The letter from Kuilima Development states, "...that the recommended habitat enhancements include placing a row of large limestone rocks in the shallow nearshore water...." I'm not sure how many they mean by "a row." However, please note that my earlier verbal suggestion to you was for a few coral rocks (3-5) the size of the natural one there now. Also, I want to stress again that this is strictly experimental habitat enhancement.

The educational and display segment of their proposal sound excellent.

GHB:ey
cc: Balazs
HL-

6/13/89 from P. Sullivan

Special Conditions

Endangered Species Conditions and Dredging Restrictions:

1. The area to be dredged is limited area designed on Figures 4 and 5.

2. The dredged area shall be isolated by a silt curtain.

3. Dredging shall be limited to the removal of unconsolidated sediments and shall not involve alternation or excavation of the hard, consolidated substrate. Material that cannot be removed by the hydraulic dredge will not be removed by any other means.

4. The dredged material shall be dewatered in upland areas on the property in an area approved for use after archaeological surveys are completed.

5. The dewatering area should be a containment facility designed so that storage capacity is adequate to accommodate the dredged material and the residence time sufficient to allow removal of suspended sediments from the water. Any water returning to the ocean from the dewatering area would be equal or better than the water turbidity measured in the receiving waters.

6. Dredging shall be limited to daylight hours only. Daylight hours are defined as the period of 0800-1700 hours.

7. Interpretative signs:

a. The signs will be placed at three locations to be selected by the permittee around Kawela Bay.

b. The signs will inform resort visitors of the presence of threatened green sea turtles in Kawela Bay and offshore waters, will encourage visitors to avoid harassing or disturbing the turtles and will provide some information on turtle biology and turtle threatened status. The permittee will consult with the National Marine Fisheries in developing the signage content, but will make the final decision on the sign content.

Monitoring Program

1. A monitoring program shall be conducted to record sedimentation rates, algae colonization, fish and macro-invertebrates at the dredge site and turtle populations in the Bay after dredging is completed.

2. Frequency and samples stations.

a. Sedimentation Rate Monitoring.

(1) Sedimentation rates will be measured using a trapping device designed by the permittee's consultant.

(2) Measurements will be taken at the dredge site in three locations to be determined by the permittee's consultant.

(3) The measurements will be taken monthly for one year and every three months for the second year.

b. Algae, fish, and macro-invertebrate surveys.

(1) Surveys will be conducted at a frequency of once every three months for a period of two years. The turtle surveys will have an observation period of 5 days.

(2) Three sampling stations will be located in the dredge site and one control site. The control site will be located in Kawela Bay in a non-silt area and selected for its algae, fish and macro-invertebrate assemblage representative of Kawela Bay.

c. Turtle surveys.

(1) Survey observations will be conducted from the shoreline and include all of Kawela Bay at a frequency as stated in item 2b.

(2) Turtle population monitoring will not involve turtle capturing, netting or stomach pumping and analysis. Turtle censusing will include visual observations noting number, location in the bay and activity when observed. If the permittee desires to expand the monitoring program, he must consult with the National Marine Fisheries Service and obtain any necessary approvals or licensing for capturing any turtles.

3. Reports.

a. Reports will be provided to the Corps one month after each 3-month survey is completed. The sedimentation rate survey results will be reported quarterly.

b. The initial report will describe the methodology used and the rationale for selecting samples sites. If the methodology is changed as a result of improved survey techniques, a rationale for the change will be provided in subsequent reports and a discussion on how the old data is related to the new data will be provided so that continuity of data interpretation is not lost.

c. At the end of each year a report will assess the information to determine what effect the dredging and resort development had on the algae, fish, macro-invertebrates and threatened green sea turtles in Kawela Bay based on survey data.

d. The sediment rate survey results will be compared with the estimated sedimentation rate and maintenance dredging frequency (5-10 years) computed by the permittee an will be used to adjust the frequency of maintenance dredging in Kawela Bay.

Water Quality Conditions:

1. The permittee shall abide by the conditions contained in the State of Hawaii, Section 401 Water Quality Certification, page 2, paragraph 3, items a thru d.

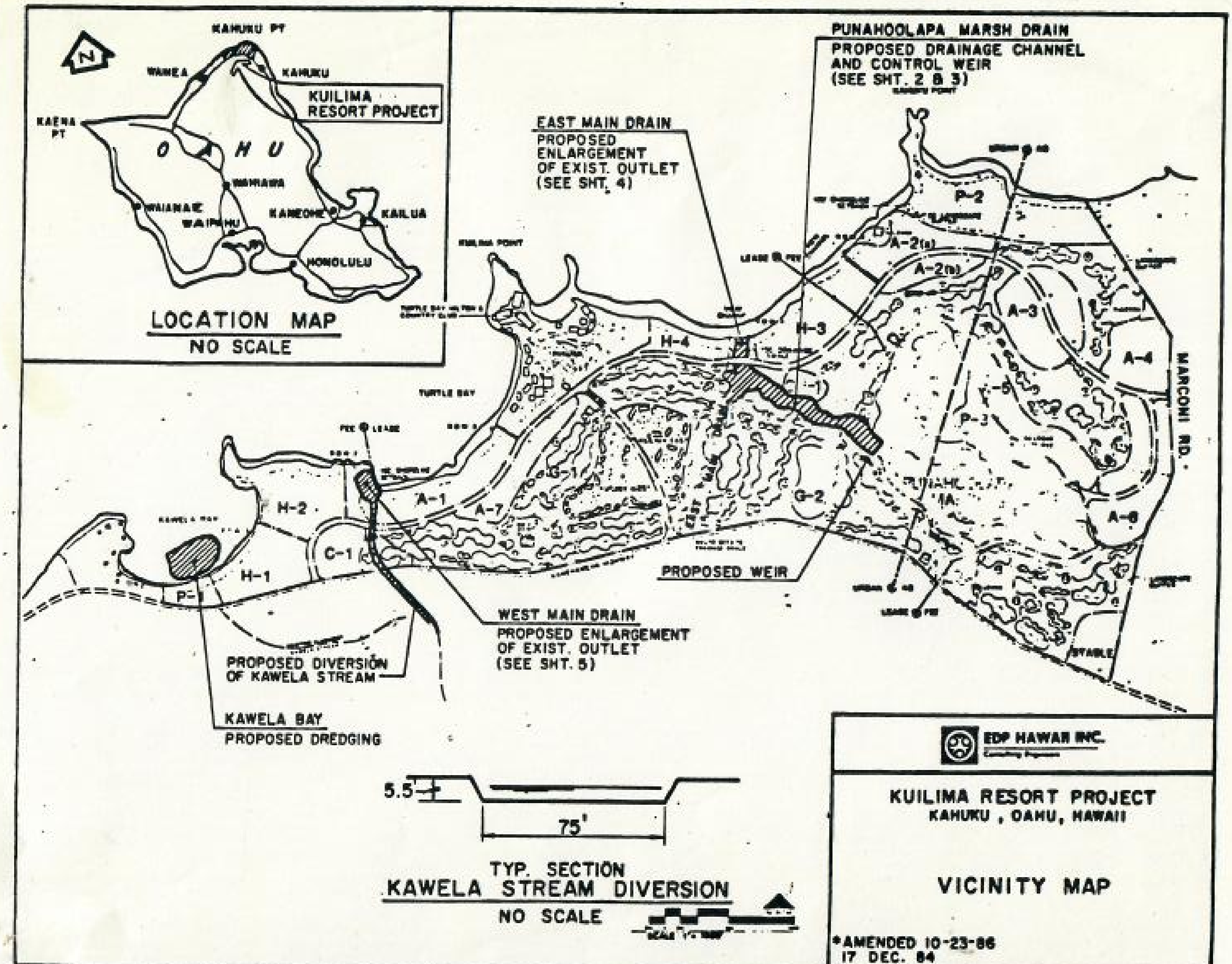

KAHUKU PT
WAMEA
KAHUKU
KUILIMA RESORT PROJECT
KAENA PT
O A H U
WAHIAWA
WAIANAE
WAIPAHU
KANEOHE
KAILUA
HONOLULU
LOCATION MAP
NO SCALE
PUNAHOOLAPA MARSH DRAIN
PROPOSED DRAINAGE CHANNEL
AND CONTROL WEIR
(SEE SHT. 2 & 3)
EAST MAIN DRAIN
PROPOSED
ENLARGEMENT
OF EXIST. OUTLET
(SEE SHT. 4)
TURTLE BAY
P-2
A-2(s)
A-2(n)
A-3
A-4
H-4
H-3
P-3
G-1
G-2
A-1
A-7
A-6
H-2
H-1
C-1
P-1
MARCONI RD.
STABLE
PROPOSED WEIR
WEST MAIN DRAIN
PROPOSED ENLARGEMENT
OF EXIST. OUTLET
(SEE SHT. 5)
PROPOSED DIVERSION
OF KAWELA STREAM
KAWELA BAY
PROPOSED DREDGING
5.5'
75'
TYP. SECTION
KAWELA STREAM DIVERSION
NO SCALE
EDP HAWAII INC.
KUILIMA RESORT PROJECT
KAHUKU , OAHU, HAWAII
VICINITY MAP
*AMENDED 10-23-86
17 DEC. 84

Figure 1

WESTERN PACIFIC PROGRAM OFFICE F/SWR1
NATIONAL MARINE FISHERIES SERVICE
2570 DOLE STREET
HONOLULU, HAWAII 96822-2396

October 7, 1986 F/SWR1:LDC

Susumu Ono
Chairperson
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Sus,

We have just provided comments to the Army Corps of Engineers on a permit to dredge silt from Kawela Bay and to improve drainage outlets for the proposed Kuilima Resort Expansion. Kawela Bay is an important nocturnal foraging area for green sea turtles, Chelonia mydas. While we determined that the silt dredging and drainage improvements would not adversely affect the Hawaiian population of Chelonia, we remain concerned about the secondary impacts of development at this site which at present is relatively little used by the public.

I append a copy of George Balazs' recent research results which documents the importance of Kawela Bay to green sea turtles. Immature Chelonia enter Kawela Bay after sunset to feed on the algae growing in the western and eastern ends. They feed until sunrise, at which time they move out of the bay to nearby resting areas.

As we understand it, public access with parking is planned for Kawela Bay. While this will open up a very beautiful portion of Oahu, we are concerned that this use may result in turtles abandoning this area. Night fishing in particular may conflict with the continued use of the bay by turtles.

The avenues available to NMFS to provide protection for this important turtle habitat are limited. Our Section 7 consultation with the Corps of Engineers, by necessity, evaluated only the effects of the permitted actions - dredging and drainage improvements. It could not address the issue of increased use of Kawela Bay, as the Corps permitting process is limited to the project only. Further, designation of critical habitat would require only that federal agencies consult with the NMFS for activities affecting the bay. Such designation would not be effective in preventing undesireable non-federal activities. The only means presently available to protect the turtles at Kawela Bay is our enforcement authority to deal with "take" violations on a case by case basis. Clearly, it is impractical to monitor Kawela Bay full time.

In view of the importance of Kawela Bay to green sea turtles, and our inability to adequately protect their habitat, we recommend that you consider its designation as a Marine Life Conservation District (MLCD). Such designation could include the prohibition on the taking of marine life and the altering of geological features. We believe that designation as a MLCD, along with development of an interpretive program (this could be a responsibility shared by the developer, the DLNR, and the NMFS), would serve to preserve, protect, and conserve the sea turtles which utilize Kawela Bay and eventually become recruited into the adult population.

I would be pleased to discuss this matter at any time with you or your staff.

Sincerely yours,

Doyle E. Gates
Administrator

cc: DLNR, Henry Sakuda
DLU, John Whalen
Kuilima Development Company
FWS, Honolulu
Corps of Engineers, Honolulu

bc: F/SWC2 - Gilmartin ✓

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES
EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

October 30, 1986

Mr. Doyle E. Gates, Administrator
U. S. Department of Commerce
National Marine Fisheries Service
Southwest Region
Western Pacific Program Office
2570 Dole Street
Honolulu, Hawaii 96822-2396

Dear Doyle:

This responds to your letter of October 7, 1986, asking consideration for designation of Kawela Bay as a Marine Life Conservation District (MLCD) for its use as a feeding ground by young green sea turtles, and proposing an interpretive program with the developer's cooperation.

In principle, MLCDs are established to protect areas of special resource value for public use such as scenic beauty, distinctive marine community structure, and so forth. Criteria for determining whether or not to pursue designation for a particular site also depend heavily on public acceptance.

Extent of Resource Values

Kawela beach is scenic. The water, however, is often so turbid that little can be seen beneath the surface. Geological features and coral colonies are indistinguisable. Fish are neither particularly abundant, colorful nor special. On the other hand, due to the richness of the water, production of limu is at times high, which is a problem to humans but desirable to turtles. An attempt is being made to clear the water by diverting outflows to the bay.

Accessibility

Dedication of a public beach park providing public access to Kawela Bay is required as a condition of County and State development permits. The turtle concern should have been raised during public hearings on the permits but unfortunately this was not done.

Traditional Uses

Until now, access restriction has limited traditional public fishing use of Kawela Bay, essentially only to bayfront residents (half of whom are now moved out). Local fishermen tell us nevertheless that the entire North Shore has only four "feeder bays" suitable for harvesting limu kohu (Codium spp.) and netting akule, fishermen are excluded already from two of the four bays, and they would prefer Kawela to be managed for fishing or cyclically (as at Waikiki-Diamond Head Shoreline Fishery Management Area) rather than closed (as at Hanauma Bay MLCD).

Definable Boundaries

Boundaries are not a problem at Kawela. The shore could bound an MLCD on three sides, and at the mouth of the bay there are on either side prominent features which could mark a clear seaward boundary.

Public Support

Many people urged that Kawela Bay be designated an MLCD at the time of the permit hearings, but much of this sentiment was based on a misconception that designation would somehow halt or limit development. After learning that it does not, these voices have since died down. More recently, a series of public meetings were held statewide last June and an MLCD at Kawela and Turtle Bays was one of the topics raised for public discussion. Neighbor Island residents were predictably indifferent, but on Oahu, at Honolulu and at Sunset Beach, no one spoke to support a Kawela MLCD.

In short, justification for MLCD status to keep people out of Kawela Bay would rest principally on need to protect nocturnal grazing by turtles: Kawela may never have the scenic beauty nor riotous fish populations of the Hanauma Bay MLCD. The newly acquired public access through the dedicated beach park is a requirement of the development permits which should not be obstructed. Fishermen and gatherers of limu kohu would severely oppose closure of the bay.

It occurs to us that Kawela's value as a "turtle pasture" might be preserved more simply by a geographically limited fishing regulation. Turtles feed in Kawela at night, and presumably would be at greatest risk to disturbance at that time. Hence, if any fishing is prohibited at night (e.g. from one hour before civil sunset to one hour after civil sunrise) the largest part of the problem would be resolved. Limu gathers in Kawela would need to freely compete with the sea turtles and visa-versa.

An interpretive program is attractive conceptually and should not be left to the developer who might be willing to underwrite an interpretive program out of economic self interest. As legal federal authority over marine turtle protection, the sea turtle recovery group could solicit assistance and attention from the developer.

We thank you for your suggestions. If it would be helpful, Henry Sakuda of our Division of Aquatic Resources will be open to meet with you to discuss the matter further.

SUSUMU ONO, Chairperson
Board of Land and Natural Resources

8/31/87

KUILIMA

25 August 1987

Mr. Doyle E. Gates, Administrator
U.S. Department of Commerce
National Oceanic and Atmospheric
Administration
National Marine Fisheries Services
Southwest Region
Western Pacific Program Office
2570 Dole Street
Honolulu, Hawaii 96822-2396

Dear Mr. Gates:

Subject: PODCO-O 1857-SD. Improve Existing Drain Outlet and Desilt in Kawela Bay, Oahu

We met with John Naughton and Gene Nitta of your office on 18 August 1987 to discuss plans that would lead to enhancing the foraging habitat of Kawela Bay and that would allow your agency's study of the Hawaiian green sea turtles that frequent the bay.

From our discussions, we understand that the recommended habitat enhancements include placing a row of large limestone rocks in the shallow nearshore water along the west side of the bay. The rocks should be placed close enough to shore to be within the influence of fresh-water which percolates through the ground into the bay along the shoreline.

In addition, it was requested that we provide your agency assistance in a species monitoring program.

The habitat enhancement and species monitoring projects could be highlighted by a shoreside interpretive display depicting the importance of the nearshore waters off the "Turtle Bay Resort" development to the threatened population of the Hawaiian green sea turtle.

Our preliminary reaction to the first of these recommendations is that it is feasible; however, we would like to study the aesthetic and hydrodynamic implications of placing large limestone rocks in the bay, and the impact on recreational users from West Kawela Bay. Also, this work is likely to require Federal and State permits.

After our studies determine that there will be no significant adverse impact on aesthetics, circulation patterns within the bay, and recreational uses, or determine methods to lessen their impacts, we would appreciate your agency's assistance in the processing of the permits.

In regard to providing assistance for the species monitoring program, we request that NMFS provide an outline of the program, including its frequency and an estimate of manhours required. After reviewing the above information, we can discuss with your agency the selection of consultants and/or the use of Marine Options Program students.

We are excited about the shoreside interpretive display, and we think a logical location for a major display will be at a proposed public park on Kawela Bay. This will be similar to our plans for improving the waterbird habitat at Punahoolapa Marsh. Adjacent to the marsh will be a park, open to the public, which will include informative displays on waterbirds.

In summary, we see a number of benefits created by the above activities, including: better feeding opportunities for the turtles; educational value for the general public; and enhaNcing one of the unique resources of the area. We will continue to work closely with John Naughton, Gene Nitta and George Balazs in finalizing plans and hope that we can arrange a field visit in the immediate future.

Sincerely yours,

KUILIMA DEVELOMENT COMPANY

Norman Y. Quon
Project Director

NYQ:syh

cc: Mr. John Naughton ✓
Mr. Gene Nitta
Mr. John Ford
Mr. Mike Lee
Mr. Paul Low
Mr. Henry Sakoda
Mr. Pat Sullivan
Mr. Vincent Shigekuni

September 25, 1987 F/SWR1:JJN:ETN

MEMORANDUM FOR: F/SWR - E.C. Fullerton

FROM: F/SWR1 - John J. Naughton

SUBJECT: FY90 Program Planning

As requested in Bill Evan's memo of September 4, 1987, the following summaries for three proposals are submitted for your use in discussing FY90 program plans at the October Directors' meeting in Seattle.

Humpback Whale Habitat Mapping

Title: Identify and characterize humpback whale (Megaptera novaeangliae) habitat in the main Hawaiian Islands and conduct follow-up vessel census of the humpback whale population on the Hawaiian winter grounds.

Description: From 1976 to 1979 NMFS conducted a standard vessel survey of humpback whales in the Hawaiian islands. For two weeks every February during these four years a chartered vessel surveyed all coastal waters in the main islands from Hawaii to Kaula. Replicate survey tracks were followed for each annual census with at least four observers on watch during all daylight hours.

This census technique provided consistent results and was deemed sensitive enough to detect trends in population size over a period of 5 to 10 years. Also for the first time concentrations of whales were found in areas other than Maui and Penguin Bank. This information has been exceedingly valuable in our review of Corps of Engineers permit applications for work in coastal waters of the Hawaiian Islands.

A duplication of this four year survey would be of great value for several reasons:

1. Humpback whale population trends on the Hawaiian winter grounds could be reliably detected and quantified.

2. Abandonment and/or shifting of specific habitat use by humpback whales throughout the main Hawaiian Islands could be determined.

3. The surveys will aid in determining population size and distribution of other insular cetaceans in addition to humpback whales.

Sea Turtle Habitat Mapping

Title: Identify and characterize green turtle (Chelonia mydas) and hawksbill turtle (Eretmochelys imbricata) habitat in the main Hawaiian Islands.

