

STATE

MARINE TURTLES-FISH AND GAME
REGULATIONS

X

1970s G.H. BALAZS FILE

Late
March 1984

Kokua Line

Harriet Gee



For help in solving problems,

Phone 525-8686

or write:

Kokua Line, Box 3080,
Honolulu, Hi 96802

Q — I heard recently that the U.S. Postal Service is offering a new type of mail service between the United States and Denmark. It's something called intelpost, which is supposed to send mail to foreign countries within seconds. Is it available in Hawaii?

A — You can use intelpost from Hawaii only if you send your postal matter to one of the five transmission centers on the Mainland: New York City, Chicago, Washington, San Francisco and Houston. The fastest route would be by express mail. After reaching the transmission center, advanced electronic technology will be used to send the mail to Denmark within seconds.

Walter Yamamoto, a local postal service representative, said the new service "avoids the physical transportation of mail" from the United States to Denmark and other foreign countries. Intelpost stands for international electronic post.

The service to Denmark was inaugurated March 15. It allows U.S. mailers to send and receive urgent international facsimile mail to Denmark, the United Kingdom, Hong Kong, the Federal Republic of Germany, Canada, Argentina, the Netherlands, France and Belgium.

Exact images of documents, letters, graphics and other types of messages can be sent. Each page costs \$3.

Q — We have a neighbor who is holding religious services at her home on Kaleilani Street on an almost daily basis. We are subjected to hours of non-stop chanting. As if this wasn't bad enough, a woman living there chants loudly at all hours of the night. Neighbors are exasperated with her total lack of consideration. What can we do?

A — Religious groups have no special exemptions under the state's Community Noise Code. The state health department can require noise barriers or other structural changes to contain the noise. Call police at 911 every time you think the chanting is excessively loud. If the problem continues even with police intervention, call Citizens Against Noise, 733-3506, for assistance.

Auwe

"A big auwe to all the snaggers (fishermen who use the three-pronged star hook) of halalus (big-eyed scad fish) at the new boat harbor at Waianae!!! Give those poor fish a chance! You're injuring them when you use those hooks. In the eyes of concerned fishermen, you got no class or sportsmanship!"

(Editor's note: Those star hooks also are illegal so state conservation enforcement officers have been alerted to look out for the snaggers.)

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Q — A few fishing supply houses in Hawaii sell fishing nets with the mesh size too small to be legal. Store operators claim these nets are sold for "decoration" only and not for fishing. Obviously some people buy these nets and use them illegally. Surely the stores know this.

Are there any laws that prevent them from offering the small mesh nets for sale? If it's not illegal, it certainly is unethical.

A — There is no law to prevent the sale of these nets, according to Maurice Matsuzaki, chief of the state Conservation and Resources Enforcement Division. However, if one of his conservation enforcement officers sees a fisherman using an illegal net, he can cite the user. "It's just like marijuana; it's illegal to grow, sell and possess marijuana, but it's not illegal to sell marijuana paraphernalia," he said.

State of Hawaii
Department of Land and Natural Resources
Honolulu

DIVISION OF FISH AND GAME

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REGULATION 36. RELATING TO THE PROTECTION OF MARINE TURTLES.

SECTION 1. It shall be unlawful to mutilate, injure, take, kill, possess or sell or offer to sell leatherback turtles (Dermochelys sp.), hawksbill turtles (Eretmochelys sp.) and green sea turtles (Chelonia sp.) or any parts thereof or the eggs thereof from or within the State of Hawaii and waters subject to its jurisdiction except as hereinafter provided.

SECTION 2. Any marine turtle caught within the jurisdiction of the State of Hawaii may be used for scientific, propagation or other purposes approved by the Board of Land and Natural Resources and with a permit issued in accordance with Sections 187-4 and 190-4, Hawaii Revised Statutes.

SECTION 3. Notwithstanding any provision of this regulation to the contrary and except as prohibited by any other rule, regulation or law, green sea turtles having an upper shell length of 36 inches (straight line measurement) may be taken for home consumption from or within waters under the jurisdiction of the State surrounding the eight major islands (Hawaii, Maui, Kahoolawe, Lanai, Molokai, Oahu, Kauai and Niihau) provided that a permit is first obtained from the Board of Land and Natural Resources. Any turtle caught, taken or possessed through the provision of this section shall be kept whole or unbutchered while in transit over sea or land from the fishing area to the permittee's residence.

SECTION 4. It shall be unlawful to use nets for the taking of green sea turtles.

SECTION 5. Any person violating the provisions of this regulation shall be fined \$100 or imprisoned not more than 30 days or both.

Adopted this ____ day of _____, 1973 by the Board of Land and Natural Resources.

Chairman and Member
Board of Land and Natural Resources

Approved this ____ day of _____, 1973

Member
Board of Land and Natural Resources

Governor of Hawaii

Approved as to Form:

Deputy Attorney General

Date: _____

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SECTION 2. It shall be lawful with a permit issued by the Board of Land and Natural Resources in accordance with Section 187-4, Hawaii Revised Statutes to take:

- a. Marine turtles for scientific or propagation purposes.
- b. Green sea turtles for home consumption from the waters surrounding the eight major islands (Hawaii, Maui, Kahoolawe, Lanai, Molokai, Oahu, Kauai and Niihau) provided that the upper shell length is 36 inches or more (straight line measurement) and the turtle is kept whole or unbutchered while in transit over sea or land from the fishing area to the permittee's residence.

SECTION 3. It shall be unlawful to use nets for the taking of green sea turtles.

SECTION 4. Any person violating the provisions of this regulation shall be fined not more than \$500 as provided in Section 187-20, Hawaii Revised Statutes.

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Chairman and Member
Board of Land and Natural Resources

Member
Board of Land and Natural Resources

Approved this _____ day of _____, 1973

Governor of Hawaii

Approved as to Form:

Deputy Attorney General

Date: _____

State of Hawaii
Department of Land and Natural Resources
Honolulu

Draft #6
(11/7/73)

DIVISION OF FISH AND GAME

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- SECTION 2. It shall be lawful with a permit issued by the Board of Land and Natural Resources to:
- a. take or possess marine turtles for scientific, educational or propagational purposes.
 - b. take or possess green sea turtles for home consumption from the waters surrounding the eight major islands (Hawaii, Maui, Kahoolawe, Lanai, Molokai, Oahu, Kauai and Niihau) provided that the upper shell length is 36 inches or more (straight line measurement) and the turtle is kept whole or unbutchered while in transit over sea or land from the fishing area to the permittee's residence.
 - c. possess or sell the eggs or progeny of captive green sea turtles or products thereof.
 - d. possess for the purpose of sale or sell marine turtles or products thereof acquired prior to the effective date of this regulation.
- SECTION 3. It shall be unlawful to use nets for the taking of green sea turtles.
- SECTION 4. Nothing in Section 1 shall be construed as making it unlawful for any person to possess marine turtles or products thereof acquired prior to the effective date of this regulation.
- SECTION 5. Any person violating the provisions of this regulation shall be fined not more than \$500 as provided in Section 187-20, Hawaii Revised Statutes.

August 22, 1974
P.O. Box 1346
Kaneohe, Hawaii 96744

Mr. Michio Takata
Director
Division of Fish and Game
1179 Punchbowl
Honolulu, Hawaii 96813

Dear Mr. Takata,

I have only recently returned from French Frigate Shoals where intensive studies on this year's green turtle breeding and basking population have been in progress. Over the past few days I have had the opportunity to review the status and effectiveness of Regulation 36 (relating to the protection of marine turtles) which, as you are aware, became law on May 30th of this year. Unfortunately, I must conclude that one of the most important aspects of this new regulation is not being enforced. I am, of course, referring specifically to that section (2d) which allows for the sale of turtles captured from Hawaiian waters prior to the effective date. In compliance with section 2d and as stated in the Division's Permit for the Sale of Marine Turtle Products (which bears the signature of Mr. Sunao Kido, Board Chairman):

"The permittee shall accurately complete a Marine Turtle and/or Product Inventory Report that describes and tallies all marine turtles or products thereof purchased, sold and/or remaining in possession of the permittee on forms provided by the Department of Land and Natural Resources and return the filled form to the Division of Fish and Game no later than 10 days following the end of each month."

Further, it is stated that:

"This Marine Turtle Sales Permit will be cancelled if the permittee fails to comply with any of the conditions listed above."

According to records made available by the Division, as of July 30, 1974 five firms or individuals had applied for and received permits which would allow for the liquidation of previously captured marine turtles. One permit was issued on May 31, one each on June 4, 17 and 18 and one which failed to show an issuance date. Compliance with the terms of these permits is apparently not being required by the Division as no inventory reports have subsequently been filed by the permittees. Nearly three months have elapsed since the regulation was signed into law and during that time voluntary compliance by the permittees should have taken place if, in fact, they intended to do so. Further the Division has apparently not taken action to cancel the permits as legally called for. Without the enforcement of this monitoring system, firms could conceivably continue to sell newly

acquired turtles indefinitely while claiming to have had a supply on hand from before the effective date.

I would also like to bring to your attention the fact that at least one large volume establishment is continuing to sell turtle meat without having obtained a permit. Additionally, if the restaurant's advertisements can be believed, the meat being sold was obtained well after the effective date as it is represented as being "fresh". I can personally attest to this public solicitation in that it was aired on Kauai radio station KIVM on the evening of August 11. The advertisement, sponsored by the Wailua Marina Restaurant (which incidentally is situated on land leased from the State of Hawaii) indicated that 'fresh Island turtle steak prepared in two different manners' was available at their establishment. Ironically enough, I heard this advertisement while stationed on East Island, French Frigate Shoals studying the small remnant breeding population that such restaurants have selfishly helped to destroy.

I hope that by calling these points to your attention action will be initiated to achieve full compliance with both the letter and spirit of this new law that was overwhelmingly supported by the people of Hawaii. It may be significant to point out that this year's study at French Frigate Shoals has confirmed my estimates of a low breeding population - estimates that were made after last year's study and played an important part in demonstrating the urgent need for protection of America's last green sea turtle colony.

