PAGE 2 Star-Bulletin
Tuesday, May 31, 1977

Dolphin Chase Resumes; Net Attempt Fails

By Jim McCoy
Star-Bulletin Writer

Researchers from the University of Hawaii and Sea Life Park today resumed attempts to recover two female dolphins that were stolen from the University's Marine Research Lab facility and set free in the ocean Sunday.

A spokesman for the UH Marine Animal Research Laboratory at Kewalo Basin said the tunaboat Luzon left Kewalo Basin at 4 a.m. today to search off Makua Beach. The spokesman said the boat is outfitted with 2,000-foot-long nets which will be used as a "cover" to keep the two dolphins close to shore if and when a rescue attempt is made.

Yesterday's daylong attempt to rescue Kea, one of the dolphins, was unsuccessful. The spokesman said Kea took off at 8:30 last night and has not been spotted since. The other dolphin, Puka, has not been seen by the researchers and University graduate students assembled at "Pray For Sex" Beach since Sunday's spotting of Kea there.

receiving at Kewalo," LeVasseur said.

Dr. John Bardach, director of the Hawaii Institute of Marine Biology, has angrily denied their comments, saying the mammals are well treated and are kept "under exactly the same conditions as dolphins at Sea Life Park."

Bardach added that "hundreds of thousands of dollars" have been spent in the lab's research of the dolphins, and that their loss would be a "real blow to the University."

LeVASSEUR HAS been working with the dolphins for more than two years and Sipman for 14 months, Taylor said. Both are being laid off June 30 from their jobs, which they described as "research" but other Kewalo employes described as "tank cleaners." Both live at the facility but have not shown up there since Sunday's incident, a marine lab

THE GROUP yesterday tried to net the 300-pound Atlantic bottlenose dolphin, which for years has been used for research into perception and hearing. But Kea repeatedly broke for open water, and the researchers worried that Kea was becoming weak and would become prey for sharks. They planned to stay with Kea overnight, but she broke for open water again last night and had not returned by early today to the shallow water where researchers had been feeding her yesterday.

Meanwhile, two 26-year-old employes of the marine research lab who yesterday admitted taking the two dolphins from the facility, said they planned to turn themselves into police today.

Their attorney, Jeffrey M. Taylor, said Steve Sipman and Ken LeVasseur would accompany him to meet with detectives today at 10 a.m. But Taylor said he had heard of no arrest warrants out on Sipman or LeVasseur, adding they were voluntarily going to the police "because we didn't want them picked up off the streets."

SIPMAN AND LeVasseur said their actions were not "pranks" but were prompted by the "absolutely inhumane treatment" the dolphins were receiving at the facility.

"We have no moral or ethical right to maintain or enslave intelligent, emotional beings who very well may be our equals," Sipman said.

"We released them because they are our friends and because we can't stand the treatment the animals are

spokesman said today.

Both men have degrees from the University, Sipman in psychology and LeVasseur in neurosciences.

LeVasseur and Sipman said they and unnamed other individuals are members of a group called "The Undersea Railroad," which claimed responsibility for "liberating" the dolphins.

The group left news releases claiming responsibility for "freeing two slaves" with local news media on Sunday.

In a news release yesterday, the group blasted the rescue efforts going on at Makua, insisting the two mammals "have become free dolphins and as such should be protected from further harassment and capture."

"The all-out effort on the part of her (Kea's) former 'owners' to recapture Kea is reminiscent of the efforts to recapture freed slaves by their former 'owners,'" the group said.

House to Act on Porpoises

WASHINGTON (AP) — A California Republican is hoping to convince the House to go easy on the porpoise when lawmakers debate legislation this week to increase the number of marine mammals which tuna fishermen may kill.

The tuna-porpoise issue is at the top of the agenda as the House returns tomorrow from a five-day Memorial Day recess. Thursday, the lawmakers will turn their attention to President Carter's proposal for a Department of Energy.

Hawaii Re

Police investigate dolphin abduction

By JOHN C. GIVEN
Advertiser Staff Writer

A daylong air and sea search yesterday failed to turn up any sign of Puka or Kea, the two valuable dolphins abducted last weekend from the University of Hawaii's marine animal research lab at Kewalo Basin.

A specially chartered fishing boat left Kewalo Basin at 4 a.m. yesterday for the waters off Makua Beach, where the dolphins had last been seen. While the chartered boat searched, a Coast Guard helicopter flew overhead and private boats also combed the area.

Attempts to net Kea failed three times Monday, according to Dr. Louis Herman, an animal psychologist who had been running the research projects on the dolphins.

He said at that time that Kea was injured, with one eye closed, that she was very nervous and eating very little.

The attempts to get a net around Kea failed Monday apparently because the net itself was too small. Yesterday's plan, then, was to use a larger net to drape it in the water to keep her close to shore. The idea might have worked, except for one problem. After two days in the area, Kea headed out to sea at about 8:30 p.m. Monday — and hasn't been seen since.

The search was given up yesterday but was to resume today. Officials at the Kewalo Basin lab put out a plea for members of the public sighting dolphins close to shore to call the lab at 537-2402.

Meanwhile, the case is being investigated by the Honolulu Police Department. "So far, it stands as a theft, a felony-type offense," said Police Lt. Jeremy Postmus.

"The University has filed a complaint on the theft of two porpoises valued at $30,000 — that's $15,000 each," he said.

What kinds of experiments were performed with Puka and Kea? See Page A-10.

Two former employes of the marine lab, Steve Sipman and Ken Le Vasseur, have already admitted responsibility for removing the animals and releasing them into the sea.

A letter to the local news media Sunday morning said "2 slaves" (the dolphins) had been "freed" after six years of "total isolation" and "remorseless experiments." It was signed "The Undersea Railroad," a reference to the "Underground Railroad," a network of abolitionists who smuggled black slaves to freedom in the North during the Civil War.

Yesterday, Postmus said that Sipman and Le Vasseur "have expressed willingness to come in and talk with us," and that "we would like to talk to them to see what their side of the story is."

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Honolulu Advertiser

★★ Wednesday, June 1, 1977 A-3

Dr. John Bardach
Mistaken humanism

Once the investigation is completed, Postmus explained, a recommendation on possible filing of charges would be made to the City Prosecutor's Office.

The two men were expected to show up with a lawyer at the police station at 10 a.m. yesterday, but apparently changed their minds. Instead they returned to the Kewalo Basin facility — where they had lived for more than a year — to pick up their personal effects.

On hand was Dr. John E. Bardach, director of the Hawaii Institute of Marine Biology, who strongly defended the experiments that had gone on there.

The criticism by the "Undersea Railroad" included allegations of inhumane treatment of the creatures, whose intellegence, they said, "compares to that of a human."

It noted that the dolphins had been kept in virtual solitary confinement, alone and in separate cement tanks, five feet deep and 50 feet across, and that at times they were deprived of toys, human companionship and some food.

Responding to his critics, Bardach insisted there is "nothing cruel and remorseless in the experiments. They were being kept as adequately, as nicely, and with as much care as possible.

"If there is an enemy, it is eventually going to be man," he said, noting that the more we understand the creatures, the more we will be able to act in their best interests.

"I can only characterize (the 'Undersea Railroad's' thinking) as strangely conceived, mistaken humanism," he said. "The issue is put wrongly. "The question is: should man do experiments of this kind — under the best conditions possible for animals — or should man completely desist?"

Bardach was asked why the experiments could not be performed in the open sea, or in open-sea pens that would allow the dolphins greater freedom.

He said it is partly "a matter of facilities and funds. It would be vastly more expensive and cumbersome than this."

But more than this, he said it was "not a question of either-or."

"You can do experiments out there," he said, "but those are different kinds of experiments.

Dr. Leighton Taylor, director of the Waikiki Aquarium, added his opinion that freeing the dolphins "was the wrong thing to do."

"If it weren't for research, public consciousness about dolphins would not be as high as it is today," he observed, noting that the dispute over capture of porpoises by net-fishing for tuna is a good example of this heightened public awareness.

Also, Taylor said, "I think sometimes people who like porpoises may ascribe a little more intellect to them then they may have.

Opihi pickers scour rocks along the ocean on Maui.

Regulation Would Protect Dwindling Opihi Resource

By Helen Altonn
Star-Bulletin Writer

Opihi smaller than 1¼ inches long would be protected under a regulation being considered by the State Division of Fish and Game to manage the dwindling resource.

The opihi is a shellfish found only in Hawaii and is a delicacy of the Hawaiians, but it has been declining in numbers because of increased demand and overfishing.

Michio Takata, division chief, said the size limit follows recommendations of a report on "The Biology of Opihi" recently released by the State Department of Planning and Economic Development.

E. ALISON KAY and William Magruder of the University of Hawaii did the four-year study, making an unexpected finding that opihi "is an excellent protein source."

They said, "Because opihi obtain their energy from primary production (limu—or seaweed), and because they have extremely rapid growth rates, they might well be considered as a product to be used in commercial or research aquaculture, as a source of protein."

Takata said public meetings have been held in all counties by the county Fish and Wildlife Advisory committees to sample public opinion concerning a regulation to preserve the resource.

Alternative management measures have been discussed, including a size limit, closed areas and prohibition of sales, he said.

"It seems that more people favored a size limit so we're thinking of drafting a regulation . . . We're thinking of 1¼ inches," Takata said.

HE SAID THE size coincides with the report's recommendation, giving the opihi a chance to spawn before being taken.

Takata said a proposed draft of the regulation will be submitted for review by the Animal Species Advisory Commission and then public hearings will be held.

"We will see what reaction we have in the hearings," he said.

He said while a bag limit has been mentioned, this doesn't appear feasible because it would deter sales of opihi.

"Many people are not capable of getting their own supply, and this is a traditional dish at luaus," he pointed out. "How else would they get it if they could not buy it?"

He said the regulation could always be revised in the future to include a bag limit if necessary.

The scientists said they were surprised to find that opihi, "because of their rapid growth rates, may be a useful source of an annual crop of protein which derives its energy from primary production—that is, they convert limu (seaweed) directly into protein."

THERE ARE FOUR species of opihi and two, known as the black foot and yellow foot, constitute the major market product.

In ancient Hawaii the soft parts of opihi were used for food and the shells as tools.

About 150,000 pounds of opihi were sold in Honolulu markets in 1900 at a price of about 15 cents a pound, the report said.

In the 1970s about 18,000 pounds of opihi were sold at market with prices as high as $3 per pound with shell.

Both the black foot and yellow foot species show very fast shell growth and the longer they are allowed to grow, the greater weight of edible meat is available for harvest, the scientists said.

A black foot harvested at age six months will be about one inch long and have an edible body weight of a little more than one gram, or .03 of an ounce, they said.

IF THE OPIHI had another six months to grow, the shell would increase only to about 1½ inches but the body weight would triple.

The scientists found heavy mortality among juveniles, perhaps because of unfavorable growing conditions, they said.

In trying to determine fishing pressures on opihi, the scientists said their data indicates there are fewer opihi on accessible shorelines than those which are generally inaccessible.

They also said opihi at sites which are fished and in the markets are smaller than the opihi sold in the markets 20 years ago.

86 Ties High

Honolulu Airport recorded a temperature of 86 degrees yesterday, which tied the previous high for the date set in 1966, reported the National Weather Service.

The highest reading for the month of April was 88, set in 1967 and tied again in April 1971.

Sewage Outfall May Revive Kaneohe Bay

By Gregg Takayama
Star-Bulletin Writer

The soupy green Kaneohe Bay bears little resemblance to the clear, coral-rich bay remembered by many as a good fishing and clamming ground.

The demise of the once-lively bay is blamed usually on increased pollution from sewage outlets and runoffs from the residential developments ringing the shores.

Many hope that the construction of a new sewage outfall in Kailua Bay —on the other side of Mokapu Peninsula—will mean the revival of the Kaneohe waters.

University of Hawaii researchers are trying to determine exactly what effect the sewer move will have on Kaneohe Bay.

They have been taking the first detailed measurements of the pollution and will continue taking them after the move to see if there is any improvement.

The University's Hawaii Institute of Marine Biology at Coconut Island is ideal for the study because of its location and its past experience in examining the bay.

THE PROJECT, begun in November 1975 with a $200,000 grant from the federal Environmental Protection Agency, is headed by oceanographer Stephen Smith, associate director of the institute.

"We want to be able to say whether this is $20 million (the cost of the sewer move) down the drain. It may have no effect on the bay. If we can gain the predictive ability here, we can apply it anywhere," he said.

The new Mokapu outfall is to be finished in August, eventually ending the daily spewing of more than three million gallons of sewage into the bay from the Kaneohe town sewer plant. Smaller outlets are from Ahuimanu Stream, the Kaneohe Marine Corps Air Station and Coconut Island.

Kailua Bay, because of its better circulation, should not experience the pollution problem that Kaneohe has, Smith said.

THE TREATED sewage poured into Kaneohe is rich in nitrogen and phosphorus, which feed plankton and algae just as they do plants in a garden.

The bay's murky appearance, especially in the nonflowing southern part of the bay, is the result.

But this also can have a good effect.

Green bubble algae just a few years ago threatened to smother the remaining coral life in the bay. In recent years, however, the water has been clouded by the increased plankton, limiting the amount of light and restricting the growth of the green bubble algae.

Another polluter being examined by researchers is stream runoffs which add fresh water to the bay, damaging coral and other salt-water life.

IN TIMES OF heavy rains, the streams cover the hard bay bottom with soft mud, further damaging the fragile coral. Heavy storms in 1965, for example, washed six feet of mud into the bay.

"Corals need a hard surface to grow on—either a hard bottom or other corals. We don't know if the sediments will eventually be swept out and if the coral will grow back," Smith said.

Even if the corals do stage a comeback, it will take many years for the growth to be noticeable. It takes five or six years for coral to reach just fist-size, he said.

Corals are especially important if reef fish are to return in large numbers. Food for the fish in the form of plankton and algae exists in great abundance, but they lack needed reef shelters.

Other kinds of sea life flourish in the nutrient-rich waters and are expected to diminish when the Kaneohe outlet moves. One is the bright orange type of sea cucumber commonly found in the bay and another is barnacles.

POLLUTION LIFE—Stephen Smith holds an orange-hued sea cucumber which is regarded as a "pollution indicator" because it feeds on sewage output. It thrives in Kaneohe Bay.—Star-Bulletin Photo by John Titchen.

Eel Bill Squirms Past House

Richard Kawakami

By Gregg K. Kakesako
Star-Bulletin Writer

The controversial proposal to allow the importation of (unagi) eels as an experimental aquaculture crop squeezed through the State House yesterday.

The measure, sponsored by Kauai Democrat Richard Kawakami, passed by a 26-to-24 margin. House Speaker James Wakatsuki was absent and excused from voting.

During the one hour debate opponents argued that lifting the ban on the importation of 50,000 eels of the Anguilliformes species would mean an environmental disaster for Hawaii.

Kawakami and proponents argued that there is a potential $50 million market for these edible eels in Japan and Europe.

"THERE IS AN unfulfilled demand for unagi of more than $50 million and it is believed that Hawaii can fulfill that demand," said Kawakami, chairman of the Water, Land Use, Development and Hawaiian Homes Committee.