Description: Conduct comprehensive shoreline, small boat and underwater surveys to locate, identify and characterize terrestrial and marine habitat for sea turtles in the main Hawaiian Islands.

This should include nesting, resting, and foraging habitat for green and hawksbill turtles. Known aggregation sites can provide some indication of preferred habitat. Similar areas should be systematically surveyed to develop a catalog of habitat types and locations. Surveys should be repeated every 3-5 years to monitor habitat usage, loss, or modification to coincide with the required 5 year status reviews for listed species.

The pace of shoreline development in Hawaii is accelerating. The loss and/or modification of essential sea turtle habitat may occur without sufficient baseline information to adequately protect that habitat in the early stages of development and planning. Recent examples include West Beach, Oahu and the entire north Kona coast of the island of Hawaii. Reliance on inadequate information as the best available information will likely lead to litigation, particularly in such land and shoreline limited insular areas.

Title: Identify and characterize green turtle (Chelonia mydas) and hawksbill turtle (Eretmochelys imbricata) habitat in areas under U.S. jurisdiction in the western Pacific (Guam, CNMI, AS, and the other U.S. possessions).

Description: Conduct comprehensive shoreline, small boat and underwater surveys to locate, and identify and characterize terrestrial and marine habitat for sea turtles in the western Pacific.

This should include nesting, resting, and foraging habitat for green turtles and hawksbill turtles. Known aggregation sites can provide some indication of preferred habitat. Similar areas should be systematically surveyed to develop a catalog of habitat types and locations. Surveys should be repeated every 3-5 years to monitor habitat use, loss, or modification to coincide with the required 5 year status reviews for listed species.

Shoreline development in the western Pacific islands is proceeding apace. The loss and/or modification of essential sea turtle habitat may occur without sufficient baseline information to adequately protect that habitat in the early stages of development and planning.

June 30, 1989

Dr. Sherwood Maynard
c/o Dr. J.R.E. Harger
UNESCO/ROSTSEA
Jl. MH THAMRIN
Tromolpos 273/JKT
Jakarta 10002

Dear Sherwood:

On an informal basis, I wanted to let you know about my dissatisfaction over the latest verbally proposed "plans" for monitoring sea turtles at Kawela Bay. This was recently described to me (as well as Gene Nitta and John Naughton) by the consultant, or rather sub-consultant, working for the new Japanese owners/developers of the Kawela resort. My serious concern is that the consultant apparently want to be directly involved in the monitoring on a constant, continuing basis.
When a monitoring study was first proposed for this site and we discussed it in your office, it was my understanding (or at least assumption) that funds would be made available to MOP and I would be free to work with you unencumbered by the potential if not real vested-interests of those working directly for the developer. Based on what I have recently heard, I don't see that being possible with prevailing attitudes. For one thing, the project has become very controversial again due to the developer's new plan to add gravel and sand over limestone bottom portions of the bay. Consequently, the only way I want to be involved is if there is a clear separation between any funds provided by the developer, and the actual "nuts-and-bolts" field work carried out. This also applies to the reports prepared and how the data are interpreted in the reports. In short, any contribution of funds by a developer should and must, in my opinion, be strictly on a no-strings-attached basis, and certainly not with a paid outside consultant being woven into the project fabric during each step of the way.

I should probably point out that, to the best of my knowledge, no one has as yet approached your MOP office to offer funds for this work, or to discuss such a possibility. But I would imagine this will happen during coming weeks, hence the need for me to let you know how I personally stand on this issue.

Trusting that your trip is going well, and that you are enjoying a well-earner change of pace.

Best regards,

George Balazs

cc Confidential copy to MOP Acting Director

OCT 29 1987

GROUP 70

Oceanit Laboratories, Inc.

coastal & offshore engineering services • research & development

M E M O R A N D U M

October 06, 1987

To: Mr. Norman Quon
Kuilima Development Corporation
1001 Bishop Street, Suite 2000
Honolulu, Hawaii 96813

From: Dr. Patrick K. Sullivan, OLI PKS

Re: Field trip to Kawela Bay with:
Mr. Mike Lee, Corp of Engineers (COE)
Mr. Jim Nitta, National Marine Fisheries Service (NMFS)
Mr. John Naughton, National Marine Fisheries Service (NMFS)
Mr. George Balazs, National Marine Fisheries Service (NMFS)

On October 6, 1987 a field trip was conducted at Kawela Bay to view the areas recommended for green sea turtle foraging habitat enhancement. General results are summarized as follows:

- Water clearity was poor, particularly in the area outlined in OLI's sediment size contour map, area with fine material.
- NMFS is recommending that we place 2-3 limestone or coral blocks in the North-Eastern and North-Western portion of the bay, approximately 15 yards from the shoreline and toward the middle of the bay.
- NMFS is interested in working with the Marine Options Program (MOP) at the University of Hawaii to monitor turtles in the bay before, during and after dredging and development.
- NMFS would like Prudential or its representative to formally contact the MOP program and ask them for a proposal to address the needs of NMFS with regard to turtle habitat enhancement.

If there are any questions, please call (808) 531-3017.

Thanks.

PKS:bh
cc: Mr. Paul Low, EDP Hawaii, Inc.
Mr. Vincent Shigekuni, Group 70

Century Square 1188 Bishop Street, Suite 1801, Honolulu, Hawaii 96813
TELEX: 7431404 MCI: OCEANIT Ph: (808) 531-3017

8/1/89 PK
Copy to J. Bakus ✓

Oceanit Laboratories, Inc.
coastal & offshore engineering services • research & development

M E M O R A N U M

July 26, 1989

To: Mr. John Naughton, NMFS

From: Dr. Patrick K. Sullivan, OLI PKS

Re: Turtle Capturing and Tagging Program at Kawela Bay - MOP Letter

Enclosed, for your information, please find a copy of the memo from Mr. Quon (KDC) to Dr. Gopalakrishnan (MOP) regarding the turtle capturing and tagging program at Kawela Bay.

Please feel free to call me if you have any questions.

Thank you.

PKS:hp
32/m0726jn.nmf

Enclosure

cc: Norman Quon, KDC

Century Square 1188 Bishop Street, Suite 2512, Honolulu, Hawaii 96813
TELEX: 7431404 MCI: OCEANIT Ph: (808) 531-3017 FAX: (808) 526-1519

KUILIMA

July 20, 1989

Dr. Kakkala Gopalakrishnan
Acting Director
Marine Options Program
University of Hawaii at Manoa
1000 Pope Road, Room 299
Honolulu, Hawaii 96822

Re: Turtle Capturing and Tagging Program at Kawela Bay

Dear Dr. Gopalakrishnan:

Kuilima Development Company (KDC) is developing a resort hotel on land adjacent to Kawela Bay, Oahu. As a result, KDC is very interested in maintaining, and if necessary improving, the ocean environment --- particularly with respect to the green sea turtle (Chelonia Mydas). Per your phone conversations with Dr. Sullivan of Oceanit Laboratores, Inc. (OLI), KDC would like to receive a proposal from the Marine Option Program (MOP) to capture and tag green sea turtles at Kawela Bay. The National Marine Fisheries Service (NMFS) is interested in Kawela Bay as a foraging habitat for the green turtle. KDC is very interested in supporting NMFS's interest in understanding the green sea turtle at Kawela Bay.

Due to the delicate nature of working with a threatened species, we require that MOP work closely with NMFS'S Pacific Area Office, Habitat Conservation Program. It is of extreme importance that capturing and tagging should not occur without the direct supervision (physical presence) and guidance of suitably qualified NMFS personnel. We suggest that you coordinate your efforts with Mr. John Naughton of NMFS.

Attached please find a scope of work that outlines suggested turtle capturing and tagging efforts. We believe that this program offers a unique opportunity to benefit the threatened green sea turtle, as well as support the education of Hawaii students. Please call Dr. Sullivan at Oceanit Laboratores, Inc. (531-3017) if you have questions, or would like to discuss this further.

Sincerely yours,

Norman Y. Quon, AIA
Project Director

Enc.: Scope of Work

SCOPE OF WORK

TURTLE CAPTURING AND TAGGING

Procedures for turtle capturing and tagging are taken from Balazs (Balazs, Forsyth and Kam, "Preliminary Assessment of Habitat Utilization by Hawaiian Green Turtles in their Resident Foraging Pastures," NOAA Technical Memorandum NMFS, Department of Commerce, NOAA -TM-NMFS -SWFC-71, 1987). Turtles will be sampled alive and unharmed by means of large-mesh tangle nets, scuba/skin divers or other methods that have been successfully employed to study and tag green turtles in coastal waters of the Hawaiian Islands.

Large-mesh tangle nets are typically constructed of 2 mm diameter nylon twine with a stretched diagonal mesh of 46 cm (23 cm squared mesh) and depths ranging from 1.5 to 3.5 m. The length of the nets will range from 20 to 60 m. Nets will be set at the surface extending vertically through the water column. In shallow areas they can be deployed close to shore using a large inner tube with a plywood bottom. Nets can be checked from land with binoculars and a spotlight (at night) every 20-30 minutes to see if turtles have been caught. Entangled turtles will be removed from the net as soon as possible and brought to shore in the inner tube.

Turtles will be tagged for long-term identification with numbered and addressed Inconel 1 alloy tags, size 681, custom made by the National Bank and Tag Company of Newport, Kentucky (these tags have shown superior corrosion resistance to tags made of Monel alloy). Tags will measure 25 x 9 x 8 mm, weigh 3.5 gm, and will be self-piercing and self-locking. The manufacturer's applicator was modified slightly to lessen damage to tissue around the tagging site. Depending on the turtle's size, from one to three tags will be applied to offset tag loss. Tagging sites include the trailing edges of the front flippers and, when appropriate, along the inside trailing edge of hind flipper well under the carapace.

Biometrics recorded on each turtle may include one or all of the following: straight-line and curved carapace length from the center of the precentral scute to the posterior tip of a postcentral scute; straight-line carapace length from the center of the precentral to the notch between the postcentrals; straight-line and curved carapace width at the widest point (the sixth marginal scute); straight-line plastron length along the midline; straight-line head width at the widest point; tail

length from the posterior rigid edge of the plastron to the tip of the tail; and straight-line flipper width from the claw scale to the sixth scale on the trailing edge. Body weight will also be recorded on a small number of turtles when possible.

Food sources will be determined by sampling representative turtle's stomachs with a plastic tube inserted through the esophagus. Water will be introduced at low pressure with a garden hose or enema bag to gently flush out food particles. In addition, unswallowed particles of food will be removed from the mouth for identification. Field operations for sampling dietary contents in turtles will be directly supervised by NMFS.

Food items will be preserved in dilute Formalin and identified to the lowest taxon possible. Frozen bulk samples collected from foraging habitat will be biochemically analyzed to determine major nutrients and mineral composition.

Epizoites found on the skin and hard surfaces of turtles will be sampled, preserved in dilute Formalin, and identified to the lowest taxon possible.

The frequency of monitoring will depend on the availability of suitably qualified NMFS personnel. We would like monitoring to occur twice per year for the next three years (July 1989 to July 1991). Coordinate your field activities and reporting with our ocean consultant, Oceanit Laboratories, Inc., who will be present during capturing and tagging sessions. Data should be presented in a tabular format together with narrative that documents conditions.

KUILIMA

July 20, 1989

Dr. Kakkala Gopalakrishnan
Acting Director
Marine Options Program
University of Hawaii at Manoa
1000 Pope Road, Room 299
Honolulu, Hawaii 96822

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Sincerely yours,

Norman Y. Quon, AIA
Project Director

Enc.: Scope of Work

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University of Hawaii at Manoa

Marine Option Program
1000 Pope Road, Room 229 • Honolulu, Hawaii 96822
Telephone: (808) 948-8433
Telex: 7430725 SPRAD • Fax: (808) 955-6950 • Omnet: J.DAVIDSON

July 27, 1989

Mr. Norman Y. Quon
Project Director
Kuilima Development Company
Suite 2000 Pauahi Tower
1001 Bishop Street
Honolulu, HI 96813

Dear Mr. Quon:

Thank you for your letter dated July 20, 1989. Your interest in Marine Option Program for pursuing the proposed turtle capturing and tagging project at Kawela Bay is greatly appreciated. I am sorry to say that we will not be in a position to assist you at this time due to lack of qualified personnel on our staff who are interested in turtle monitoring.

Since I am functioning only as the acting director and all my efforts are presently directed towards supporting the projects that are already underway, I am not in a position to take an active role in this project. Please accept my deep apology for not being able to help you at this time. I thank you for your interest in our program.

Sincerely yours,

K. Gopalakrishnan

Dr. Gopalakrishnan
MOP Acting Director

KG:gl

cc: Dr. Davidson
Director, Sea Grant Program

August 1, 1989

George Balazs
National Marine Fisheries
Service
2570 Dole Street
Honolulu, HI 96822

Dear George:

How are you? I discussed the Kawela Turtle Monitoring Project with Dr. Davidson. A copy of the letter I wrote to Mr. Quon is attached for your information. Your name was not mentioned as receiving a copy on the letter to Mr. Quon.

Sincerely,

Dr. Gopal
Acting Director

KG:gl

Oceanit Laboratories, Inc.
coastal & offshore engineering services • research & development

MEETING AGENDA

August 11, 1989

Attendants: Dr. Jack Davidson, Sea Grant
Dr. Kakkala Gopalakrishnan, Marine Option Program
Mr. John Naughton, National Marine Fisheries Service
Dr. Patrick Sullivan, Oceanit Laboratories, Inc.

Background: Kuilima Development Company (KDC) is developing a resort at Kawela Bay on the north shore. KDC is interested in preserving the bay for use by the threatened green sea turtle. In an effort to increase our understanding of green sea turtles and their use of Kawela Bay, KDC would like to support ongoing NMFS research at Kawela Bay. In order to prevent any semblance of conflict-of-interest by NMFS, KDC has asked MOP (an independent non-profit entity) to undertake responsibility for turtle capturing and tagging at Kawela Bay. Because MOP has no technical expertise in turtle capturing, NMFS would provide the necessary technical expertise. MOP would make available a unique educational opportunity for its students.

Topics of Discussion:

1) MOP's ability to support NMFS in a turtle capturing and tagging program
   - availability of students
   - technical expertise
2) NMFS committment to provide technical support to MOP so that they can engage a turtle capturing program
3) KDC providing support to MOP
   - University of Hawaii Foundation account specifically to for MOP's turtle capturing efforts
4) Operational details
   - MOP's responsibilities
   - NMFS's responsibilities
   - MOP's relationship to KDC
   - NMFS relationship to MOP
5) Scope of work
6) Availability of data to KDC

Century Square 1188 Bishop Street, Suite 2512, Honolulu, Hawaii 96813
TELEX: 7431404 MCI: OCEANIT Ph: (808) 531-3017 FAX: (808) 526-1519

Confidential and Informal MEMO

20 Aug 89

TO: Drs. Gopalakrishnan and Davidson

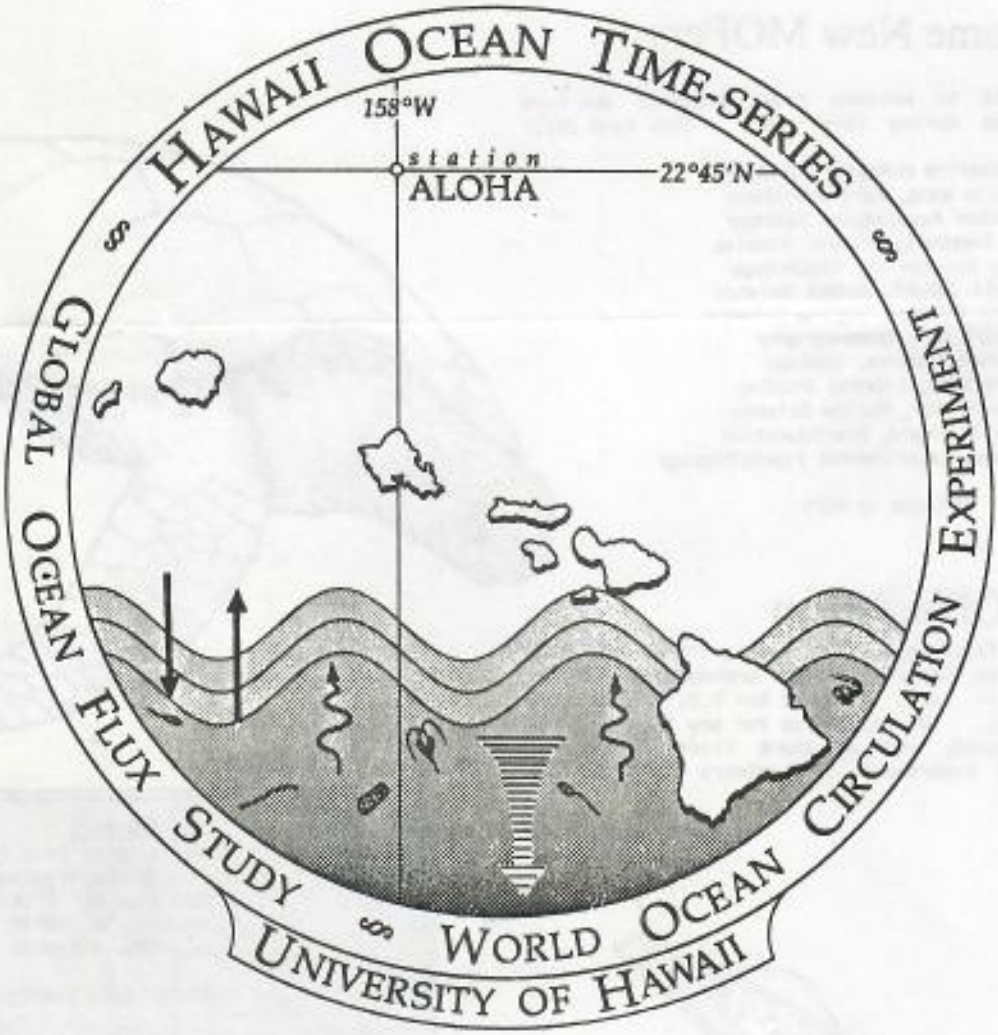
FROM: George Balazs
Leader, Hawaiian Sea Turtle Recovery Team

SUBJECT: Our possible sea turtle monitoring study at Kawela Bay.

The attached newspaper article describes yet another reason why I want to maintain a healthy professional "distance" from the Kawela Bay owner, developer, and their contracted consultants. For this same added reason, I continue to recommend that any funds received by MOP be strictly on a "no strings attached" basis, sequestered in the UH Foundation for work to be done on our own without outside interference by vested interests. As you realize, I have no desire to be involved in any research project where a developer's and/or owner's paid consultant will take part in the work, or its supervision, or in general be a constant nuisance. And this is especially my feeling for the Kawela Bay circumstance.

Now that the above potential problems have been recognized by all of us, I sincerely hope that this small project will at long last come into being, as it represents a good opportunity for both MOP students, and the sea turtles at Kawela.

News of the Marine Option Program
Seawords
September 1989
University of Hawaii
Vol. IV No. 8



Research Projects for Undergraduates

1989 MOP Coordinators' Meeting

MOP Turtle Project

MOP Fall Schedule

Steve Russell, Manoa MOP Coordinator, has put together a very active schedule of MOP activities for the fall semester. The monthly seminars (held on Wednesday afternoons at 3:30) will cover topics such as marine archaeology, and careers in the sport diving industry. Some of the videos to be shown on Wednesday from 11:30 (perfect for your lunch break!) include topics such as: ancient mariners and aquaculture in Japan.

Field trips will also be scheduled. Details of each activity will be published in the Seawords calendar, as well as on flyers that will be posted around MOP. All seminars and videos are free, so bring your lunch and relax!

If you would like more information on any of the planned MOP activities for the fall semester, call Steve at 948-8433.

MOP Turtle Project

MOP, along with the National Marine Fisheries Service (NMFS) may soon be involved in a turtle tagging and monitoring study of the Hawaiian green sea turtle (Chelonia mydas) on the island of Oahu. The species is considered "threatened," meaning it could become "endangered." Turtle expert George Balazs of NMFS will be supervising the field work, which will involve the netting and hand-capture of turtles, and censuses taken from shore.