Sincerely,

George H. Balazs

cc
P. Sekora
E. Kridler
M. Dillon
M. Taylor
R. Endrizal



Abrioot-pêche



George Balas
HIMB Box 1346
Kaneohe, Hawaii
96744



VERLAG WOLDEMAR KLEIN - DR. RUDOLF GEORGI - 51 AACHEN

Dear George, at a Sept. 14, 74,
I just saw Kiki + she said
the lead turtle hunter's name
in Lahaina (Maipili) is Roland
Sumodia. So, try get on his case
+ let's get him eliminated to-
gether with 3500 lbs of turtle-
steaks! lots of luck. I am
having a good time but can't
forget turtles + whales. love, Hilde

ANSON CHONG

Assistant Majority Floor Leader
Vice-Chairperson, Water, Land Use
& Development
Member, Finance
Member, Environmental Protection
Ph. 548-4183

**HOUSE OF REPRESENTATIVES
THE SEVENTH LEGISLATURE**

STATE OF HAWAII
STATE CAPITOL
HONOLULU, HAWAII 96813



GREEN TURTLE & RELATED TYPE NEWS

MAY 16, 1974

HB 1635 DEAD BUT REGULATION 36 MOVES AHEAD

Although H.B. 1635, H.D. 1 did not pass, I am happy to announce that regulation 36 which protects the Green Sea Turtle, did meet with the approval of the Board of Land & Natural Resources on April 12th in Waimea.

Details of the regulation were sent to you in previous newsletters. The main points of Regulation 36 are: 1. It shall be unlawful within the State of Hawaii to kill, possess, or sell marine turtles without a permit from the Board of Land & Natural Resources; 2. The eggs of marine turtles are given protection (very important point); 3. Turtles having an upper shell measurement of less than 36 inches may not be taken, thus insuring the reproductive cycle of Hawaii's marine turtle population.

INTERNATIONALLY KNOWN HAWAII SCIENTIST WINS U.S. GRANT TO STUDY THE HAWAIIAN GREEN SEA TURTLE



On May 23rd, Dr. George Balazs of the Hawaii Institute of Marine Biology, will leave for the French Frigate Shoals to conduct a two-month study of Green Turtle nesting, population and fertility.

This study will be conducted with the cooperation of the U.S. Bureau of Sport Fisheries and Wildlife. Dr. Balazs has spent many long hours devoted to saving the Hawaiian Green Sea Turtle and should be commended for his unselfish work. LE

His wife Linda still has green sea turtle T-shirts. You can get them by writing George and Linda c/o HIMB, P. O. Box 1346, Kaneohe, Oahu, 96744.

MAHALO!

Your kind efforts on behalf of H.B. 1635 and Regulation 36 have paid off. The continuing fight, of course, is to obtain adequate State funding for needed research. If returned to the legislature this year, I plan to re-introduce the Green Turtle Bill to provide the needed funding. My office continues to work for the conservation of Hawaii's natural resources and environmental protection.

EEL NEWS

On April 25th, the State Board of Agriculture revoked Fish Farm Hawaii's permit to import unagi, the edible eels from Japan. Our scientific community and many environmental groups vigorously opposed the importation of the eels last summer when the issue first surfaced on the grounds that the slippery pseudo serpents would surely escape and establish themselves as voracious pests in Hawaii's streams and reservoirs.

Individuals giving testimony
at Reg 36 Public Hearing

0.6. Balazs -

1. John Carol -

2. Alan Kaawa - Turtle farm (?)

3. William (Billy) Kalipi - Mookai Is. Blood → Will not come back -
for 5-6 years.

4. Linda Balazs -

5. ~~Peter~~ Marilyn Lestage - animal keeper at Hono zoo
ex-shark program

(Got Smart)

* 6. Kilionna Davis - Mookai Fishermen's association

7. ALAN Zeigler -

8. Frank Radovsky - maybe not nets -

9. Jock Hough

10. AKIRO SEITO - eat shark (commercial)

11. JOHN Machelek for Rene D. Silva Review in 1 year
PAIA, Maui ♀ 40 to 100
96779 150' eye 30"

12. David Boyton -

13. James MANAGO - No say

14. Elizabeth Leis - for J.E. Bardach

15. Mr. Ric Nask

SUNAO KIDO 16. Ric GREG - 15 years diving - decline

17. MR. Ralph Small - Small Diver - Bob MANCREV - Kaewela Bay
Big Do Not - (5 years)

18. Karl Glerum - Conservation Council - Oahu chapter -

19. E. Ross

20. JOHN Wheeler

21. Dennis Devaney - Bishop Museum zoologist

22. Wayne Gagne - Conservation Council - Sustained yield basis.

North Shore Oahu
Small boat sank - 4000 Turtle

Represents a group

23. Jose ANGEL - North Shore Oahu - in favor Divers
heavy decrease
24. Robert W. Brick - in favor
25. Leighton TAYLOR - for Gene Kridler
Green-Threatened
1. odd - disturb; and nests
2. Prohibit all take in NW population
26. Anson Chong -
27. Kim Holland -
28. Herbert Ching -
29. Jeff LEIS
30. Mrs. Dorothy Babineau
31. Pamela Muller - Don't know laws - education
in law to "raise turtle and
be able to sell"
- 32.

Summary of Significant Information Relating to
Marine Turtle Regulation 36

G. H. Balazs

1. Three types of marine turtles are found in Hawaii; two are on the Endangered Species List (hawksbill and leatherback) and one (green) is officially listed throughout the world as "depleted."
2. Hawaii has the largest and last remaining green turtle colony in the United States.
3. No State laws presently exist to protect or perpetuate Hawaii's turtles.
4. Many countries and States are already aware of the threatened status of marine turtles and have implemented conservation measures.
5. Within recent history nesting took place on several of the major Islands, however the only nesting site left today is at French Frigate Shoals (approximately 480 miles NW of Honolulu).
6. Three prominent marine turtle biologists have expressed great concern for our unique turtle colony.
7. Recent intensive research at French Frigate Shoals has shown the total green turtle breeding population to be less than 1,100 individuals. An earlier estimate made in 1968 placed the size at between 2,600 and 5,200 animals.
8. Green turtles reach sexual maturity when they are between 33 and 36 inches (mean wt. 210 lbs) straight line upper shell length. Nesting green turtles at French Frigate Shoals ranged from 33 to 41 inches.
9. Studies on turtle catch statistics revealed that: 1) extremely large increases have occurred in pounds of turtle caught over the past ten years; this appears to have followed increases in tourism; 2) the mean weights of turtles taken is significantly below the size at which sexual maturity occurs (107 vs 210 lbs); 3) during 1972 only six people in the entire State hunted turtles for profit; the most earned by any one person was \$5,003.
10. Hawaiian turtles will continue to be subjected to increases in exploitation during coming years unless the personal gain incentive is removed.
11. Based on all available information, it is highly unlikely that Hawaii's green turtle colony can remain viable if the present exploitative pressures are allowed to continue.

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Governor of Hawaii

Approved as to Form:

Deputy Attorney General

Date: _____

TESTIMONY PRESENTED BY GEORGE H. BALAZS ON SEPTEMBER 21, 1973,
CONCERNING REGULATION 36 WHICH RELATES TO THE PROTECTION OF MARINE
TURTLES IN HAWAIIAN WATERS

Although the plight of marine turtles has been widely recognized in other areas of the world, a concern for these animals in Hawaiian waters has been slow in coming. As no Hawaii State regulations exist for the protection and perpetuation of marine turtles (other than the outlawing of firearms for harvesting and the prohibition of the sale of speared animals) proposed protective measures offered by the State Fish and Game Division represent positive action to ensure the continued viable existence of our marine turtle colony. In the words of Dr. Archie Carr, the world's foremost authority on marine turtles:

quote

"If things are left as they are, the commercial sea turtle industry seems certain to go on cynically mining to exhaustion its sources of supply."

unquote

In my opinion, sufficient knowledge is presently at hand to warrant the utmost concern for Hawaiian turtles. I have arrived at this conclusion after investigating various aspects of Hawaii's marine turtles over the past two years. Although initially only involved in research on the captive rearing and nutritional aspects of these animals at the Hawaii Institute of Marine Biology, I soon became increasingly concerned about the welfare of the natural populations. Little effort was being directed toward determining the status of this resource in Hawaii and evaluating whether or not its distribution and numbers were being reduced. In addition to examining our own situation, I have also researched the status of marine turtles at other localities in order to learn what was being accomplished to slow their decline.

I would like to present some of the important aspects of this information which I have collected in order to justify the enactment of the regulations which are being proposed. In general, my discussions will deal with the following topics: 1) the present status of the three species of turtles found in Hawaiian waters, 2) ^{some of} the conservation laws and regulations which protect marine turtles that are currently in effect in other States and countries, 3) the recommendations for the State of Hawaii which have been offered by qualified marine turtle biologists familiar with our situation, 4) the results of research which was conducted during this year's breeding season at French Frigate Shoals in the Hawaiian Islands National Wildlife Refuge, and 5) the results of studies which I have conducted on turtle catch statistics compiled by the State Fish and Game Division.

Before closely examining each one of these topics, it may prove beneficial to briefly state some of the more important facts of the life history and biology of marine turtles. Since the major portion of my testimony will deal with the green turtle, the facts pertain specifically to this species. However, in general the other types of marine turtles exhibit ~~most~~ ^{some} of these same traits. To summarize then, green turtles: are air-breathing, salt water reptiles; reach sexual maturity sometime between 6 to 13 years of age; weigh as much as 250 lbs and measure 33 to 36 inches upper shell length when first reaching sexual maturity; reproduce only once very two to four years; migrate long distances from feeding areas to nesting beaches for reproduction; lay several clutches of ^{about} 100 eggs each within each nesting season; lay eggs on the same beaches during subsequent nesting seasons and are not known to change places of reproduction; exhibit high mortality (at least 99 percent) during the first year of life; have few predators except large sharks and man after reaching adult size; have not been successfully restocked by releasing young or transplanting eggs in depleted areas; are slow to recover from overexploitation; ^{and} were formerly abundant in many areas of the world but have been subsequently decimated by indiscriminate hunting; ~~and can provide benefits to man if managed wisely.~~ Keeping these basic facts in mind, I would like to proceed and discuss each of the major topics which I have outlined, starting with the present status of the three types of marine turtles that are found in Hawaiian waters.