He also emphasized that before 1973 there was no prohibition against the importation of these eels and, despite emotional arguments, none of those raised here ever escaped and damaged the Island's ecological system.

Kawakami added that even if the Senate concurred with the House's position and approved the measure, it would still be up to the State Board of Land and Natural Resources to develop the necessary rules and regulations governing the experiment.

A companion measure, which would appropriate $120,000 for the experimental project, is pending before the House Finance Committee.

THE MAJOR OPPONENT of the proposal, Democrat Jack Larsen, had earlier said that "if the experiment proved to be successful, it would be a disaster."

Speaking later on the floor of the House, Larsen, D-8th Dist. (Diamond Head-Waialae Kahala), added: "This idea is like Dracula, killing it once is not enough. But now we have a chance to drive a staff through it."

He argued that to make the eel industry profitable at least 10 million to 20 million eels would have to be imported from North and South Carolina, where they are naturally found.

"This means that a small percentage will escape or be carried off by persons who want to get around the law," he said.

"With a life expectancy of 15 to 20 years and growing up to lengths of five feet these creatures are extremeley adaptable.

"ONCE LET LOOSE in our freshwater streams they will compete directly with prawns and other animals that need our limited freshwater source."

However, Kawakami said that as far as he knows it is virtually impossible for the eels to spawn in fresh water.

Initially, the State plans to raise the eels under controlled situation at the Sand Island fishery using fences and other methods to make sure the eels do not escape, he added.

Rep. Charles Toguchi, D-23rd Dist. (Haula-Haleiwa), expressed concern that State land department officials did not have the necessary answers to what he believed were pertinent questions.

"THEY COULDN'T answer what size the eels grew to, the life span, and the effect the animals would have on the environment," he said.

He pointed out that under a research grant a seaweed farm was started in his district in the depths of Kaneohe Bay.

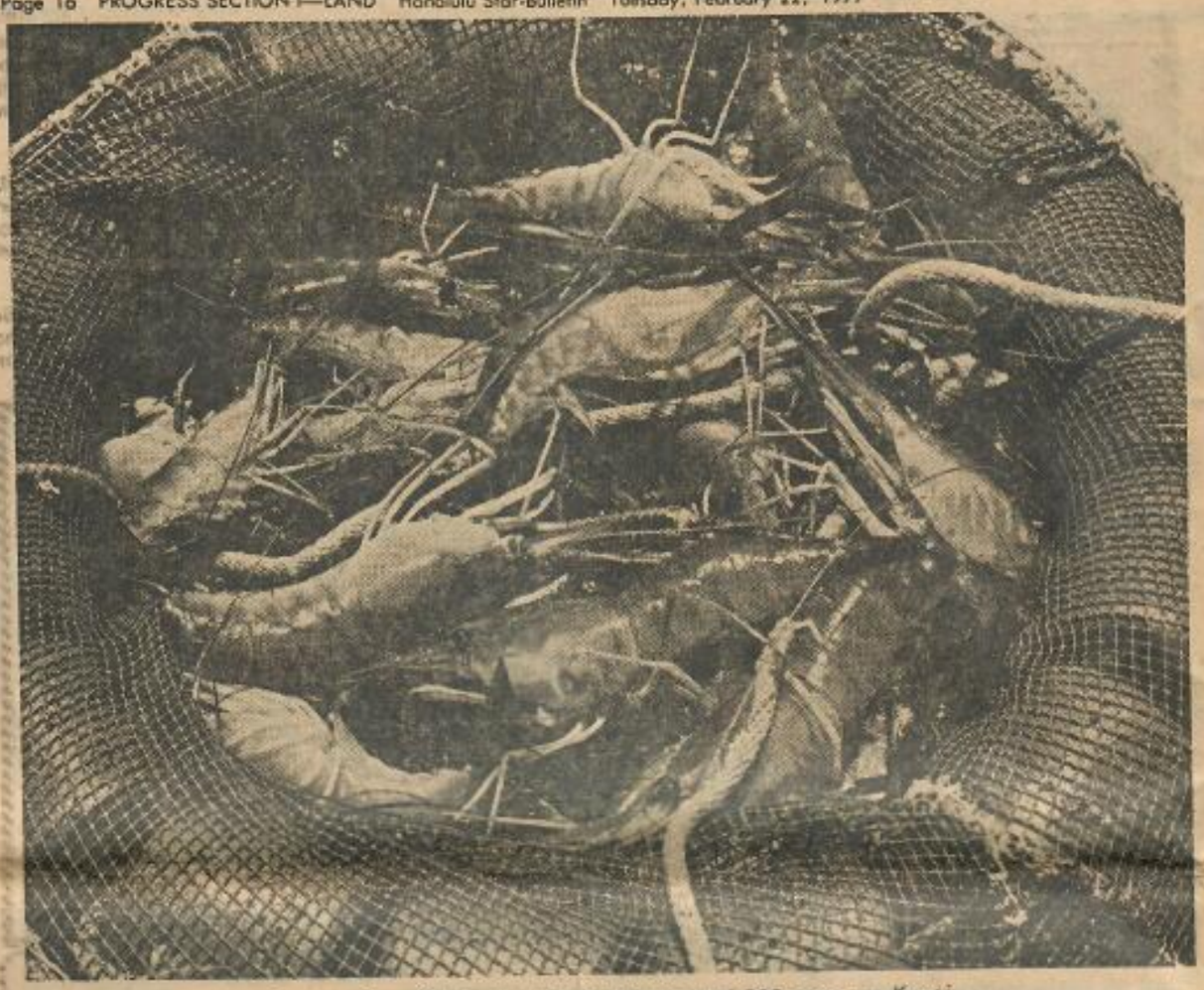
"Now we are looking for ways to eradicate this species of seaweed," Toguchi said.

Rep. Neil Abercrombie, D-13th Dist. (Manoa-Makiki), said he was worried since some scientists have testified that these eels carry some 30 parasites.

These pose potential health hazards, yet unanswered, to other creatures, including human beings, he said.

Immigrants Flooded Ellis

At the height of European immigration to the United States in 1907, often as many as 3,500 were processed through the Ellis Island immigration station in New York harbor in one day.



Prawns: From fish farmers to C. Brewer and 300 acres on Kauai.

Acquaculture Boom

By Mike Markrich
Special to the Star-Bulletin

Terry Astro rises at six every morning to check the amount of oxygen in his tanks of brine shrimp. In demand by pet stores and scientists alike, they are an essential live food for young fish. Astro has developed a new system of producing them that he hopes will be the beginnings of a new industry.

Brine shrimp, known as **Artemia salina**, are tiny mosquito like shrimp that grow naturally in areas of great salt concentrations such as Utah's Salt Lake and the lower reaches of San Francisco Bay.

"They grow best in normal salt water," Astro said. "But they were the food for almost every kind of marine animal, so eventually they moved into areas of such high density salt that only they and nobody else could survive."

For many years, brine shrimp eggs were collected and packaged by small companies in Utah and California. The eggs were sold for less than ten dollars a pound. This year, only one San Francisco company is still in business and eggs are difficult to obtain as they sell for $35 per pound.

In Utah, pesticide draining into Salt Lake ruined the brine shrimp. The eggs that would normally keep over 10 years and hatch lost their potency. The Utah producers went out of business.

In San Francisco, producers are dependent upon ever changing salt densities. When shadow areas of the bay get salty enough to protect, the brine shrimp grow and lay eggs. But recently salt density has gone down and so has production. Brine shrimp are in great demand.

"There is a world wide shortage of brine shrimp," Astro explained. "Anybody working with fish or prawns knows that when they pass through their larval stage, they need to eat live brine shrimp. They are the only food source we know of that we can easily store and handle."

The recent increase in popularity of tropical fish has taken supply away from scientists doing aquaculture research. At Hawaii Fish and Game research center on Sand Island, scientists use from two to four pounds of eggs per day during periods of prawn production and are having difficulty obtaining an adequate supply.

Because of the need for brine shrimp and the great market potential, research projects have been started all over the world. Most of them follow the example of the British Government project on Christmas Island and the Bolsa project of the Signal Oil Company. By creating large shallow lakes of high salt content, they hope to reproduce the conditions of nature in which brine shrimp grow.

Fish Farming: Big Hopes, Limited Funds

By Helen Altonn
Star-Bulletin Writer

For more than 800 years Hawaii has had some form of fish farming—an art practiced by ancient Hawaiians in more than 350 ponds throughout the Islands.

And the State government is devoting considerable time and talent—working with limited funds—to restore and expand an aquatic food industry.

Officials believe Hawaii not only can help itself economically with fish farming, but can help the world with technology to feed protein-deficient populations.

"We're posturing ourselves to take care of ourselves and the opportunities," said Hideto Kono, director of the State Department of Planning and Economic Development.

"We're very excited about this," he said.

He said areas advanced in aquaculture research and development will have a good chance of attracting federal funds as the federal government increases its aquaculture activities.

Robert Shleser, aquaculture consultant to the DPED, told Congressmen during testimony in July that aquaculture could be Hawaii's "fourth industry" because of its warm water.

Shleser formerly directed the Bodega Bay Marine Laboratory in California and was instrumental in drafting national aquaculture legislation.

He is working on contract with the DPED drafting a masterplan for Hawaii's future in aquaculture. It will be completed in July.

Shleser is assisted by an advisory committee composed of the top people in the State in fisheries, economics, marine research and other aspects of aquatic food production.

Richard Gibson, who handles the aquaculture program at the DPED, points out that "Hawaii has two feathers in its cap."

These are the State's Anuenue Fisheries Station, developed and headed by Takuji Fujimura, and the privately operated Oceanic Institute at Makapuu.

The station at Sand Island is world-renowned for Malaysian prawn research and development and serves as a training center for fisheries technicians from other nations.

Oceanic Institute has pioneered in mullet-breeding techniques and is a world leader in this area. The State recently approved a contract to plan and design a pilot fish hatchery at the institute "as the first step to reestablish a mullet pond fishery" in the Islands.

The University's Institute of Marine Biology carries out major aquaculture activities of the Sea Grant Program at Coconut Island.

And many other State and federal organizations are involved in research or other aspects of the aquaculture development.

John S. Corbin, University marine biologist and graduate student, assessed aquaculture in Hawaii last year for the State in response to a Senate resolution.

He noted that modern aquatic husbandry is less than 15 years old here, with about $5.3 million spent during that time on research in animal aquaculture.

He said three avenues of investigation have emerged:

—Species such as mullet and milkfish which would provide large quantities of low-cost food protein if mass-cultured—a technique aimed at producing technology for developing countries.

—Species such as prawns, moi, mullet and milkfish which would supply commercial food fish or shellfish—a path toward an aquaculture industry with economic impact.

—Species such as topminnows which would provide more bait for catches of tuna and other food fish.

Gibson said several studies recently were done for the DPED to identify ponds and fish species with promising potential.

He said six ponds were identified as having excellent potential for production and many others have good potential.

He said fish species have been narrowed from a list of 75 to about a dozen worth concentrated effort.

Kono said his department has been assigned to pull together all aquaculture efforts in the State, with the masterplan as a key element.

"Our planning is very broad-based," Gibson said, "encompassing selection of key species, the permit process, identifying market potentials—local, Mainland and international—detailed production, economic value of species, sites available, how much land is required, and market and production costs.

"It's a systematic approach to determine potential benefits to the State in terms of employment, tax revenues, etc."

The State Agriculture Department has approved four loans for aquaculture enterprises under a loan program established by the 1971 Legislature.

One recipient was Kenneth Kato, president of Fishfarms Hawaii, who has been in the forefront of commercial aquaculture in the State, raising prawns, catfish and carp in farms on Oahu and Maui.

Taylor A. (Tap) Pryor, who developed the Oceanic Institute and Sea Life Park, also received a loan to establish an oyster seafarm in Kahuku. He hopes to market his first crop within a few months.

Ed Otsuji was granted a loan to raise prawns in Hauula.

The latest loan went to a group of scientists formerly associated with Pryor. They plan to raise oysters and prawns on a farm in Hakipuu, Oahu.

Many small fish farmers are raising prawns with stock and technical guidance from the Anuenue Fisheries Station, and apparently they're making money.

Fujimura said six Oahu farmers with a total 25 acres produced 43,900 pounds valued at about $144,650 last year.

He said several more farmers have stocked ponds since then and another 35 acres are being developed for stocking this summer.

A big venture in the offing is a 300-acre prawn farm planned by C. Brewer and Co. on Kauai. "That's going to go as far as I'm concerned," Fujimura commented.

He said the biggest problem in moving faster in aquaculture simply is money.

"Now that the industry is picking up they need more support. We're going to have to develop better technology so the risk will be less and costs would be reduced and they would make more money," he said.

"We have to do that to attract capital investment."

FORUM

the Readers' Page

A Particular Point of View

Aquaculture Could Benefit State

By D. Richard Neill

WILLIAM WALSH in "A Particular Point of View" in the Feb 2. Star-Bulletin takes reportedly a "hard look at aquaculture." Unfortunately, he overlooks some vital economic facts in simplistically challenging some of the present efforts to promote aquaculture.

He cites the limitations of producing "luxury items" for a limited market as his chief concern, and fails to see the larger picture. In brief, all of us will benefit from the new aquaculture industry in Hawaii by its provision of increased sources of tax revenues, and an improved economy as well as a reduction in unemployment and its related public costs. Let me point out that:

Jobs, tax revenue, and "export dollars" are seen as possible benefits to the State from aquaculture.

First, while aquaculture is not "labor intensive", it will generate about one direct job and 1½ indirect jobs per 10 acres of ponds for large scale producers, plus the usual economic multiplier factor operative in any economy.

Under a closed system method utilized at Tap Pryor's Kahuku Seafood Plantation, some 12 jobs are created on some 5 acres of land. C. Brewer on Kauai is moving ahead in developing some 300 acres of former sugar lands to fish ponds to grow prawns on land which has been unused for several years.

SECONDLY, his statement concerning a "small limited market" for high-priced "luxury items" overlooks the importance of a major export potential and significant "export dollars" needed for our State's overall economy.

In truth, the typical aquaculture product requires about twice the jobs as sugarcane, which currently employs only one worker per 22 acres in production.

For instance, one acre of prawns can generate nearly $10,000 income per year compared to $1,500 income per acre generated in 1975 by sugar exports. If 15 per cent of the present sugar cane lands were placed in, say prawn production (33,500 acres), this would generate the same export dollar income to the state as the 1976 sugar industry from 221,000 acres of sugar cane. Further, this 33,500 acres of aquaculture would require about 8,000 employes. Tap Pryor has one pending order for 500,000 oysters a month to a wholesaler on the Mainland which would mean some $600,000 per annum export dollars to our State at 10 cents an oyster . . . which can be produced on about 5 acres of land.

THIRDLY, as to tax revenue to the State, there would be increased property taxes from more productive valuable land . . . general excise taxes from sales of products will be significant and much needed . . . and finally, income taxes from the workers and owners or investors in the acquaculture farms will be considerable.

These are the vital sources of income to our State that we need to broaden our tax base and be less dependent on tourism, military, sugar and pineapple.

Finally, Mr. Walsh in his enthusiasm for reef fish potential overlooks the fact that aquaculture, mariculture and marine affairs in general are very much interrelated. For the first time, this area is being given priority attention by the Senate and House as well as the Governor.