This project, however, will be conducted only if there is a sufficient number of enthusiastic students. Students not only must be willing to conduct the field work, including campsite housekeeping and cooking, but also be committed to producing the data write-up.

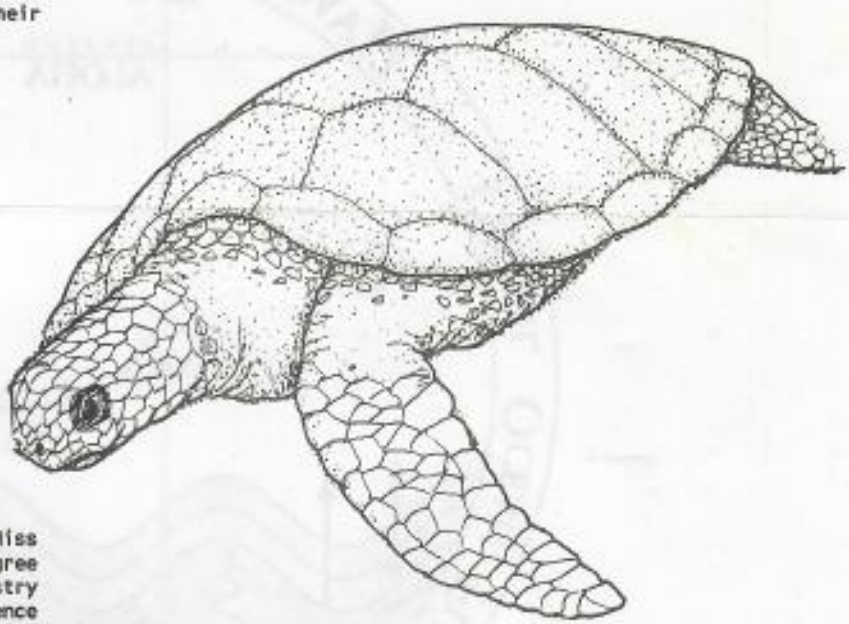
Previous experience working with sea turtles is not required, although an eager willingness and enthusiasm to learn and contribute is absolutely essential. Snorkeling skills are desirable but not mandatory. Stipends, as well as necessary equipment, supplies and logistical support for the fieldwork will be provided. If you are interested, see Dr. Gopal or Steve Russell at MSB 229 or call at 948-8433 to arrange an interview.

Welcome New MOPers

MOP would like to welcome those students who have joined the program during this year. They (and their majors) are:

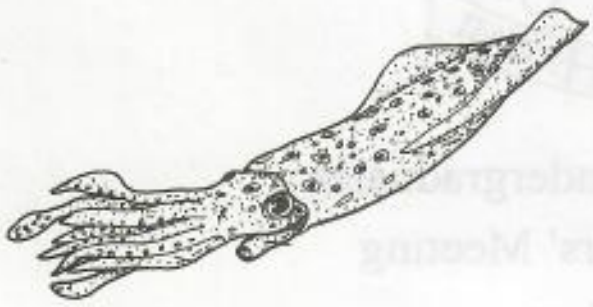
Catherine McMaster, Zoology
Meilin Wang, Marine Biology
Heather Hasslinger, Zoology
Jean Campbell, Liberal Studies
Mary Rosolovich, Psychology
Kendall Zakahi, Animal Science
Fabiana Hildago, Marine Science
Linh Dai, Oceanography
Marc Lammers, Zoology
Mary Sano, Liberal Studies
Hans Miller, Marine Science
Patty Stunkard, Pre-Education
Julie Holmes, Experimental Psych/Zoology

Welcome to MOP!



MOPbudsman

In last month's issue, we incorrectly stated that Miss Hawaii, Ligaya Stice, had received her undergraduate degree in biology when in fact, she got her B.S. in chemistry (with high honors). We apologize for any inconvenience this may have caused, and we thank Professor Roger E. Cramer of the UH Department of Chemistry for noting our error.



Seawords
University of Hawaii
Marine Option Program
1000 Pope Rd. #203
Honolulu, HI 96822
ph. (808) 948-6000

Editor: Leni Teshima

Seawords is a monthly news publication of the Marine Option Program, and is supported by the UH Sea Grant College Program, the state Ocean Resources Branch, the state Aquaculture Development Program and the UH. The opinions expressed herein are not necessarily those of MOP or of the UH.

Hawaiian Ocean Time-Series

Research Projects for Undergraduates

by Lani Teshima

Undergraduates interested in the sciences have an opportunity to work with experts in the field of marine science and receive a $1000 per semester stipend as part of the Hawaiian Ocean Time-Series Program at the University of Hawaii.

This scholarship/internship program is directed by Dr. Christopher Winn of the UH School of Ocean and Earth Science and Technology (SOEST), and is funded by the National Science Foundation (NSF).

"The program was started because the National Science Foundation recognized a shortage of scientists and engineers in the near future," said Winn, "and they wanted to help minimize the problem."

According to Winn, this UH program will help undergraduate students learn what research is about in the fields of science and engineering. Approximately eight internships were allotted for the Fall '89 and Spring '90 semesters, with four slots having already been awarded. This means that interested students can still apply for one of the four remaining positions.

Students are allowed to choose from among 30 faculty members in the UH system who will serve as advisors in a research project. "There is a wide range of expertise in the faculty, anywhere from atmospheric research, to deep ocean circulation to zooplankton ecology," Winn said.

Student participants are encouraged to design research projects that involve the NSF-funded multi-faceted Hawaiiian Ocean Time-Series Program. The time-series program is comprised of two separate research programs; the Global Ocean Flux Study (GOFS), and the World Ocean Circulation Experiment (WOCE). Both programs are designed to study changes in the ocean surrounding the Hawaiian Islands on time scales of years to decades.

The primary function of GOFS is to study the role of the oceans in the global carbon cycle.

"The ocean has absorbed approximately 50 percent of the carbon dioxide that was released into the atmosphere by humans," said Winn. "And by studying how the ocean influences the global atmosphere, we can improve our ability to predict future changes in the climate."

WOCE involves the study of oceanic currents and will ultimately help improve our understanding of how heat absorbed by the ocean in the equatorial area is redistributed to the poles.

According to Winn, these two programs currently comprise the most intensive research program ever conducted of the Pacific Ocean. The data is collected at Station ALOHA (an acronym for "A Long-term Oligotrophic Habitat Assessment") located 100 kilometers north of Oahu. Winn said that the undergraduate students have an opportunity to go to Station ALOHA when vessels are sent out once a month to gather data.

Besides collecting new information, students also have a chance to analyze data that have already been collected from past cruises.

At the end of the internship term, students are required to present a written report summarizing the results of their research and participate in a special symposium. This presents an extremely unique opportunity for undergradustes, Winn said.

Because of the type of work involved, students have an opportunity to have their papers published. Of the four students who participated in the program over the summer, Winn said at least one of them will have the results of their work published in some form.

With adequate funding, these students will be able to attend the American Geophysical Union (AGU) and American Society of Limnology and Oceanography (ASLO) 1990 Ocean Sciences Meeting in New Orleans, to present their findings. Such activity is usually reserved for graduate and post-doctorate students.

Four students were involved in the summer program. Charles Loiselle from Hawaii Loa College worked on a project entitled "Lipopolysaccharides and bacterial biomass in the oligotrophic Pacific Ocean." In his project, Loiselle studied bacterial cell walls using a computer-operated assay system. This was the first of this type to be conducted in the Pacific Ocean.

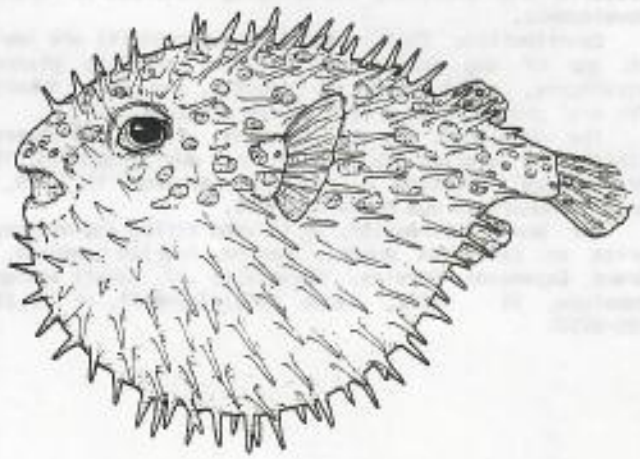
The second student, Darryl Jarman from Brigham Young University (Hawaii campus), studied "Seasurface topography north of the Hawaiian Archipelago derived from GEOSAT altimetry data." Jarman studied satellite photographs of the seasurface topography of the area, and with the help of his faculty advisor, was the first to interpret the data.

The third was Cheryl Rosenfeld, a Marine Option Program student from Maui Community College (now at UHM), who worked on Coconut Island through the Hawaii Institute of Marine Biology (HIMB). Her project, entitled "Canopy development and photoadaptation in reef coral (Poscillopora damicornis)" involved the study of chlorophyll concentrations of plant biomass in the Kaneohe Bay coral reef environment versus the Station ALOHA environment.

The fourth was another Hawaii Loa student. John Constantinou, in his project "Low-level nitrate and nitrite concentrations in euphotic zone of the central North Pacific Gyre" involved studying low-level inorganic nutrients using a new instrument called a nitrogen oxides analyzer. By using this instrument, he became the first person to make measurements of nitrate and nitrite (inorganic plant nutrients) in low quantities in the central Pacific region.

"I think some students might be intimidated by all this," said Winn. "But I have $16,000 in stipend money just waiting to be used." Winn said these types of projects are all within reach for undergraduates who might be interested in marine science.

The deadline for the Fall and Spring semesters has been extended until September 30. If you would like to apply, send your official transcript, three letters of recommendation (preferably from college professors), and a brief letter (1 to 2 pages) describing your interests and career goals, and why you are interested in marine science. Send your information to Dr. Christopher D. Winn, School of Ocean and Earth Science and Technology, University of Hawaii, 2525 Correa Road, Honolulu, HI 96822. If you have any questions, contact Winn at 948-7625.



Manoa MOP and HCC sites

1989 MOP Coordinators' Meeting

With some new faces from Maui Community College MOP flying into Oahu, the MOP Coordinators saw a busy day of activities during this year's Coordinators' meeting, held on Tuesday, August 15.

The meeting has traditionally occurred over a two-day period, but because of changes in the administration of the budget, MOP Acting Director Kakkala "Gopal" Gopalakrishnan arranged for the meeting to take place in one day.

The day began with a round of introductions in a conference room at the Marine Sciences Building. New to MOP was MCC MOP Coordinator John Pye, who flew in with Maui MOP student Steve Holly. Also new was John Cowen, who was brought on into the newly created UH Hilo MOP Coordinator position.

After a welcome by "Gopal," Bruce Miller, Director of the Sea Grant Extension Service (SGES), gave his remarks on the purposes and role of SGES, and its application to MOP.

Each campus then took turns describing what they had done in the past year, and what they projected for the year to come.

Right before the lunch break, Christopher Winn came in to talk about the Hawaiian Ocean Time-Series Program (see related story in this issue). Participants then went to Willows Restaurant for a no-host lunch, where guest speaker David Hurd spoke on how to motivate students.

Immediately after lunch, the group drove to Honolulu Community College for two workshops. The workshops were on video and aquaculture, two categories that MOP has received Sea Grant funding for in the coming year.

The first was conducted by John Blumhardt, Director of the Educational Media Center at HCC. The workshop took place in a soundstage at HCC, where participants got to try their hand at running professional video cameras and learning about some of the sophisticated video equipment in the sound booth.

Before the second workshop began, "Gopal" took the participants to his aquaculture lab on campus. The lab consists of tanks that run either salt or freshwater for students who conduct experiments in aquaculture.

In the second workshop, Richard Fassler from the state's Aquaculture Development Program gave a slide show presentation on the historical overview of aquaculture in Hawaii.

The day was finally over after the administrative allocation of the video and aquaculture budget, and the participants were able to head home.

The following were the participants. From Manoa: "Gopal;" Steve Russell, Manoa MOP Coordinator; Kyle Miller, Manoa MOP Student Coordinator; Lani Teshima, Seawords Managing Editor; Sue Sakamoto, Administrative Officer; and Grace Lee, Manoa MOP Secretary. From Hilo: Leon Hallacher, Hilo Faculty Coordinator; John Cowen, temporary Hilo MOP Coordinator; Jan Heckman, Hilo MOP Student Coordinator; and Steve Skipper, Hilo MOP Hilo Bay Sewage Study Coordinator. From Maui: John Pye, MCC MOP Coordinator; and Steve Holly, MCC MOP student. Finally, representing Windward Community College MOP was its Coordinator, Dave Krupp.

Special thanks go out to Bruce Miller, David Hurd, John Blumhardt and Richard Fassler.

Of Interest

1990 Congress on Marine Tourism

The Sea Grant College Program is calling for papers and proposals for their Congress on Marine Tourism, to be held May 23 through 29, 1990.

This symposium and workshop will cover conservation aspects and the economic development of the marine visitor industry, and is co-sponsored by the East-West Center and the Pacific Basin Development Council.

Topics to be covered in the program will include; policies for integrating tourism development and environmental protection, development of marine tourism criteria and analyses, and managing resources for economic development.

Contributions (both papers and proposals) are invited in any of the subject areas, with emphasis placed on strategies, applications or results, and can be submitted for oral presentation or for poster display.

The deadlines are as follows: Titles and abstracts (which are limited to 200 words) due October 15, 1989; Preliminary selection of papers on November 15, 1989, and draft manuscripts due March 31, 1990.

For more information, or to send titles and abstracts, write or call Jan Auyong, Marine Tourism Congress, Sea Grant Extension Service, University of Hawaii at Manoa, Honolulu, HI 96822, phone (808) 948-8191, or FAX (808) 955-6950.

NASA's Global Climate Conference

A conference in Washington D.C. will be held September 18 and 19 entitled "Earth Observations and Global Change Decision Making: A National Partnership," a program co-sponsored by NASA, NOAA (the National Oceanic and Atmospheric Administration), and the Environmental Research Institute of Michigan.

Key purposes for this conference include the need to communicate the Federal global change research strategy to a national and international audience, discuss issues not covered in the strategy, begin a network between the Federal government and the community, and discuss how the program fits in the international global change effort.

For those interested in submitting papers, those received by September 19, 1989 will be reviewed by a panel of experts, and if selected, will be published in the conference proceedings.

Registration for the conference is $340, which includes the proceedings, luncheon, and buffet/reception. For more information, write or call: ERIM/ Thematic Conference, Nancy J. Wellman, P.O. Box 8618, Ann Arbor, MI 48107, phone (313) 994-1200 Ext. 3234, or FAX (313) 994-1575.

Aquaculture Job

Amorient Aquafarm in Kahuku is looking to hire a full-time shrimp hatchery assistant. Responsibilities cover shrimp husbandry, larva feeds, data collection and hatchery maintennace. The position is available immediately, and pay is dependent on experience. If you are interested, contact Kim at 293-8531.

Of Interest

U/W Diving Symposium

The UnderWater '90 Diving & ROV Symposium will be held January 14 through 17 at the Hyatt Regency in New Orleans. The symposium will be co-sponsored by the Association of Diving Contractors (ADC) and the American Society of Mechanical Engineers (ASME). This annual event will include technical sessions, panel discussions, exhibitions, plus a dinner dance. Exhibition and registration information are available through Pat Williamson of ADC, at (504) 392-8762, or write: P.O. Box 1483, Harvey, LA 70059.

1990 AGU-ASLO Meeting

The 1990 Ocean Sciences Meeting of the American Geophysical Union (AGU) and the American Society of Limnology and Oceanography (ASLO) will be held February 12 through 16, 1990 at the Hyatt Regency in New Orleans.

AGU-ASLO is currently calling for papers for the meeting, and is accepting abstracts, preferably in one of the 22 topics to be covered in special sessions. Topics include: Ocean sciences instrumentation, ice zone ecology, UFOs and other mysteries of the deep, ocean color, phytoplankton, current fronts, and Black Sea oceanography.

Those interested in submitting an abstract should do so by the deadline of October 25, 1989. A detailed report on abstract preparation is available on page 767 in the August 8 issue of EOS, the AGU newsletter (Vol. 70, No. 32). For more information, call (202) 462-6900, or write to: Ocean Sciences Meeting, American Geophysical Union, 2000 Florida Ave. N.W., Washington, DC 20009.

Aquarium Docent

The Waikiki Aquarium is offering a docent program for those who would like to volunteer as support interpreters at their facility. Beginning Wednesday, September 6, the aquarium will run its new Interpreter Program to help those interested learn about Hawaii's marine environment. Classes meet Monday, Wednesday, Friday from 9 a.m. to noon. For more information, call the Aquarium Volunteer Coordinator at 923-9741.

NMFS Turtle Project

George Balazs and the National Marine Fisheries Service (NMFS) are looking for people to help them with their on-going study on the Hawaiian green sea turtle (Chelonia mydas).

Researchers at the NMFS Honolulu Lab are currently investigating potential modes of transmission by blood flukes and other internal parasites of the turtle. Field activities will mainly involve collecting algae at various nearshore sites for identification and analyses of live micromollusks.

The work schedule is very flexible, and a background in parasitology is not necessary. This project can be used as a skill project, with possible stipend arrangements.

If you are interested, contact Steve at 948-8433, or contact George Balazs in person at 943-1221, or write to: Honolulu Laboratory, NMFS, Southwest Fisheries Ctr, 2570 Dole Street, Honolulu, HI 96822.

NMFS Fisheries Mgmt Job

The National Marine Fisheries Service (NMFS) is looking for a student to help them in their Fisheries Management Program. The duties for this part-time position (up to 20 hours per week) involve market sampling from fish auction sites at Kewalo Basin, and data preparation and analysis. If you are interested, contact "Gopal" or Steve at the Manoa MOP office, MSB 229, or call 948-8433.

Law of the Sea Conference

Next year's 24th Law of the Sea Conference will be held in Tokyo, Japan, from July 23 to 27. Themed, "The Law of the Sea in the 1990s - A Framework for Further International Cooperation," it will be co-sponsored by the Japan Ocean Association, and will be held at Nippon University. Topics will include: The concept of international cooperation in the law of the sea; international navigation; living resources; development of the deep sea-bed; the re-evaluation of the function of the sea, based on new knowledge; and international cooperation in the Asia-Pacific region.

Detailed conference topics are not yet concrete, and the Law of the Sea Office is currently open to suggestions on themes, speakers, format, etc. For suggestions, write to: Law of the Sea Institute at the University of Hawaii, William S. Richardson School of Law, 2515 Dole Street, Room 208, Honolulu, HI 96822, phone (808) 948-6750, or FAX (808) 948-6402.

Makai Pier Jobs

Makai Ocean Engineering, Inc (located at the Makai Pier past Sea Life Park in Waimanalo) has two full-time openings.

The first is for an engineering technician/pier maintenance person. Qualifications include design experience, computer skills including autocad, and shop skills such as carpentry, plumbing and electrical.

The second is for a computer programmer. Qualifications include technical experience in Unix, C, and Fortran, to provide support for ocean engineering projects.

The salaries for both positions are negotiable dependent on experience, and there are flexible work hours for both.

If you are interested, or have any questions, contact Reb Bellinger at 259-8871.

Science Diving Symposium

A Student Coordinator is currently needed at Windward MOP. The duties include: coordinating MOP activities; helping students develop skill projects, assisting in the preparation of MOP bi-monthly reports; maintaining MOP records and files; giving information to students on program activities; and, organizing and setting up events.

Dave Krupp, the faculty coordinator for Windward MOP, would prefer that the candidate (currently attending WCC) have at least one year's experience as an active MOP student, with preference given to those who have attended underwater transect workshops, MOP symposia, and to those who have completed, or are near completion of their student skill projects.