Of the five genera (or major types) of marine turtles which exist in the world today, only three are represented around our islands. These include the Pacific green (Chelonia sp.), the hawksbill (Eretmochelys sp.) and the leatherback (Dermochelys sp.). The hawksbill and the leatherback are only infrequently seen. Both of these animals are vanishing species throughout the world and do not occur in large numbers at any one location. The hawksbill has been commercially decimated for its laminae or "tortoise-shell," which can be made into fine polished jewelry. Numbers of leatherbacks have been drastically reduced due to the destruction of nesting habitats and to the taking of eggs for food in lesser developed countries. Both of these animals are included in the United States' List of Endangered Foreign Fish and Wildlife. That is, they are

^{quote} "in immediate danger of extinction and their continued survival is unlikely without the implementation of special protective measures."^{unquote}

Under international agreement, these animals or any products derived from these animals may not be imported into the United States or moved between cooperating countries. Because this Federal law deals only with international transportation, and because no Hawaii State law presently exists to protect these animals, both the endangered hawksbill and leatherback can now be killed in Hawaiian waters without violating any regulation.

Hawaii's third type of turtle is the Pacific green. Green turtles are officially listed by the International Union for the Conservation of Nature (the recognized world organization for conservation) as 'depleted.' That is

^{quote} "although they still occur in numbers adequate for survival, the animal has been depleted considerably and continues to decline at a rate which gives cause for serious concern."^{unquote}

Several kinds of green turtles (e.g., Chelonia mydas, Chelonia agassizii) have been recognized in different areas of the world. Although more taxonomic work needs to be conducted, there is reason to believe that green turtles found in the Hawaiian Archipelago are genetically unique from those of other geographic locations.

Next I would like to review some of the conservation laws that are now in effect in other countries and states. Concern by private citizens and governments throughout the world over the dwindling numbers of marine turtles and the continuing increases in turtle harvests has led to the passage of much needed conservation measures. Whether the protection afforded in each case is adequate and soon enough in coming, only time will tell. A list of some of the countries which protect marine turtles and a brief abstract of each law follows:

- Trust Territories: Complete protection for eggs and all sea turtles less than 26 inches in carapace length.
- * Kingdom of Tonga: Complete year-round protection for eggs and for turtles with a carapace length of less than 35 inches. ~~Protection for all turtles of all sizes between November and March. Complete protection for leatherbacks of all sizes at all times.~~
- * Fiji Islands: Complete year-round protection for eggs and for turtles with a carapace length of less than 35 inches.
- * Panama: Full protection for green turtles.
- Ascension Island: Full protection for all turtles and eggs.
- British Indian Ocean and Seychelles Islands: Complete protection for turtles and eggs.
- Europa Island (France): Full protection for all turtles and eggs.
- * South Africa: Full protection for all sea turtles and eggs.
- * Queensland, Australia: Full protection for all sea turtles and eggs.
- * Tahiti (French Polynesia): Sale of sea turtles prohibited in all of French Polynesia.

States in the U. S. mainland which have seen fit to protect marine turtles include the following:

~~New York: No hawksbill, Atlantic ridley or leatherback turtle may be imported, transported or sold.~~

~~Delaware: Illegal to possess, transport or sell any hawksbill, Atlantic ridley or leatherback turtle.~~

North Carolina: Unlawful to take, disturb or destroy any sea turtle or eggs at any time during the months of May, June, July, August and September.

Connecticut: Hawksbill turtles or any part thereof may not be sold or offered for sale.

* South Carolina: Unlawful to kill, offer for sale or sell any sea turtle or eggs.

* Florida: a) Unlawful to take, kill or possess a green turtle from the east (Atlantic) coast of Florida.

b) Unlawful to take, kill or possess any other species of sea turtle from the east coast of Florida, during the months of May, June, July and August.

c) Unlawful to take, kill or possess any turtle from the west coast of Florida except those in territorial waters having a carapace length of more than 26 inches.

* d) Unlawful for any person to take, kill or possess any green turtle from Monroe county (Florida Keys) unless such turtle has a carapace length of more than 41 inches.

* Georgia: Total protection, sea turtles or eggs may not be taken at any time.

* Texas: Unlawful to take, kill or disturb any sea turtle or eggs in or from the waters of the State.

* California: Unlawful to import into the State for commercial purposes, to possess with intent to sell or to sell any part or product of any sea turtle.

It might be valuable to point out at this time that Hawaii has the responsibility of safeguarding the largest remaining colony of green turtles left in the United States. Although ^{the} loggerheads (Caretta sp.) and several other species of turtle are still frequent nesters in a few of the Southern states, very few green turtles are found nesting. One estimate places the total number of greens utilizing mainland U. S. beaches during recent years at less than 50 individuals. ~~Juvenile green turtles are sometimes seen along Gulf coasts, however these are only migrant visitors.~~ Besides having the largest green turtle colony in the U. S., Hawaii has the only one in the world that can be protected and managed under a single government's jurisdiction at both the feeding and breeding grounds. Although Hawaii's breeding grounds are Federally protected (~~Hawaiian Islands National Wildlife Refuge~~), no protection is afforded in the feeding grounds. The practice of only safeguarding a turtle's breeding grounds while allowing unchecked ^{exploitation} to occur in the feeding areas is no longer sufficient for adequate ^{conservation}. Because Hawaii's green turtles are being subjected to substantial increases in commercial exploitation, there may now be sufficient justification for placing this animal on the Department of Interior's United States' List of Endangered Native Fish and Wildlife.

Several recognized specialists on marine turtles have examined Hawaii's situation. Dr. Archie Carr of the University of Florida and Dr. Harold Hirth of the University of Utah have both visited the Hawaiian Islands and made preliminary investigations on our turtle populations. Dr. John Hendrickson of the University of Arizona studied Hawaii's turtles while serving as Director of Oceanic Institute here on Oahu. All three of these authorities are members of the I. U. C. N. Marine Turtle Specialists Group. This group is composed of ten members from various countries and are dedicated to the conservation and better understanding of the world's marine turtles. Recommendations which have been offered by these gentlemen include the following:

- Dr. Harold Hirth: In 1971 a report (FAO/UN No. 482/71) on marine turtle resources in the Pacific was prepared by Dr. Hirth, then a consultant for the United Nation's Fisheries Development Agency. In the section of this report that dealt with turtles in the Hawaiian Islands, it was recommended that ^{quote} "The sale of stuffed turtles of all sizes should be prohibited and turtle meat and soup be eliminated in hotels and restaurants." ^{unquote} Further recommendations indicated that ~~in-depth studies throughout the entire Hawaiian Archipelago were necessary in order to more fully understand the dynamics of this colony.~~
- Dr. John Hendrickson: In 1969 Dr. Hendrickson presented a paper on Hawaiian turtles to a meeting of the Marine Turtle Specialists Group in ~~Morges~~, Switzerland. In this paper it was pointed out that there were no laws governing the taking of marine turtles around the major islands and that increases in the tourist industry were producing greater demands for exotic luxury foods such as turtle steak. Further it was stated that while ^{quote} "green turtles are no longer considered common enough to support full-time professional net fishermen, every Tom, Dick and Harry who happen upon a turtle have the strong incentive to capture it. A 200 lb turtle represents perhaps \$50 plus a good meal for family and friends, in addition to a shell to keep or sell." ^{unquote} It might be added that the same turtle now sells closer to \$200, thus making the personal gain incentive all the more attractive. Dr. Hendrickson also stated that ^{quote} "calculated values for the predation on green turtles conformed with the subjective impression that Hawaiian turtle populations are over-exploited, under-protected and declining at a significant rate." ^{unquote} ~~in addition, it was noted that the State Fish and Game Division would probably encounter difficulties in trying to protect marine turtles because the 'local citizenry included a large proportion of people who were closely tied to the sea by culture, custom and emotion, and that in this regard they would be jealous of restrictive regulations.'~~

Dr. Archie Carr: In January of 1973 Dr. Carr indicated to me that he personally ^{would} "would like to see a complete moratorium on the taking of all sea turtles throughout the Hawaiian Islands until a careful survey of breeding, feeding and basking populations could be made." He also stated that he was very glad to see an awakening of interest in Hawaiian sea turtles and hoped that the efforts to protect them would be given the support needed.

~~The need to do further in-depth research on Hawaiian turtle populations was stressed by each of the aforementioned authorities. I would like to note that a request (HB 1635) by Representative Anson Chong for funds necessary to conduct such research presently resides in the State Legislature. Passage in the House has already been effected, and during the next session the Bill's approval in the Senate seems very likely. It is apparent that many of our State legislators are already aware of Hawaii's responsibility for safeguarding our country's last green turtle colony.~~

My next area of discussion will be a presentation of some of the significant results obtained from ~~scientific~~ research which I conducted in cooperation with the U. S. Fish and Wildlife Service during this years green turtle breeding season at French Frigate Shoals. It may be beneficial to first briefly review our present knowledge on the breeding status of green turtles in the Hawaiian Archipelago. Some of the important points are as follows:

- 1) There are no longer any nesting sites left on any of the major Hawaiian Islands. As short a time as 60 years ago there existed one major nesting site and at least five sites of lesser importance. Today there are none.
- 2) The only remaining nesting areas are located in the Northwestern Hawaiian Islands, specifically the Hawaiian Islands National Wildlife Refuge. Within this Refuge, several small sand islands at French Frigate Shoals account for 95 percent of all green turtle nesting.
- 3) Research carried out by U. S. Fish and Wildlife personnel has revealed that the turtles tagged at French Frigate Shoals migrate back to the major Hawaiian Islands. ~~Tag returns have been obtained from around five of the inhabited Islands (Kauai, Oahu, Molokai, Maui and Hawaii). These results are in agreement with work conducted in other areas of the world which has demonstrated that green turtles migrate long distances to nesting beaches and subsequently return to feeding areas where the major portion of their life is spent.~~ It can therefore be concluded that French Frigate Shoals is the only remaining breeding grounds for the feeding population which inhabits Hawaii's major islands.

One of the more important questions that has been raised concerning our green turtle colony is 'what is the size of the breeding population?' In other words, how many sexually mature individuals are there to contribute offspring for maintaining or increasing numbers of the total population? No censusing work of this nature had been conducted at the nesting sites through entire breeding seasons due to the limited number of Fish and Wildlife personnel and to necessary involvement with many other threatened species which utilize the Refuge islands.