D. Richard Neill

The Senate has assigned all these related items to the committee chaired by Sen. T.C. Yim. Sen. Yim has devoted considerable time and is quite knowledgeable in this field. Such efforts will not only help specific aquacultural efforts, but will strengthen the entire field of marine affairs as well. This includes areas of research in genetics, pathology, feed, et. al and those areas that are of particular concern to Mr. Walsh.

(Ed. Note: Mr. Neill is an assistant to Sen. Yim.)

IN CONCLUSION, while Mr. Walsh says he does not wish to "dampen the enthusiasm for aquaculture," his point of view and "hard look" adds little encouragement and is misleading. We need export dollars, increased tax revenue and jobs.

But we also hope that this new interest and industry will result in better seafood for our tables at lower prices either caught or grown here in Hawaii. Even the charge of producing "luxury food" is unfair as oysters at 10 cents each wholesale are a better "buy" food-value-wise and require less "feed" (inported) than a similar weight of grain fed beef.

Ours is a complex economy with no simple either/or solution possible . . . yet aquaculture does provide an exciting and significant potential for our Hawaii.

Hopefully this letter will reduce the number of hostile exchanges likely to occur as a result of Mr. Walsh's Feb. 2, "Point of View". The important point missed entirely by Mr. Walsh is the interrelationship between aquaculture, resource assessment and resource management.

★ ★ ★

Wildlife scientists come in many shapes and accomplish a variety of tasks. In an "Enlightened Ecologically Aware Society" the problem (overfishing) is identified by resource assessment.

Resource management and aquaculture then work together trying to correct the situation. This integrated approach was put forth last summer at the Food and Agriculture Organization Meeting on Aquaculture in Kyoto, Japan.

There is no reason for aquaculture and fisheries management to go separate ways. Both deal with similar problems. They just seek solutions by different means. Who knows, perhaps technological spin-offs from commercial prawn aquaculture could aid Hawaii's lobster fisher. Unfortunately, it will never happen if aquaculturist and wildlife scientist are pitted against one another.

Brad Peebles

A doctoral candidate in zoology, working on the behavioral ecology of prawns.

2/2/77 S-B

FORUM

the Readers' Page

A Particular Point of View

Hard Look at Aquaculture

By William Walsh

Walsh is a doctoral candidate in zoology at the University of Hawaii. He is now conducting field research on the behavorial ecology of reef fishes at Kealakekua Bay on the Big Island.

THE JAN. 23 edition of the Star-Bulletin and Advertiser carried an article entitled "Aquaculture Future Glowing, Report says." In the article State Sen. T.C. Yim lauded the prospects for aquaculture in the State, saying it will add jobs and millions of dollars to the State and help to make Hawaii the "Oceanographic Capital of the United States."

The intent of this article is not to dampen the enthusiasm being shown for aquaculture, but rather to bring into perspective the entire realm of marine resources and research in the State and how each affects the people of Hawaii.

First perhaps, it would be appropriate to consider just what benefits aquaculture provides and for whom. By its very nature, aquaculture is not a labor intensive industry; in fact, in any operation of this type, profit margin increases as manpower is reduced.

AS FOR the "crop" which will be harvested, it will most probably provide little benefit for the majority of Hawaii's residents. As on the Mainland, the more successful aquacultural endeavors have dealt not with low-priced, widely-consumed organisms (excepting catfish), but rather high-priced specialty items such as turtles and oysters.

Here in Hawaii the Malaysian prawn is a good example of this type of culture.

At $5 a pound, how many people in this State will benefit from this industry, excluding the businessmen who ultimately will operate the industry? This is not to say that large scale endeavors such as those proposed by Taylor Pryor could not provide a widely-available, reasonably-priced product, but rather that this has not generally been the case.

In recent years there has been a shift in consensus among biologists as to what role aquaculture will play in the coming years. Initially it was regarded as holding the bright promise of providing abundant supplies of reasonably priced aquatic foods to large numbers of the world's peoples.

Recently however, at least in the more technologically advanced nations, aquaculture is coming to be regarded increasingly on a more practical dollar and cents basis — providing small, limited markets with high-priced luxury items. This in itself is not a bad occurrence, but rather more closely reflects technological reality.

Marine research in the State should take many avenues in addition to aquaculture.

TODAY THE marine resources of the Islands, and particularly those of the inshore reef areas, are sadly overlooked and abused. There appears to be little concern on the part of the State governing bodies for the esthetic, recreational or economic value of these areas.

Resource regulation is, in many cases, inadequate and effective enforcement of conservation policies is virtually nonexistent. Research support for reef oriented studies is negligible. Even studies with obvious economic ramifications such as those concerning artificial reefs and the spawning seasons of inshore fishes have been regarded with little interest by the State.

More theoretical studies, often integral in wise resource management policies, appear to have little place in the grand scheme of State priorities. Likewise, State support for existing industries, such as that proposed for the aquaculture industry, is almost totally absent. Included in this category are the aquarium fish industry and the inshore commercial fisheries.

SUBMARINE SURVEYS of the deep reef areas of the Islands have indicated substantial stocks of food fishes and crustaceans almost totally unexploited at present. Little interest or support has been given to exploring the feasibility of utilizing these resources.

Without a broad basis of research interest, it is difficult if not impossible to construct intelligent management policies which will not only protect what resources we have, but to design and implement programs which will increase the quantity and quality of these resources.

IN TERMS of dollars and cents, this lack of adequate regulation and commitment to existing resources could prove costly. The sport diving, commercial and sport fishing industries contribute millions of dollars annually to the State's economy and provide a goodly number of jobs, to say nothing of the hours of recreational pleasures.

The deterioration of the inshore areas and concomitant loss of valuable resources is increasing at an alarming rate. Ask any oldtime fisherman about the decline of fish abundance, or the scarcity of lobster or opihi.

Longtime divers on the Big Island have told me they have seen a marked decline in many species of reef fishes in only the past decade. As Hawaii's population and urbanization continue to grow and additional demands are placed upon its marine resources, the deterioration will accelerate, unless a concerted effort is mounted to reverse the trend.

It would be a tragic mistake to obtain "oceanographic excellence" by success in aquaculture while permitting Hawaii's unique natural resources to be neglected. Our involvement with marine research must pursue many avenues.

AQUACULTURE '77—Prawn farms and the local harvesting of shrimp and other marketable seafood are enterprises that have yet to advance beyond the experimental backwaters into the mainstream of Hawaii's economy. This could be the year for rapid development in this field, however, and the Star-Bulletin's 1977 Progress Edition, takes a detailed look at the possibilities for growth. The special edition, which projects an outlook on many areas of Island life, has as its theme, "Pomaika'i '77," a hope for good fortune this year. The edition is due for publication Feb. 22.

Sting of the Se

The Rays Fly Through the Ocea

By AL STUMP
Herald-Examiner Staff Writer

For seagoing shocks, not much happening in Southland waters can match the troubles of scientists who work the area's rich abalone crop.

Lean and bronzed, they come to serve-and get ripped off.

Off San Clemente Island not long ago, State Fish and Game biologists had been diving for hours to capture a bagful of 50 "abs", to be tagged, transplanted and hopefully multiply.

But then the cry was raised. "Something's stealing our catch!"

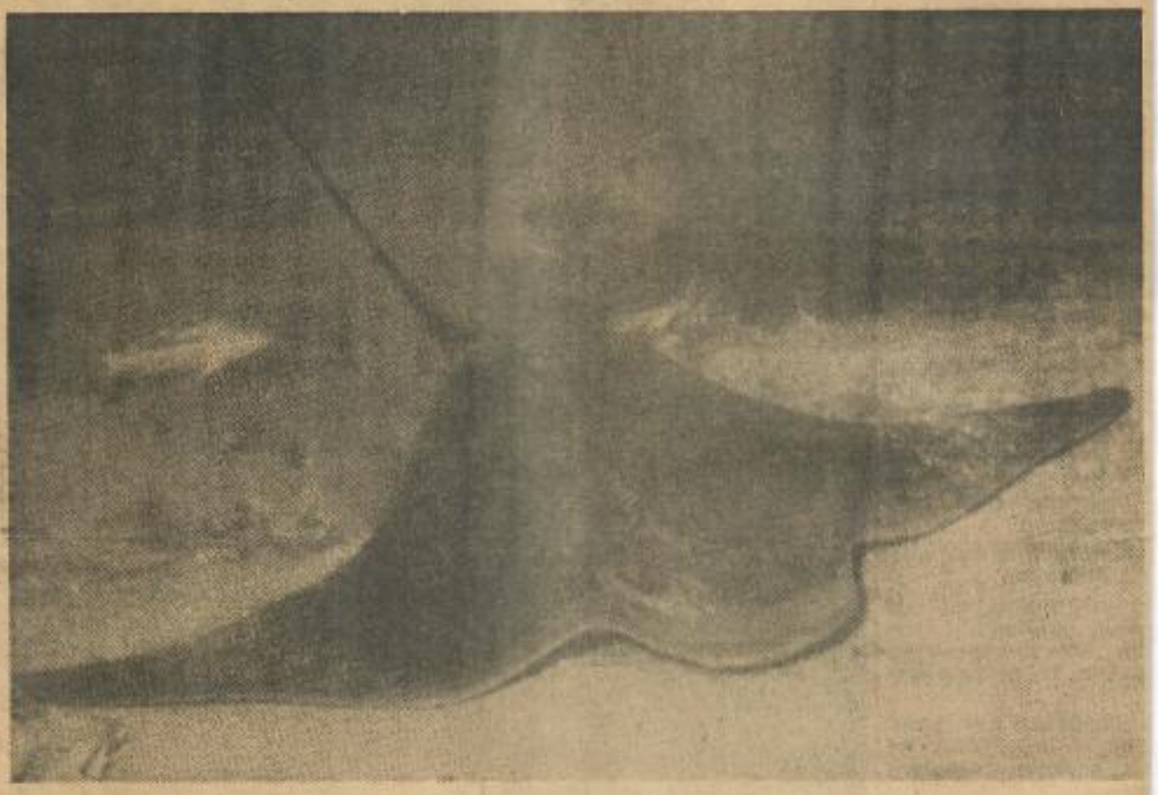
Before the crew's very goggles, the bag was under tow and rapidly disappearing into deep waters.

At a fast crawl, the divers went in pursuit.

But not for long — the Chase soon ended when they discovered the heister was none other than Myliobatis Californicus, otherwise known as "the Big Sting" and a heavyweight well worth avoiding.

They were going against the huge, fish-stealing and fun-loving batwing stingray of the south coast, who runs to eight feet in length, six feet of wingspan and upward of 200 pounds and who ranks as one of the strangest of Pacific marine creatures.

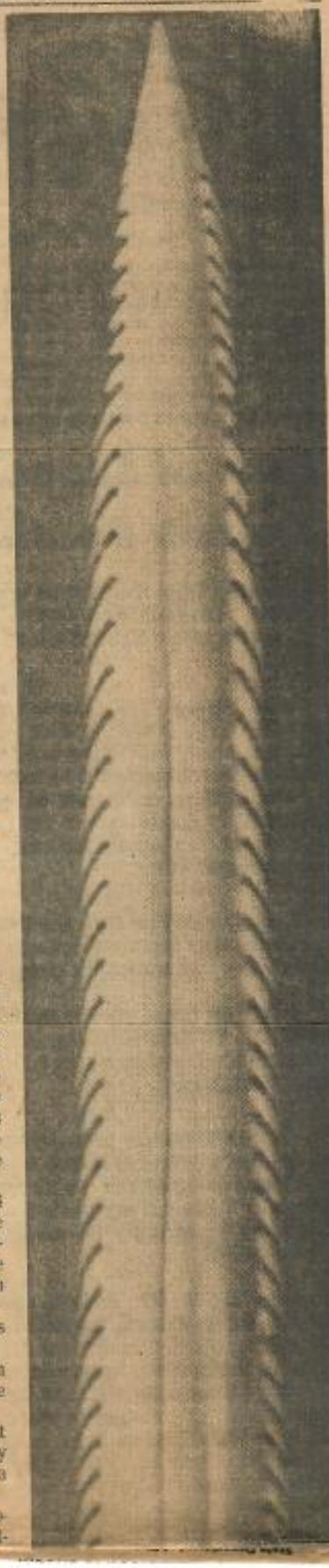
Near the whiplike tail of Myliobatis



The sinister appearance of the batwing stingray, above, can be enough to make even an experienced diver pull up short. But the batwing is a shy and retiring creature, not given to attack people unless provoked. The Torpedo Ray, right, is another resident of local waters. The Torpedo is "wired" by Mother Nature with cells that can deliver a potent electric shock

even Seas

an Packing a Punch



is the armament — a number of venom-filled stingers which can hospitalize an experienced swimmer. Or knock him cold, or leave him retching. Or, on occasion, kill someone.

Between Santa Barbara and Mexico, numerous species of rays abound, a few relatively harmless, and the state experts had no trouble identifying this fellow and to fall back as he flapped away with his abalone lunch.

"Rays are absolutely amazing animals," says leading scientist John Fitch.

"Their wings are powerful muscles, they can fly through the air or speed over the surface and their young are born fully equipped to nail you with a terrific jolt."

Fishermen of Baja California, for instance, swear they've seen humans enveloped by 25-foot-spread giants and smothered to death. Tales of men dragged to the bottom and devoured by the stonelike teeth of "devilfish" are in circulation.

On record is the death of a Huntington Beach boy who was hit in the stomach by a six-inch stinger in a shallow bay. An autopsy performed by Los Angeles neurologist Dr. Findlay Russell reportedly showed that another victim died of a heart attack.

Fortunately, most of the super rays, such as the diamond and eagle varieties, inhabit the depths, or at least hang out offshore of most beaches.

But one of the clan — the Torpedo, or electric ray — pops up in a variety of places.

The University of Southern California's marine laboratory head on Catalina Island, Bob Given, once tangled with a high-voltage Torpedo, wired by nature to electrically shock or kill his opponents. "I was knocked off my feet and across the deck of our boat," testifies Given. "It was like being stabbed with a knife.

"The wings are loaded with cells carrying the charges and this guy just folded them down and made a human socket out of me."

All of the "stingerees" are placid and don't attack people unless threatened. Their infliction of injury is purely a reflex stroke.

But even the common, 18-to 20-inch round stingray found abundantly within San Pedro Bay, along Seal Beach, the Newport region and the Rincon beaches to the immediate north of L.A., packs a wicked punch.

Snuggled into the sand, when stepped upon they flip their tail and strike in the ankle area or in the leg. The stinger is coated with a mucous substance which leads often to infection. Also nausea, fainting and vomiting.

"Toxic as hell," one biologist describes them.

During one measured summer period, more than 500 injuries by round rays occurred at Seal Beach alone and 474 other cases needing medical attention were reported.

Sharks have been found dead with several dozen ray barbs stuck in their jaws.

The flat oddities enjoy the L.A. coastline because of numerous warm-water-producing steam generating plants located along the fringe and the breakwater and estuarial hideouts afforded. "They're practically wall-to-wall in some places, yet people take few precautions to avoid them," says Dr. John Babel of Pasadena City College, a longtime student of the creatures.