Dave is also looking for a student to conduct clerical duties at Windward MOP. Students for both positions need to be students at WCC.

If you are interested, contact Dave at 235-7316, or drop by his office at Iolani #103.

WCC MOP Student Coordinator

The American Academy of Underwater Sciences (AAUS) is hosting this year's "Diving for Science...89" symposium at the Woods Hole Oceanographic Institution in Massachusetts, to be held from September 23 through October 3.

There will be a number of workshops conducted, including such topics as blue-water diving, oxygen administration, and dry suit diving. For more information, contact Mike Lang, symposium chair, at (619) 594-4676.

MOP Calendar

6 September

4 (M): - HOLIDAY: LABOR DAY.

6 (W): * MOP LUNCHTIME VIDEO: "ANCIENT MARINERS" @ MSB 203 from 11:30 to 12:15. Info: 948-8433.

6 (W): - WAIKIKI AQUARIUM BEGINS ITS INTERPRETER PROGRAM for those interested in becoming aquarium docents. Info: 923-9741.

13 (W): * MOP SEMINAR: "NATURE & ARCHAEOLOGY IN THE SOCIETY Islands of Tahiti, Moorea, Huahine, and Bora Bora." Steve Russell, speaker. 3:30 to 4:30 @ MSB 203. Info: 948-8433.

15 (F): - (thru 9/24) ALOHA WEEK '89.

18 (M): - (thru 9/19) "EARTH OBSERVATIONS & GLOBAL CHANGE Decision Making: A National Partnership" conference in Washington D.C., sponsored by NASA. Info: (313) 994-1200.

20 (W): * MOP LUNCHTIME FILM: "AQUACULTURE IN JAPAN." 11:30 TO 12:15 @ MSB 203. Info: 948-8433.

23 (Sa):- NATIONAL BEACH CLEANUP DAY." Info: Steve @ 948-8433.

23 (Sa):- (through 10/3) "DIVING FOR SCIENCE...89" SYMPOSIUM @ Woods Hole Oceanographic Institute in Massachusetts. Info: (619) 594-4676.

27 (W): * MOP LUNCHTIME VIDEO: "CLIMATE PUZZLE." MSB 203 @ 11:30 TO 12:15.

29 (F): - POSTMARK DEADLINE FOR ABSTRACTS FOR 1990 PACIFIC Congress on Marine Science & Technology, in Tokyo, Japan.
- (through Oct. 1) "CHAMBER ENCOUNTER" CLASS @ USC Catalina Hyperbaric Chamber. $195. Info: (213) 743-6793.

October

2 (M): * TENTATIVE STARTING DATE FOR HANAUMA BAY SURVEY. Interested MOP students can inquire Steve at 948-8433.

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31 (T): - HALLOWEEN.

* Denotes MOP activity.

University of Hawaii at Manoa
Marine Option Program
1000 Pope Rd. Rm. 229
Honolulu, HI 96822

Address Correction
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George Balazs
National Marine Fisheries Service
2570 Dole Street
CAMPUS MAIL

George, This is a draft. I would like your comments on the proposed procedure. As long as they are going to assume, they might as well get some useful data

Enjoy Bob

REPORT: Turtle Observations at Kavela Bay, Oahu
Sept. 25,26,27, 1989

TO : Oceanit Labs

FROM : Bob Bourke
Marine Biologist, Consultant 261-1018

The results of my three days of observation at Kavela Bay from approximately 6am to 6pm each day indicate that at least 5 but probably no more than 8 turtles were resident in the Bay during the daylight hours. I have drawn the following tentative conclusions concerning turtles in the bay from my observations:

1. The turtles tend to be more abundant in the bay at high tide, which during the sample period was during the mid-day.

2. Several turtles, at least 3, could be readily identified because they almost always surfaced at the same location. This may indicate that they were resting, as opposed to foraging in the bay.

3. All but one of the turtles were "small", with an estimated carapace length of less than 18 inches.

4. Although turtles were frequently seen at the edge of muddy areas within the bay, they were seldom seen actually inside a muddy area.

In addition to these biological conclusions I would like to recommend some changes to the sampling / observation protocol used in this study. Because this study is to be carried out over an extended period of time, it is important to define the protocol sufficiently to insure comparable data collection both over time and with different observers. There are four primary difficulties associated with making observations of turtles in Kavela Bay.

1. Turtles spend almost all of their time underwater, invisible to above water observers.

2. The bay is too large to expect adequate monitoring by one observer.

3. Human observers are limited in their capacity to actively and accurately observe an inherently boring and intermittent phenomena.

4. Turtles are (probably) effected by both tidal and diurnal cycles. Observations made during the full moon may not be comparable to new-moon phase observations.

I have drawn up a data sheet and protocol for your consideration. The new data sheet includes line numbers, for reference. These line numbers will also be used on the accompanying chart to estimate the turtle's location when observed. There is a column to estimate the size of the turtle (small, medium, large) which over the 5 year period of the study may yield some interesting insights. Some turtles tend to spend more time on the surface than others, and space is provided to note the estimated surface interval. The zone in which the turtle was seen will be noted as well as the position or zone from which the observation was made. There is also space provided for estimating the human population and activities at the bay which may impact turtle behavior.

There are two suggested changes in protocol. Because it is impossible for one person to observe the entire bay at once I recommend breaking the task into five half-hour time intervals corresponding to the five zones within the bay. Although turtles <u>can</u> hold their breaths longer than 30 minutes, I doubt this would be normal in the bay. An observer should be able to stand on the shore fronting the zone and stare at a patch of water the size of the zone and see most of the turtles in the zone surface. At least this should be reproducible. In this way a single observer can cover all five zones twice during the day, once at high tide and once at low tide. Although It would be physically possible to complete three sets of observations during the day, it is quite likely that the observer will be pretty much burnt out by the third set and these observations may not be as reliable.

The second protocol change would be to break up the observation days into two segments, one when the high tide (2 or 3 days) and the other when the low tide (3 or 2 days) occurs in the early morning. I found my observations to be consistent from one day to the next (using the above protocol) and feel that 5 days in a row would be overkill (not to mention exhausting!)

Let me know what you think about these proposed changes. I think they would greatly improve the long term value of the data, as well as making it easier to obtain.

TURTLE OBSERVATION PROTOCOL FOR KAVELA BAY OAHU

Making accurate and reproducible observations of turtles in the bay is NOT an easy job. If you are pretty much exhausted after a full day of observations, then you are probably doing it right.

MATERIALS YOU WILL NEED

Clip board, pencil, & rubberbands to keep the data sheets from blowing away.

Hat, dark glasses (polarized best) & sunblock lotion.

Binoculars (optional: best for nude sunbathers - turtles are generally too quick)

Data sheets (5-10), Daily travel report and synopsis.

Lunch, water.

PROCEDURE

The bay is too large to observe all at once so we have broken it up into five zones which are to be watched consecutively for half-hour periods. This is to be repeated twice during the day, beginning at daylight and again at mid day. These periods will be consistent with a high and a low tide (or a low and a high tide)

The zones will be observed in order of 2,5,4,3 and 1. Fill out the DATE, OBSERVER, TIDE TIME and PAGE for each data sheet. Stand at the vegetation line near the center of the zone to be observed. Keep your eyes trained on the outer sections of the zone, scanning back and forth. Your peripheral vision will pick up any movement closer in the zone, and in some cases in adjoining zones. All turtles seen in any zone should be noted. Use one line of the data sheet to document which zone is being observed and the time interval. Turtles will often surface for only a fraction of a second. If it looked like a turtle head in your peripheral vision, and you don't see a rock, or flotsam in the area, then it probably was a turtle and should be recorded. Note the estimated duration the turtle was on the surface; less than 5 seconds, between 5 seconds and a minute, and greater than one minute. Note the estimated size of the turtle (S= less than 14 inch, M = 14"-18", and L = larger than 18" carapace length). Note the zone the turtle was in, and on the chart below, put the line # of the observation at the estimated position. Also indicate the zone you are observing from and any comments that you feel may be pertinent. At the end of the data sheet estimate the total number of people on the beach and note any other activities, swimmers, boats, etc, which may effect turtle behavior.

Allow yourself a few minutes between zones, and an hour between sets to recuperate. At the end of the day fill in the daily summary sheet. Be sure to give your impression of how many turtles were in the bay at high and low tides. Remember, what may seem obvious to you now at the bay, and not worth writing down will probably not be obvious to someone sitting in an air-conditioned office building down town a year or two from now.

Enjoy!

TURTLE OBSERVATIONS
DATA SHEET

DATE ___/___/___
Observer _____
Tide Time: LO____ HI____
Page ___ of ___

Oceanit Laboratories, Inc.
coastal & offshore engineering services • research & development

LINE #	TIME	# SEEN	SIZE MSL	SURFACE INT. <5s	<1m	>1m	TURTLE ZONE	OBS. ZONE	COMMENTS
1									
2									
3									
4									
5									
6									
7									
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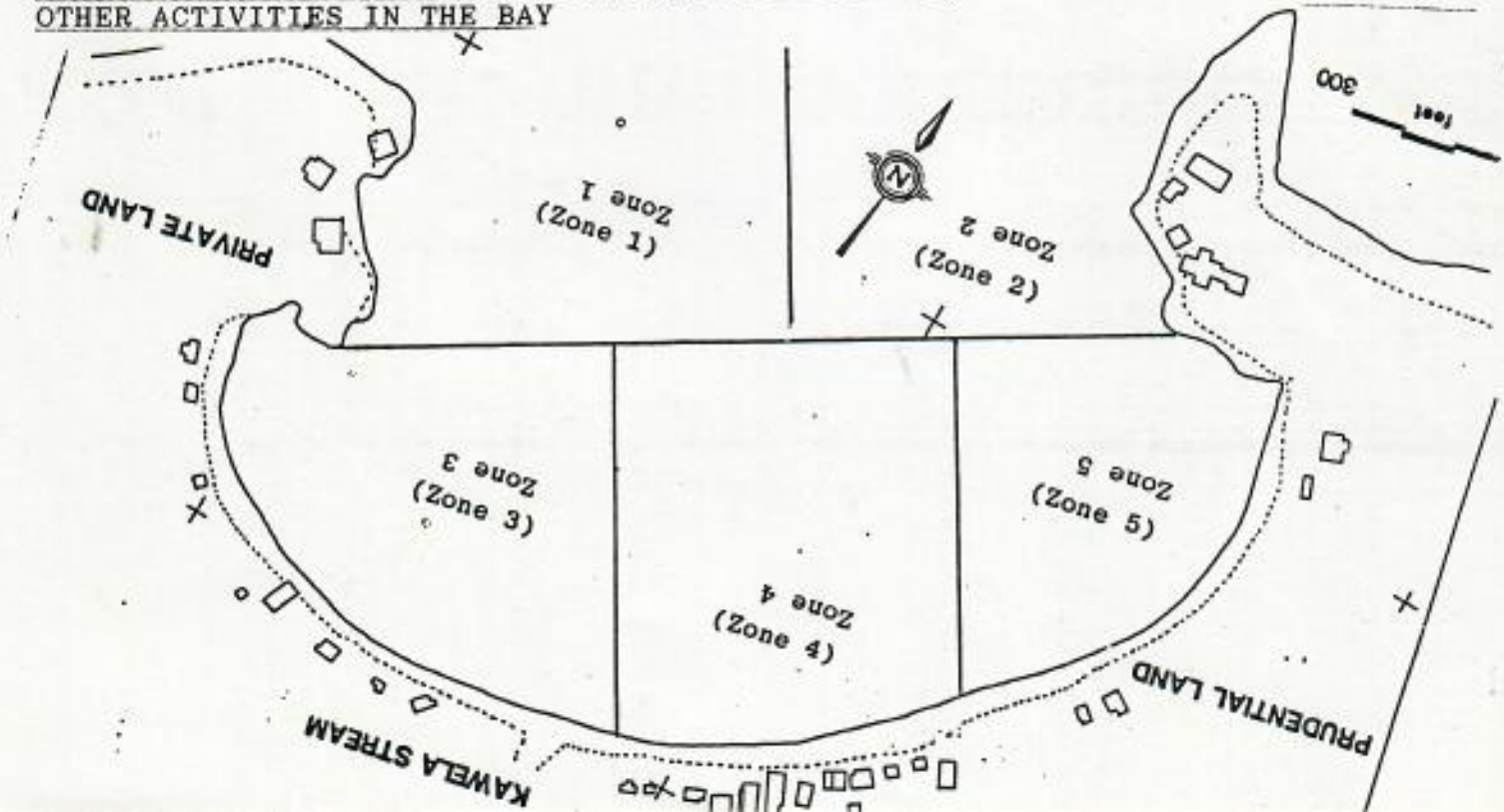
ESTIMATED TOTAL # PEOPLE ON THE BEACH _____
OTHER ACTIVITIES IN THE BAY



News of the Marine Option Program University of Hawaii
Seawords October 1989 Vol. IV No. 9

In this issue:

Calendar of Marine-Related Activities

October

2 (M): * TENTATIVE STARTING DATE FOR HANAUMA BAY SURVEY. Interested MOP students can inquire Steve at 948-8433.

4 (W): * MOP LUNCHTIME FILM: "BOUNDLESS SEA." 11:30 TO 12:15 @ MSB 203. Info: 948-8433.

11 (W): * MOP SEMINAR: "FOR LOVE OR MONEY: CAREER OPPORTUNITIES in the Recreational Diving Industry," presented by Jean Bennett-Hamm & Bill Hamm, dive instructors & guides w/ South Seas Aquatics dive shop. 3:30 to 4:30 p.m. @ MSB 203. Info: 948-8433.

14 (Sa):* "GET THE DRIFT & BAG IT" MARINE DEBRIS CLEAN-UP DAY. MOP is participating; call Steve @ 948-8433 to sign up.
- SEAWEED PRESSING CLASS W/ WAIKIKI AQUARIUM, 9 A.M. TO noon. Pre-registration required. Info: 923-9741.
- NIGHT REEF WALK WITH THE WAIKIKI AQUARIUM, 7-9:30 P.M. Pre-registration required. Info: 923-9741.

15 (S): - DEADLINE TO SUBMIT TITLES & ABSTRACTS FOR 1990 Congress on Marine Tourism, sponsored by Sea Grant. Info: 948-8191.

16 (M): * (through 20) 1989 AMERICAN MERCHANT MARINE AND Maritime Industry Conference at the Sheraton Waikiki Hotel. MOP volunteers needed. Info: Steve @ 948-8433, or Chris Woolaway at 948-8191.

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22 (S) - "READING THE BEACH" CLASS WITH WAIKIKI AQUARIUM FROM 8-11 p.m. Pre-registration required. Info: 923-9741.

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- "SUPER SEA TURTLES" CLASS FOR PRESCHOOLER WITH ADULT companion @ Sea Life Park, 9-11 a.m. Pre-registration required. Info: 259-7933.

31 (T): - HALLOWEEN.
- "AQUARIUM AFTER DARK" CLASS WITH WAIKIKI AQUARIUM. Pre-registration required. Info: 923-9741.

November

1 (W): * MOP LUNCHTIME FILM: "ATTACK PATTERNS OF SHARKS," FROM 11:30 to 12:15 @ MSB 203. Info: 948-8433.

4 (Sa): * MOP FIELDTRIP: TIDEPOOLING AND SNORKELING AT HANAUMA Bay. Carpooling available. Info: 948-8433.
- GYOTAKU FISH PRINTING WOWKRHSOP WITH WAIKIKI AQUARIUM. Pre-registration required. Info: 923-9741.
- "FISHY FACTS" CLASS FOR PRESCHOOLERS WITH ADULT companion @ Sea Life Park, 9-11 a.m. Pre-registration required. Info: 259-7933.

8 (W): * MOP LUNCHTIME FILM: "BALI, ISLE OF TEMPLES" 11:30 TO 12:15 @ MSB 203. Info: 948-8433.

11 (Sa):- NIGHT REEF WALK WITH THE WAIKIKI AQUARIUM, 7-9:30 P.M. Pre-registration required. Info: 923-9741.
- "FISH OBSERVATION" CLASS FOR AGES 6-8 @ SEA LIFE PARK. Pre-registration required. Info: 259-7933.

15 (W): * MOP LUNCHTIME FILM: "MYSTERIES OF THE HIDDEN REEFS" 11:30 to 12:15 @ MSB 203. Info: 948-8433.

18 (Sa):- "WHALES & DOLPHINS" CLASS FOR PRESCHOOLERS W/ ADULT companion @ Sea Life Park. Pre-registration required. Info: 259-7933.
- "WHAT'S FOR DINNER (PREDATOR/PREY RELATIONSHIPS)" class @ Sea Life Park for ages 9-12. Pre-registration required. Info: 259-7933.

22 (W): * MOP SEMINAR: "THE HAWAII OCEAN TIME-SERIES (HOTS): Opportunities in Oceanography for Undergraduates." Presented by Chris Winn, UHM Department of Oceanography. 3:30 p.m. in MSB 203.

23 (Th):- THANKSGIVING DAY, HOLIDAY.

24 (F): - THANKSGIVING WEEKEND, NO CLASS.

25 (Sa):- "FACING UP TO THE FISH" CLASS FOR ALL FAMILY MEMBERS @ Sea Life Park. Pre-registration required. Info: 259-7933.

29 (W): * MOP LUNCHTIME FILM: "CRUSTACEANS" 11:30 TO 12:15 @ MSB 203. Info: 948-8433.

* Denotes MOP activity.

Seawords
University of Hawaii
Marine Option Program
1000 Pope Rd. #203
Honolulu, HI 96822
ph: (808) 948-6000
Managing Editor: A. Lani Teshima
Assistant Editor: Betsy Reynolds

Seawords is a monthly news publication of the Marine Option Program, and is supported by the UH Sea Grant College Program, the state Ocean Resources Branch, the state Aquaculture Development Program and the UH. The opinions expressed herein are not necessarily those of MOP or of the UH.

On the cover: Trained dolphins perform a hula dance for visitors at Sea Life Park. Sea Life Park is one of the places where one can gain hands-on experience in marine studies. For more on experiential education, see this issue's cover story. Photo by Nikolai Turetsky.

Many ocean opportunities available

Marine educators stress experience

By Betsy Reynolds

Your boredom grows as you sit in your zoology class, hearing for the tenth time how excited Darwin was to discover multiple species of finches in the Galapogos. You begin to daydream of sailing the high seas of the Pacific as Charles Darwin's personal assistant...

Becoming a marine educator does involve attending lectures, some with inspiring professors. However, are the laboratory sessions and lectures enough to keep a student motivated? According to some, experiential education is just as important as classroom instruction.

One person who didn't discover the importance of experiential education until working on her Ph.D. was Carol Hopper, science advisor for the Waikiki Aquarium.

"I was used to a lecture-style of learning, and I didn't always see the connection between lecture and lab," said Hopper.

She said she always knew she wanted to be a scientist. However it wasn't until she became a teaching assistant, when she had to to organize and teach the material, that her education became relevant. Now when she designs classes at the aquarium, she makes sure to include hands-on activities to enhance her lectures.

Based on her experience, Hopper's advice to those students interested in marine education is to look at their education from as many angles as possible.

"Take lots of lab classes to better understand the material, take basic education classes to understand various learning styles, and volunteer or work outside of the university in less formal settings," she said.

Dan VanRavenswaay, a former Maui and Manoa MOP student, took advantage of the Blue-Water Marine Laboratory (BML) to get experience working with high school students while working on his degree in secondary education.

"BML is great because it is designed for full-time undergraduates," said VanRavenswaay. "I got research experience, because in order to give the correct information in lectures you had to know how to research the material, such as going to the library and talking to professors."

The Waikiki Aquarium offers various opportunities for experiential education, including volunteer and docent programs.

Experiential education

BML helps high school students increase their awareness, knowledge and understanding of the ocean through exposure to oceanographic equipment and techniques. They combine instruction along with practical cruises aboard a research vessel. Cruise leaders are science oriented UH undergraduates, whose responsibilities include teaching and guiding students, as well as managing cruises.