Our work at French Frigate Shoals accomplished this goal, although it will be wise to do repeated studies in coming years. Our work concentrated on East Island, an 11 acre sand islet within the Shoals. Previous observations by

Fish and Wildlife personnel indicated that East Island hosted the greatest number of nesting turtles of the ten sand islands present. Our work confirmed this observation to be correct. A total of 67 females nested on East Island during the study. Numbers nesting on the other islands were determined by making surveys every second day and counting nesting pits. From these data it was possible to make a valid estimate of the total breeding population (both males and females) using French Frigate Shoals (~~assuming a three-year breeding cycle, an equal sex ratio, and allowing for a very liberal 20 percent addition to account for animals that may have been missed either before or after the study was conducted.~~) The total value arrived at came to 1,074 animals. An estimate made in 1968 by Dr. Hendrickson which was based upon all available data at the time placed the French Frigate Shoals breeding population at between 2,600 and 5,200 animals. In view of our more recent 1973 study it would appear that drastic reductions have occurred in the breeding population, although there is always the possibility that the earlier estimates were in error. Whatever the explanation, the fact remains that any turtle colony with a total breeding population of only slightly less than 1,100 individuals that is being subjected to increasing commercial exploitation is most definitely in an insecure position.

In addition to census information, valuable data on the size distribution of the Hawaiian nesting population was obtained. Our work revealed that the smallest nesting turtle measured 33 inches in straight line upper shell (carapace) length, while the largest individual was 41 inches. Dr. Archie Carr's 17 years of tagging work in the Caribbean has shown that the majority of green turtles reach sexual maturity at a shell length of between 33 and 36 inches. Research by U. S. Fish and Wildlife personnel has shown that Hawaiian turtles between 33 and 36 inches average about 210 lbs in weight. It will be very important to keep these two points in mind when I discuss Hawaii's catch statistics, particularly that portion dealing with the mean weight of the turtles being taken for commercial purposes.

Licensed fishermen in Hawaii are required by law to report to the State Fish and Game Division all turtles that are sold. Information contained in these catch reports include numbers caught, pounds caught, pounds sold and value, method of capture and area where taken. Turtles that are not sold do not have to be reported. In an effort to learn as much as possible about the commercially taken turtles, all catch data on file at the State Fish and Game Division was compiled and analyzed. ~~Mr. Michio Takata was kind enough to make available all of these records for my study. Mr. Randal Chau of the University's Marine Options Program spent many hours over the past six months under my direction tabulating pertinent data.~~ These statistics greatly added to our knowledge of turtle populations around the major Islands. Such information is difficult to come by since no congregated nesting presently exists and animals are dispersed over many miles of coastal water.

Although some large yearly catches were reported in the late 1940's and 1950's, trends displayed since 1963 indicate that more turtle is now being taken than ever before. For the calendar year 1963, a low of 380 lbs was reported while in 1972 it rose to 25,583 lbs. Up to date information shows that for the first 6 months of 1973 the reported catch has already exceeded 14,900 lbs indicating that a record high will again be established for this year. It is

interesting to note that the pounds of turtle taken since 1963 follows the increasing trends of tourism, and that much of the incentive to exploit turtles is provided by restaurants and hotels that depend on tourism for a large portion of their business. If this is the case, it then logically follows that a few fishermen are eroding a unique Hawaiian resource to provide an exotic luxury food for short term mainland visitors. It is unfortunate that those to suffer the most from this practice will be the low income, less fortunate residents of Hawaii. The turtle that could have been captured for home use to provide additional meat will now be all the more difficult to find.

Several months ago, in the course of discussing the drastic increases in turtle taken in recent years, it was stated ¹⁹⁶⁹ that 'the larger number of animals killed proved that the population was in no danger since they were so abundant.' It was my feeling that such an argument was the reasoning of the Buffalo hunter who felt that the next large herd was always over the next hill. The low reproduction rate of turtles makes them quite different from fish and other marine organisms that spawn hundreds of thousands of young each year.

Since the reports submitted by commercial fishermen are uncheckable and rely solely on individual integrity, there is always the possibility of non-reporting or under-reporting. For example, for the years 1957 through 1969 absolutely no turtle catch reports were given for the Island of Kauai. During 1970, 1971 and 1972, 830, 855 and 200 lbs, respectively were reported for Kauai. One wonders just how much of the true catch these values represent since more than several restaurants on Kauai serve turtle steak. One also wonders how many pounds the sport fishery and 'home' catch represent. In Dr. Hendrickson's presentation to the I. U. C. N. Marine Turtle Specialist Group it was pointed out that the home catch plus the unlicensed commercial catch probably far exceeded the reported commercial catch in Hawaii.

Of particular interest from the studies of catch statistics were the mean weights of the animals taken commercially. For the recent high poundage years of 1969 through 1972, mean weights for turtles were 114, 135, 131 and 150 lbs, respectively. For the first 6 months of 1973, turtles averaged 107 lbs. These data show that many of Hawaii's turtles are being removed from the population before they ever have a chance to become sexually mature and reproduce. Green turtles that weight 107 to 150 lbs will measure between 25 and 29 inches in upper shell length. As I emphasized earlier, nesting first takes place when animals are a minimum of 33 to 36 inches. The size restriction placed in the proposed Regulation, 36 will give our turtles the opportunity to grow to adult size and reproduce before they are subjected to hunting by man.

The question has been presented more than once that 'if we eliminate commercial fishing for turtles would this not put a lot of people out of work and take away their means of support?' An investigation of this aspect revealed the following fact: 1) ~~In 1970 there were only eight fishermen in the entire State responsible for all the commercially taken turtle. The most earned by one person was \$2,765 while the other seven averaged \$321 (range \$17 - \$992) each. For 1971 there were also eight fishermen,~~

~~The most earned by one person being \$6,350 while the other seven averaged \$521 (range \$25 - \$2,684) each. During 1972 only six fishermen in the State captured turtles for profit and only one made slightly more than \$5,000 while the rest averaged \$1,116 (range \$28 - \$2,899). From this information it is apparent that turtle taking is mainly a part-time business.~~

~~One other point of interest is that some of the old-time turtle fishermen who have quit the business have noted the reduction in numbers that turtles have undergone in Hawaii. As an example, in 1968 one fisherman wrote on a catch report that between 1948 and 1950 he used to take at least 100 turtles in four to five days in the feeding grounds between Molokai, Lanai and Maui - but for some reason there were no turtles there now.¹~~

In conclusion I would like to ask all fishermen to endorse the proposed turtle regulations for the benefit of the species. Since the coming of man over 230 vertebrate species have become extinct; half of these have been lost in the past 100 years. Extinction is a very absolute thing, because once the animal is gone, it is gone forever. We must learn to adopt a philosophy that attempts to get animals off the Endangered Species List, not onto it.

To the restaurants that have provided the incentive for the exploitation of Hawaiian turtles, I would like to issue a special plea. Consider the facts which I have presented and set your own individual self-interests aside and willingly support this ban on the sale of turtle meat. Replace the turtle on your menu with other equally attractive and exotic luxury foods, such as our locally grown Malaysian prawns. Finally, I would like those restaurants that have benefited from the exploitation of Hawaii's green turtles to consider giving assistance to research on the captive rearing of green turtles. Help support our studies so that one day you may again serve turtle steak - steak that is obtained from domestically raised animals specifically for this purpose.

Mean No. Turtles taken

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973 (6 months)</u>
NO.	75	132	147	139
\bar{x} wt.	135 lbs.	131 lbs.	150 lbs	107 lbs

¹ net, ² scuba and ³ Gaff

		Lunch	dinner
① Fisherman's wharf	225 per week	2.95	4.95
② Nick's Fish market	— when available		8.50
③ Chuck's cellar			
④ Top's waipahu			
⑤ Chart house			4.95
⑥ Ulv mau village			

"If an animal's status is truly questionable, it should be given protection until the matter is investigated"

"At a shell length of 36", most green turtles have reached sexual maturity"

"Regulation does not protect 36" turtles."

"Regulation represents a compromise"

BERNICE P. BISHOP MUSEUM

Page two

September 21, 1973

P. O. Box 6037, Honolulu, Hawaii 96819 • Telephone 697-3514

September 21, 1973

Testimony Concerning Proposed Regulation 36 of the Hawaii State Division of Fish and Game, Relating to the Protection of Marine Turtles
Presented at Public Hearing on September 21, 1973
by Frank J. Radovsky

I appreciate this opportunity to make a relatively brief statement in support of Regulation 36 in the form in which it is now drafted. It will be brief because I am aware that many of the details I might otherwise present are covered in the testimony of Mr. George Balass. In recent years, Mr. Balass has researched the biology, exploitation, and current status of marine turtles in Hawaii more thoroughly than anyone else, and his testimony should be given major consideration.

The main impact of the proposed regulation would be on the green sea turtle, since it is the only species breeding in Hawaii and the only species regularly taken for either home consumption or commercial use. The Hawaiian population of this species has both breeding and feeding grounds within the State. All other green sea turtle populations migrate for breeding and feeding between different national jurisdictions. The protection of marine resources by international agreement has proved entirely inadequate. Therefore the State of Hawaii is in a unique position to manage and protect the green sea turtle.

Do the turtles need protection? I will rely on Mr. Balass to give the details of recent studies. Let me say only this. (1) All available sources demonstrate that commercial turtle consumption, especially through restaurants, is increasing at a steady and alarming rate. This is due to an increased demand related to increased tourism, and is certainly not related to a greater abundance of turtles. (2) The opinions expressed by turtle fishermen, skindivers, and others in a position to observe indicate that turtle populations have been sharply reduced; this is substantiated by Mr. Balass' studies at French Frigate Shoals during this past summer. (3) Experience elsewhere in the world shows that turtle populations reduced beyond a certain point are unable to recover, or recover very slowly even when fully protected. Some will insist that this is not sufficient evidence and that more study is needed before protective regulations are imposed; I believe they are asking us to wait and lock the barn after the last horse has been taken, although such may not be their intention. The arguments for regulation now are not trivial; when carefully weighed they point to an urgent and immediate need.

The Regulation effectively and completely bars taking of turtles within the State for commercial use. Is this necessary? I have not heard any alternative proposal for effective protection of turtles without elimination of commercial (primarily restaurant) use. With unlimited enforcement manpower in Fish and Game, it might be conceivable to limit size or numbers per license of turtles taken for commercial use,

and this might provide protection that would do some good. But Fish and Game could not conceivably enforce such stopgap measures under the actual manpower situation. Let us be realistic. Until sale of turtle in restaurants is stopped completely, the green sea turtle population will continue to decline. The possibility of safely allowing commercial use of Hawaiian green sea turtles in the future must depend on the results of research on sustainable turtle yields and the potential of raising turtles for food.