"Lifeguards have hauled in 1,384 round rays in a single action. They've multiplied here so much that huge 200-foot nets have been used to make captures and a tractor on the beach employed to haul them away."

Even biologists get racked up, adds Babel.

"One of our boys once was stung in both feet at about the same time and he turned a weird yellow color.

"He was given an antidote, but when the barbs were pulled out they left the hole of the size made by a large-caliber bullet."

Because of their sinister appearance and the fact that tropical-

variety rays of such size that they scare skin divers into leaping for their boats are often seen locally, a host of anti-ray methods have been developed.

"We'd like to leave them alone, but when one as big as a kingsize bedspread comes at you, you need help," states state biologist and diver Doyle Hanan.

"Some of them are highly curious and they're also epipelagic, or surface-inhabitants. When a 220-pounder flops out of the kelp into your face—it's panic time.

"That—and the fact that they'll sneak in, seize a mesh bag of abalone or other specimens and swim off with it — makes the use of bang-stick necessary."

Bang sticks are spearlike weapons, often used against sharks, with a shotgun shell at the business end. They blow three-foot holes in the whopper rays and kill them.

To the north, oyster beds have been eaten down to the last shell by everything from eagle rays to batwings. "Only by sinking stakes in the seabed six inches apart can oyster farmers keep them out," says Ken Wilson of the state's marine division.

In retaliation, some fisherfolk stamp chunks of meat from the thick wings of rays and sell them to restaurants, where they're billed as scallops. Some seafood devotees call the chunks "delicious."

Pharmacologists rate the animal which mythology tells us stung Ulysses into his grave as the most venomous of all Pacific sealife-including the feared sculpin or scorpionfish and the various armed jellyfish.

If it's any comfort to the hundreds of citizens who'll be jolted the coming spring and summer, stingerees aren't as deadly as the yellow-bellied sea snakes of Central America—members of the cobra family and every bit as fatal as an Indian cobra.

Rays of the manta family have been sighted here—running to a ton in weight. Added warning: never sink a fishing hook in one. Your boat may be sunk—or towed to Panama.

Down in Australia, a young girl while swimming with her boyfriend was hospitalized with a deep wound in her chest. She died and murder charhes were filed against the youth.

However, a second autopsy was ordered and this time doctors found marks on the victim's thighs which had been inflicted by a Bathatoshia, a monster batray.

Charges against the boyfriend were dropped.

"Which is one ray of sunshine, if you'll pardon the quip," remarks a local doctor, "in a field which should be treated very seriously by anyone who visits the beaches here."

This stingray barb, magnified more than three times, was cut out of the tail of a very large ray found dead in the waters of the Sea of Cortez by some skin divers. The barb, six inches in length, is certainly long enough to inflict someone with a nasty, if not lethal, wound.

JAN 6, 1977
HONOLULU STAR-BULLETIN

Report Rips 'Feudal' Interior Department

BOISE, Idaho (AP) — The U.S. Department of Interior "resembles a feudal kingdom" and is generally viewed as "a dispenser of special favors for a variety of interests," according to a report written by President-elect Carter's presidential transition team.

The administrative report also said recent secretaries of Interior were seen as "lightweights" by other cabinet members and congressmen. The paper criticized "many unqualified political appointments (which) have been made during the past few years."

The seven-page paper on Interior's administrative problems is part of a briefing book assembled for Idaho Gov. Cecil Andrus, the Interior secretary-designate. The volume was put together by members of Carter's energy-natural resources transition section. Portions of the book were obtained by the Associated Press.

THE REPORT said the president-elect "is likely to pursue some early actions in the natural resources area, perhaps including an environmental message," to begin correcting Interior's problems and to set goals.

The Interior Department is in charge of federally owned land and the fish, wildlife, parks, water and minerals included in that land. Among the department's divisions are the Bureau of Indian Affairs, Bureau of Mines and the National Park Service.

The paper said the department is perceived as unhealthy by the states, which feel their views have been neglected; by the public, which feels it has not been consulted; and by private economic interests, "who have felt that resource management policies and regulations have been uncertain and fluctuating."

IN MANY CASES, the report said, directors of field and regional offices, which account for more than 90 per cent of the department's employes, "owe their jobs to and derive their support from local congressmen or private interests in the area."

"The Department of the Interior more resembles a feudal kingdom than a bureaucracy responsive to control from the top," it said.

The report said that because of bad administrative structure and archaic legislation governing some bureaus, recent secretaries of Interior have not been guided by any general policy in decision-making, but have tried to handle disputes one by one.

"CONSEQUENTLY, the Department of Interior is not looked upon with respect by anyone," the paper said. "It is viewed by everyone as a dispenser of special favors for a variety of interests, failing to chart a course and hold to it."

Dec 25, 1976 · S-B

Fencing in the Oceans

By Richard L. Worsnop

THE WORLD will suddenly seem much smaller on Jan. 1 for commercial fishermen. On that day Canada, Norway and the nine member countries of the European Community will establish 200-mile offshore zones in an effort to protect their endangered fisheries from further depletion. The United States plans to follow suit on March 1.

In each instance, the idea is to require foreign trawlers operating in a 200-mile zone to limit their catch to a specified tonnage. Canada already has gained acceptance of its zone in bilateral fisheries agreements negotiated with Norway, the Soviet Union, Poland, Spain and Portugal.

The fleets of these countries account for 88 per cent of all fish catches by foreign vessels in Canada's Atlantic zone and most of the foreign catch in the Pacific zone. Canada is aiming for a 47 per cent reduction in the amount of fishing foreign fleets can do in its protected waters.

Since the early 1960s, large automated factory ships from the Soviet Union and other maritime nations have severely reduced Atlantic populations of haddock, herring and yellow flounder, and U.S. experts believe it may take as many as 15 years to regenerate the stock of Pacific halibut.

The Soviet catch of mackerel off the British coast of Devon and Cornwall has risen in five years from 6,000 tons to nearly 30,000 tons annually.

THE GROWING restrictions on access to some of the world's most important fishing grounds is of particular concern to Japan. Last year, Japanese fishermen harvested 10.8 million metric tons of fish and other sea creatures from the world's waters. Of this amount almost half, or more than 4.5 million tons, was taken within 200 miles of another nation's shores.

Restrictions are being increased on access to some of the world's most important fishing grounds.

"We have no large domestic supply of protein such as your American beef cattle, for we simply cannot spare the land to raise them," a crewman of a Japanese whaling vessel told William Graves of The National Geographic.

"We depend for protein on what we harvest from the sea, and for centuries that has included whales." Japan and the Soviet Union are the only two countries that still operate world-wide whaling fleets, and the spread of 200-mile fishing zones is expected to limit the whalers' activities.

DISPUTES HAVE arisen between neighboring maritime countries over the boundaries of their fishing zones. Canada and the United States, for example, both claim an area of 10,671 square nautical miles off the coasts of Maine, New Brunswick and Nova Scotia.

The area comprises some of the world's most fertile fishing grounds. And the Soviet Union and Norway are at odds over rights to a stretch of sea straddling the approaches to an important Soviet naval base at Murmansk.

Britain and Ireland, meanwhile, want the other member nations of the European Community to grant them exclusive fishing rights up to 50 miles from the British and Irish coasts. Britain claims it needs this concession because its large commercial fishing fleet is about to have its access restricted in fishing areas outside European waters (mainly off Iceland and Norway) which have traditionally provided one-third of British catches.

Enforcement of fishing restrictions over such large areas will be difficult and may lead to ugly confrontations on the high seas. But the depletion of oceanic food resources made protective action inevitable.

Editorial Research Report

Oct 22, 71
S-B

Pilot Fish Hatchery Is Approved


Christopher Cobb

By Helen Altonn
Star-Bulletin Writer

The State Board of Land and Natural Resources yesterday approved execution of a contract with Oceanic Institute to plan and design a pilot fish hatchery at the Makapuu facility.

But board members carefully questioned the transaction and were unhappy when told the project "came from someone's pork barrel" during the last Legislature.

Christopher Cobb, board chairman, cautioned Michio Takata, director of the State DiVision of Fish and Game:

"WE OUGHT TO be looking at the next stage of this development and not leave it to pork barrel legislation."

Takata told the board $300,000 was authorized in the capital improvements budget to finance the hatchery for the institute.

He said the project is aimed primarily at developing production techniques for culture of mullet.

"The hatchery is anticipated as the first step to re-establish the mullet pond fishery whereby Hawaii's residents may benefit from entrepreneurial and employment opportunities," Tanaka said.

"IN ADDITION, the revival of coastal farming through the use and improvement of existing ponds by stocking with mullet fingerlings, the development of a mullet baitfish for the aku fishing industry, and the creation of a prototype for future large-scale fish hatchery operations for Pacific and Asian nations to emulate in meeting their protein demands, may result."

Board members asked Takata if Takuji Fujimura, chief of the State Fisheries Research Center at Sand Island, is involved in the program.

Takata said Fujimura feels the hatchery should be at Sand Island. However, he said Oceanic Institute has the technology for mullet rearing and Fujimura's expertise is in prawn production.

HE SAID HE went to the Oceanic Institute site as Cobb's representative with Hideto Kono, director of the State Department of Planning and Economic Development, "and after the briefing we felt it was better to put it there because it is primarily for mullet."

Takata conceded under questioning by the board that no one from his division was asked about the hatchery during the legislative session.

"We only found out about this after the act passed," he said.

HE SAID SOME legal questions were raised about the appropriation as a possible subsidy to a private organization and the matter was referred to the attorney general's office.

But he added, "There is some justification for it. The administration has taken a position on it."

Larry Mehau, Big Island board member, told Takata, "Let the people who engineered this whole project without your knowledge know your feelings . . . ."

TAKATA SAID THE project will be in two phases. The first involves plans and designs, estimated at at a cost of $34,000.

He said the contract with Oceanic Institute does not extend to construction, the second phase, estimated at a cost of $266,000.

Radioactive Cloud Passes Isles Again

The radioactive cloud created by the Sept. 26 Chinese nuclear explosion made its second pass over the Hawaiian Islands yesterday, causing the level of radiation in the air to jump.

According to Edward Kuramoto, environmental health specialist with the State Health Department, the air showed an unusually high level of radiation, but still far below what is considered significant.

The level yesterday was 9.77 pico curies per cubic meter of air, compared to an average of 0.4 pico curies.

TWO WEEKS AGO, when the cloud made its first pass over Hawaii, the highest reading was 6.12 pico curies.

Fifty is considered the danger level, Kuramoto said.

He stressed that the level yesterday was no cause for alarm, but added that it was the highest it has been in four years. .

The State Health Department takes daily air quality readings that measure the radiation in the air.

The radiation average over the weekend was 2.04 pico curies.

Kuramoto said he expected the level to drop back down today.

He didn't have any explanation as to why the radiation level was higher during the second pass.

CHEAP PROTEIN One of the most popular foods in Japan is whale meat, which tastes like beefsteak.

The Kujiraya (all whale) Restaurant in Tokyo serves whale meat to 300 customers per week and hopes to increase that number although Japan's whale quota this year has been cut from 32,000 to 28,000.

The Soviet Union and Japan are the world's two major whaling nations. Between them they account for 90% of the catch. Whale meat, which is rich in protein, accounts for about 9% of the meat eaten in Japan--50% is eaten by general consumers, 10% goes to school lunches, and the remaining 40% is canned. Because the average Japanese cannot afford cattle meat, Japan has to import an additional 30,000 tons of whale meat each year from the Soviet Union, Peru, and Iceland.

PARADE • OCTOBER 17, 1976

SEAWEED MESS—A large mass of seaweed has washed up on to Kailua Beach, causing problems for bathers. The largest pile of seaweed is near the Kailua boat ramp. City officials have scheduled the use of a crane and other equipment to remove the mess. —Star-Bulletin Photo by Ken Sakamoto.

Vaccine Shortage— Po

By LEW SCARR

LA JOLLA — Dr. Jonas Salk warns against fears of a polio epidemic — even though there is a national shortage of polio vaccine.

In fact, Salk, developer of the first polio vaccine, said virtually all of the cases of polio in the United States since 1973 have been caused by the vaccine itself (a live-virus vaccine and not his) and not because of any shortage.

Salk, in an interview, said there has been a cover-up of the inherent dangers in the live-virus vaccine developed by Dr. Albert Sabin and urged a return to the safer, killed-virus vaccine developed by Salk.

"The intelligent thing to do," he said, "is to wait until there are supplies of killed-virus vaccine available, that is to say, wait for vaccine that doesn't have the risk and one that you don't have liability problems with."

The vaccine shortage is caused by the refusal of Lederle Laboratories, the only drug manufacturer still producing polio vaccine in this country, to release the vaccine to the federal government for distribution until it can be sure public health departments will require that parents or guardians sign a statement that they understand the possible risks involved in using the live-virus vaccine.

The courts have held that in an "unavoidably unsafe" live-virus prescription drug such as the oral vaccine there must be a warning issued that is understood by the recipient.

Salk said that such a requirement is not necessary for the Salk killed-virus vaccine.

The oral, live-virus vaccine is used universally in the United States.

A spokesman at the federal Center for Disease Control in Atlanta, Ga., said that so far this year there have been eight cases of polio in the United States, seven of them paralytic.

The center has not been able to determine yet, and won't for several months, whether the cases are vaccine-related.

Schools Aided By Volunteers

Youngsters are back in the classroom and so are the school's VISA volunteers. Volunteers' experiences are as varied as the youngsters in the classroom. But here is a typical example of Agua Caliente School:

Claudia (fictious name) a fourth grader, was given the California test of basic skills last year. She scored at the top of the colunn in reading

youngsters who find stimulation in school and who stimulate the volunteers in return. As one said recently, this is a really rewarding experience.

Volunteers at Agua Caliente include Robert Hirsch, Mrs. Gladys Smith and Mrs. Olivia Bringas.

ALABAMA SOURCE

lio Fear Is Unfounded

Salk said that the problems with the withholding of polio vaccine and that of the swine influenza vaccine are directly related to the cases of polio he said were caused by the live-virus vaccine.

"When you have a safe vaccine — a killed-virus vaccine — and a live vaccine and they are both effective, then the question is why use the live vaccine with the associated risk," he said.

The Salk vaccine was introduced in 1953. The Sabin live-virus vaccine was introduced in 1961. They were used concurrently into the late 1960s.

Salk maintains that the live, attenuated (meaning tamed vaccine was introduced without the field trials which preceded use of his vaccine, "and it (live vaccine) was presumed to be fully safe."

"Evidently from the very outset that was not the case," Salk said. "More than 140 cases of polio have accumulated since it was introduced which have been vaccine-associated."

Salk said that while killed-virus polio vaccine is not used in this country, it is available, being manufactured in Canada with license for distribution in the United States.

The Salk killed-virus vaccine is injected.

"The fact that one is injected and one is given by mouth is trivial," Salk said, "because most vaccine is given by injection anyway."

Long-lost Plant Returns

HAWAI'I VOLCANOES NATIONAL PARK, Big Island — Meet *Canavalia Ka'uensis* St. John, a native legume missing so long in Hawai'i that any Hawaiian name it may have had is lost.

In fact, no one knew there was such a native bean until recently.

Canavalia Ka'uensis is back with us after an absence which may have been as long as 150 years. Seeds of the rare vine suddenly began to grow in the Ka'u desert region of this national park.