Through experiential education at BML, and teaching classes for children at the aquarium, VanRavenswaay was able to greatly enhance his undergraduate degree.

"Get involved in marine education programs, anything to give you experience in the field, anything to give you teaching experience," he said, agreeing with Hopper.

Barbara Klemm of the College of Education Curriculum Research and Development Center (CRDC), which is one of the largest in the country, says experiential education is important at any age.

Klemm is co-director of a project to write science books emphasizing hands-on experience for ninth to twelfth grade students.

"Lectures are important and we all remember lectures that meant something, but these books aim to be as experiential as possible," she said.

The books are The Fluid Earth, which emphasizes earth sciences, and its companion The Living Ocean, which emphasizes biology, zoology and chemistry.

The first edition came out in the late '70s after the CRDC discovered that marine sciences were not being taught in the high schools of Hawaii. The third edition now due out in January has evolved to have the main emphasis in hands-on learning.

"Look!" said Klemm pointing to a lesson on the effects of pressure on a diver, "Here the kids have learned all about the effects of pressure, and I haven't lectured a thing."

Based on information received from the University Laboratory School where these ideas are tried out on real kids, Klemm said students learn and retain more when experiential education is coupled with lectures.

What then is available for the college student who wants to gain hands-on experience?

One of the choices available is MOP, where students receive experiential education through such things as workshops and skill projects.

"MOP is an avenue for students to try out various fields within marine science," said Manoa MOP coordinator Steve Russell. "Popular magazine stories and television documentaries tend to 'glamorize' marine science. A few days in the field on a MOP project gives students a feel for what work in various marine science fields is really like."

MOP is one of the only experiential education programs available to undergraduate students at UH, and one of the few in the country where an undergraduate can receive funding for skill projects in the form of stipends. Skill projects can range from internships to field research. Support for research at most universities is reserved for graduate students. By completing 12 credits and a skill project, a student will receive a MOP certificate (equivalent to a minor at most universities) upon graduation.

"It is in doing the skill project where the student gains hands-on experience," said Russell.

According to Russell, if two students with similar backgrounds are in line for a job, the one with experience will most likely get the job.

For more information about the Blue-Water Marine Laboratory contact Liz Kumabe at 923-9741.

For more information about the Marine Option Program contact Steve Russell at 948-8433.

Lepisosteus

Pye = 3.14? Easy as Pye?

New Maui MOP Coordinator full of diversity

By Lani Teshima

Think physics has nothing to do with Hawaiian music? You might see otherwise when you realize that the bass player for a newly released cassette features none other than Maui Community College physics instructor and the new MCC Marine Option Program Coordinator, John Pye.

"I've been a professional musician, playing lead and rhythm guitar for a long time," says Pye. However after serving in the navy during Viet Nam, Pye wasn't sure whether he wanted to attend college as a music major. Some people might choose a major, then decide their line of work depending on their major. This was not the case with Pye.

"I took some courses and talked to some people, and realized that teaching sounded really neat," he said. "Teaching was a way for me to share my knowledge with students, and still have the freedom to do other things." After deciding to teach at the community college level, Pye still had to choose what subject he wanted to teach.

"I realized I wanted the hardest thing I could think of, because I would get a better job that way," said Pye. Although it was a "very demanding, difficult and intensive course of study," Pye earned both his B.S. (from U.C. Santa Barbara) and M.S. (from U. of Colorado at Boulder) in physics.

"After I graduated, I sat down with a map of the U.S. and picked the places with community colleges that I wanted to live in," said Pye.

After teaching at U.C. Santa Barbara for a year, Pye sought and obtained his current teaching job at MCC in 1982.

Pye has been particularly busy for the past two years, serving as the faculty senate chair for MCC. At the same time, he has been teaching courses in physics and astronomy, and MAUI beginning openwater scuba courses.

After a summer of traveling through Asia, Pye officially joined MOP at the start of the fall semester with the departure of the former coordinator, Walt Frederickson. A surprise awaited Pye at MCC upon his return.

"I walked into my office, and it was empty," said Pye. "I thought they were trying to tell me something."

Fortunately, Pye still had his job. He learned, however, that his office space and the regular MOP room were closed for renovation. Although he now has a temporary office, that space is also under renovation. "We're hoping to get settled back into our rooms next January," he said.

In the meantime, Pye uses his available space to work with his students. "There aren't too many programs to experience things," he said. "And I'd like to share that excitement with students through MOP."

The new Maui Community College MOP Coordinator, John Pye stands in the foreground of a dolphin statue on the MCC campus. Photo by Steve Holly.

And what sights does he set for the future? "Someday, I'd like to be some kind of world ambassador, promoting international understanding," he said. "I'd like to maybe get beyond the political barriers and have a universal relationship with (the people of this) Earth."

In the meantime, Pye continues to teach, scuba dive, and compose poems -- and play music. His music will be available on a cassette by the Hawaiian group, Polinahe, in the very near future.

Pye said MOP is the perfect vehicle for people, including himself, to exchange thoughts and ideas. "To me, teaching is like being paid to keep learning your whole life," he said.

"MOP is a learning experience for me," said Pye. "I can help them as an advisor, and send them off in their directions. Then when they come back and share their knowledge, I learn as much as the students do -- more than I can learn by myself."

Pye says that he doesn't expect to be doing the same thing forever. His ultimate desire is to "travel, live and experience the world." With this goal in mind, Pye is currently studying the Japanese language.

Of Interest

Conference volunteers needed

MOP students are needed to help during the 1989 American Merchant Marine and Maritime Industry Conference October 16 through 20. Volunteers are needed to help during registration, and during the conference conducting various tasks. Those interested in helping can attend the convention for free. If you are interested, call Steve at 948-8433, or contact Chris Woolaway at Sea Grant Extension, at 948-8191.

Work on Hanauma Bay project

Recent articles in Hawaii's newspepers have noted the sad state of affairs at Hanauma Bay. The Sea Grant College Program has recently received permission from the city and state governments to design and implement a Hanauma Bay Interpretive Education program at the bay. Honolulu City Managing Director Jeremy Harris (a former MOP student) has been very supportive of this program and hopes to see it in full operation beginning January. The program hopes to help modify visitor behavior at the bay through education, including safety and natural history information provided through guided tours and graphic presentation. There are many opportunities for MOP student participation, in a variety of subject areas, including:

The design of a trailerable information kiosk;
The design of graphics for the kiosk, and other areas;
Historical research of Hanauma Bay;
Develop topics for a walking tour;
Conduct visitor survey;
Design and conduct standard reef transect
Help monitor water quality
Organize and implement docent program.

Persons wanting to get involved, with a good possibility of financial support from the project, should contact Bruce Miller, Mike Markrich or Bob Burke at Sea Grant, phone number 948-8191, or Steve Russell at MOP, phone number 948-8433

Turtle observers needed

Oceanit Laboratories, Inc., a firm that concentrates in coastal and offshore engineering services, and research and development, has a part-time job for a student.

The work involves the observation of turtles on the north shore of Oahu. All observations will be made from land. The work schedule is periodic and variable. If you are not a MOP student, you will need a background in ocean environmental engineering or marine biology. The pay is $5 an hour. If you are interested, contact Leah at 531-3017.

MOPers needed a conference

The National Marine Educators' Association will be hosting the annual conference on the Big Island next summer, from August 5 through 12, 1990. Frannie Coopersmith, the coordinator of this conference, has requested the assistance of the Marine Option Program and MOP students during the conference. Qualified students will be eligible to receive a stipend from MOP to cover airfare, housing and food for this volunteer work.

Duties at the conference include: setting up the Sea Swap and the auction; driving shuttle vans; accompanying conference participants on fieldtrips; serving at the luau and reception; shooting video footage of the conference, and; helping with the audiovisual setup. MOP students would be able to attend the conference sessions at no cost.

Although the conference is not until next year, interested students should consider working this conference into their summer schedule. Both Steve and Sherwood plan to attend the conference and help to make the first NMEA conference in Hawaii a big success. Your help is needed, too. Contact Steve at MSB #229, or call him at 948-8433.

Video job interviews

Will you be graduating soon? You may have a resume, but have you considered how prepared you are for that all-important job interview?

CareerVision, and the Office of Career Planning and Placement at the University of Virginia at Charlottesville has created a video package of "actual" job interviews for five different fields (including commercial banking, computer science, consumer marketing, retailing and teaching). These interviews are conducted by UV students experienced in interview techniques, and are unrehearsed and unedited. A brief critique of each interview is also included.

The set of five video cassettes is available for $84.99. Information about ordering them is available by calling CareerVision's toll-free number, 1-800-I'M A GRAD. To order, send $84.99 plus $2.50 for shipping and handling to: University of Virginia - Charlottesville, Office of Career Planning and Placement, Garrett Hall, Charlottesville, VA 22903.

Job at Oceanic Institute

The Oceanic Institute at Makapuu Point (next to Sea Life Park) is looking for a full-time person to help assist in the broodstock maintenance of moi in ocean pens and shorebase tanks, assist in maturation and spawning activities, and conduct the daily management of ponds and tanks, and relief activities.

To qualify, you need a bachelor's degree in biology, or a related field, and you must be able to work weekends and have a valid driver's license. If you are interested, contact Bong Kim or Jim Norris at 259-7951 for more information.

Coconut Island position

A student position is available at the Coconut Island lab of the Hawaii Institute of Marine Biology (HIMB). This part-time position (10 to 20 hours a week) is for the 1989-1990 academic year, with the option for full-time work during the 1990 summer. The work involves assisting in the study of eggs and larvae of fishes (nehu and omeka) in Kaneohe Bay. Duties include collecting plankton samples and enumerating fish eggs and larvae.

Experience in operating outboard motor boats is desirable, along with the capability for physically demanding work in the field.

If you are interested, contact Dr. Thomas Clarke at HIMB, phone number 247-6631, or write: P.O. Box 1346, Kaneohe, HI 96744.

Kilauea Point internship

The U.S. Fish and Wildlife Service is looking for an intern to work at the Kilauea Point National Wildlife Refuge on the north shore of Kauai, from June 15 through August 15, 1990. Duties would include working at the visitor center, assisting staff with maintenance, conducting hikes on the Crater Hill trail, and assisting the staff with whatever is necessary for the daily operation of the refuge.

Roundtrip airfare (within the state of Hawaii) is included, as well as a $250.00 food allowance for the two-month internship. Housing will be provided at the refuge cabin as well, and the awarding of a $1000 scholarship is possible at the end of the summer. MOP students would also be able to use the experience as their skill project, and receive a MOP stipend.

A summer internship at the refuge, located on one of the most spectacular sites in Hawaii, would be an excellent opportunity for someone interested in pursuing a career in environmental science or wildlife management.

The Kilauea Point National Wildlife Refuge is also looking for a writer to produce articles on the environment and conservation for a children's newsletter. The writer can be based on Oahu.

If you are interested in either opportunity, contact Steve at MSB #229, or call 948-8433, or write: 1000 Pope Rd. #229, Honolulu, HI 96822 for more details and information on how to apply.

Marine Tech. Society Expo

The Marine Technology Society (MTS) Oceanographic Instrumentation committee, in conjunction with the San Diego Section of MTS, will be sponsoring the "Marine Instrumentation '90" Conference and Exposition from February 27 through March 1, 1990 in San Diego.

"Marine Instrumentation '90" will focus on the technical aspects of modern marine sensors and measurement systems, and will include international exhibits, and tutorial and video presentations. If you are interested in attending, please write to: Marine Instrumentation '90, West Star Productions, P.O. Box 369, Spring Valley, CA 92077.

Scuba-related publications

Best Publishing Company of California has a number of scuba diving related publications available for the public. Topics include such subjects as hyperbaric medicine and physiology, and the role of oxygen at depth. Titles include: Hyperbaric Medicine and Physiology, the Underwater Investigator, the Offshore Health Handbook, Problem Wounds: The Role of Oxygen, and the Proceedings of the Eighth International Congress on Hyperbaric Medicine. Prices for these books range from $12.95 to $59.50, and can be ordered by writing to Best Publishing Company, P.O. Box 1978, San Pedro, CA 90733-1978. For a catalog, write to the above address, or call (213) 548-4545.

Fish supplier position

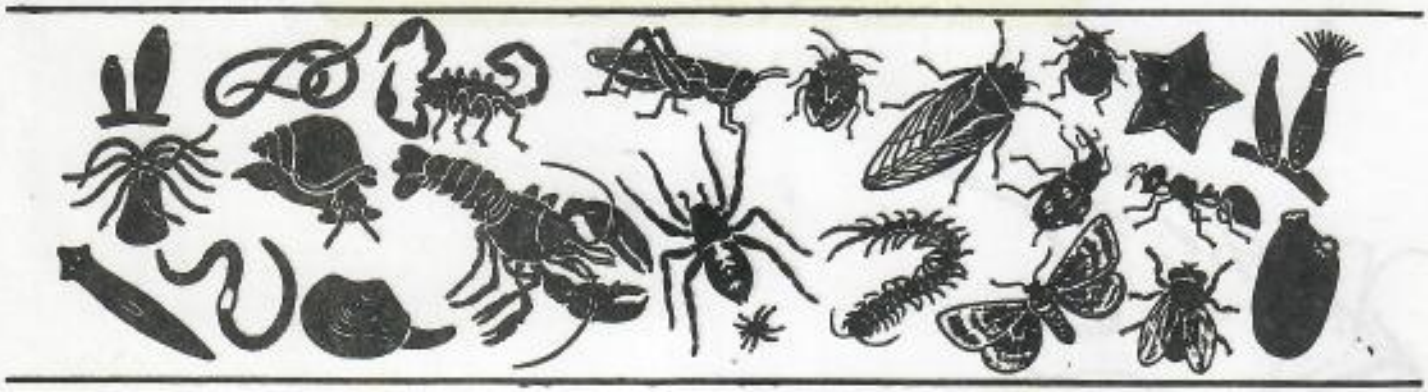
A growing commercial fishing supplier is looking for people to work as delivery persons.

Dependable part-time or full-time workers are needed to make deliveries, pick-ups, general maintenance, and to drive forklifts.

Mechanical skills are preferred, and a clean driving abstract is required. The salary is $7.00 an hour, with an increase with more skills.

The hours of opeartion are 7 a.m. to 5 p.m. Mondays through Fridays, and 7 a.m. to noon on Saturdays.

If you are interested, contact Todd at Pacific Ocean Producers at 537-2905.



Marine Debris is KILLING Our Wildlife!

"GET THE DRIFT AND BAG IT!" is a statewide shoreline clean-up campaign aimed at ridding our beaches and oceans of marine debris and focusing public attention on the effects of discarded plastics, fishing nets and lines, and other debris.

MOP and the UH Aquanauts will again be cleaning up Hanauma Bay on Saturday, October 14 from 8:30 to noon. MOP students will meet at MSB/Zone 9 parking lot at 8 a.m. Aquanauts will meet at Sinclair Circle at 8 a.m. Potluck picnic will follow.

For more information, call Steve at 948-8433.

Get The Drift & Bag It!

University of Hawaii at Manoa
Marine Option Program
1000 Pope Rd. Rm. 229
Honolulu, HI 96822

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Address Correction
Requested

George Balazs
National Marine Fisheries Service
2570 Dole Street
CAMPUS MAIL

March 20, 1985 F/SWR1:JJN

Colonel Michael M. Jenks
District Engineer
U.S. Army Corps of Engineers
Fort Shafter, Hawaii 96858

Dear Colonel Jenks:

Subject: PODCO-O 1857-SD. Draft Environmental Impact Statement (DEIS) preparation notice for Kuilima Resort Complex, Kahuku, Oahu.

The National Marine Fisheries Service (NMFS) has reviewed the subject notice of intent to prepare a DEIS for expansion of the existing Kuilima Resort Complex, Kahuku, Oahu. The DEIS would be prepared for a Department of the Army Permit (Section 404 and Section 10) to conduct work in Punahoolapa Marsh, realign an existing drainage channel and improve two channel outlets, and to dredge silt from Kawela Bay. We offer the following comments for your consideration in preparing the subject DEIS.

Of major concern to NMFS are the impacts from the proposed project on the reportedly important green turtle (Chelonia mydas) forage habitat within and immediately adjacent to Kawela Bay. Fishermen and sport divers over a number of years have reported green turtles utilizing Kawela Bay and deeper areas outside the bay as feeding and resting grounds. The Honolulu Laboratory of NMFS has initiated a study to determine the importance of Kawela Bay to the green turtle. An initial survey conducted in the early morning hours of March 19 revealed at least six turtles apparently feeding in the western portion of Kawela Bay. We feel the results of this continuing study should be included in the DEIS. Since the green turtle is listed as a threatened species under the Endangered Species Act of 1973, as amended, consultation may be required for this proposed project pending a review of the DEIS.

The DEIS should also describe fisheries resources and habitat in the coastal areas from Kahuku Point to Kawela Bay. Potential impacts from channel and outlet modifications, as well as dredging, on these resources should be assessed and reasonable/practicable alternatives analyzed in the document.

We appreciate the opportunity to comment during this early stage of the proposed project. Please keep this office informed as to further developments in the scoping process for the DEIS.

Sincerely yours,

John J. Naughton
Acting Administrator

cc: F/SWR, Terminal Island, CA
F/M4, Washington, D.C.
EPA, Region IX, (P-5)
FWS, Honolulu
Hawaii State Div. of
Aquatic Resources

10/20/89 PK

copy to Balazs

Oceanit Laboratories, Inc.
coastal & offshore engineering services • research & development

M E M O R A N D U M

October 17, 1989

To: Mr. Norman Quon
Kuilima Development Company
1001 Bishop Street
Suite 2000, Pauahi Tower
Honolulu, HI 96813

From: Dr. Patrick K. Sullivan, OLI

Re: Turtle Capturing/Tagging Program with MOP

For your informationa, enclosed please find an article from the University of Hawaii Ka Leo O Hawaii student newspaper about the Marine Option Program (MOP) and green sea turtles monitoring.

Thank you.

PKS:la
36/m1017mop

Enclosure

cc: Mr. George Atta, Group 70
Ms. Jan Sullivan, Takeyama and Sullivan
Mr. Mike Lee, COE
Mr. John Naughton, NMFS

Century Square 1188 Bishop Street, Suite 2512, Honolulu, Hawaii 96813
TELEX: 7431404 MCI: OCEANIT Ph: (808) 531-3017 FAX: (808) 526-1519

Ka Leo O Hawaii
Sept. 22, 1989

Marine Options Program offers rare chance to study sea turtles

As part of a proposed project by the University of Hawaii's Marine Options Program, students will have the opportunity to study one of Hawaii's threatened sea creatures, the Hawaiian green sea turtle.

"The program is open to all students interested in marine science," said Kakkala Gopal, director of the program. "They don't have to be marine science majors."

The project, which is being conducted in conjunction with the National Marine Fisheries Service, involves monitoring and tagging the Hawaiian green sea turtle, also called Chelonia mydas.

"The project involves capturing the turtles, then taking measurements of the turtle's carapace (upper shell), head, weight, etc.," said Steve Russell, coordinator for the program. "The turtles will then be tagged and released."

Russell said that at a later date, they hope to recapture some of the turtles that had been tagged and take new measurements to determine the turtles' rate of growth and other data.

"The species is considered threatened," Russell said. "Meaning that it could become endangered."

The Hawaiian green turtles, known to native Hawaiians as "Honu," are herbivorous, eating the algae or limu that grows underwater on coral reefs and on rocks close to shore.

Weighing about one ounce at birth, the turtles nest in the northwestern Hawaiian Islands, then make their way down the island chain to feed.

The turtles may grow up to 400 pounds and return to their place of hatching to lay eggs and start the cycle anew.

Last month, the green sea turtle made headlines when a large number of its feces was found floating onto Kuuloa Beach on Oahu.

Russell speculated that it could have been due to a large blooming of algae in the area attracting the turtles, or that the turtle population might be increasing.