Is there justification for making it unlawful to use nets to take turtles? In the first place, there is no need for nets for taking turtles singly for home consumption; and it would be extremely hazardous to allow nets to be used by the general public for this purpose. Secondly, the evidence available to me indicates that nets kill (drown) many or most turtles that are caught, so that there cannot be discrimination between the taking of large turtles for consumption and the wasteful destruction of small turtles with nets. I have heard it stated that nets do not drown turtles when properly used. What I have been told of the construction and setting of turtle nets in general use leads me to believe that most turtles do drown in the nets.

Is it imposing a significant hardship on commercial fishermen to take away the turtle industry? The figures available from the Division of Fish and Game show that legal reported commercial taking of turtles in this state is limited to some 8 individuals, none of whom depend entirely on turtles for a livelihood and nearly all deriving only a small portion of their income from turtles.

The Regulation does allow taking of turtles above a specified size for home consumption. Thus the traditional use of turtles as food by the people of Hawaii is not lost.

In summary, I believe that this is a constructive and carefully considered Regulation that deserves the support of all concerned citizens of Hawaii.



Frank J. Radovsky
Chairman
Department of Entomology
Bernice P. Bishop Museum



United States Department of the Interior

FISH AND WILDLIFE SERVICE

BUREAU OF SPORT FISHERIES AND WILDLIFE

Division of Wildlife Refuges

337 Ulenia Street

Kalamazoo, MI 49004

September 20, 1973

Dr. Michio Takata, Director
Hawaii Division of Fish and Game
1179 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Takata:

Thank you very much for the opportunity to comment upon the proposed regulation concerning the protection of marine turtle in Hawaii.

As refuge manager of the Hawaiian Islands National Wildlife Refuge located in the Northwestern (Leeward) Hawaiian Islands, I have a keen interest in the welfare of this animal because it is a very important part of the refuge fauna and also because of our research on it there.

While researching the literature on this very valuable animal, we find numerous references to the great decline and even loss of populations in many areas where it was formerly abundant. Florida, the Bahamas, the Bahamas and the western part of the Indo-Pacific region are some of the areas mentioned. Causes of loss and decline are attributed to the over-exploitation by humans. Expanding human populations, the increasing market for its flesh and eggs now in certain tourist oriented areas for its shell as an object of curio, destruction of nesting habitats, continual disturbance on its nesting beaches and more efficient means now of transporting them to market have all taken a serious toll.

The International Union for the Conservation of Nature, the prestigious worldwide conservation organization lists the green sea turtle as a depleted species in its book of threatened species of the world. The Hawaiian and leatherback are listed as endangered. (IUCN Red Data Book Vol. 3, 1969). The Endangered Species Conservation Act of 1969 (16 U.S.C. 668 cc) and 50 C.F.R. 17) prohibit the importation into the United States of any Hawaiian or leatherback turtle or any part thereof whether or not in a manufactured state because of their status as endangered. Although not yet listed as "endangered", this animal is

listed as "threatened" (one whose status must be carefully watched by the U. S. Department of Interior (Threatened Wildlife of the United States, 1973, p. 92). The Hawaiian and leatherback will be added to this list as endangered because of their known presence in Hawaiian waters.

Formerly abundant as a nesting entity in Florida, it is now in a very precarious condition there. Dr. Frank Lund of the U. S. National Museum, who has conducted extensive research of this turtle in the eastern United States, states that the east coast stocks are almost insignificant in comparison with those of the Hawaiian Islands. He estimates at the most, 50 females nesting there each year - or about 125 mature females in the east coast population.

Among biologists and people knowledgeable about turtles in Hawaii, there seems to be general agreement that our Hawaiian populations are not as abundant as they once were, and steps must be taken to more intensively protect and manage these.

Since 1964, refuge personnel have tagged about 800 animals, mostly adults, on the wildlife refuge for basic life history studies and to determine the movements of these turtles. Recovery reports to date show that populations inhabiting and nesting on the refuge are the same as those found in other periods during the year in the waters of the main Hawaiian Islands. Recoveries have been received from Kauai, Oahu, Maui, Molokai and Hawaii. The latter over 600 airline miles from French Frigate Shoals where it was tagged. Data also indicate that our green turtles may be confined to the Hawaiian Archipelago and that French Frigate Shoals is the most important nesting area for the green sea turtle in the nation.

In addition to tagging, data are being collected on the weights and measurements. Of a sample of 100 tagged at French Frigate Shoals during 1971-72, the average straight line measurement of the carapace was 35 inches. About 30 were 36 inches or better. The average weight was 230 pounds.

To get more data on the possible size of the breeding and nesting population in Hawaii, the Hawaii Institute of Marine Biology in cooperation with the U. S. Bureau of Sport Fisheries and Wildlife is conducting research on the turtle on the refuge at French Frigate Shoals. The principal investigator, Mr. George Salas, spent two months there this past summer. I understand that he will comment briefly on his findings at the public hearing.

I concur in the major provisions of Regulation 36; however, I would like to see the following incorporated:

1. Add the words "disturb" after the word "possess" and the words "and nests" after the word "eggs" in Section No. 1. Any animal trying to nest on any beach of the main islands should be given every opportunity to be successful in this endeavor.
2. Prohibit the taking of all marine turtles in the waters under the jurisdiction of the State of Hawaii in the Northwestern Hawaiian Islands. This sentence to be added to Section No. 2.

Adoption of regulation 36 will be a long way in being better able to protect and manage this valuable renewable resource, and I support the Hawaii Division of Fish and Game in these efforts.

Sincerely,

Eugene Kridler

Eugene Kridler

cc: Regional Director, Portland, Oregon

(1 November 1973)

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PROTECTION FOR HAWAIIAN SEA TURTLES

Public hearings on proposed State Fish & Game regulation 36 (protection for sea turtles) will be held on the Islands of Kauai (Lihue, State Office Building, 7PM) and Maui (Wailuku, State Office Building, 7PM) on Dec. 5th and on Hawaii (Hilo, County Council Room, 7PM) on Dec. 6th. Public support was greatly in favor of this measure at a recent hearing held on Oahu (Sept. 21st).

Proposed regulation 36 is necessary because:

1. No protection for sea turtles presently exists around the 8 major Islands.
2. All available evidence indicates that Hawaiian sea turtle populations are overexploited and declining at a significant rate. Studies on catch statistics have revealed that extremely large increases have occurred in lbs of turtle caught over the past 10 years. This appears to have followed increases in tourism. The mean weight of turtles being taken (107lbs) is well below the size at which sexual maturity occurs (210lbs). Recent research at French Frigate Shoals (the only remaining nesting site in the Hawaiian Archipelago) has indicated that our green turtle breeding population now consists of fewer than 1100 individuals.

3. Hawaii has the last remaining green turtle colony in the U.S.
4. Hawaiian sea turtles will surely be subjected to increases in exploitation for turtle steak unless the personal gain incentive is removed.

Major provisions of the proposed regulation include:

1. Prohibiting the taking of leatherback and hawksbill turtles.
2. Prohibiting the sale of green sea turtles taken in Hawaii.
3. Allowing the capture of green turtles (shell greater than 36") for home consumption.
4. Prohibiting the use of nets for taking green turtles.

YOUR SUPPORT FOR THIS MEASURE IS NEEDED. If you have friends on those islands where hearings will be held, please urge them to attend and express their concern. Written testimony will be accepted from all persons until Dec. 21st. Only a brief note is necessary to voice your sentiment. Address letters or post cards to:

CHAIRMAN OF THE BOARD OF LAND & NATURAL RESOURCES
P.O. BOX 621
HONOLULU, HAWAII 96809

and

MR. MICHIO TAKATA, DIRECTOR STATE FISH & GAME
1179 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

BERNICE P. BISHOP MUSEUM

P. O. Box 6037, Honolulu, Hawaii 96818 • Telephone 847-3511

DATE: 21 SEPTEMBER 1973
TO: CHAIRMAN, HAWAII BOARD OF LAND & NATURAL RESOURCES
FROM: ALAN C. ZIEGLER, VERTEBRATE ZOOLOGIST, BISHOP MUSEUM
SUBJECT: PROPOSED REGULATION 36: RELATING TO THE PROTECTION OF MARINE TURTLES

I wish to present this testimony in full support of this proposed Regulation. In its provisions the Division of Fish & Game and the Department of Land & Natural Resources seem to have an extremely reasonable, scientifically based, practical document for ensuring adequate and continued protection of Hawaii's sea turtles.

The proposed prohibition of commercial use of local sea turtles can have only a negligible effect on the overall State fishing industry, because commercial turtle fishing is carried on by extremely few people, and then only incidental to their other, much more profitable, marine operations. In fact, in the calendar year 1972, only six commercial fisherman even bothered to take any turtles for sale, and each of these six received an average of only \$3,000 for his entire year's turtle catch. (Incidentally, there is the possibility that a truly profitable commercial fishing industry could eventually materialize, if the presently proposed turtle protection led to population sizes obviously large enough to be safely harvested on a sustained-yield basis.)

The second proposed provision reasonably allows for occasional permits to be issued for capture and possession of marine turtles for necessary scientific, propagation, and presumably other worthwhile and highly desirable purposes such as education and public display by official institutions.

The time-honored Island tradition of taking green turtles for home consumption is carefully preserved. The proposed Regulation simply asks that all turtles taken be of breeding age, so that each one so used will have had at least one opportunity to produce the single clutch of eggs necessary to perpetuate the species. The permits for home use of turtles, for which there is no charge, are required only because their attendant "catch reports" form an essential part of studies basic to successful preservation and management of this biologically priceless natural resource.

Netting of sea turtles is prohibited only because in most cases turtles entangled in the bottom-anchored net are unable to surface to breathe, and drown before they can be retrieved. Therefore, if netting is allowed to continue, large numbers of immature turtles will be unavoidably wasted when they suffocate along with the legal-sized adult ones.

With the protection offered by the passage of this Regulation as presently proposed, there seems every indication that marine turtles (--younger ones, at least--) will become an ever-increasingly common sight off all of Hawaii's beaches. And, I think almost any one of us would be quick to agree that this "return of the turtles" would really be a nice thing to have happen to our State !

Thank you very much for this opportunity to support this excellent proposed Regulation.