Thank Don Reeser, a National Park Service management ecologist who experimentally re-created the appropriate native Hawaiian growing conditions which permitted the unknown, dormant and long-buried seeds to sprout.

An experiment by Don Reeser, National Park Service ecologist, has resulted in the sprouting of a native plant after an absence of perhaps 150 years.

first turn native forests into grassland savannahs, and then eat off the grasses. In open desert areas with few trees, goats denude the vegetative cover to the point where shallow topsoils erode. In short, goats change the ecology of an area so that native plants can't grow.

Hawaiian plants never had the protective mechanisms to slow the goats down. They had no spines, thorns, chemical repellents or irritants, or unpalatability. And Hawaiian plants had no defense against excessive trampling by goat hoofs, and once trampled, seldom recovered.

REESER AND other scientists think that the now rare bean was once a dominant cover in the Ka'u desert. It was also "ice cream" — ready for the eating, defenseless — to the first goats on the desert, probably about 150 years ago.

Canavalia Ka'uensis was probably one of the first plants to go.

Once gone, with goats eating whatever came up, whether it was native or introduced, the winds kept this semi-arid region too dry for the bean seeds to germinate.

The bean seeds kept dry and wait-

These goats are the kind that destroyed the native bean of the Ka'u desert.

Tales of Old Hawaii

By Russ and Peg Apple

REESER DIDN'T know he would get even a bean — he wanted to see what would happen if a patch of ground in the windy Ka'u desert had a chance to grow naturally.

Now meet the villain: *Capra hircus* — the once domestic goat long gone wild in Hawai'i in quantity. Goats, perhaps for 150 years in the Ka'u desert, kept destroying the conditions under which the bean and other native Hawaiian plants could grow.

Goats in the islands are descendants of, and many generations removed from, the goats landed in Hawai'i by Cook, Vancouver and other explorers in the three decades before 1800.

EARLY EXPLORERS landed goats on the Hawaiian and other island groups to provide emergency food for subsequent expeditions which might need fresh meat.

Noble motive. But goats are hardy, sure-footed, adventurous and adapt to almost any rugged terrain. They seem to prefer semi-arid places like the Ka'u desert, but will feast on forests as well.

By eating the bark of trees, goats ing until 1969 and an ecologist's experiment.

REESER PUT a wire goat-proof fence around an area 30 by 300 feet (9 meters by 91 meters) at Kukalau-'ula, a place in the coastal cliff area where goats abounded.

When he fenced the ground, this part of the Ka'u desert was so heavily overgrazed by goats that the ground cover resembled a closely mowed lawn. Not a single native plant grew there. The "lawn" was composed mostly of two non-native grasses close-cropped by herds of goats.

Within two years there was a good ground cover within the fenced area, a rectangular patch of lush green on an otherwise light-colored, bare landscape.

But the lushness didn't extend as far as the fence. There was a two-feet wide barren space just inside the fence where the goats could get their heads through the wires and munch.

AS A GOOD scientist should, Reeser began to identify the plants. He found the native pili grass growing, but one plant, a legume, he couldn't key out or find in all his vast library of botanical books.

Reeser sent samples to Harold St. John, a botanist at the Bishop Museum and University of Hawaii, a man who had just revised the book on native Hawaiian legumes.

St. John was so excited — he had never seen the bean plant either — he came over to the Kukalau'ula enclosure to see for himself.

St. John's professional report on the new species (new to science, that is) was published in October, 1972.

Reeser has been chasing goats away from other areas where they once grazed in quantity. Acres of the Kaone area of the national park are now lush, and the long dormant seeds of Canavalia Ka'uensis in the Kaone area have germinated to help green this long barren land.

forum speaker

King discusses ecology topic

by JULIE BURKE
staff reporter

Ka Leo O Hawaii
Vol 1 #12
Oct 4, 1976

State Senator Jean King, Senate environmental committee chairman, outlined the major items that the legislature is working on in ecology during a forum sponsored by the UH Environmental Studies Program Sept. 29 at Dean 108.

First was the State General Plan, which is to be completed by the Department of Planning and Economic Development by 1978. The plan will set guidelines for social, economic, physical, design as well as environmental aspects of State policy.

KING also spoke about the Coastal Zone Management Plan, the purpose of which will be to define Hawaii's coastal zone. It may be possible under the plan to designate the whole state as coastal zone, which would allow Areas of Particular Concern for ecologically fragile areas to be set anywhere in the State, in which stringent ecological regulations would apply.

King emphasized the fact that Hawaii already has many good protection laws, which are not being enforced.

Two possible remedies are being discussed in legislative committees. One would allow citizens to sue the Federal Government for not enforcing the laws; and the other would form an Environmental Protection Corps to incorporate divisions, such as the forestry, and fish & game, which at present cannot enforce each other's laws.

KING also discussed methods of lessening the State's population. One possibility would be to restrict the number of homes that can be built every year. Another, which is seriously being considered, is restricting immigration from other states, she said.

Hawaii may be able to do this under the Health and Welfare clause of the U.S. Constitution, on the grounds that more people would be detrimental to the welfare of present residents.

Erosion scoops away 150 feet more

Kailua Beach getting

By BEVERLY CREAMER
Advertiser Staff Writer

Kailua Beach has always been coming and going.

But this time, people are worried that it may be leaving for good.

"The beach is washing away. It's been quite significant this year," said Ramon Duran, deputy director of the City Parks Department.

"Normally it washes in some part of the year and out another part of the year, usually about 50 feet. But this year we've lost 150 feet, I'd guess.

"And some of the ironwood trees planted 25 years ago have been toppling in."

To save the remaining trees, the Parks Department will move them back closer to the bathhouse within the next few weeks, as soon as a water line is installed to irrigate them, Duran said.

The biggest erosion area on the stretch of white beach that some people consider one of the best in the State is next to the boat-launching ramp, said Duran.

"The sand is eroding from the boat-launching ramp toward Kaneohe. I've talked to some of the property owners along Kailua Beach and they say they're also experiencing some erosion, more so than they have in the past.

"It seems as though it's affecting the whole length (of the beach)," he said. "However," he added, "the sand is piling up on the Lanikai side of the boat ramp."

In an attempt to discover why this is happening, how much sand has been lost and how it can be stopped, the Parks Department, which has jurisdiction over the public beach parks, and the Department of Transportation Harbors Division, which has jurisdiction over the water, have

Advertiser Oct 8, 1976

... smaller . . . and smaller

asked the Army Corps of Engineers to study the problem.

Scott Sullivan, project engineer for the study, says a report will be out in mid-December, but it may not tell why this new erosion pattern has occurred.

The Corps is starting with a low-budget, quick reconnaissance study of the situation which should tell them the extent of the problem and whether it justifies further studies and federal funds to correct, he said.

"The reconnaissance study just determines that yes, there is a problem," said Sullivan.

"It will take a more detailed, longer study to try to get a handle on the reason why."

Sullivan is tracing the history of the shoreline all along Kailua Beach to see how much erosion actually has occurred.

He's already put together a partial erosion pattern for the beach. In the early 1960s, he said, the Mokapu Peninsula end of the beach experienced considerable erosion. But now, he says, that end of the beach is building up.

Advertiser photo by Roy Ito

Ironwood trees planted 25 years ago on Kailua Beach are victims of the erosion that's been occurring over the past six months. No one can yet explain why the sand is leaving.

Offerings of Ohelo Berries

October 1, 76 B-3

Tales of Old Hawaii

By Russ and Peg Apple

KILAUEA SUMMIT, Hawaii — "Pele, here are your 'ohelo berries—some I offer to you, some I eat."

Offering 'ohelo berries to the volcano goddess Pele before taking any for personal use is a practice of long standing hereabouts.

On the theory that Tutu Pele now understands English, the presentation is often made today with words similiar to those quoted above.

In Hawaiian the proper words are "E Pele, aia ka 'ohelo 'au; e kaumaha aku wau 'ia oe, e 'ai ho'i 'au kekahi."

This Hawaiian practice first came to the world's attention in 1823 when Christian missionary William Ellis hiked here. He was hungry and thirsty and saw the low bushes loaded with berries as his party approached Kilauea crater.

In his book about his trip to Hawai'i Island, Ellis wrote that he acknowledged only the Christian god as the divine proprietor of the fruits of the earth.

ELLIS PICKED and ate 'ohelo without hesitation, and without ceremony.

His Hawaiian guides and porters became apprehensive.

"We are afraid. We shall be overtaken by some calamity before we leave this place," they said.

The ancient practice of offering ohelo berries to Pele is still observed.

About a year year later, high chiefess Kapiolani, a newly converted Christian, came here to defy Pele and by so doing lead her people away from ways she considered heathen. She wanted to show them the Christian god was all-powerful, especially in Kilauea crater, Pele's traditional home.

Kapiolani stood beside the rim of Kilauea crater, insulted the goddess, threw rocks into the pit, and ate 'ohelo without first offering some to Pele.

Still today, many Islanders—including some of non-Hawaiian ancestry—continue to offer berries to Pele. Their goal is a pot or small box full.

'Ohelo berries make good pies, sauces and jams.

The modern way is to pick a handful of berries and toss them toward the crater, saying the proper words. In more ancient times, Hawaiians broke off branches from the bushes, then took a branch over to the rim and threw it in with the proper words.

Park rangers frown on broken branches, but approve of the scattered handfuls of berries as method of seeding.

WHEN NENE, the native Hawaiian geese, were plentiful in this vicinity, 'ohelo berries were their favorite food.

'Ohelo berries are shiny, fleshy and about pea size. They come in various shades of red, but a few are yellow. There are related to the huckleberry, the blueberry and the cranberry. The plant itself, which resembles heather, thrives on the less weathered lava surfaces and beds of volcanic ash and cinders.

Berries ripen on a single plant almost simultaneously. Eaten raw, the berries are slightly astringent, but properly cooked with sugar added, 'ohelo is an island delicacy.

In the open clearings where they are plentiful, the bushes seldom reach a height of two feet. There's also a high-bush 'ohelo found in the rain forest that bears very bitter berries. Some island cooks add a few of these bitter berries to their pies, sauces and jams to make a special flavor.

The 'ohelo was ancient Hawai'i's best known berry, and the word when used by itself refers to the berries here, sacred to Pele. The white native strawberry, which also grows near Kilauea, and also food for the nene, was called 'ohelo-papa: The native beach shrub with berries which taste salty was called 'ohelo-kai.

In 1894, the blackberry was introduced to Hawai'i and promptly dubbed 'ohelo-ele'ele—the black 'ohelo.

Real 'ohelo also grows near the summit of Haleakala crater on Maui Island.

September 27, 1976 5-B

State Wants Decision

TH-3 Freeway Case to Supreme Court

By William Ringle
Gannett News Service

WASHINGTON — Is the Moanalua Valley "a beauteous natural wonder of great significance in Hawaiian history"?

Or is it an undeveloped site overgrown with vegetation, "of no local significance"?

E. Alvey Wright, Hawaii's transportation director, is urging the U.S. Supreme Court to decide.

Wright and his State Department of Transportation want to build a highway through the valley from Pearl Harbor to Kaneohe Marine Corps Air Station in the Honolulu metropolitan area.

HOWEVER, THE secretary of interior has dubbed the valley an historic site, a place of "local significance." A boulder with petroglyphs, or rock carvings, in the valley has been enrolled on the National Register of Historic Places.

As a result, judges of the 9th Circuit Court of Appeals have decided, federal protection is applicable. This is provided by a law forbidding the secretary of transportation from building any highway that would claim land of "national, state or local significance."

It is from this ruling that Wright is appealing to the high court.

THE COURT OF Appeals majority called the valley a "beauteous natural wonder that many believe to be of great significance in Hawaiian history . . ." It contains "Kamanui, the valley of the great power, and Waolani, the valley of the spirits, which was, in tradition, the 'dwelling place of the gods,' " they said.

The valley is privately owned. Studies done for the trustees of the Damon estate, which owns it, said that, while it could be developed into an attractive garden area, "its botany, wildlife and archaeology, with the exception of the petroglyph rock . . . were of no particular significance." Hawaiian State officials also had earlier determined the valley to be of no "local significance."

The secretary of interior in his ruling had found that it was of "local significance," but of no "national significance."

WRIGHT'S ARGUMENT is that, if local officials find that an area is of no historic significance, the secretary of the interior should not make a contrary finding. That was not the intent of the law barring highway projects in places of historic significance, he says.

This "rides roughshod over the traditional federal-State relationships," he contends. "The case presents another example of the improper interference with the delicate balance between federal and State relations which has occupied this court's attention on a number of recent occasions."

The petroglyphs would have been subject ian any event to a special agreement that would have satisfactorily protected it in its present location. But Wright says the rock is an "object" and not "land" or a "site" and the rock is not being "used" in the highway project, so that the law barring the highway would not have applied to the rock.

THE COURT OF Appeals disagreed. The rock, known as Pohaku ka Luahine, the traditionally sacred rock, shows 22 carvings which have been identified as human figures and bird men. There are only 10 known petroglyph sites on Oahu and only three such free-standing boulders in the entire State. The rock — 11 by 8 by 6 feet — is the largest free-standing boulder on Oahu.

Federal Judge Samuel P. King had upheld the State's view that the law did not bar the highway. As for the rock, he said that it had been bulldozed from an original site, so there is no reason why it could not be moved again.

However, he was reversed by the 2-1 appeals court vote. The single dissenter, Judge J. Clifford Wallace, said he believed that the law intended that local and State officials determine the "local" historic significance and that the secretary of interior determine only the "national" significance of a site. But he also said that the District Court had not developed enough information, and that the case should be returned to that court.

Moanalua Valley had been selected for the highway, between the island's leeward and windward sides, because a Kalihi Valley route favored earlier would have passed through a populated area. The Moanalua valley route would avoid displacing residents and prevent an increase in congestion on already-overcrowded highways.

The high court's justices will decide, after they return Oct. 4 from their summer recess, whether to review the case.

9/25/76

Country Hotel in Kona

Tales of Old Hawaii

By Russ and Peg Apple

CAPTAIN COOK, Kona — No, there's no danger that the main Manago Hotel building will come down. It's still structurally sound as well as being an early 20th century architectural gem on the Big Island's Kona coast.

Harold Manago, manager and co-owner with his wife Nancy, intends to preserve and continue to use the main building, built in 1929 by his late father, Kinzo Manago.

Mrs. Kinzo Manago still raises daikon and other vegetables in her garden just seaward of the hotel. Her produce is used daily in the hotel dining room.

NANCY MANAGO takes care of the orchids and other plants that crowd the open space between the main building and the 1966 annex. She cooks seven days a week in the hotel kitchen, but finds time each day for her orchids.

A third generation Manago is standing in the wings to someday take over the family hotel. Dwight Manago, son of Harold and Nancy, is a hotel management graduate from the University of Hawaii and is presently assistant food and beverage manager at the Hawaiian Regent hotel in Waikiki.

The Manago Hotel, founded in 1907, has become an institution in Kona.

Thus a hotel institution founded in 1907 and a hotel structure built in 1929 by Kinzo Manago have a good chance of lasting for future visitors to Kona to enjoy.