The turtles are protected under Hawaii state law and under the federal Endangered Species Act. These laws prohibit harassing, harming, killing or keeping sea turtles in captivity without a permit.

Those interested may contact Kakkala Gopal or Steve Russell at 948-8433.

University of Hawaii at Manoa

Hawaii Institute of Marine Biology
Coconut Island, Kaneohe, Hawaii

MEMORANDUM

October 9, 1985

George Thanks for your time

TO: Dave Ziemann

FROM: Richard Brock R. Brock

SUBJECT: Data on Kawela Bay Turtles

On 7 October I had a meeting with Mr. G. H. Balazs of the Honolulu Laboratory, Mr. G. Nitta and Mr. J. Naughton of the Western Pacific Programs Office of the Honolulu Laboratory regarding available information on the population of green turtles that utilize resources in Kawela Bay, Oahu.

Mr. Balazs indicated that he would like to be credited with providing the information herein. All his data relative to the Kawela Bay population are in manuscript form and are in preparation. If you need further clarification on anything below, his card is enclosed.

Mr. Balazs has conducted field studies on the green turtles found in Kawela Bay. These studies were initiated in February 1985 and continued through July; some observational work is still being carried out. Methods employed include the use of shoreline surveys, skindiving, personal interviews with residents and knowledgeable individuals as well as through netting studies. Most of the survey work was carried out in the western part of the bay. The inner eastern part of the bay is quite shallow and turtles did not appear to use it according to the NMFS data, however, Mr. Balazs relates that one resident reported seeing 10 to 12 turtles in these nearshore shallows affronting her house at dawn for several days in February 1985. These sightings occurred during a period of exceptionally high dawn tides. Turtles were probably entering these shallow flats to feed when the water levels were appropriately high at night or at dawn. Subsequently, turtles have been absent from this area until recently (presumably the tides have not been right). This same resident called Mr. Balazs very recently to report that the turtles are again back in that same shallow area in eastern Kawela Bay. He expects to follow up on these reports now that the tidal conditions and timing are appropriate.

According to Mr. Balazs' data, green turtles are absent or nearly so from Kawela Bay during the daylight hours. Netting activity (mostly in the inner western corner of the bay) has shown that turtles use the bay resources at night. Resources sought by the Kawela Bay turtles includes a number of macroalgae species: Acanthophora spicifera, Ulva reticulata (also an indicator of freshwater input) and Pterocladia species. These algae occur in the bay and Acanthophora is very abundant on the shallow reef flats.

Turtles were caught in stationary nets and were sampled for a number of attributes including size, sex and food consumed (stomach samples). The latter studies confirmed that the turtles captured in the bay were feeding on the above species of macroalge.

The evidence suggests that green turtles probably sleep and rest elsewhere outside of Kawela Bay during the daytime. Mr. Balazs does not know the location(s) of these sleeping areas but feels that they are within a kilometer or so of the Kawela Bay feeding grounds. They use the bay under the cover of darkness thus explaining my not having seen them during my short daytime survey of the bay in 1981.

Perhaps the most pertinent data to the importance of Kawela Bay to turtles are the results of Mr. Balazs' netting efforts in the bay. I have reproduced his Table 2 (attached). Very notable is that the catch per unit of effort (CPUE) for Kawela Bay turtles is better than that for many other important turtle areas including Johnston Atoll and Bellows Beach. He noted that human impacts to turtles (i.e., spear holes, tumors probably related to pollution, etc.) caught in Kawela Bay are considerably less in occurrence than for many other areas studied by him. This contrasts to other areas, e.g., the waters affronting Maui Power plant have turtles with an unusually high incidence of obvious human impact.

Another interesting point is that the turtles caught in Kawela Bay ranged in size from ∿38 to 75 cm in carapace length. Thus the size range of turtles using the bay resources ranges from about the smallest known size that recruits to the adult habitat (∿38 cm) to individuals that are just under the size at first reproduction. There were no adults caught in Kawela Bay.

Mr. Balazs conducted temperature measurements of turtles captured in Kawela Bay. He found that the turtles caught at low tide (and at night) were undergoing a considerable thermal deficit to forage on the algae present in the area. Turtles on these shallow flats move through an area with (cold) freshwater input that lowers their body temperature below that which is usually seen; this suggests that green turtles find the shallow Kawela Bay flats appropriate areas in which to forage, despite the expense of creating a thermal deficit.

In summary, Kawela Bay appears to be an important nocturnal foraging ground for green turtles.

In closing, Mr. Balazs noted that individuals interested in green turtles at Kawela Bay may want to contact Mr. Bob Moncrief, a former turtle fisherman and resident of the Kawela Bay area. Mr. Moncrief is presently a biologist with the Army Corps of Engineers in Honolulu and may be reached at phone no. 438-2264.

I hope that this information has helped to answer your questions.

RB:ec
Encl.
cc: G. Balazs

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
Honolulu Laboratory
P. O. Box 3830
Honolulu, Hawaii 96812

December 18, 1985 F/SWC2:GHB

TO: F/SWR1 - John Naughton and Eugene Nitta

THRU: F/SWC2 - William G. Gilmartin

FROM: F/SWC2 - George H. Balazs

SUBJECT: Data resulting from green turtle habitat study at Kawela Bay and other selected foraging pastures in the main Hawaiian Islands.

With this memo, I am sending you draft copies of all summarized data tables and figures generated by our recent preliminary studies of Hawaiian green turtles at algal foraging pastures. I have also included copies of the "Background" and "Methods" sections of the draft report to help you better understand how and why this work was conducted. Our three principal study areas--Kawela Bay on Oahu, Palaau on Molokai, and Kahului Bay on Maui--were selected as the result of earlier surveys and interviews with local residents which suggested these sites were important habitat for significant numbers of turtles. Our findings confirmed this point. As we have often found, a considerable body of historical and ecological information on Hawaiian sea turtles can be obtained simply by taking the time to professionally interview local fishermen and other long-time residents. This proved to be especially beneficial in focusing our efforts on the three principal study areas, as well as the nine other sites examined that received less attention. All of these locations warrant additional research, particularly Kawela Bay where development is scheduled to occur.

As you know the data contained here have already been made available to environmental consultants for the Kawela Bay development. On October 7, 1985 we met and shared this information with Dr. Richard Brock. In additon, at his request, I subsequently telephoned Dr. Brock to tell him of our findings of significant numbers of turtles seen feeding close to shore in the eastern part of Kawela Bay on October 15, 17, and November 19, 1985. We have been informed by residents that this foraging has been a daily occurrence. At the same time, we have verified that turtles are continuing to forage in the western part of the bay, where sufficient water depth allowed us to do the major portion of sampling with nets.

In the near future, I plan to examine the shoreline limestone outcrop with red alga in Turtle Bay that you recently called to my attention. Unleashed dogs and "no trespassing" signs have in the past stiffled my access to this area.

Informal, unofficial memo
(not for outside use)

6 December 1989

To: John Naughton

From: George Balazs

Subject: "Kuilima Resort Development Water Quality Monitoring Program Report No. 1" dated July 1989.

This note responds to your request of a couple weeks ago to read the subject report and make comments back to you with regard to the section on green turtles. Note the following, which we can discuss in greater detail if and when needed. Please continue to emphasize to this consultant, and others, that you (and not I) are the "point of contact" for such matters.

1) Report is dated July 1989, but you just received a copy. How come?

2) I know for a fact that additional monitoring of turtles, efforts to improve techniques, were undertaken September 25-28 by subconsultant Bob Burke. Seems like there's too long of a lag time going on for you to see results. What comes to mind here is the 6-7 month lag time that happened at West Beach, when David Ziemman's OI report revealed many large turtles foraging along the bench. Certainly no one wants a repeat of that sort of a problem.

3) Figure 3 on page 6 should have a dividing line to show separation of Kuilima land versus Private land. As shown now, it looks like Kuilima owns everything up to where Don Ho's property starts.

4) Page 14 bottom of page, last sentence about "distinguishable" requiring that observations occur "simultaneously". This is unduly restrictive to the point of being invalid, in my view. The surface interval of green turtles is usually so brief that simultaneous sighting would be very uncommon.

6) In the census presentation (for example Fig.6), are distinguishable and indistinguishable turtles additive in order to arrive at the total number?

7) Since the report recognizes that greater numbers of turtles will be present at dawn and dusk, why were dates selected (July 7-31) that had very low tides during those times?

11 December 1989

John-

One of my resident informants at Kawela Bay called me yesterday to provide the following information. Late Saturday afternoon 12/9 a large sea turtle was sighted entangled in the line securing a buoy in the middle of Kawela Bay. Due to some circumstances outside the informants control, close inspection and rescue the animal could not be undertaken until first light on Sunday 12/10. At that time the turtle was found to be still alive and severely tangled up in the line. With difficulty, it was cut free and released. It swam off, but in an obviouly weakened state. It was estimated to be 24 inches in carapace length. Tumors were present all around the left front flipper, and also on the eyes. The severed buoy was oval in shape and yellow in color. It apparently was not very old, and didn't appear to have been placed at this location for the purpose of mooring a boat, etc.

John, you know first-hand the proclivity of our green turtles for becoming entangled in buoy lines and other rope debris. Turtles both with and without tumors get themselves snarled-up when manmade stuff like this is intentionally placed, or carelessly discarded, into preferred habitats. Remember when a very large turtle became entangled and nearly drowned by one of the buoys set off the "lagoon" under construction at West Beach? Anyway, this latest case at Kawela is just another in a long line of such incidents, hence your need to be aware of it and share it with Gene Nitta.

Informational Memo

14 December 1989

From: Balazs

To: Naughton
Nitta

I spent half the day at Kawela Bay yesterday walking the beach and visiting with some residents who had reported recent large fecal wash-ups to the Department of Health. I was able to collect 197 pellets, all green turtle, that had come ashore in the morning. The previous morning's wash-up was said to be even greater, according to my informants. Very high tides have occurred before sunrise this week, plus 30 mph winds on-shore. I suspect that this may in part be responsible for the phenomenon. Of course, I had previously reported turtle feces at Kawela, but not in such large quantities (see 1987 TM report). In any event, it is obvious that 197 pellets result from far more than the half a dozen or so turtles that the developer's consultant has shown in his report. In fact, based on these fecal counts, it might be safe to speculate that turtle use of Kawela has increased since I worked their in 1985. That would be reasonable to assume, since human disturbance/use has decreased (for the time being) since month-to-month lease holder were evicted a couple years ago.

Two of my contacts at Kawela will be making morning estimates of the number of pellets coming ashore. They will be reporting their finding directly to me. I suggest that you not make the developer's consultant aware of what I have said in this memo, in order to see if the "system" is keen enough to make the discovery on their own. Incidentally, I received a real "ear-full" as to what these particular residents think about the developer's and consultant's ideas for "improving" Kawela by dredging and gravel/sand fill.

cc G. Boehlert

PS When you going to get on the network?

Bob Moncrief
3/85
Kahuku Pt.
Coral Reef
Radio Stat.
LANDING STRIP
OLD RAILROAD GRADE
Punahoolapa
Punamano
NAT. WILDLIFE REFUGE
Punamano Spring
Kuilima
Golf Course
Kawela
Kawela Bay
Kawela Stream
Kukaimanini Island
Well
Water Tank
U.S. MILITARY RESERVATION
Radio Towers
Towers
Hoolapa
Gulch
Oio
U.S. NAVAL RESERVATION
Waialee

Box 672
Haleiwa, HI 96712

Received 9/12

GEORGE,

THANKS FOR ALL THE INFORMATION AND THE POSTER.

YOU WERE RIGHT ABOUT THE TURTLES... I'VE BEEN CHECKING IT OUT AT AROUND 6:30 AM. SO MANY TURTLES... I ~~MIGHT~~ MITE AS WELL HAVE BEEN BLIND..

I WAS SERIOUS ABOUT VOLUNTEER WORK..

THANKS AGAIN,

Doug Connelly

JOHN WAIHEE
GOVERNOR OF HAWAII

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

LIBERT K. LANDGRAF
MANABU TAGOMORI
RUSSELL N. FUKUMOTO

AQUACULTURE DEVELOPMENT PROGRAM
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CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

December 4, 1989

Mr. Bruce Carlson, Acting Director
Waikiki Aquarium
2777 Kalakaua Avenue
Honolulu, Hawaii 96815

Dear Mr. Carlson Bruce

Thank you for your letter of November 20, 1989, regarding the proposal to establish a Marine Life Conservation District (MLCD) between the Hawaiian Electric Kahe Power Plant and Paradise Cove. As previously discussed, the establishment of an MLCD in the Lanikuhonua to Kahe Power Plant area will first need some surveys and evaluation by the Division of public access, biological resource quality, public safety, compatibility with existing and adjoining usage, etc. Input from other government agencies, interested and affected parties, and the general public is also important for the assessment of any area under consideration for MLCD status.

The Department of Land and Natural Resources would initiate administrative process that includes:

1. obtaining approval from the Board of Land and Natural Resources to conduct public meetings and hearings.

2. obtaining initial public reaction to the proposal through public meeting(s).

3. drafting proposed rule language for the MLCD from the public input.

4. holding a public meeting(s) on the proposed draft rule.

5. submitting the proposed draft to the Governor for his approval to hold a public hearing.

6. holding a public hearing(s) on the proposed final draft rule.

7. obtaining final adoption from the Board of Land and Natural Resources.

For clarification, we understand from a discussion between Mr. John Earle and Mr. Francis Oishi of my staff, that the proposal did not originally intend to prohibit Kona crab fishing activity which occurs off the Kahe area. Since most of our MLCDs protect nearshore areas that are likely to be more enforceable, we will need to discuss and consider this further. Recognizable boundary demarcations along the shore will also be necessary for enforceability.

We appreciate your continued interest and look forward to your assistance in regards to this matter.

Yours truly,

Henry M Sakuda

HENRY M. SAKUDA, Administrator
Division of Aquatic Resources

THA 12-2-1989 A3

Another Turtle Bay executive indicted

By James Dooley
Advertiser Staff Writer

In Court

Yet another member of the Japanese family that controls the Turtle Bay Hilton Hotel on Oahu has been indicted by a federal grand jury here on visa fraud charges.

Takeo Matsumoto, 44, senior managing director of Asahi Jyuken Co., Ltd., the Osaka-based firm that owns the Turtle Bay Hilton, was charged in a two-count indictment returned here Wednesday. Matsumoto arrived here Nov. 17 on a flight from Osaka and allegedly told immigration agents at Honolulu Airport that he had no criminal arrest or conviction record in Japan.

But court records filed here allege that Matsumoto was convicted twice of assault charges in Japan in 1968.

Matsumoto's brother Takao, 52, was indicted here on similar charges in August 1988. That case is still pending. It has been repeatedly delayed by U.S. government difficulties in obtaining official criminal records in Japan.

Another Matsumoto brother, Kizo, 53, the founder and president of Asahi Jyuken, was stripped of his visa and returned to Japan in June 1988 after he admitted to U.S. officials that he had not disclosed a 30-year-old criminal record when he applied for an American visa in Japan.

Asahi Jyuken is a large real estate development firm that paid $127.5 million last year for the Turtle Bay Hilton resort on Oahu's North Shore. The company also purchased a Piikoi Street parcel for $36 million and has proposed development of a $100 million, twin 36-story residential tower project there.

The Advertiser reported last year that Kizo Matsumoto is a former member of Japan's largest organized crime group, the Yamaguchi-gumi. A high-level gang official told The Advertiser last year that Matsumoto resigned from the group in 1968 and has had no contact with Yamaguchi-gumi since then.

Asahi Jyuken's plans for a $1 billion resort development on Guam apparently went up in smoke this month after a territorial government investigation confirmed Kizo Matsumoto's yakuza past.

"We want nothing to do with Kizo Matsumoto," Guam Gov. Joseph Ada told the Pacific Daily News when the government's findings were released this month.

RESEARCH ACTIVITIES REPORT

SUMMARY OF RECENT FINDINGS RELATING TO GREEN TURTLES AT KAWELA BAY, OAHU

JANUARY 2, 1990

by
George H. Balazs
Southwest Fisheries Center, Honolulu Laboratory

Kawela Bay on the north shore of Oahu is an important foraging area for green turtles previously identified and studied by Balazs, Forsyth and Kam (NOAA-TM-NMFS-SWFC-71, 1987). Tourist resort development along the eastern half of the bay is forthcoming. The project may also include certain alterations in the nearshore marine habitat. The following recent findings for Kawela Bay are therefore of significance to obtaining a better understanding of habitat use by turtles at this location.

On December 9, 1989 a green turtle severely afflicted with fibropapillomas (tumors) was found by residents to be entangled in the mooring line of a small buoy in the middle of the bay. The turtle was subsequently cut free and seen to swim away in a weakened state. This case constitutes the first known record of a turtle at Kawela Bay to be clearly diseased with tumors.

On December 11, 1989 a Kawela Bay resident reported that large numbers of fecal pellets suspected to be from turtles were washing up on the beach. On December 13 GHB visited with the informants to confirm and investigate this discovery. A walk was made along the entire sand shoreline of the bay between noon and 1 pm, at which time 197 freshly washed-up fecal pellets of green turtles were counted and collected. This density was reported by the informants to be substantially less than what had been present the previous

two mornings. The informants also indicated that they had owned a home at Kawela Bay for over 11 years, but had never before seen a fecal wash-up phenomenon of this nature. GHB and co-workers have documented turtle feces along the shoreline at Kawela in the past (see TM-71), but nothing approaching the magnitude and scope of this recent event. The 197 pellets collected were found to consist of 44 small (less than 0.5 cm diameter), 130 medium (0.5 to 2.0 cm diameter), and 23 large (greater than 2.0 cm diameter). A fecal pellet census made on the morning of December 29 resulted in 83 fresh pieces being seen.

On December 29, 1989 a resident at Kawela Bay reported the presence of turtle tracks on the eastern portion of the beach. The tracks were estimated to be 36 inches wide, which would be indicative of an adult turtle. There were no apparent signs of a nesting excavation having occurred. Fishermen that had set a red twine lobster net overnight in the bay stated that they had seen the turtle on the beach about 20 minutes prior to sunrise. The turtle was estimated to have weighed 300-400 lbs. The reason for the turtle's presence on the beach was not determined by the fishermen. However, assuming that the turtle was healthy (no mention was made of tumors, injury or other problems), the distinct possibility exists that the turtle had simply come ashore to rest ("bask") at night at an undisturbed and acceptable location. Green turtles sometimes come ashore in this manner at other sites in the Hawaiian Islands, most commonly in the Northwestern Hawaiian Islands, but also on the Na Pali Coast during the winter months when human disturbance is at a minimum.

Hilite for week of 3/5/90

The Marine Turtle Research Task reports that 5 (38%) of the 13 green turtles recently examined and tagged off Molokai had fibropapillomas (tumors). A low seawater temperature of 21 C apparently prevented more turtles from venturing into the reef shallows where they can be captured by net. During a July 1989 similar sampling effort, 10% of 143 turtles were found to have fibropapillomas. During July 1988, only 5% were so afflicted. Prior to October 1985, none of the turtles captured off Molokai (n=300) had this disease.

Sporadic and baffling green turtle feces wash-ups are now being documented at Kawela Bay, Oahu. These events are similar to the phenomenon seen at Kualoa Beach Park last year, only in smaller numbers of fecal pellets. Perhaps coincidentally, the wash-ups at Kawela Bay started at about the same time turtles with fibropapilloma were first documented there in December 1989.

JOHN WAIHEE
GOVERNOR OF HAWAII

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

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LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

REF:DAR-MI

March 5, 1990

Ms. Harriet Eisner
57-435 Hono Kawela Drive
Kahuku, Oahu, Hawaii 96731

Dear Ms. Eisner:

Thank you for your letter of February 7, 1990 expressing concern for the green sea turtles known to frequent Kawela Bay.