STATE DEPARTMENT OF LAND
AND NATURAL RESOURCES

JOHN A. BURNS
GOVERNOR OF HAWAII

Michio Takata - 348-4000



DIVISIONS:
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LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

The Division of Fish and Game and Natural Resources reminds all interested parties that public hearings on the counties of Kauai, Maui and Hawaii concerning the proposed adopt November 13, 1973 Regulation 36 Relating to the Protection of Marine Turtles. The dates, time and location for these hearings are as follows:

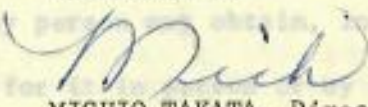
1. Lihue, Kauai - December 3, 1973, State Office Building Conference Room, 1:00 PM.
2. Hilo, Hawaii - December 6, 1973, Hawaii County Council Room, 7:00 PM.
3. Mr. George H. Balazs
Jr. Marine Biologist
Hawaii Institute of Marine Biology
University of Hawaii at Manoa
P. O. Box 1346
Kaneohe, HI 96744

1. Dear George:
The proposed Regulation 36 relating to the protection of the marine turtles.

While your suggestion, that a temporary moratorium be declared for the taking of marine turtles for any purpose, has merits, we do not have the authority to do so.

1. Enclosed for your information is a copy of a news release announcing the neighbor island public hearings and a copy of the proposed regulation that will be subjected to the hearings. You will note that draft #6 differs slightly from the draft that was discussed at the Honolulu public hearing.

Thank you for your past support for the protection of our marine turtles and we look forward to your continued support.

Yours truly,

MICHIO TAKATA, Director
Division of Fish & Game

All interested persons are urged to be present at any of the hearings on the dates, time and place specified above. Those unable to attend may submit written statements prior to December 21, 1973 to the Chairman of the Board of Land and Natural Resources, P. O. Box 211, Honolulu, Hawaii 96809.

STATE DEPARTMENT OF LAND
AND NATURAL RESOURCES

Division of Fish and Game

Michio Takata - 548-4000

November 5, 1973

FOR IMMEDIATE RELEASE

PUBLIC HEARING SET TO DISCUSS TURTLE REGULATION

The Division of Fish and Game, Department of Land and Natural Resources reminds all interested parties that public hearings will be held for the counties of Kauai, Maui and Hawaii concerning the proposed adoption of Regulation 36 Relating to the Protection of Marine Turtles. The dates, time and location for these hearings are as follows:

1. Lihue, Kauai - December 5, 1973, State Office Building Conference Room, 7:00 PM.
2. Hilo, Hawaii - December 6, 1973, Hawaii County Council Room, 7:00 PM.
3. Wailuku, Maui - December 5, 1973, State Office Building Conference Room, 7:00 PM.

The major provisions of the proposed regulation include:

1. Prohibiting the taking of leatherback and hawksbill turtles.
2. Prohibiting the sale of green sea turtles or parts thereof taken in waters under the jurisdiction of the State of Hawaii.
3. Requiring a permit issued by the Board of Land and Natural Resources for the taking only of green sea turtles having upper shell length measurement of 36 inches or more from or within waters under the jurisdiction of the State surrounding the eight major islands for home consumption.
4. Prohibiting the use of nets for the taking of green sea turtles.
5. Providing for the sale of farm raised marine turtles or parts thereof.

For further particulars contact the Division of Fish and Game by telephoning 548-5920 or writing to 1179 Punchbowl Street, Honolulu, Hawaii 96813. Drafts of the proposed regulation are available and any person may obtain, in advance of the hearings listed above, a copy thereof by calling for it in person or by writing to the aforementioned office or any office of the Division of Fish and Game within the State.

All interested persons are urged to be present at any of the hearings on the dates, time and places specified above. Those unable to attend may submit written statements prior to December 21, 1973 to the Chairman of the Board of Land and Natural Resources, P. O. Box 621, Honolulu, Hawaii 96809.

State of Hawaii
Department of Land and Natural Resources
Honolulu

Draft #6
(11/7/73)

DIVISION OF FISH AND GAME

* * * * *

The Board of Land and Natural Resources, in conformity with and pursuant to Chapters 187 and 190, Hawaii Revised Statutes, and every other law hereunto enabling does hereby adopt the following regulation relating to the protection of marine turtles.

REGULATION 36. RELATING TO THE PROTECTION OF MARINE TURTLES.

SECTION 1. It shall be unlawful to mutilate, injure, take, kill, possess, disturb, sell or offer to sell leatherback turtles (Dermochelys sp.), hawksbill turtles (Eretmochelys sp.) and green sea turtles (Chelonia sp.) or any parts thereof or the eggs or nests thereof from or within the State of Hawaii and waters subject to its jurisdiction, except as provided in Section 2 of this regulation.

SECTION 2. It shall be lawful with a permit issued by the Board of Land and Natural Resources to:

- a. take or possess marine turtles for scientific, educational or propagational purposes.
- b. take or possess green sea turtles for home consumption from the waters surrounding the eight major islands (Hawaii, Maui, Kahoolawe, Lanai, Molokai, Oahu, Kauai and Niihau) provided that the upper shell length is 36 inches or more (straight line measurement) and the turtle is kept whole or unbutchered while in transit over sea or land from the fishing area to the permittee's residence.
- c. possess or sell the eggs or progeny of captive green sea turtles or products thereof.
- d. possess for the purpose of sale or sell marine turtles or products thereof acquired prior to the effective date of this regulation.

SECTION 3. It shall be unlawful to use nets for the taking of green sea turtles.

SECTION 4. Nothing in Section 1 shall be construed as making it unlawful for any person to possess marine turtles or products thereof acquired prior to the effective date of this regulation.

SECTION 5. Any person violating the provisions of this regulation shall be fined not more than \$500 as provided in Section 187-20, Hawaii Revised Statutes.

State of Hawaii
Department of Land and Natural Resources
Honolulu

Draft #6
(11/7/73)

DIVISION OF FISH AND GAME

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- d. possess for the purpose of sale or sell marine turtles or products thereof acquired prior to the effective date of this regulation.

SECTION 3. It shall be unlawful to use nets for the taking of green sea turtles.

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HOUSE OF REPRESENTATIVES
STATE CAPITOL
HONOLULU, HAWAII 96813

ANSON CHONG

November 23, 1973

Vice-Chairman:
Water/Land Use & Development
Public Employment

Member:
Finance
Labor
Tourism
Agriculture

FOR: GREEN TURTLE PEOPLE
FROM: Anson Chong
SUBJ: UPCOMING HEARINGS ... neighbor isles.

I RECEIVED THE ENCLOSED INCLOSED INFORMATION
THIS AFTERNOON FROM ALAN ZEIGLER.

IT IS SELF-EXPLANATORY.

YOU WILL NOTE THAT REGULATION 36 IS WHAT IS
AT STAKE.

THE EXACT TIME, DATES AND LOCATION OF THE
HEARINGS ARE ON ALAN'S MEMORANDUM.

IF YOU KNOW ANYBODY ON THE NEIGHBOR ISLANDS
WHO CAN TESTIFY PLEASE CALL OR WRITE TO
THEM IMMEDIATELY. (PLEASE SEND THEM ALL
THAT GREEN TURTLE INFORMATION WE SENT TO
YOU IN PREVIOUS NEWSLETTERS).

Hope you had a happy thanksgiving. Best
wishes for the holiday season.

A handwritten signature in cursive script that reads "Anson".

BERNICE P. BISHOP MUSEUM

November 15, 1973

P. O. Box 6037, Honolulu, Hawaii 96818 • Telephone 847-3511

Dear Friend,

As you have probably already heard, the Department of Land & Natural Resources' Division of Fish & Game has scheduled additional Public Hearings on its proposed new Regulation 36: RELATING TO THE PROTECTION OF MARINE TURTLES. The new Hearings are scheduled as follows:

- 1) KAUAI--Lihue, Wednesday, December 5, 1973, 7:00 PM, Conference Room, State Office Building.
- 2) MAUI--Wailuku, Wednesday, December 5, 1973, 7:00 PM, Conference Room, State Office Building.
- 3) HAWAII--Hilo, Thursday, December 6, 1973, 7:00 PM, Hawaii County Council Room.

Many of us attended the Oahu Public Hearing on the Regulation last September 21st, and the public response at that meeting was overwhelmingly in favor of this Regulation. We hope that you and many others on your Island may likewise care to testify at your particular December Public Hearing. A copy of the proposed Regulation is enclosed, as are also samples of testimony from the Oahu Hearing, in case you or your friends might need any additional background information.

From the Oahu Hearing we learned that it is especially necessary to point out the importance of certain provisions in the Regulation, for the benefit of many people who may not fully realize the reasons behind specific parts of it.

The minimum size limit on turtles taken for home consumption is set at 36 inches because scientific studies have shown that an animal of this size will have had a chance to reproduce at least a single time before it is killed--thus assuring perpetuation of the non-migratory green sea turtle population found within the State boundaries of Hawaii. Any size limit below this approximate length is therefore almost as useless as no size limit at all as far as permanent maintenance of the Hawaiian green sea turtle is concerned.

Although 36-inch turtles are relatively scarce around our main islands at the moment, the outlawing of the present intense commercial taking of predominantly small, younger, turtles will obviously result in a greatly increased number of turtles being left in the Hawaiian population to reach this 36-inch minimum length --and within only the next few years at that.

The proposed provision that home-consumption turtles must be "...kept whole or unbutchered while in transit..." is related exclusively to Regulation enforcement problems, and could probably safely be relaxed to read somewhat like "...the lower shell may be removed and the inedible internal portions of the turtle discarded but the edible meat must be left attached to the intact upper shell while in transit..."

The use of nets for taking turtles is prohibited only because these long, bottom-weighted nets almost invariably drown all turtles of any size caught in them--not just the legal-size animals.

Hope you will be able to testify at one of the up-coming December Hearings. But, whether you can or can't, we would certainly appreciate you passing on this information to all the other interested persons that you know in your area.

Continued best of fortune in everything--and Mahalo !!

Alan C. Ziegler

Alan C. Ziegler
Vertebrate Zoologist

September 27, 1973

State Fish & Game Division
1170 Punchbowl Street
Honolulu, 96813

Dear Sirs:

We are in full support and agreement with the testimony given by George H. Balazs on September 21, 1973 concerning Regulation 36 relating to the protection of marine turtles in the Hawaiian waters.

We have noticed on many occasions the taking of turtles in the waters off Keomoku beach by boats with nets, presumably from the island of Maui. These people have harvested turtles indiscriminately regardless of size or number. I have dived and fished in these waters for over twenty years and have noticed the depletion of turtles in the past few years.