KINZO, born in 1891 in Fukuoka Province, Japan, came to Hawaii when he was 16 years old as a contract laborer. He landed at Honuapo, Ka'u, this island, and soon moved to Kona where he learned to cook for the Wallaces, an English family who lived in Kealakekua.

Wallace lent Kinzo the money to start a restaurant. It soon turned into a three-room hotel, then went to six, and finally a 12-room hotel.

Manago's hotel business was so successful that by 1929, engineer Frank Arakawa was hired to design what is today the main building. T. Yamane of Hilo was the contractor and Theo. H. Davies, Ltd., supplied the materials.

MANAGO HOTEL'S main building has 55 pillows and community bathrooms. The 1966 annex — reached by a bridge over Nancy's orchids — has 20 rooms, each with bath. Twelve of the rooms have private lanais which overlook a considerable stretch of the south Kona coast.

In addition to the 55 pillows upstairs, the main floor of the main building houses the bar, office, lobby, kitchen, main dining room and a zashiki, a private dining room with goza mats and a low table which feeds up to 50 people Japanese style.

In the zashiki, there are no holes in the floor to accommodate legs for those who desire Western style comfort while setting. Regular tables and chairs hold 45 people in the main dining room.

SINCE 1907, Japanese and American foods have been the speciality of the Manago cooking.

When Osame Nagata came from Fukuoka Province as a picture bride in 1912 to marry Kinzo Manago, she added her knowledge of Japanese foods and cooking. Kinzo had learned Western style cooking at the Wallaces. They also feature local delicacies, such as 'akule, ahi, 'u'u, weke, and 'opelu from Kona waters.

Miso soup is always available at breakfast — a tradition started in the 1920s by traveling salesmen who wanted it to help cure their hangovers. In those days they used to occupy the lobby for card playing and drinking until the kitchen opened for breakfast.

TODAY THE LOBBY is for TV viewing — big comfortable rattan chairs are in theater-like rows. A sign on the set says it is to be turned off at 10 p.m., for Harold and Nancy Manago like their sleep and don't want to be bothered by evening duties after they close the kitchen.

Another sign in the lobby says, "Last person in the TV room: please turn off the light and TV and close the door."

Late evening guests with reservations find their keys hanging in the hall off the office — their names and room numbers taped to the keys. They sign the register book in the morning.

the small society by Brickman

Master plan for Mauna Kea: Public hearings win support

By HUGH CLARK
Advertiser Big Island Bureau

HILO — Two members of the State Board of Land and Natural Resources yesterday pledged support for public hearings on a master plan for Mauna Kea's summit before a program is adopted later this year.

The pledges came during a County and State meeting to discuss differences over future uses and development of Hawaii's tallest mountain.

BOARD MEMBER Larry Mehau of the Big Island also said he agreed with many of the County's objections to the Department of Land and Natural Resources staff proposal for a master plan.

The staff proposal varies greatly with a proposal adopted in March by the Mauna Kea Advisory Committee, composed of Hawaii County officials and representatives of 17 organizations that use or have special concerns for the mountain.

"I think the County raised some good points. I wished we had gotten together in the first place," Mehau commented after the meeting.

He promised to move for a public hearing on the plan when the land board meets next Friday on Maui. Such a hearing, if approved by the six-member board, could not be conducted any sooner than three weeks later.

OBJECTIONS to the staff report were presented by County Managing Director John P. Keppeler and Corporation Counsel Clifford Lum.

They also asked for more time to make a detailed study of the draft, received by the County only Tuesday afternoon.

At the outset of the meeting, Board Chairman Christopher Cobb said public testimony would not be taken yesterday.

KEPPELER

The meeting was conducted by the land board in response to a request for one last month by Big Island Mayor Herbert Matayoshi.

But Cobb added that he would recommend to the full board that a hearing be held.

Yesterday's session turned out to be technically informal, since only three members of the board attended—not enough for a quorum.

Mehau said one land board member was detained by a death in his family; another was unable to attend because of business commitments.

KEPPELER CITED the County's major objections as:

- Disagreement with removal of mammals from the mountain, ending hunting opportunities there.

"There are many reasons for the decline of the mamane forest — not only sheep," he testified.

- Disagreement with a staff recommendation to leave the future number of telescopes on the summit indefinite.

"We strongly urge that the number . . . be limited to the number presently on top of Mauna Kea (six)," Keppeler said.

- The State's failure to provide for a plan to remove observatory facilities from the mountain when they become obsolete or are abandonded because of policy changes of funding cutbacks.

Citing a concrete pad left on the mountaintop by University of Arizona after a site had been abandoned, Keppeler said the County wants a performance bond required of observatory builders to assure ultimate removal of facilities.

- The designation of the University of Hawaii as the agency responsible for preparing a master plan for use of Hale Pohaku, where midlevel support facilities are expected to be developed.

In Sherwood Forest Area

Archaeology Survey Moving Slowly

Archaeological survey work in the Sherwood Forest area of Waimanalo is progressing slowly. A State official says it will take at least a year before the scenic Windward spot can become a State park.

Park construction has been held up while archaeologists comb the area for signs of ancient Hawaiian life.

The area, believed to be one of the oldest Hawaiian settlements in the Islands, is listed in the National Register of Historic Places.

Tuesday the Archaeological Research Center of Hawaii completed taking boring samples from the areas of planned construction. These samples will be analyzed. Following that a new contract must be let for the final intensive archaeological survey and salvage work.

GENE RENARD, A landscape architect with the State Parks Division,said the preliminary survey work and contract preparation for the intensive survey and archaeological salvage work are expected to take about six months to complete.

Renard said the area, long used as an informal garbage dump by nearby residents, is still strewn with years of litter.

He explained that the garbage has to be moved with cranes and bulldozers and such heavy equipment can't be used in the area until the archaeological work has been completed.

BECAUSE OF THE difficulties over the wording in the contract for the preliminary survey and the problem of getting the $42,000 needed for the survey, it has taken five months to reach this stage.

Renard, however, predicted that a park can be finished in the Sherwood Forest area in about 14 months.

Kailua's fish are running-- fishermen, too

By BEVERLY CREAMER
Advertiser Staff Writer

Polaroid glasses shading their eyes, chests bare to the sun, Hawaiian throw nets held ready for action, the men line the bridge over Kaelepulu stream in Kailua and peer intently down into the water.

They're watching for the fish: the awa, the awaawa, the papio, mullet, barracuda, holiholi, palani and puala — even Samoan crab — that will be making their appearance now that the stream running into Kailua Bay has been opened.

Each fall, as the water levels in Enchanted Lake and Kaelepulu Stream rise with the increasing winter rains, the City and County Road Division of the Public Works Department opens the stream as a flood control measure.

AS SOON AS THE STREAM is open — allowing sea fish to swim up to the pond to spawn and those in the pond to head back out to sea — the net fishermen are there. The word goes out "like Hawaiian drums" says one fisherman and some even call in sick to their jobs so they can go fishing.

That all happened yesterday. As a big City and County bulldozer broke through the sand dike to the ocean and allowed clear, blue sea water to flood in, the fishermen were already assembling.

Some had been there waiting on the bridge since 5 a.m. Others drifted in later, to give their nets a few last minute mends and break out the beer — dreaming of catching fish up to 30 pounds and more than four feet long.

The stream mouth will stay open two or three weeks before it automatically closes up again because of wave action. During that time the fishermen will take up residence every day and night on the bridge next to Buzz's Steak House in Kailua.

"When that mouth opens we're down here 24 hours a day, even when it's raining," says Windy Lorenzo, who sews his own Hawaiian throw nets. When it does rain they'll don slickers and rain hats and continue to fish.

"THE WIVES BRING breakfast, lunch and dinner; we got it all worked out," grinned Lorenzo. "We sleep on the bridge, in the car."

The polaroid sunglasses they wear screen out the sun's glare and enable the fishermen to see the bottom of the stream, even when the water's murky.

To the untrained eye, there's nothing but water down below the bridge, but when you have "fishing eye" as they call it, you can see the dark shadows below the surface and interpret every little ripple.

"Like us," says Kimo, who won't tell his last name because he's supposed to be at work, "we can tell what fish are coming down. Like the awa, it moves fast." The papio, however, runs when there's no noise and stays away from the bridge during daytime hours when there's a lot of traffic on it. They're easiest to catch at night — by the light of the moon — when the bridge is quiet, Kimo says.

Advertiser photo by Ron Jett

Ready for the pot: Windy Lorenzo holds up his catch.

The only fish they don't go after is the legendary "Big Blackie," a seven-foot barracuda that the fishermen say lives in the stream and occasionally "dares" them to try and catch it.

"NO ONE WANTS to throw on him," says Lorenzo. He'd rip their nets, they say, and maybe even come after them.

Anything else is fair game to the fishermen. "I would put it this way," says Kimo, "any fish passes us is good. It's all eatable."

"If you can't fry 'em, make soup. If you can't make soup, eat 'em raw," says Lorenzo.

But to be a successful fisherman you've gotta be fast with the net — "like one Wyatt Earp," says Kimo.

"You slow, you lose."

"But if you have the hot hand, no one can stop you."

One of the best fishermen, and the man that the others call "River Hawk," is a fellow named Whitey Neilsen who spends every day of the year fishing the stream. Though he's a "haole" in a traditional Hawaiian recreation, he's earned everyone's respect. "He's good," says Kimo. "A lot of guys learn from him. He's the grand-daddy over here."

IN THE SHADE OF Buzz's Steak House lanai, Whitey helps other fishermen mend their nets as they share pupus of Portuguese sweet bread and mayonnaise. A grizzled white beard shades his face and his long dirty blond hair is pushed back by a sun visor that says "Whaler's Pub."

When the fish are "running" — when the tide's coming in, bringing the silver bodies with it to spawn — you'll often find up to 50 fishermen lining the bridge and the shore.

Some stand with one foot balanced on the railing and one on the barricade to get a better shot with their nets. When they get a big catch, the fishermen will sometimes leap over the bridge into the water to pull it in.

On a good day they can catch 50 or 60 fish, say the diehards who refuse to leave while the stream is still open. Many they give away or sell but the rest are stocked in home freezers or barbecued right on the beach.

OCCASIONALLY, EVEN WHEN the stream mouth is open, the fish will inexplicably disappear. That's when the fishermen suspect someone further upstream has stretched a net across. Under cover of night they'll go looking for that net and clip it, they say.

Their catches are treated with care, put into mesh nets and hung from the bridge in the water until they're ready to take them home. Others are plopped into the plastic buckets where the fishermen keep their nets when they're not in use.

The nets will even catch the mean Samoan crabs, say the fishermen. But what you have to do to nab crabs is poke them with a stick or an oar until they come out of the sand and grab for it. Then you entangle them in the net.

Lorenzo gave a good demonstration of the technique yesterday, wading thigh deep in the waters near the bridge and poking the bottom gingerly with an oar to unearth a crab he thought he saw. When it grabbed the oar and started pulling he let out a victory whoop and dragged it to shore in the net.

Fish aren't the only things the fishermen drag to shore. Occasionally they've rescued children who've been playing in the stream and been sucked out in the current near the mouth.

"We're like baby-sitters," says Kimo. "The parents come down, fall asleep and say 'let the fishermen watch 'em.' "

But the fishermen don't seem to mind too much. It's all part of the day's catch.

Matilda Anzai

Ownership Claim

Mokauea

By Keith Haugen
Star-Bulletin Writer

Matilda K. Kupihea Anzai claims to own Kahakaaulana Island and wants rent from 10 persons who live there.

The residents claim there is no such place as Kahakaaulana Island — that the islet by that name was dredged out of existence more than 30 years ago — and that they are living on an island called Mokauea.

Anzai, who said she is the sole heir to former owners of the Island, took her claims to court in July asking for rent. The residents secured the services of the Legal Aid Society and filed counterclaims against Anzai.

And, while the residents and their attorney, Linda-Mei Leong, openly admit they believe the State to be the legal owner of the Island, Leong refused to state that in District Court yesterday.

JUDGE ROBERT K. Richard[illegible] cautioned the attorneys and both parties in July that, if the case becomes a question of title to the land, he would not hear the case and it would be bound over to the Circuit Court.

Yesterday, Richardson repeatedly asked Leong if she believed the State to be the owner of the island on which her clients lived. And if so, he questioned why she had not brought the State in as a party to the case.

She repeatedly stressed that the claim to ownership was on the part of Anzai and that her clients made no claim to the island.

Dispute Back in Court

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Anzai's attorney, Charles Silva, said he feels it is simply a question under the Landlord-Tenant Code and if the residents of the island do not claim ownership or contest Anzai's claim, then the matter is simply one of their nonpayment of rent.

IT APPEARS THE State, which has for some time tried to evict the island residents as "squatters," intends to let Anzai do it for them, then settle the matter of ownership with her. Title to the island has been taken to court before and, in 1959, the Circuit Court ruled that David Malo Kupihea, Anzai's grandfather, had no claim to it.

Richardson halted the proceedings yesterday by pointing out that Leong had not complied with a rule requiring an affidavit from her clients regarding their position in the case.

He gave Leong two weeks in which to present the court with such an affidavit in which her clients will either have to state their claim to the island or say who they believe owns the land on which they live.

It will then become a title question and likely will be moved to the Circuit Court.

THE STATE HAS long tried to evict the fishermen and, in June 1975 burned five of ths shacks on the island. Those who left at that time have since returned and rebuilt or moved into other temporary buildings.

Some 30 people now live at least part time on the island. Most are fishermen and some have lived there for more than 20 years.

Ethel Dickens, secretary of the Mokauea Fishermen's Association, in a news release yesterday, said Mokauea island is State-owned. She also said E. Alvey Wright, State transportation director, had encouraged Anzai to "press land claims."

Sea Drilling Planned off Hawaii

Deep holes will be drilled into the seabeds around Hawaii next summer by scientific teams aboard the ship Glomar Challenger.

The University of Hawaii's Institute of Geophysics plays a role in the ongoing survey project that moves later this month to Atlantic waters between the Canary Islands and Portugal.

Scripps Institute of Oceanography heads the Deep Sea Drilling Project, as it is called.

CHARLES Helsley, the new director of the Hawaii Institute of Geophysics, says the Glomar Challenger will move into the Pacific next April for drilling north of the Galapagos Islands.

Hawaii probes follow, he said, with plans to drill into seabeds northwest, southwest and east of the Islands.

Later the ship will head for Japanese waters for more drilling with the assist of Russian scientists.

THE DEEPEST penetration in the Atlantic has been 5,709 feet off Portugal during a recent survey. Each drilling operation is called a leg and takes two months.

Glomar Challenger, which has been to Honolulu several times in past years, is now on its 50th voyage.

Helsley said the main purpose of drilling is to determine the chemistry of the Earth's crust. While drilling may uncover economic assets, work is not done purely for economic purposes.

THE HOLES OFF the Canaries will be to a depth of about 10,000 feet.

The Mohole project, dropped by Congress because of costs in 1967, aimed to penetrate 15,000 feet of crust under an ocean depth of 15,000 feet of water.

The Mohole hole was to be north of Maui.

Mystery at Sea

Sept 10, 1976
S-B

Toxic Substance Burns Three Men

By Harold Morse
Star-Bulletin Writer

Three men who were burned this week by chemicals in canisters they dredged up from the sea bottom near Pearl Harbor aren't talking, but they have retained an attorney.