Listed as a threatened species under the Endangered Species Act of 1973, as amended, both Federal and State laws protect the green sea turtles in Hawaii. Under provisions of this Act, the National Marine Fisheries Service (NMFS) is given primary charge over management of this species.

Recently, a draft of the federal Recovery Plan For Hawaiian Sea Turtles was distributed by NMFS for public review. Within the draft plan, priority management actions similar to your concerns included protection of marine and terrestrial habitats used by the turtles, the need to educate the public of the threatened and protected status of the turtles, enhancement of enforcement efforts to protect turtles, implementation of actions to reduce or eliminate incidental mortality and injury by fishing nets, and so forth.

Accordingly, your comments on protecting the green sea turtles inhabiting Kawela Bay are valid suggestions which, by copies of your letter and this response, are being provided to the Hawaiian Sea Turtle Recovery Planning Team for their information and consideration.

Meanwhile, rest assured that State objectives are similar to your stated goals--having people and turtles mutually co-exist at Kawela Bay. We will continue to work with NMFS to insure protection of all of our marine turtle species in Hawaii.

Very truly yours,

Keith W. Ahue

for WILLIAM W. PATY, Chairperson

JOHN WAIHEE
GOVERNOR OF HAWAII

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

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WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

REF:OCEA-VIN

Doc.: 7465E
File: 90-516
Violation No.: OA-90E-44

MAR 2 1990

Ms. Harriet Z. Eisner
57-435 Hono Kawela Drive
Kahuku, Hawaii 96731

Dear Ms. Eisner:

SUBJECT: Potential Dredging and Grading Operations at Kawela Bay, Kahuku, Hawaii

Thank you for your several letters and notes to Jay Lembeck of my staff, for a copy of the letter to you from the Department of the Army, received by us on January 30, 1990, and for the pictures, etc., received on February 13, 1990, at our Office of Conservation and Environmental Affairs.

The letter from the Department of the Army ("Corps of Engineers"), dated January 22, 1990, refers to "a permit to desilt Kawela Bay" which "was issued on July 28, 1988," according to the letter from the Army. Any such desilting, or dredging, would require prior approval by our Board; an application (OA-2220) was submitted and later withdrawn for such an operation. A new application had yet to be submitted as of the date we received your letters, etc.

However, the applicant(s) did submit an Environmental Impact Statement (EIS) for nearly the same use as that proposed earlier. That EIS was received on February 26, 1990.

Any land use activity in Kawela Bay, including the placing of buoys, a silt curtain, etc., is subject to prior approval by ou Board and, without such approval, is subject to fines and other sanctions by our Board. As such, at your request, we are forwarding your materials to our Division of Conservation and Resources Enforcement for investigation of any potential violation(s), prior to follow-up by our Office of Conservati Environmental Affairs.

Thank you again for your interest and cooperation in this matter. If you have any additional comments or questions, please feel free to call Jay Lembeck again, at 548-7837, or write to me or to him again.

Very truly yours,

Keith W. Stave

WILLIAM W. PATY

I M P O R T A N T N O T I C E

TO YOU WHO SUPPORT THE PRESERVATION OF KAWELA BAY AND OAHU'S COASTLINES:

RE: PUBLIC HEARING ON KAWELA BAY RESORT DEVELOPMENT

As one of many who is opposed to encroachment upon Hawaii's coastal resources by Prudential Insurance Company of America's Kuilima Resort Expansion into Kawela Bay, you should know that a public hearing by the City Council and the City Department of Land Utilization will be held on the following date:

DATE: WEDNESDAY - JULY 9, 1986
TIME: 7:00 P.M.
PLACE: KAHUKU HIGH SCHOOL CAFETORIUM (AMPLE PARKING)
56-490 Kamehameha Highway
Kahuku

Your attendance at this important hearing is urgently needed and will be the STRONG VOICE OF THE PEOPLE against such development. THIS IS THE LAST OPPORTUNITY TO PRESERVE OUR PRECIOUS COASTLINE. Once this hearing is held the City Council will discuss the matter at its next Planning and Zoning Committee meeting and a decision could quickly follow.

Even if you plan to attend the above hearing, it is important that you take a minute of your time to sign the letter that is enclosed for your convenience and mail it. Or, if you prefer you may draft your own letter to show your opposition to Prudential's (1) request for Re-Zoning, (2) Special Management Use Permit, and (3) Shoreline Setback Variance. (Please refer to attached "Notice of Public Hearing" for details.)

In addition to your attending the hearing and sending in your letter, please call our City Council members and voice your opposition before the hearing--it makes a difference--our Council members want and need to know how YOU feel about it. Also, please call them after the hearing to reinforce your opposition.

(ADDRESSES AND PHONE NUMBERS
OF COUNCIL MEMBERS ON REVERSE
SIDE)

-PLEASE MAKE YOUR FAMILY AND FRIENDS AWARE OF THE ABOVE-

I. YOUR LETTERS SHOULD BE ADDRESSED AND MAILED TO:

THE HONORABLE MARILYN BORNHORST, CHAIR
and
MEMBERS OF THE CITY COUNCIL
HONOLULU HALE
HONOLULU, HAWAII 96813

II. YOUR PHONE CALLS SHOULD BE MADE TO ALL OR AS MANY AS YOU CAN OF THE CITY COUNCIL MEMBERS LISTED BELOW:

Council Chair
Marilyn Bornhorst
Tel. 523-4787
COUNCIL DISTRICT V
Waikiki, Ala Moana, Manoa, Sheridan, Pawaa, and portions of Makiki, Kakaako, McCully and Moiliili

Councilmember
Randall Y. Iwase
Tel. 523-4935
COUNCIL DISTRICT I
Village Park, Crestview, Waipio Gentry, Mililani, Wahiawa, Whitmore, Waialua, Haleiwa, Waimea, Pupukea, Sunset Beach, Kahuku, and portions of Pearl City, Waipahu, and Laie

Councilmember
David W. Kahanu
Tel. 523-4035
COUNCIL DISTRICT II
Hauula, Punaluu, Kaaawa, Waiahole, Kahaluu, Ahuimanu, Kaneohe, Kailua, Lanikai, and a portion of Laie

Councilmember
Welcome S. Fawcett
Tel. 523-4580
COUNCIL DISTRICT III
Maunawili, Olomana, Pohakupu, Enchanted Lake, Keolu Hills, Waimanalo, Hawaii Kai, Niu Valley, Aina Haina, and Kahala

Councilmember
Leigh-Wai Doo
Tel. 523-4615
COUNCIL DISTRICT IV
St. Louis Heights, Palolo, Maunalani Heights, Waialae, Kaimuki, Kapahulu, Diamond Head, and portions of McCully and Moiliili

Councilmember
Tony Narvaes
Tel. 523-4045
COUNCIL DISTRICT VI
Ilalei, Palama, Alewa Heights, Kamehameha Heights, Lanakila, Puunui, Liliha, Nuuanu, Pacific Heights, Pauoa, Tantalus, Punchbowl, Downtown Honolulu, Papakolea, Makiki Heights, and portions of Kakaako and Kalihi

Councilmember
Donna Mercado Kim
Tel. 523-4978
COUNCIL DISTRICT VII
Red Hill, Moanalua, Kalihi Valley, Aliamanu, Salt Lake, and portions of Hickam Air Force Base and Kalihi

Councilmember
Arnold Morgado, Jr.
Tel. 523-4829
COUNCIL DISTRICT VIII
Pacific Palisades, Pearl City, Newtown, Pearlridge, Waimalu, Aiea, Halawa, Foster Village, Pearl Harbor, and a portion of Hickam Air Force Base

Councilmember
Patsy T. Mink
Tel. 523-4708
COUNCIL DISTRICT IX
Makaha, Waianae, Maili, Nanakuli, Honokai Hale, Makakilo, Ewa, Ewa Beach, Barbers Point, Kunia, and a portion of Waipahu

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center Honolulu Laboratory
2570 Dole St. • Honolulu, Hawaii 96822-2396

April 2, 1990 F/SWC2:GHB

Mr. Don Ho
3954 Gail Street
Honolulu, Hawaii 96815

Dear Mr. Ho:

Thank you very much for once again allowing us access to your property to conduct research of green sea turtles (honu) at Kawela Bay. Our efforts on the night of March 28, 1990, were moderately successful in that one turtle, weighing 77 lbs, was captured and tagged during 8 hours of netting. The turtle showed no signs of disease, which was encouraging news considering that two turtles seriously afflicted with tumors have been documented during recent months by residents at Kawela Bay. One of these sick turtles, an adult male estimated to weight over 200 lbs, has been regularly seen sleeping on the beach at night in the vicinity of where the resort will be built. As you may know, the situation at several other sites, such as Kaneohe Bay, has reached epidemic proportions with regards to life-threatening tumors on resident turtles. The cause of the tumors remains unknown, but is the subject of studies both here and in Florida (see enclosed articles).

Our work at Kawela Bay on the night of March 28 was complicated by at least two factors. First, shortly after we started monitoring our net, visiting fishermen set a 350-foot gill net perpendicular to shore to the east of our study site. This created a barrier for any turtles approaching from that direction. Fortunately, no small turtles became entangled in the gill net, as their drowning would likely have resulted. Our second problem centered around the presence of high-intensity flood lights from a beachfront house illuminating the bay immediately to the west of our study site. They were turned on and off after dark and it was of interest for us to note that the single capture we made occurred during a period when the lights were off. From experience elsewhere, we know that if a turtle can see a net under water, it will try to avoid it. During our next trip to Kawela, which we are planning for the near future, arrangements will be made for the lights to be kept off while our nets are in the water.

Again, we are most appreciative of your hospitality in allowing us to periodically use your property.

Sincerely,

George H. Balazs
Zoologist and Leader
Marine Turtle Research

enclosures

WESTERN PACIFIC PROGRAM OFFICE F/SWR1
NATIONAL MARINE FISHERIES SERVICE
2570 DOLE STREET
HONOLULU, HAWAII 96822-2396

October 7, 1986 F/SWR1:LDC

Susumu Ono
Chairperson
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Sus,

We have just provided comments to the Army Corps of Engineers on a permit to dredge silt from Kawela Bay and to improve drainage outlets for the proposed Kuilima Resort Expansion. Kawela Bay is an important nocturnal foraging area for green sea turtles, Chelonia mydas. While we determined that the silt dredging and drainage improvements would not adversely affect the Hawaiian population of Chelonia, we remain concerned about the secondary impacts of development at this site which at present is relatively little used by the public.

I append a copy of George Balazs' recent research results which documents the importance of Kawela Bay to green sea turtles. Immature Chelonia enter Kawela Bay after sunset to feed on the algae growing in the western and eastern ends. They feed until sunrise, at which time they move out of the bay to nearby resting areas.

As we understand it, public access with parking is planned for Kawela Bay. While this will open up a very beautiful portion of Oahu, we are concerned that this use may result in turtles abandoning this area. Night fishing in particular may conflict with the continued use of the bay by turtles.

The avenues available to NMFS to provide protection for this important turtle habitat are limited. Our Section 7 consultation with the Corps of Engineers, by necessity, evaluated only the effects of the permitted actions - dredging and drainage improvements. It could not address the issue of increased use of Kawela Bay, as the Corps permitting process is limited to the project only. Further, designation of critical habitat would require only that federal agencies consult with the NMFS for activities affecting the bay. Such designation would not be effective in preventing undesireable non-federal activities. The only means presently available to protect the turtles at Kawela Bay is our enforcement authority to deal with "take" violations on a case by case basis. Clearly, it is impractical to monitor Kawela Bay full time.

In view of the importance of Kawela Bay to green sea turtles, and our inability to adequately protect their habitat, we recommend that you consider its designation as a Marine Life Conservation District (MLCD). Such designation could include the prohibition on the taking of marine life and the altering of geological features. We believe that designation as a MLCD, along with development of an interpretive program (this could be a responsibility shared by the developer, the DLNR, and the NMFS), would serve to preserve, protect, and conserve the sea turtles which utilize Kawela Bay and eventually become recruited into the adult population.

I would be pleased to discuss this matter at any time with you or your staff.

Sincerely yours,

Doyle E. Gates
Administrator

cc: DLNR, Henry Sakuda
DLU, John Whalen
Kuilima Development Company
FWS, Honolulu
Corps of Engineers, Honolulu

GHB

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center Honolulu Laboratory
2570 Dole St. • Honolulu, Hawaii 96822-2396

April 4, 1990 F/SWC2:GHB

Mr. Murray Eisner
57-435 Hono Kawela Drive
Kahuku, HI 96731

Dear Mr. Eisner:

Many thanks for your recent letter regarding sea turtles (green turtle, Chelonia mydas), at Kawela Bay. I appreciate the interest and information that you and your wife have periodically conveyed to me over the past 5 months. Your concern for the turtles, and the habitat upon which they depend, is truly commendable. Since first visiting Kawela Bay in 1985, I have been pleased to find an exceedingly high level of interest and enthusiasm for sea turtle research and conservation among longtime Kawela Bay residents such as yourself.

Your question about the number of turtles using Kawela Bay can only be answered in terms of my "best professional estimate." Unfortunately, absolutely reliable methods for statistically censusing sea turtles in their marine habitats do not exist. During the course of our low-intensity studies at Kawela Bay, I have personally captured and tagged 37 turtles. Consequently, there are, of course, at least that many turtles using the Bay. During October and November of 1985, Robert Forsyth and I witnessed 15-20 turtles feeding together close to shore at the east end of the Bay. And more recently, on the morning of December 13, 1989, I picked up 197 fecal pellets freshly washed ashore that came from green turtles. The pellets contained (among other things) digested fragments of Codium, a benthic alga that grows on hard substrate in Kawela Bay. Based on the above findings, coupled with my experiences capturing and tagging turtles in a more intensive fashion elsewhere in Hawaii, I would estimate that somewhere between 50 and 150 turtles use Kawela Bay, mainly for foraging purposes (probably at night). My lower estimate of 50 is undoubtedly very conservative, considering that 37 turtles have been tagged, but only 2 have been recaptured.

Again, thank you for your interest. I hope that I have answered your difficult question with some degree of satisfaction.

Sincerely,

George H. Balazs
Zoologist

MURRAY EISNER
57-435 HONO KAWELA DRIVE
KAHUKU OAHU HAWAII 96731

24/2/90

Dear Mr. Balazs;

We have been walking the beach of Kawela Bay since 1978 and have watched with great interest the return of turtles to the Bay for the last 5 years.

We have watched turtles come ashore this year quite often and counted large numbers of feces on the beach..

We are most interested in the turtles and would appreciate it if you could give us an estimate of the number of turtles you believe use Kawela Bay.

Thank you for providing us with this information

Sincerely Murray Eisner

State of Hawaii Board of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

April 5, 1990

To Whom it may concern:

I have completed reading the February 1990 Environmental Impact Statement by Kuilima Development Company proposing the Kawela Bay Desilting Project. I have questions related to the following:

Page 1 1.4 Proposed Project

The proposed project involves removal of approximately 1,800 cubic yards of silt and clay sediments from a 0.66 acre area of Kawela Bay in its southeastern portion. The removal of these sediments is the primary goal of the project, in order to improve water clarity and eliminate the silt/clay bottom texture in swimming snorkeling and wading area offshore of the two planned new resort hotels.

Questions:

1. If 1,800 cubic yards are removed; and 6,000 yards of basalt gravels and calcareous sands will be placed in the desilted area and the bay will not be decreased in depth, but increased in depth and will this change the configuration of other parts of the bay and beach? Will this newly added material not act as a barrier or berm and cause a shift in the sand elsewhere? On page 2 (Topography and Bathymetry) it is stated this will increase the depth of Kawela Bay--by approximately 6 to 12 inches, from 4.5 to 5.5 feet--raising the bottom to an elevation that is roughly level with surrounding bottoms?
2. Again, will not a barrier be created causing erosion elsewhere on the bay?
3. Assuming the actual activity of dredging could possibly have minimal impact on the turtles, the bay, the beach, the huge question is the long term secondary or cumulated changes to habitat. Why, when the turtles are returning and now living in Kawela Bay, is it necessary "for aesthetic purposes" to desilt the water in which they are most content? In other words, the patient isn't sick, why give him medicine? The water is not polluted, why introduce polluting devices? According to the study, it will improve the clarity of the water. On any given day, the waters are clear. Why, when silt is natural in water, tamper with the ecology of the whole bay, in hopes of temporarily clarifying a portion. The bay has supported the turtles, been enjoyed by fishermen, visitors, etc., for many years. Who has the audacity to say this desilting activity will in reality benefit the turtle, the fish, the bay or the people?

Page 54 Unavoidable Impacts
3.17.1 Topographic Modifications
a. Unavoidable impacts
b. Mitigation measures

Questions:

1. What minor change in bathymetry?
2. What is minor impact of topographic changes? Is there a model for this intrusion? Where? When? And what were the long term results? Is this projection of Kawela a factual result or an opinion?

Kawela Bay's beach is one half mile from the Haleiwa side point to the Kahuku side point. It is a rare beach, not only beautiful, it is one of the few safe beaches to swim on the North Shore in winter. It is the only naturally sheltered body of water on this exposed windward coast. There are numerous fresh water springs coming into the beach area and throughout the bay waters. Many can be seen when the tide is low. The entire bay is approximately 50 acres. Whatever occurs in one portion, such as desilting action, has to have an effect on the rest of the bay, the beaches and vegetation. To study this before the event, then to study it after the event

to see what actual changes take place, appears to be contradictory to the purpose of dredging the bay.

3. Why experiment with this unique place? See attached article from Hawaii Sun Press, week of March 22-28, 1990 which shows a negative impact from dredging.

Page 31 (paragraphs 2 and 3)

Statement: "these materials should not damage adjacent areas. In winter, there are strong storm conditions as early as November, December, January and February are all vulnerable months. As these materials move with the sand and coral rubble from all areas of the bay, and the fill material will be undistinguishable from the effects of the naturally occurring sediments.

Question:

1. Will there not be imported sand and black stones on the beach?
2. What will prohibit this basalt and imported sand from washing ashore during the storms?

Page 54 3.17.2 Short Term Marine Life Disturbance

A. copy

If coral and algae in nearby areas (the bay is not large) will be affected during operations and short term disruption of the utilization of the bay by green sea turtles" how can this be justified with the Recovery Plan for Hawaiian Sea Turtles. Within that plan, priority management actions including protection of marine and terrestrial habitats used by the turtles. This endangered species is not to be disturbed and dredging 8 am to 5 pm, affecting his food, foraging habits is in direct conflict with this program, even on a short term basis. According to the NOAA Technical Memorandum N.MFS, published March 1987, "Preliminary Assessment of Habitat Utilization by Hawaiian Green Turtles in their Resident Foraging Pastures" (page 11 Resting Halriky Appraisal), a common feature etc. If the short term prospect is to disturb the turtles and their habitat, what will be the long term effect of this event? How can even the temporary disturbance of the algae and coral be of benefit? Do turtles really want or need more clear water? Where will they go? Will they ever come back? Or will they die for lack of food? As there are not any other protected beaches on this coastline.

Page 58 Introduction of Sea Grass

Is it advisable to risk a grass that grows like a weed and may be less than desirable to fill the bay when its impact on other biological communities remain uncertain. Do you need any more mongoose episodes? Can this environment be reestablished?

Pages 60, 61, 62 Increased Channelization of Kawela Bay

Is this an alternative of this proposal? If so. it presents a total disaster scene for everything in the bay. For beginners, the beach would shift and possibly wash entirely out to sea. At present, only water passes over the reef, with this alternative channelling, the sand would also be moved with any sizable wave such as in winter. Is this not a drastic solution to clarify water for hotel guests?

Page 77 Discussion (last paragraph)
Unavoidable Adverse Environmental Effects

How can topography modification BE for SHORT TERM? SOIL DISTURBANCES, SHORT TERM? EROSION, SHORT TERM? VEGETATION CLEARING, SHORT TERM?

Page 47 3:10

Noise Range for dredging equipment ranges between 72 and 85 dba "Noise from the wind and surf will likely drown out much of the noise from the desilting and construction equipment."