We have read with great interest the studies made by Mr. Balazs and his effort to save this particular species which was once abundant in the waters of Lanai. It is a well known fact that the North Shores of Lanai (Polihua Beach) was once the nesting grounds of the green turtles but today we can find no evidence of turtles nesting there, due to the fact that they are not given the chance to live to sexual maturity.

We urge that Regulation 36 be enacted into the Hawaii State laws.

Yours truly,

Robert Amara

3673 Loulu St.
Honolulu Hawaii 96822
September 19, 1973

Mr. Michio Takata
State Fish and Game
1170 Punchbowl St.
Honolulu Hawaii

Dear Mr. Takata,

I'm writing in reference to the hearing scheduled for the 21st on sea turtles. As a concerned citizen, voter and taxpayer I would like to register my full support to the proposals which Mr. George Balaz has drawn up.

As Mr. Balaz has pointed out, the main market for turtle meat is the expensive restaurants which cater to the tourists. I know that it has been the policy of this state to do any and everything to satisfy the tourists' slightest whim, short of having John Burns dance a hula at the airport. But the time has come when we must realize that we are sacrificing too much of Hawaii's resources to tourism for the benefits that accrue to the islands as a result of the tourist dollar.

I hope that the Division of Fish and Game will move to stop the depletion of Hawaii's marine resources by adopting Mr. Balaz's proposals. Maybe it will cut some money out of some peoples incomes, and maybe a few local families won't have turtle once in a while, but I think that is better than cutting out the entire population of green turtles in the Hawaiian Islands.

Sincerely,



Martha Hoverson

BERNICE P. BISHOP MUSEUM

P. O. Box 6037, Honolulu, Hawaii 96818 • Telephone 847-3511

DATE: 21 SEPTEMBER 1973
TO: CHAIRMAN, HAWAII BOARD OF LAND & NATURAL RESOURCES
FROM: ALAN C. ZIEGLER, VERTEBRATE ZOOLOGIST, BISHOP MUSEUM
SUBJECT: PROPOSED REGULATION 36: RELATING TO THE PROTECTION OF MARINE TURTLES

I wish to present this testimony in full support of this proposed Regulation. In its provisions the Division of Fish & Game and the Department of Land & Natural Resources seem to have an extremely reasonable, scientifically based, practical document for ensuring adequate and continued protection of Hawaii's sea turtles.

The proposed prohibition of commercial use of local sea turtles can have only a negligible effect on the overall State fishing industry, because commercial turtle fishing is carried on by extremely few people, and then only incidental to their other, much more profitable, marine operations. In fact, in the calendar year 1972, only six commercial fisherman even bothered to take any turtles for sale, and each of these six received an average of only \$3,000 for his entire year's turtle catch. (Incidentally, there is the possibility that a truly profitable commercial fishing industry could eventually materialize, if the presently proposed turtle protection led to population sizes obviously large enough to be safely harvested on a sustained-yield basis.)

The second proposed provision reasonably allows for occasional permits to be issued for capture and possession of marine turtles for necessary scientific, propagation, and presumably other worthwhile and highly desirable purposes such as education and public display by official institutions.

The time-honored Island tradition of taking green turtles for home consumption is carefully preserved. The proposed Regulation simply asks that all turtles taken be of breeding age, so that each one so used will have had at least one opportunity to produce the single clutch of eggs necessary to perpetuate the species. The permits for home use of turtles, for which there is no charge, are required only because their attendant "catch reports" form an essential part of studies basic to successful preservation and management of this biologically priceless natural resource.

Netting of sea turtles is prohibited only because in most cases turtles entangled in the bottom-anchored net are unable to surface to breathe, and drown before they can be retrieved. Therefore, if netting is allowed to continue, large numbers of immature turtles will be unavoidably wasted when they suffocate along with the legal-sized adult ones.

With the protection offered by the passage of this Regulation as presently proposed, there seems every indication that marine turtles (---younger ones, at least---) will become an ever-increasingly common sight off all of Hawaii's beaches. And, I think almost any one of us would be quick to agree that this "return of the turtles" would really be a nice thing to have happen to our State!

Thank you very much for this opportunity to support this excellent proposed Regulation.

BERNICE P. BISHOP MUSEUM

P. O. Box 6037, Honolulu, Hawaii 96818 • Telephone 847-3511

September 21, 1973

Testimony Concerning Proposed Regulation 36 of the
Hawaii State Division of Fish and Game, Relating to
the Protection of Marine Turtles
Presented at Public Hearing on September 21, 1973
by Frank J. Radovsky

I appreciate this opportunity to make a relatively brief statement in support of Regulation 36 in the form in which it is now drafted. It will be brief because I am aware that many of the details I might otherwise present are covered in the testimony of Mr. George Balazs. In recent years, Mr. Balazs has researched the biology, exploitation, and current status of marine turtles in Hawaii more thoroughly than anyone else, and his testimony should be given major consideration.

The main impact of the proposed regulation would be on the green sea turtle, since it is the only species breeding in Hawaii and the only species regularly taken for either home consumption or commercial use. The Hawaiian population of this species has both breeding and feeding grounds within the State. All other green sea turtle populations migrate for breeding and feeding between different national jurisdictions. The protection of marine resources by international agreement has proved entirely inadequate. Therefore the State of Hawaii is in a unique position to manage and protect the green sea turtle.

Do the turtles need protection? I will rely on Mr. Balazs to give the details of recent studies. Let me say only this. (1) All available sources demonstrate that commercial turtle consumption, especially through restaurants, is increasing at a steady and alarming rate. This is due to an increased demand related to increased tourism, and is certainly not related to a greater abundance of turtles. (2) The opinions expressed by turtle fisherman, skindivers, and others in a position to observe indicate that turtle populations have been sharply reduced; this is substantiated by Mr. Balazs' studies at French Frigate Shoals during this past summer. (3) Experience elsewhere in the world shows that turtle populations reduced beyond a certain point are unable to recover, or recover very slowly even when fully protected. Some will insist that this is not sufficient evidence and that more study is needed before protective regulations are imposed; I believe they are asking us to wait and lock the barn after the last horse has been taken, although such may not be their intention. The arguments for regulation now are not trivial; when carefully weighed they point to an urgent and immediate need.

The Regulation effectively and completely bars taking of turtles within the State for commercial use. Is this necessary? I have not heard any alternative proposal for effective protection of turtles without elimination of commercial (primarily restaurant) use. With unlimited enforcement manpower in Fish and Game, it might be conceivable to limit size or numbers per license of turtles taken for commercial use,

September 21, 1973

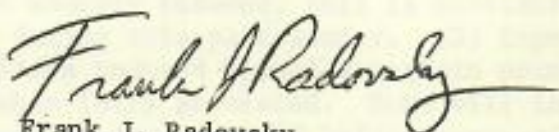
and this might provide protection that would do some good. But Fish and Game could not conceivably enforce such stopgap measures under the actual manpower situation. Let us be realistic. Until sale of turtle in restaurants is stopped completely, the green sea turtle population will continue to decline. The possibility of safely allowing commercial use of Hawaiian green sea turtles in the future must depend on the results of research on sustainable turtle yields and the potential of raising turtles for food.

Is there justification for making it unlawful to use nets to take turtles? In the first place, there is no need for nets for taking turtles singly for home consumption; and it would be extremely hazardous to allow nets to be used by the general public for this purpose. Secondly, the evidence available to me indicates that nets kill (drown) many or most turtles that are caught, so that there cannot be discrimination between the taking of large turtles for consumption and the wasteful destruction of small turtles with nets. I have heard it stated that nets do not drown turtles when properly used. What I have been told of the construction and setting of turtle nets in general use leads me to believe that most turtles do drown in the nets.

Is it imposing a significant hardship on commercial fishermen to take away the turtle industry? The figures available from the Division of Fish and Game show that legal reported commercial taking of turtles in this state is limited to some 8 individuals, none of whom depend entirely on turtles for a livelihood and nearly all deriving only a small portion of their income from turtles.

The Regulation does allow taking of turtles above a specified size for home consumption. Thus the traditional use of turtles as food by the people of Hawaii is not lost.

In summary, I believe that this is a constructive and carefully considered Regulation that deserves the support of all concerned citizens of Hawaii.



Frank J. Radovsky
Chairman
Department of Entomology
Bernice P. Bishop Museum



University of Hawaii at Manoa

Hawaii Institute of Marine Biology
P.O. Box 1346 • Coconut Island • Kaneohe, Hawaii 96744
Cable Address: UNIHAW

September 10, 1973

Dear

For your information I have enclosed a copy of regulations which have been proposed for the protection of marine turtles in Hawaiian waters. As no State regulations presently exist (other than the outlawing of firearms for harvesting and the prohibition of the sale of speared marine animals), it is my opinion that this proposal represents positive action to ensure the continued viable existence of our green turtle colony.

The reported commercial catch for turtles in Hawaii has increased sharply from a low of 380 lbs in 1963 to 25,583 lbs in 1972. Over 12,000 lbs have already been reported for the first 3 months of 1973. Turtles taken for home consumption are presently not reported. Increases in tourism are undoubtedly responsible for the demand for turtle meat as this item has become very popular at many resort restaurants. More intensified methods of fishing, including the use of SCUBA and rapid vessels, have increased the pressures of exploitation.

During June and July of this year, in cooperation with the U.S. Fish and Wildlife, I conducted a census and tagging program at French Frigate Shoals (Hawaiian Islands National Wildlife Refuge) in order to have some basis for estimating the present size of the breeding population utilizing this area. As you may be aware, marine turtle nesting at French Frigate Shoals represent approximately 95% of that occurring within the entire Hawaiian Archipelago. Studies were concentrated, within the atoll, at East Island since observations by other workers indicated that the greatest number of nesters used this location. In addition, pit counts were taken periodically at each of the other islets. From this work it was estimated (assuming a 3 year nesting cycle and an equal sex ratio) that only slightly more than 1000 mature individuals remain in the entire French Frigate Shoals breeding colony. Previous work conducted by the U.S. Fish and Wildlife Service has shown that at least some of the turtles using this

September 10, 1973

Page 2

atoll travel (return?) to the major Hawaiian Islands.

Since Hawaii possesses the largest remaining green turtle colony in the United States and possibly the only one which can be studied and managed under a single government's jurisdiction both at the nesting and feeding ground, it is of major importance that the proposed regulations be implemented. As a person involved with marine turtles, it would be of great benefit if you could give your support to this measure. Mr. Michio Takata, Director, Hawaii State Fish and Game Division, 1170 Punchbowl Street, Honolulu, Hawaii 96813, will be accepting written testimony until the end of September. A brief note stating your position would be sufficient.