The three victims, believed to be in comparatively good health after their experience, are William W. English of Kokokahi Place, Kaneohe, owner and captain of the Irene Kay, the fishing boat the trio was aboard; Lewis Aplington of Huali Street, Punchbowl, and Paul J. Struhsaker of Huelani Drive, Manoa.

Their attorney is Ian L. Mattoch. He could not be reached for comment.

THEY NAVY SAID the men were involved in dredging about five miles from the entrance of Pearl Harbor.

A contract had been awarded by the Army Corps of Engineers for a survey of that area for a possible silt-dumping site, the Navy said.

It added that the three were doing this work under a subcontract awarded by Neighbor Island Consultants, which has the main contract from the Army Corps of Engineers.

Dredging silt and dumping it at sea is part of routine maintenance for harbors and channels, the Navy said.

A Navy ordnance disposal team was unable to determine the content of the toxic substance from the few traces of it left aboard the vessel and the boat was decontaminated, the Navy said.

English, Aplington and Struhsaker dredged seven canisters Monday from depths of 1,500 feet.

AFTER BRINGING the canisters aboard, they reportedly began to have trouble breathing and developed headaches. They threw six of the canisters overboard, retaining one to be analyzed for its chemical content. They finally threw the last canister into the ocean.

The next day, they reportedly began to blister and burn.

The Navy confirmed that the victims had received burns.

It said the toxic chemical which caused the burns and was removed from the vessel does not represent a danger to the public.

One Navy man said the canisters may have been dumped at the end of World War II.

Navy specialists ran tests on the chemical traces picked up off the boat, but the samples decomposed so quickly it was impossible to obtain any readings, the Navy said.

"That's why were were just referring to it as a chemical agent," an information officer explained.

Boat Under Test Here May Meet Special Requirements of Pacific Isle Fishermen

By Jerry Tune
Star-Bulletin Writer

A new boat design may provide lower costs for Pacific fishermen who want to go out on longer trips in order to expand their catches.

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The design, developed by the International Center for Living Aquatic Resources Management (ICLARM), will be tested in Kaneohe Bay at the Hawaii Institute of Marine Biology and later by the Sea Grant extension program on Molokai.

"Historically, the Pacific Islander satisfied his protein requirements by fishing from an outrigger canoe between the shore and the protective reef of his island, setting lines, laying traps or casting nets," explained Philip Helfrich, center director.

"Then, after World War II, many island populations began increasing dramatically, and lagoon fishing no longer met the growing demand for food. Although vast, under-utilized fish stocks swam in the ocean beyond the reef, Pacific Islanders became not only food importers but fish importers."

HE ADDED, as an example, that Western Samoa has been importing more than $1 million worth of canned fish each year since 1974.

The problem with most of the new boats, Helfrich said in an interview, is that they are designed for speed and therefore require engines ranging from 30 to 200 horsepower. Fuel costs are therefore high.

Where most of the past designs had engines of 50 or more horsepower, the center design team chose a Briggs & Stratton inboard engine of 16 horsepower.

"It had been widely used in Southeast Asia the past 20 years, but not in boats in the Pacific," Helfrich said. "It is air-cooled and gasoline-driven but can readily be converted to kerosene, an important factor in many parts of the Pacific where kerosene is half the cost of gasoline."

AN AIR-COOLED diesel engine of comparable horsepower also has been adapted to the design.

Helfrich said the craft can achieve better than eight knots with a crew of three. When fully loaded and carrying a crew of four, the boat can still travel better than seven knots.

While the center's major interest is in the developing nations, the new boat design also should be of interest to fishermen on Molokai because of their needs, he said.

The center's design is 20 feet long with a seven-foot beam. While accepting slower speeds, the design team rejected planing hulls and chose a displacement hull common to energy-efficient sailboats and the Atlantic coast sea skiffs.

THIS HULL has a sharp entry and a flat keel forward which becomes progressively rounded toward the stern.

Located amidship are two styrofoam-insulated boxes, each of which can hold 500 pounds.

Helfrich said this is considerably more than the average catch per trip recorded in studies of the Pacific village fishermen.

"I used to worry about the uncertain future. Now I worry about the certain future."

FUEL SAVER—New fishing boat undergoing Kaneohe tests uses a 16-horsepower inboard engine which can be converted to kerosene.

Big Island tourism:

By HUGH CLARK
Advertiser Big Isle Bureau

HILO—The poor state of the tourist industry on the Big Island is a growing concern that almost every political candidate is seeking to address this election year.

High unemployment, low room occupancy and almost stagnant visitor growth seemed for a time to bother only the business community.

Now it is everyone's concern. The misgivings about tourism's becoming the island's No. 1 industry have faded rapidly with the deepening realization that the big promise the visitor industry carried in the 1960s simply has not materialized.

Everything from Hilo's rain to the geologically youthful nature of the Big Island—few sandy beaches—has been blamed.

BOTH DEMOCRATIC mayoral candidates have gone to great pains to discuss tourism and their answers to improve business. Their November opponent has blamed too many years of Democratic rule for the poor tourist picture as well as most other problems of life in Hawaii County.

AGAINST HIVIA'S problems is the more pressing and growing unemployment factor. It hit 11.7 per cent in July, the worst level yet. Job scarcity hardly contributes to the aloha spirit folks say is needed to attract and keep tourists.

Crime against property is up alarmingly, says Police Chief Guy Paul, who cites a 20 per cent faster

news analysis

growth than expected this year alone. He believes some Big Islanders have sought to remedy their lack of affluence by stealing.

The once-mellowing problem of adjustment between the "locals" and the "haole hippies" is festering again because of the competition for jobs. There's a popular claim that long-haired youths, or just plain youths, are lazy and would rather live on welfare. The fact is becoming more obvious that welfare may be more a necessity than a choice.

economic futures, he adds. He does not identify what those alternatives might be, however.

One of his opponents, a onetime personal and professional friend, charged that Levin's position was nonsensical. Attorney Steven K. Christensen argues tourism provides one of the few options for new jobs. Besides, he said, these jobs are a lot more attractive than factory or mining work that looms as the best choices for many Mainlanders.

Ka'u Council candidate Andy Baclig last week asked for a study of the occupancy problem by outside consultants. At-large Council hopeful Sheridan Kobayashi urges caution in determining future tourist development. "Let's sell the Big Island as 'the Hawaii unspoiled,' " he said.

BUT CANDIDATE Roland Higashio wants to consider increasing HIVIA's subsidy and to expand the staffing of the research and development department to handle more tourism needs and concerns.

And so it goes. But for all the differences, there are some similarities coming through that are worth not-

The problems mount

ing, even between Matayoshi and Carpenter.

In his paper, Matayoshi called for promotional campaigns that emphasize "not what the Big Island should be but what it is. We cannot and should not pattern our promotional efforts along the line of a Kanaapali or a Waikiki. The physical amenities are starkly different. We should recognize that."

Carpenter says to offer Mainlanders the "real Hawaii," not the plastic and concrete world of Waikiki." This can be done by informing the visitor of attractions often missed. Then, he won't go home saying, "Hilo has nothing to offer," the two-term councilman reasons.

KOBAYASHI, who flatly claims tourism never will replace agriculture as the primary Big Island industry, says the Big Island simply isn't endowed with what attracts tourists.

Visitors want white sand beaches, sunshine and night activities. "We may have one or two of these attributes but not all of them," he says.

concern that with sugar p... ing and hotel rooms sitting vacant, the Big Island is awry economically.

The Hawaii Island Visitors Industry Association, better known on the Big Island these days simply as HIVIA (hy-vee-a), is the focal point of what promotion that might be done.

HIVIA has had trouble gaining financial support for the attractions that were supposed to rival Kanaapali on Maui and Waikiki on Oahu for the visitor.

SIGNIFICANT numbers of hotels, airlines and ground travel firms have elected not to join the effort spearheaded by United Airlines, Interisland Resort Hotels and Slim Holt Tours, three of the biggest operators in their respective lines.

Two HIVIA executives have come and gone without demonstrated success. Now-departing Scott Stone claims he at least got HIVIA out of debt. He did so by canceling consumer advertising this year.

HIVIA used to underwrite a more than $300,000-a-year program with United Airlines. UAL did not renew the consumer ads this year and HIVIA was left without a partner.

Hawaii County, meanwhile, is the chief source of funding support for HIVIA. For three successive years, the County has squeezed $100,000 out of each operating budget for HIVIA to spend.

This is more than all the industry combined has raised in hard dollars. The initial concept of private industry minimally matching the governmental contribution has been pushed to the wayside.

arrivals were up by just ...

This has caused maverick hotel executive Serge D'Rovencourt of the Kona Hilton to look for a new promotional direction outside of HIVIA or the Keauhou-Kona Resort Association.

Although his peers were not pleased when he called a public exploratory meeting in June, they flocked to attend. And D'Rovencourt hasn't flinched in the meantime. He held another gathering Thursday, which he entitled "Let's Talk Tourism."

He cited July's disappointing occupancy as further evidence of troubles ahead.

Mayor Herbert Matayoshi has thrown his political future in with HIVIA by urging continued business and government support for what he called "the vehicle we want to use to market tourism," in a major policy statement issued last week.

BY CONTRAST, rival Dante Carpenter said the funding of HIVIA by the County should cease. He would use the same dollars for more tangible improvements to the "visitor plant."

The funding change would allow both the County and HIVIA to function more freely and accomplish more, he said.

Councilman Andy Levin, looking for acceptance now as a State House candidate, says candidly he believes "tourism is killing this island."

That's because State and County leadership is failing to seek other

Walter Ritte Jr.

Says Ritte: Credit People, Not Officials

By Robert McCabe
Maui Bureau Chief

WAILUKU, Maui — Hawaiian activist Walter Ritte has accused Mayor Elmer F. Cravalho of "hogging the glory" in obtaining public use of Palaau Road on Molokai.

In a statement issued Tuesday, Ritte charged that Cravalho overlooked the efforts of the Hui Alaloa Association in seeking the opening of the 12-mile stretch of road that follows the coastline west of Kaunanakai.

Ritte said efforts by the group led to a demand by the people of Molokai for the return of the road from the Molokai Ranch Co.

The road, once a public thoroughfare, was obtained by the ranch more than 40 years ago and turned over to the County in a cemetery Friday.

Referring to the transfer ceremony, which he claimed took place in secret, Ritte charged that the occasion was "selfishingly used by Cravalho as a political plum" in which Cravalho allegedly "praised the politicians and large landowners for being so nice to the community of Molokai."

"IT WAS NOT Elmer, it was not Louis Hao (the mayor's administrative assistant for Molokai), it was definitely not Loy Cluney (Molokai member of the County Council) and it was not the Molokai Ranch" who deserve the credit, Ritte said.

"It was the people of Molokai who opened that road," he said.

"The people organized themselves, working over three months as volunteers, and spending much time and money for research, and finally getting together to walk over six hours along the hot, dusty road in a demonstration aimed at making a wrong a right."

Ritte charged that Cravalho invited only a "select" group of people and held the transfer ceremony in secret "because he did not want the truth to be heard."

Ritte said the ceremony should have been the signal for "a great victory celebration" for the people of Molokai.

In responding to the accusations, Cravalho denied that the transfer ceremony was conducted in secret.

"It was not a secret ceremony and the public had been informed of the event," he said.

"In fact, although Ritte did not show up, quite a few of his friends were there, and I did make it a point to stress that the opening of the road was largely an accomplishment of the people," Cravalho said.

Aug 15, 76 SB-A

Molokai sand dunes: A flight into the past

By BRUCE BENSON
Advertiser Science Writer

The Molokai sand dunes that five years ago yielded the fossil remains of an ancient, flightless goose have now produced about a dozen more new species of birds.

Like the goose, the new species are the remains of extinct creatures whose existence on the Island had never been suspected.

The sand dunes have become a treasure trove of a complete ancient evolutionary cycle of animals.

DR. STORRS L. OLSON, a curator of birds at the Smithsonian Institution in Washington, has just spent two weeks on Molokai as the guest of Mrs. Joan Aldem.

It was she who discovered the bones of the ancient goose while beachcombing. Since then, a cache of 4,000 to 5,000 bones have gone from the dunes to the Smithsonian for analysis.

"Molokai gives us an Island avifauna (flying animal) record that is probably as good as any in the world," Olson said in an interview. "The whole faunal (animal) record of Molokai is virtually entirely different from what exists there today.

"What the fossil record is showing us is a whole faunal cycle. It's a big chunk of the record just where you would like to find it."

Olson declined to identify any of the additional species, which he said number "about a dozen," pending further laboratory study.

BESIDES THE FLIGHTLESS goose found on Molokai in 1971, a flightless ibis was found in a lava tube on Maui in 1972. It, too, was sent to the Smithsonian.

"The goose and ibis are pretty bizarre," Olson said. A flightless ibis is just as strange as the dodo bird, and I doubt that anyone would have imagined that one ever existed."

Just how long ago the grounded ibis was strutting around Maui is still unknown. Scientific dating, however, on the remains of snails found with the Molokai goose fossil suggest that the latter existed about 25,000 years ago.

Both goose and ibis evolved in Hawaii into creatures with heavy, squat limbs. Olson said the goose also had bony projections, not to be confused with teeth, on its jaws.

The evolutionary ancestors and descendants of the goose and ibis are unknown and may, in fact, never be learned, Olson said. Antecedents could have arrived from the U.S. Mainland, from Australia or Asia.

BUT IF THEIR PLACE in evolution remains unknown, they may nonetheless provide science with some insights on the process of evolution itself, Olson aid.

Although he is "only playing hunches" at this stage, he said that "the rate of evolutionary change when compared may be tremendously fast, faster than anyone had ever anticipated."

What Olson would like to find most in Hawaii at this point is a vault in nature similar to the dunes of Molokai, but situated on another Island and holding the fossil remains of birds that existed at a different point in time.

So during the final days of his stay in Hawaii, he has flown to Kauai, to take a first-hand look at a place called Barking Sands.

State's Aquaculture Role Important

Science Aids Isle

By Mike Markrich

The author, a graduate student in agriculture economics at the University of Hawaii's School of Tropical Agriculture, has been a close observer of commercial fishing and aquaculture operations in Hawaii and Japan.

Fish farming can be extremely profitable — but it also is a costly, time-consuming and risky business, according to Ken Kato, president of Fish Farms Hawaii.

It not only requires an advanced education degree but also demands the second sense of the true farmer — the feeling and judgment that are gained from experience; the kind of knowledge that is difficult to explain but impossible to survive without.

"You have to go down every day and look at the water and try to feel what the needs of the 'animals' are," said Gary Oura, farm manager for Kato.

"I could tell you what to look for, but I wouldn't guarantee you'd be able to do it," he said.

THE 'ANIMALS' are macrobracheum rosenbergii, better known in Hawaii as giant Malaysian prawn.

They were introduced in Hawaii in 1964 by Takuji Fujimura, now with the Hawaii State Fish and Game Division.

The prawns have been the subject of intensive study throughout the world during the past 10 years because of their enormous economic potential.

They are cousins of the well-known crayfish found in freshwater streams and rivers; but they are nearly five times the size.

MALAYSIAN prawns range from 8 to 12 inches when fully grown.