To quote (page 10 2.4.1 Technical characteristics end paragraph) it is necessary to be effective when ocean conditions range from calm to normal. It is not recommended (desilting) during periods of high surf. The desilting action is scheduled to take place during the summer months to avoid the heavy winter surf of the North Shore." Noise carries over water. It is possible to hear

the back up beeps of the bulldozers, grading equipment, radios of the campers, and picnickers through the foliage left on the development side of the beach. Is there any alternative to the noise factor for the daytime for 4 or more months? or the pollution of the air? or the agitation of the silt in the rest of the bay?

Page 10 2.4.1 Technical Characteristics paragraph 2

Silt material will be removed from the bottom by a suction procedure, which will sometimes be assisted by high velocity water jets to agitate sediments to ease their removal and avoid damage to coral heads."

Questions:

1. Will not the machinery itself cause damage to the coral heads?
2. Is this high velocity water jet machinery not capable of drilling (as used in drilling for oil) thereby damaging substratum?
3. Will there not be residue of diesel oil from this machinery on the beach or water surface?
4. What of the discharges from this machinery that are not channeled into the holding area.

Appendix A Oceanit Laboratories Report #1 Dated July 1989

"Turtle size was hard to determine; however, observed sizes varied from 6 to 25 inches." Most observations were around 15 inches."

Is it possible to sight a 6 inch turtle? Is not the "average of 15" an inaccurate statement? Rescued two weeks ago was a baby turtle 18 pounds 22" long. It is estimated there are between 50 to 150 turtles in Kawela Bay area, not 3.

This report creates many more questions as to the validity of the testings made and applications to the bay as it exists. The desilting of this bay is in complete disregard for the ecological system now working to benefit Hotel guests who would (and are now) enjoying the natural environment of Hawaii rather than another man-conceived swimming pool lagoon. It offends my aesthetic sensibility to know not only the surrounding areas of the North Shore to be victim of bulldozed acres, trees, plants, land removal, etc., but the small absolutely lovely Bay itself will be in jeopardy.

Sincerely,

Harriet Z. Eisner

Harriet Z. Eisner

attached photographs taken April 3, 1990 showing present water clarity from water edge facing sea and most western placed buoy of Oceanit Lab.

Turtle swimming in water was taken March 31, 1990 directly in front of old caretakers house about 6:45 AM.

Hawaii Kai Sun

VOL. XXX NO. 44

One Dollar And Thirty Cents Voluntary Payment For Home Delive

BRIEFLY

Eroding shoreline

PORTLOCK — A city consultant recommends limiting the spread of seawalls down the coastline and preserving the remaining sandy areas to protect what is left of the beaches in the Portlock area.

"This goal will have to be balanced against the need for protection of property should the erosion continue," Sea Engineering said in the recently completed Oahu Shoreline Study.

The 1988 study points out that the shoreline at Portlock is steadily eroding except for the area next to the channel for the Hawaii Kai marina. The report blames the erosion on sand moving only in one direction — from Portlock Point toward the channel. Since 1974, 40 feet of sand has accumulated at the entrance to the channel.

"This shoreline was greatly influenced by the extensive dredging associated with the Hawaii Kai development, particularly the dredging of the 200-foot wide channel under the bridge in the 1960s," the report notes. "The new channel started to fill in immediately after the dredging was completed, and there was corresponding erosion of the Portlock shoreline."

The shoreline south of the old Henry Kaiser Estate is rocky, with no sandy beaches. Private homes built along the next 4,000 feet toward the channel is protected by vertical seawalls.

The rest of the shoreline is sandy and it is this area that is suffering the most severe erosion, "due to sand entrapment at an old drainage channel, which now acts as a groin," according to the report.

Money for school

AINA HAINA — Funds have been released to Aina Haina Elementary School to remove barriers to wheelchairs, allowing easier access to classrooms, the cafeteria and the library.

"Aina Haina is one of the most architectural barrier-free schools in the state," said Edward Hasegawa, a business specialist in the Honolulu District Office of the Department of Education. "All schools are going to be barrier-free someday."

Hasegawa said that although the school is fairly free of barriers, there are little things like thresholds that cause some problems for wheelchairs. There also is no access to the stage in the cafeteria, and a ramp will have to be built, he said.

The state Department of Budget and Finance announced in a February newsletter that $78,000 has been given to the school for design, removal of barriers, replacement of windows and other improvements.

Ted Tamura photo

Gracious greeters

Pua Scott, 5, a Wailupe Valley student, and Connie Young, parent to one of the students, were the greeters for the Waldorfaire held recently at the Honolulu Waldorf School. The annual spring fair included games, entertainment and displays.

Schools expert call

HAWAII KAI — School/Community-Based Management by itself won't cure all of Hawaii's education problems, a policy analyst for an educational consultant said last week.

mented SCBM. But that school als decided to break up into five school she said.

"Automatically things change said Stone. "When you have a sma

placed in the bottom of the depressions, amounting to approximately 1,000 cubic yards. This layer will help prevent the formation of anaerobic mud. The remainder of the fill (approximately 5,000 cubic yards) will be a calcareous sand having a mean grain diameter greater than 0.5 mm.

The sand and gravel will raise the Bay bottom to an elevation that is roughly level with the surrounding bottom. Sediments with median grain size of 0.5 mm in 3 ft of water (the filling depth) can be put into motion by a 0.5 ft wave inside the bay. However, a 0.5 mm particle settles at 0.7 ft/sec and therefore does not stay long in suspension. The sand placed will be coarse enough to generally remain in place at the site and not be moved by normal tidal currents and wave action. The desilting and filling operations and the resulting change in the Bay's circulation patterns will reduce the deposition of fine grain sediments at this location. Future buildup of silt and clay-sized sediments at this location is not expected.

There will be little effect on sediments in other parts of Kawela Bay as a result of this project. The fill material will not be transported to other parts of the bay except under unusually high wave conditions when normal flow patterns are disrupted. Under normal wave and current conditions, the fill material should not damage adjacent areas. Under strong storm conditions, sand and even coral rubble from all areas of the bay will move and can cause damage. However, the effects of the fill material movement under storm conditions will essentially be indistinguishable from the effects of the naturally occurring sediment movement.

Although suspended sediments in the water column will be contained by a silt curtain surrounding the desilting and filling site, some silt and clay will be transported away from the site. These suspended sediments will likely resettle in other parts of the Bay, or be transported to the ocean. The quantity of sediment transported off-site is expected to be minimal, and the sediment characteristics in other parts of the Bay will not be changed by the project.

C. Mitigative Measures

The project plans include the use of a silt curtain to be installed around the desilting site to contain suspended sediment at the site. The effectiveness of the silt curtain in retaining silt-laden waters depends greatly on the surface conditions being calm. Desilting operations at Kawela Bay, therefore, will only be undertaken during calm summer months when wave energy at the site is at a minimum.

3.5 COASTAL WATER QUALITY

A. Existing Conditions

Kawela Bay is relatively shallow, averaging approximately 4.1 feet in depth at mean lower-low water level (MLLW), with maximum depths approaching 10 feet. It's water quality is acceptable for recreational use except for an area in the southeastern portion of the Bay. Field measurements of water quality parameters in Kawela Bay were made during May and June 1985 by Oceanit Laboratories, Inc. The measured values were compared to the State of Hawaii water quality standards for embayments, and results are included in Appendix A and summarized herein.

Measurements of salinity varied in Kawela Bay from 29.3 to 35.2 parts per thousand (o/oo). The low salinity values indicate significant fresh water intrusion into the bay from Kawela

SECTION 5.0 SUMMARY OF UNRESOLVED ISSUES

One of the option under consideration is the transplanting of Halophila in the area where sandfill would raise the bathymetry to an average depth of 3 feet. The intent of this option would be to expand the turtle foraging area into the previously barren southeastern corner of the Bay. It would also bind the sand more tightly in place. The uncertainty with this proposal is the success or failure of the efforts to transplant this sea grass. If the transplantation is unsuccessful, the Bay is left with the proposal requested by the developer; sand filling with no transplantation. On the other hand, if the transplantation is extremely successful, then it may spread well beyond the fill area and expand into other areas of the Bay. The degree and impact of this scenario is uncertain. The positive aspect of this scenario is that it is a native angiosperm in Hawaii and is unlikely to proliferate like a weed. Also, it is a food source for the Green sea turtle, and its proliferation may increase the attractiveness of the Bay as a foraging ground. Its impact on other biological communities remains uncertain.

2.4 DESCRITION OF THE ACTION'S TECHNICAL, ECONOMIC, SOCIAL AND ENVIRONMENTAL CHARACTERITICS

This section includes descriptions of the project's technical plans, including the construction process and final completion plans. Economic aspects related to the project are discussed here, including anticipated employment and project costs. Social considerations as related to the project's interaction with the community are also discussed in this section. Environmental characteristics are briefly mentioned here, while a detailed discussion of these factors is included in Section 3.0.

2.4.1 Technical Characteristics

The desilting and filling operation planned for Kawela Bay will be performed over a 0.66-acre area located in the Bay's southeastern corner. Studies have shown this area to be a site where fine sediments are collected and deposited, which are resuspended during the tidal cycle and contribute to the turbidity problem. The texture of sediments at this location is also gelatinous which makes wading uncomfortable. Approximately 1,800 cubic yards of these sediments will be removed from this area of the Bay, and pumped into a 0.34-acre containment area located 150 feet away from the removal site (mauka of the beach) for sediment dewatering and consolidation. Figure 3 shows the relationship of the desilting site and containment area. Ultimately, these sediments will be removed from the containment area and placed upland onto the new golf course area (if acceptable for this purpose) to be constructed at the Kuilima Resort. If the sediments are not usable, they will be landfilled.

The type of desilting equipment recommended for use in Kawela Bay will employ a suction method, which is similar to a vacuum cleaner. Silt material will be removed from the bottom by a suction procedure, which will be sometimes assisted by high velocity water jets to agitate sediments to ease their removal and avoid damage to coral heads. Figure 4 shows an example of desilting equipment, including the platform used to hold this equipment at the proper location during operations. Adjustable legs will temporarily support the bottom of the platform, decoupling it from wave action and holding it in place while providing a flexible but stable base.

The desilting equipment will resemble a vacuum cleaner, and will have very little environmental impact in terms of water quality degradation and excess bottom area disturbance. This equipment will only be operated while the site is sealed off by a silt curtain, as shown in Figure 5. The silt curtain is a densely woven fabric of several layers which is suspended from floats on the surface. Weights will be placed at the bottom of the curtain to hold it in place around the desilting site. The silt curtain will reduce the amount of suspended silt in the water, caused by the agitation of the bottom during the desilting and filling operation from leaving the project site and affecting water quality in the surrounding areas of the Bay. This method of desilting is known to be effective when ocean conditions range from calm to normal. It is not recommended during periods of high surf. The desilting action is scheduled to take place during the summer months to avoid the heavy winter surf of the North Shore.

The suction removal method includes a high percentage of water with the sediments, and the silt and seawater slurry must first be dewatered prior to its final disposal upland or at another acceptable location. Dewatering of this material will be accomplished by constructing a containment pond facility for the silt and seawater mixture, as shown in Figure 6.

adverse effects will be minimized to the maximum extent practicable through the implementation of recommended mitigative measures.

The consistency of the proposed development with the objectives and policies set forth in Section 205A-2, HRS, the area guidelines set forth in Section 205A-26, HRS, the General Plan for the City and County of Honolulu, and the Development Plan the North Shore, was described earlier in this section of this document.

(3) *The Council shall seek to minimize, where reasonable:*

(A) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;

(B) Any development which would reduce the size of any beach or other area usable for public recreation;

(C) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management area and the mean high tide line where there is no beach;

(D) Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast;

(E) Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

Discussion: The removal of silt and clay sediment from the project site in Kawela Bay has been intensely studied over the past few years by professional oceanographers and marine scientists from both private industry and the Federal and State government. The project design has been formulated to minimize the impact of desilting activities on the existing water quality and marine ecology of Kawela Bay. Of special concern has been potential impacts to the Green sea turtle. The desilting operation, with mitigative measures implemented as planned, will not have an adverse impact on marine wildlife habitat in Kawela Bay. In fact, the project is planned to create beneficial long-term effects of improving the water clarity and bottom texture of a section of the Bay.

To: To Whom It May Concern

Subject: Kuilima Development Co. request to desilt Kawela Bay

The purpose of this memorandum is to:

1. Seriously question the validity and findings of the environmental impact study.
2. Challenge the assumptions and outcomes of the desilting process proposed in the report.
3. Raise the question of whose standards of aesthetic beauty are being used to justify this project, and with whose authority.
4. Who will be responsible for indemnification if home owners and citizens of the area if the bay, the beach, and homes are ruined because of actions taken if a permit is granted.

There follows comments regarding these issues. Much of the arguments can be supported with documents videotapes, photographs and testimony by visitors, residents and professionals familiar with Kawela Bay.

Environmental impact study findings fish in the bay

The report states that there were 3 fish found in the bay. As a resident of the bay I walk on the beach daily, and have consistently seen commercial fisherman take 1,000 pounds of fish from the bay on several successive days (Keraturi Co.). A four year old child caught 40 fish in the bay in one hour. Fisherman are in the bay daily and catch tubs full of a wide variety of fish on a consistent basis. Records are available for your review indicating that we have reported huge catches of fish and questioned the authorities as to the legality of this activity. We have been repeatedly told it is legal except during certain times when mullet was not allowed. We have photographic proof as well.

It is therefore quite clear that the research done in the EIS report is either unprofessional, or highly selective to show little or no fish in the bay - or outright misrepresentation to claim virtually no fish in Kawela Bay. This is obviously designed to show little impact on the bay if dredging is allowed.

Turtles in the Bay

Prior to 1985 few turtles were sighted in the bay. Since then more and more turtles have returned. The (EIS) report mentions an average of 3 turtles sighted.

The department of Fisheries official estimate is that there are between 50 and 150 turtles that use the bay regularly.

Oceanits own part time employee counted turtles on Kawela Bay and sighted 30 one day and 46 the next. This was in March 1990. This count will apparently never show up in their records. Selective research? Incompetence? Misrepresentation? The department of fisheries have actually caught and tagged 36 turtles in Kawela Bay. What credence can then be put on any part of the environmental impact study with such gross misstatements of reality. I have considerable videotape footage of turtle activity in the bay if your office wants further evidence.

Wave Action

The study discusses "average" wave action. How can an average be used as the criteria for the introduction of thousands of cubic yards of material into the bay and its projected stability. Average temperature does not destroy Florida's Citrus Crops. Average rainfall does not create devastating floods. Average windstorms do not describe the devastating forces of Hurricanes. Freezing weather, high winds and rain storms cause billions of dollars in damage.

The basalt in the bay will not move because of average wave action, it will wash up on the beach in a winter storm - covering our beaches with black basalt.

Coral the size of basketballs wash ashore during slightly turbulent seas. During storms larger chunk of coral and debris are always seen - so how can average wave action be used as the basis for getting permission to dump thousands of tons of foreign material in the bay.

This logic is like the man whose feet are put in the refrigerator at 30 degrees and head in the oven at 166 degrees, his average temperature is 98 degrees, but his only problem is that he is dead.

Vegetation in the Bay

The report does not mention some vital species of material in the bay that is a preferred diet of the sea turtles. This vegetation is in abundance now but when removed may not grow back because the entire ecological system will have been altered.

It is also quite likely that if this bay is traumatized for 4-5 months with major activity including; noisy equipment, disturbance of the water, drilling, vacuuming jet injection, oil from diesels and the dumping of tons of foreign material that the turtles not only will be driven away but may never return, because the habitat and food source will have been destroyed. The report claims the turtles they saw were sighted away from the proposed desilting site. This is not true of the hundreds of sightings I have made over the last 5 1/2 months as there are always some turtles within the proposed desilting area. This is another inaccuracy of the EIS report.

Assumptions

Certain assumptions have been made about the location of turtles, fish, wave action and sources of silt in the bay.

As a resident, observations of these elements are in direct opposition to the findings of the report. My observations as well as others who know this bay have been made daily for years. The infrequent and limited observation of oceanit (we have seen them at two intervals in 6 months for 3 or 4 days) raises serious question as to the usefulness of the limited and inaccurate observations.

Some of these observation includes:

1. The bay is perfectly clear most of the time and not polluted.

2. Movement of debris in the bay is not as characterized in the report but very different and not predictable. We live on the bay and observe it daily.

3. The turtles are generally not where the report indicates but if they have seen only 3 how would they know where they are?

4. One source of silt used to be from a break in the dunes after a heavy rain. This has been limited this year since excessive rain run off has been diverted by vegetation of the fields before it reaches Kawela Bay Stream.

A sources not considered in the report but known to the author of the report is ground water that comes into the bay by springs (Kawela mean "springs"). Silt rises when the sand is agitated near the shoreline where the springs enter the bay. No amount of desilting will eliminate this source of silt.

Why did Oceanits report not include this source. Mr. Bork who works for Dr. Sullivan advised us when we showed this to him, that he was aware of it.

5. The report makes the assumption that there will be a minimum impact on residents and community "a slight inconvenience". This self serving assessment is outrageous. If Kuilima Development Co. believes that having major equipment in the bay for 4-5 months or more, with 85 decibal noise level. Considering no use of the bay, oil polluting of the water from heavy diesel equipment, possible irrevocable damage to a magnificent natural bay, destruction of turtle natural habitat, and possible destruction of my home and beach as a slight "inconvenience" my reaction is outrage.

   This pattern of minimizing counts impact, and potential danger to achieve the dubious advantage of slightly clearer water seems like a total misappropriation of priorities.

Aesthetics

The environmental study bases its request for permit partly on improving the aesthetics of the bay.

This is an arrogant and most offensive statement. Most people love Kawela Bay for its natural beauty and wonder at its varied forms. I have travelled the world and consider Kawela Bay one of the most unique natural wonders. To assume that Kuilima Development can improve on nature by making it a little cleaner (it is clean enough) or clearer (it is clear enough) and this is not a certain outcome only an opinion with no guarantee is an outrageous assumption that cannot go unchallenged. It's like someone who is not an artist claiming they can make a Rembrandt or Da Vinci more beautiful by retouching it. There is nothing wrong with Kawela Bay it is an obscenity to intervene on a beautiful natural resource and habitat in the belief it can be improved with the real risk and possibility of irrevocable damage to the ecology, the bay and homes.

Indemnification

It is my firm conviction that this permit should not be granted unless Kuilima development is willing to indemnify residents of Kawela Bay for damage to their homes, the beaches or the environment that this action causes.

If they are so sure that no damage will happen and your agency issues a permit - then your department should be willing to take the responsibility of this action as well.

The inherent risks of dumping basalt, mined sand, widening channels, destroying coral, dredging, potential oil pollution from heavy equipment is great for both short and long term damage.

Just to have a little clearer water which (is wonderful now as it is) is so illogical in the face of the enormous risks involved - that it is hard to believe that a agency of our government would seriously consider any intervention in this bay whatever.

It could be argued that citizens often over-react and want no progress. In this case we have not opposed rezoning the bay to resort, the building of hotels, or the park. We accepted these major changes to this little paradise bay that will soon be open to the public. We have accept this progress - but to deliberately destroy a natural treasure for someone's distorted sense of aesthetics and a little clearer water is insanity, and would be a gross abuse of money and power if it prevails.

We do not intend to stand by idly and watch this bay destroyed - the turtles and fish driven off and the beaches and our homes placed in jeopardy.

The North Shore Community strategic planning committed of 200 members want the bay left alone and voted accordingly unanimously at the recent meeting on March 1990. None of them live on Kawela Bay but they want to preserve its natural beauty by declaring it a sanctuary. I hope your board reflects the responsible belief that most citizens and government subscribes to which is to minimize the raping of our natural resources and for Gods sakes - leave Kawela Bay alone. It's not broken. Let's not let anyone try to fix it.

Murray Eisner