They are freshwater animals and are considered less complicated to grow than their salt water counterparts.

They do not suffer from the many fish diseases associated with salt water and can be grown anywhere if the temperature is right and there is an adequate supply of fresh water.

The farm of Fish Farms of Hawaii is located on an abandoned cane field in Laie and is a model of efficiency and design.

Kato has designed a self-perpetuating water system.

THE FARM'S two simple buildings that serve as home and laboratory to the workers, look down over seven ponds, each three acres in size.

The fresh water sump sits at the far end of the field. When the sluice gates are raised to drain the ponds of the body water and bacteria, the water flows into the sump.

The water is then pumped up over the hill to a small truck farm of corn, radishes and other cash crops.

The nitrogen-rich water serves as a powerful fertilizer as it moves steadily through the irrigation ditches.

The water is absorbed back into the soil, sinks to the water table and then can be pumped up and used again.

EACH POND is stocked with thousands of small prawns called juveniles.

These come from the State's hatchery on Sand Island; the State supplies the young prawns in exchange for pond data as part of a program to encourage aquaculture.

The prawns take nearly a year to grow to harvestable size.

This is a long time, but with seven well-stocked ponds, Kato is able to harvest two ponds every week.

The harvesting is done with a 2-inch seine net, dragged along the pond by four men in a five-hour operation.

SMALL PRAWNS slip through the net, leaving only those of marketable size.

More than 1,000 pounds are taken from each pond during the harvests and they retail at $4.50 or $5 a pound — this is where the profit motive enters.

But it does not come easy.

Oura said the biggest problems have to do with maintaining the water quality and making certain there is the right amount of dissolved oxygen in the ponds.

This can be measured, he said, with a seiji disc, a well-known measuring device developed by oceanographers.

OURA SAID fish farmers must know how much to feed the prawns because if they are too well-fed, they get digestive problems and die.

"If you don't feed them enough, they starve," he said.

Kato said he thinks "scientific background is not enough to succeed in this business."

In Oura, Kato said he found the right combination of scientific background and aquaculture farmer instincts.

"It's something either you have or you don't," Kato said.

"OURA IS able to respond to the needs of the organisms. He can maintain the things that make up the pond water . . . the phytoplankton, the insect larvae, the little fish

PROFITABLE HAUL—Roy Kido dumps newly harvested Malaysian prawns into a holding tank, where they will be kept until they are marketed. The prawns bring between $4.50 and $5 a pound.

Aug 15, 76
5B-A

Clam season is called off

The traditional September and October clam season is canceled for this year, the State Department of Health has announced.

The department said sewage in clam harvesting areas has rendered clams unsafe for eating.

Those who eat them may escape illness, but there is a definite risk of contracting hepatitis or digestive tract diseases, a State health official said.

Major clamming areas are the middle and east lochs in Pearl Harbor and in Kaneohe Bay.

A fine of not less than $10 and not more than $200 will be imposed on those caught clamming.

Fishery Council Members Chosen

Gannett News Service

WASHINGTON — Commerce Secretary Elliott L. Richardson today announced appointment of the Western Pacific Fishery Management Council, which will develop management and conservation plans for its region under the terms of the 200-mile fishery conservation law which takes effect next March 1.

Richardson's appointments were made from recommendations by the governors of Hawaii, Guam and American Samoa.

Appointed to three-year terms are Paul J. Bordallo, an Agana, Guam, businessman; John C. Marr of Honolulu, chairman of Mardela Fisheries Ltd.; and Peter C. Reid of Pago Pago, manager of GHC Reid & Co.

APPOINTED TO two-year terms are Frank K. Goto of Honolulu, manager of United Fisheries Agency Ltd., and Isaac I. Ikehara of Agana, a fishery consultant.

Louis K. Agard Jr., a commercial fish spotter, and Peter S. Fithian, director of Greeters of Hawaii Ltd., both of Honolulu, were appointed to one-year terms.

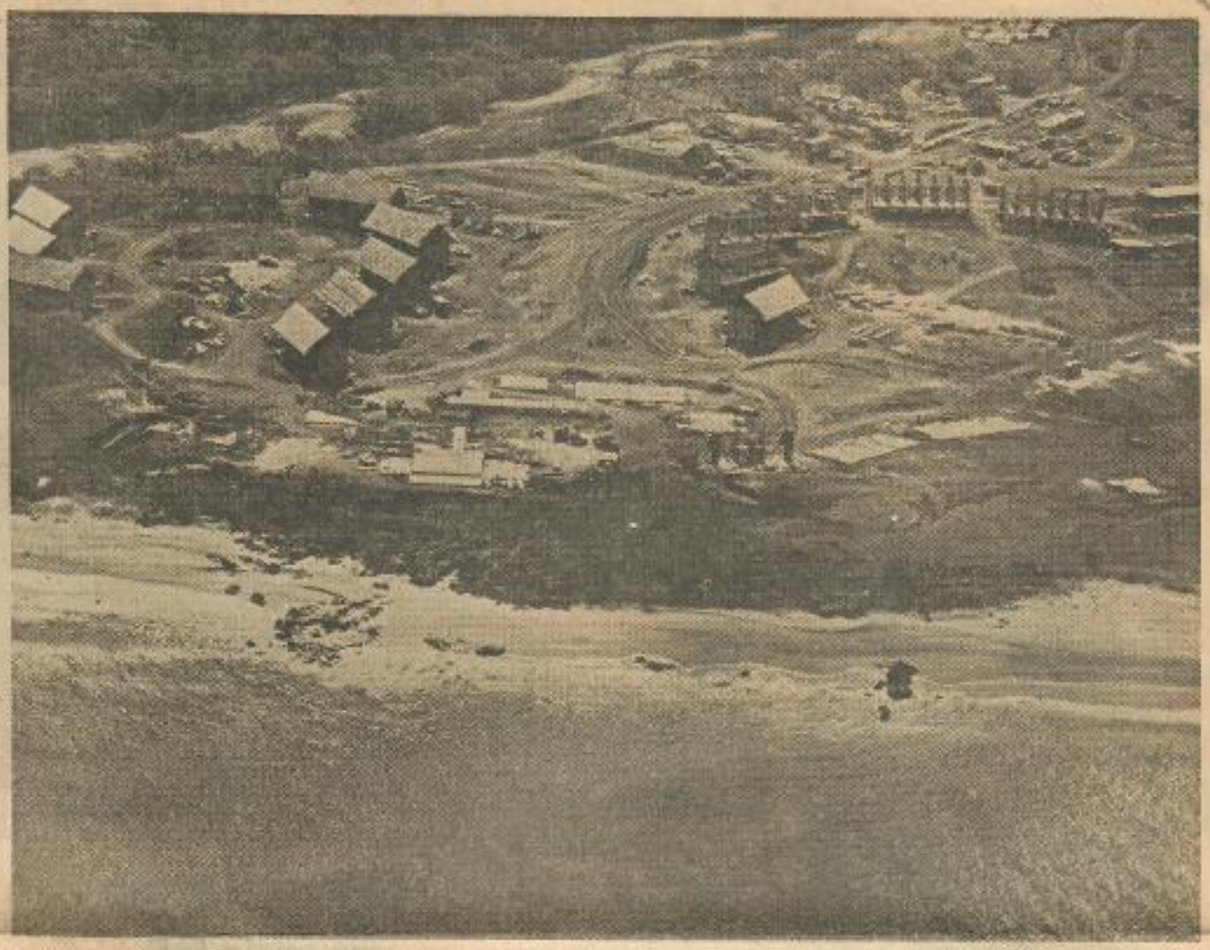
In addition to the seven appointed members, the law provides that the principal state or territorial official and the regional director of the National Marine Fisheries Service will also be voting members.

Thus named to the council were Michio Takata, director of the Hawaii Division of Fish and Game; Frank Barnett, lieutenant governor of American Samoa; Francisco B. Aguon, Guam's director of Agriculture; and Gerald V. Howard, National Marine Fisheries Service regional director.

AS REQUIRED BY law, three other members of the board who do not vote were also named:

Eugene Kridler, a U.S. Fish and Wildlife Service official in Honolulu; Vice Adm. J. W. Moreau, commander of the 14th Coast Guard District in Honolulu; and Lorry Nakatsu, office of the deputy assistant secretary for Ocean and Fisheries Affairs at the U.S. State Department.

The Western Pacific Council, like the seven others appointed today by Richardson, will draw up a plan which must include a complete description of the fishery, including details on gear used, species, location, management costs, revenue figures, recreational interests and existing foreign harvesting rights.



TAKING SHAPE — This 298-room beachfront hotel, to be operated by Sheraton, is being built in a series of low-rise buildings on Molokai's west end. — Photo by Warren R. Roll.

West Molokai Development Nears the Halfway Mark

By Robert McCabe
Maui Bureau Chief

KAUNAKAKAI, Molokai — The west end of Molokai is undergoing a rapid change.

Once the undisturbed domain of cattle, wild deer and an assortment of game birds, the area is now buzzing with construction activity.

Scores of workmen, many of them former employes of Dole Co.'s phased-out pineapple plantation on the Friendly Island, have been laboring at an extremely fast pace in the construction of a 298-room beachfront hotel and an 18-hole golf course.

WORK ON THE project, which covers 136 acres, started in April, and as of last week 45 per cent of the construction had been completed.

According to spokesmen, the $25 million program is five months ahead of schedule.

It is anticipated that occupancy of the hotel, to be operated by Sheraton Corp., can begin in March.

Completion of the project, sponsored by Louisiana Land and Exploration Co. of New Orleans, will mark the fulfillment of a 15-year dream to give Molokai the means of sharing the wealth tourism brings to the State each year.

AT PRESENT, Molokai receives a negligible amount of the lucrative tourist trade.

Development plans for the project were first drawn up in 1960 and formalized seven years later, but the project was not allowed to proceed because of a long and bitter controversy over whether such a development was proper for Molokai.

Strenuous objections to the resort development were first raised by Life of the Land in the belief that the project would destroy the Island's agricultural character, ruin its present easy-going lifestyle, inflate property taxes and clutter the Island with unwanted visitors.

HOWEVER, ACCORDING to planners of the development, the resort is not being geared to compete with established high-density resort areas in other parts of the State, but has been planned as a low-level development compatible with Molokai's relaxing, out-of-the-way rural environment.

Buildings at the project site are no more than two stories high, and each has been designed to resemble a Polynesian structure.

In addition to the hotel and the golf course, the development will consist of a 10-acre public park at the nearby three-mile-long Papohaku Beach, considered the longest stretch of white sand in Hawaii.

Also, as part of the construction, the developer is required to build and dedicate to the County of Maui fully improved roads to Kepuhi and Kawakiunui, the area's two other beaches.

Who's Craven?

John Craven

By Doug Boswell
Star-Bulletin Writer

Who is John Craven and why is he running for Congress?

Robert C. Oshiro, the Wahiawa lawyer who has guided the political fortunes of two Island governors, says the answers to those questions are highly relevant to the future of the State.

Gov. George R. Ariyoshi, an admirer of Craven, tried to put the question in perspective in a recent interview with the Star-Bulletin.

"Not many Island people are aware of it, but Craven is well known and highly respected by scientists in practically every major world capital.

"BEFORE HE CAME to Hawaii in 1970 he was chief of naval research in Washington, during the period when the Polaris submarine system was being developed.

"Since the late Gov. (John A.) Burns brought him to Hawaii, Craven has twice been called back in cases of Navy emergencies, once when a bomber accidentally dropped an H-bomb in the ocean off Spain and again when the U.S. submarine Scorpion sank in the Atlantic," Ariyoshi said.

"He helped them locate the bomb

Scientists Know, Ariyoshi Says

and the sunken sub," Ariyoshi added.

Ariyoshi said he had nothing to do with Craven's recent and surprising decision to run for Congress.

"THE FIRST I heard of it was when I read it in the newspaper, and I asked him why he didn't tell me about it beforehand.

"He said he didn't want to put me in a position of having to make a commitment to his campaign," Ariyoshi said.

Oshiro said Craven's announcement also came as a surprise.

"I had heard about him and I knew that Burns brought him here to become the State's marine affairs coordinator.

"I KNEW ALSO that he was dean of marine programs at the University of Hawaii, but I had never met the man," Oshiro said.

"I telephoned him and told him I wanted to talk with him. He came to my office in Wahiawa and we must have spent five or six hours in conversation.

"When it was over I offered to help him."

Oshiro has since become co-chairman of the Craven campaign.

"THE ONE THING he is not is a politician," Oshiro said.

"What politician announces he is a candidate and then makes a public statement admitting he knows he can't win?"

"A great many politicians run for public office because it's an ego trip, but not this guy. Craven sees it as a mission.

"He knows the world is on the threshold of a new era in ocean technology and Hawaii is sitting right in the middle of vast untapped ocean resources.

"I'M TOLD THAT Mainland corporations are now investing more than $100 million in preparation," Oshiro said.

"Craven entered the campaign with no funds and no political organization, but he saw it as a chance to talk about the importance of the ocean and its resources.

"That's all he really had in mind," Oshiro said.

Last Saturday, 1,500 campaign workers spread out through the 1st Congressional District (Aiea to Hawaii Kai) with campaign brochures and some 1,300 later gathered at Craven's headquarters in the downtown Cultural Plaza for lunch.

"I THINK HE'S going to win," Oshiro said.

Most other politicians are doubtful. Craven, they say, is after all, a newcomer whose name is not well known to voters.

In addition, he is faced with a Democratic opponent in the October primary, television owner Cecil Heftel, who came within 7,000 votes of toppling U.S. Sen. Hiram L. Fong in 1970 and who is backed by the political organization of Sen. Dan K. Inouye.

If Craven gets past Heftel he still must contend with Republican Frederick W. Rohlfing, a long-time State legislator whose name is well known from previous congressional campaigns.

CRAVEN COULD expect massive Democratic support in a general election against a Republican opponent, but Democrats may fracture their support in the primary.

Ariyoshi said ocean technology, marine programs and aquaculture offer the State its greatest opportunity to expand the economy and provide more jobs without exhausting the Islands' land areas.

"That's the best way I know of to create more jobs, more opportunities and more tax revenues without increasing taxes," he said this week.

Korea Gives $30,000 to East-West Center

The Republic of Korea has contributed $30,000 to the East-West Center to support Center programs.

"This initial contribution demonstrates that the government of the Republic of Korea is very much interest in joining with the United States and others in making this great institution a genuinely cooperative venture which is helping promote better understanding and peaceful relations among the nations in the Asia-Pacific area," said Korean Consul General Yoon Hee Kee.

Nearly 1,000 Korean scholars, administrators, professionals and graduate students have benefited from the Center in the last 16 years, he said.

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John Craven

After reading your article on Aug. 4, entitled "Who's Craven? Scientists Know, Ariyoshi Says", I must ask you the pertinent question: "How much did the Craven people pay you for the article, and why wasn't it in the advertisement section?"

If you were not paid, then why are you doing free advertisements for only one congressional candidate? Why not a "Who Cec? Radio People Know", or "Who's Hal? Christians Know", or "Who's Fred? Republicans Know."

Finally, if you're not intending to follow this suggestion, I for one as a registered voter would appreciate your being less pushy concerning our right to pick the next congressman fairly.

John David Russell