Thank you and Mahalo for any assistance you are able to give to this matter.

Sincerely,

George H. Balazs
Jr. Marine Biologist

GHB:ah

UNIVERSITY OF HAWAII

College of Tropical Agriculture
Department of Animal Sciences

September 19, 1973

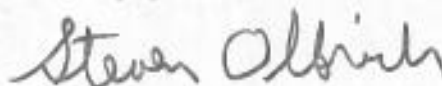
Mr. Michio Takata, Director
Hawaii State Fish and Game Division
1170 Punchbowl St.
Honolulu, Hawaii 96813

Dear Mr. Takata:

This letter is to let you know that I firmly back the proposed regulations to ban the sale and indiscriminate hunting of sea turtles.

I believe these regulations are especially needed for the preservation of the leatherback and the hawksbill species and should at least be imposed on the green sea turtles until further definitive information is available on the population stability of this species.

Sincerely yours,



Steven E. Olbrich
Research Associate

SEO:hsm

- ✓ Ron Huron? P.O. Box 10387, Hon., 96816
- ✓ Wadethrop Hon., Zoo 151 Kapaekahu Ave. 96815
- ~~Spencer T. ...~~
- ~~2777 Kapaekahu Ave. 96815~~
- ✓ Sierra Club Box 6037 Hon., 96818 at Willis Moore
- ✓ Paul Breeze Fish + Game 1179 Punchbowl St., 96813
- ✓ David Wood side " " " "
- ✓ John Naughton } National Marine Fisheries
- ✓ Robt. Overton } 2570 Dole St., Hon., 96822
- ✓ Frank Hester }
- ✓ Life of the Land Tony Hodges 404 Piikoi 96814
- ✓ Office of Environmental Control Dr. Marland 96813 Capitol Rm. 436.
- ✓ Rep. John Carroll
- ✓ Sen. George Mills (sets turtle nets!)
- ✓ Sen. Kenny Brown Chem. ✓ Sen. Eureka Forbes
- ✓ Rep. Jean King
- ✓ Sen. Mason Altieri
- ✓ Sen. Nadao Yoshinaga
- ✓ ^{CCP} Richard Wasai (Comm., Comm., Parks, Fish + Game)
- ✓ Audubon Society Box 5032 Hon., 96814 send 2
- Dr. Banner U.H. Zoology
- Sea Life Park
- Dr. John Maciolek Zoology, Edmondson, U.H.
- Dr. Andrew Berger U.H. "
- Dr. Allison Kay U.H. Marine Biology
- ✓ Bishop Museum (Wayne Gagné) ^{or Box 6037 Hon 96818} 1355 Kalihī 96819

Citizens for Hawaii Rm. 18 205 Merchant St.
Hon., 96813

✓ Conservation Council for Hawaii send 2
% Mr. Arch. Harrison 2310 Ferdinand 96822

✓ Scott Hamilton 263 Kaiulani Ave. 96815

Jan Newhouse U.H. Dept. of Science

Ricky Grigg?

✓ Allan Tyler - Kona Conservation Group
Captain Cook, Hawaii 96704

✓ Ramon Duran - Dept. Parks + Recreation C+C,
Honolulu, 1455 S. Beretania 96814

✓ Harold Hostetter - Advertiser } 605 Kapiolani
Jerry Tume - Star Bulletin } 96814

Dr. Philip Helfrich

John M. Kelly SOS 417 Black Point Rd. 96816

✓ Dr. David Sears (Sierra Club) RRI Box 214D, Kapaa,
Kauai, 96746

✓ Lorin Gill 4110 Round Top Dr. 96822

Dr. Doak Cox Off. of Environment U.H.

✓ Haw. Malacological Society % Harrison
2310 Ferdinand Ave. 96822

Eugene Kridler Bureau of Sport Fisheries
Dept. of Land + Natural Resources home: 835 Alakulu Kailua 96743

✓ KQMB Cec Heftel 1534 Kapiolani 96814

✓ KHVH Lawrence Berger 1290 Ala Moana 96814

U.H. Dept. of Marine Biology

Marine Program Sea Grant

Dr. Craven?



University of Hawaii at Manoa

Hawaii Institute of Marine Biology
P.O.Box 1346 • Coconut Island • Kaneohe, Hawaii 96744
Cable Address: UNIHAW

October 16, 1974

The Honorable George Pai
Department of the Attorney General
Hawaii State Capitol
415 S. Beretania St.
Honolulu, Hawaii, 96813

Dear Mr. Pai:

This letter is in reference to the Division of Fish and Game's Regulation 36 (relating to the protection of marine turtles) which became law during May of this year. Over the past two years, I have worked closely with both the Governor's Animal Species Advisory Commission and the Division of Fish and Game on the formulation of this regulation. I, therefore, have considerable interest in its implementation and effectiveness as a means of conserving the overexploited turtle populations.

Several weeks ago, I was astonished to learn that a decision has apparently been made by your office that will severely weaken, if not completely destroy, the intent and purpose of this newly enacted regulation. As you are aware, the law prohibits the commercialization of products derived from three species of marine turtles. Only two exceptions were provided to this ban on selling (Section 2c and 2d in the attached regulation). The first exception makes it legal to possess or sell eggs or offspring of captive green sea turtles. This provision was included so that products could be marketed when, and only when, turtle farming becomes established on a sound biological foundation and is independent of wild stocks as a source for young. The only turtle farm now in existence (Mariculture, Ltd. located in the Cayman Islands) cannot meet this provision as the overwhelming majority of its marketable animals were derived from eggs taken from nature. The second exception in the regulation makes it lawful to sell marine turtles acquired prior to the effective date of the regulation. As you are probably aware, the intent of this provision was to give local fishermen and restaurants the opportunity to liquidate any remaining supply of turtle meat in stock at the time of the effective date. It is my understanding that the Attorney General's office recently instructed the Division of Fish and Game to issue a permit for the sale of Mariculture's products. This move

The Honorable George Pai
October 16, 1974
Page -2-

was based on the evidence that eggs from which the farm's turtles were derived were obtained from the wild prior to the regulation's effective date. If this is in fact the case, it would appear that the sales representative for this company has been able to distort the primary intent and purpose of the law for his own personal gain. I am distressed that your office has apparently not as yet acted to halt this misuse of one of Hawaii's most hard won and significant conservation measures. As it stands now, the Division of Fish and Game will find effective enforcement of this regulation nearly impossible. I, therefore, respectfully urge you to take immediate action in this case.

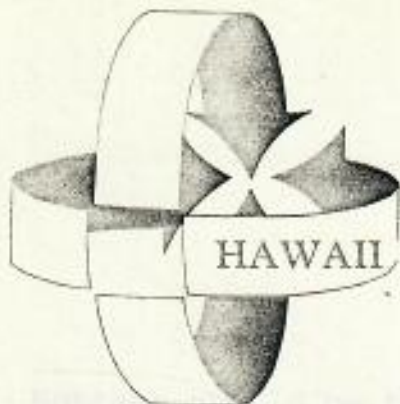
If necessary, I would be most happy to meet with you at your convenience to discuss this matter in greater detail.

Sincerely,

GEORGE H. BALAZS
Jr. Marine Biologist

GHB:ec

Encl.



HAWAII HELICOPTERS, INTERNATIONAL

P. O. BOX 1401, LIHUE, HAWAII 96766
PHONE 245-2371 - 245-2131

March 13, 1974

Mr. George H. Balazs
HAWAII INSTITUTE OF MARINE BIOLOGY
P.O. Box 1346 - Coconut Island
Kaneohe, Hawaii

Dear Mr. Balazs:

Your interest in preserving the Pacific Sea Turtles is truly gratifying. Please expect all the support I can provide.

My ten year observation of the Kauai turtle population probably covers the period of greatest hunting pressure. As tourism grew, so did the demand and price for meat.

During 1966, I became involved in a study that included the decline of turtles. It was conducted as a masters thesis by a Berkeley graduate student. Since that time, I've made careful note of sighting frequency and size. I could sum up a ten year, almost daily observation of Na Pali, with one statement.....the population of Sea Turtles, has declined by at least 90%.

There are some who say that such observations are not meaningful because the turtles migrate in cycles. They suggest that there is really an abundance of turtles at sea or outside the area I usually fly. That is debateable since no one really knows or can find out.

However, Na Pali does provide an excellent measure of decline through hunting. There are no resorts or noteworthy human activity there. Actually, the turtles should be congregating there from other parts of the island.

Ten years ago, it was not uncommon to count 50 turtles between Haena and Nualolo Aina. These were the big ones that could be seen from 1000 feet. Now, we see a few turtles and seldom any big ones.

Hunters should be the first to support a program of careful harvesting. They are going to lose a source of income if the breeding population declines too far.

Thanks for the material. I will be interested in any further information.

Sincerely,

Jack Harter
Jack Harter
Operations

JH:adm

February 6, 1976

MEMORANDUM

TO: Senator Jean S. King

FROM: Bob Taylor
Senate Majority Attorney

RE: Regulation 36 relating to the protection of marine turtles

The wording in this regulation "from or within the State of Hawaii" refers to both green sea turtles and products from the turtle which may be sold or offered for sale. The clear intent of the regulation is to protect the green turtle, and certainly taking the turtles from the State would not fulfill this intent. Also, to "take" or "possess" "within the state" would seem to prohibit importation of whole turtles. Otherwise, a significant enforcement problem could occur if importation was allowed. I do not know how the Attorney General has been construing this regulation. However, his construction would be important.

The process for changing a regulation is to go through Chapter 91, HRS. The first step is to petition the Department of Land and Natural Resources under Section 91-6 to amend the regulation to effect a clearer wording.

Bob Taylor

State of Hawaii
Department of Land and Natural Resources
Honolulu

Draft #7
(1/4/74)

DIVISION OF FISH AND GAME

* * * * *

The Board of Land and Natural Resources, in conformity with and pursuant to Chapters 187 and 190, Hawaii Revised Statutes, and every other law hereunto enabling does hereby adopt the following regulation relating to the protection of marine turtles.

REGULATION 36. RELATING TO THE PROTECTION OF MARINE TURTLES.

SECTION 1. It shall be unlawful to mutilate, injure, take, kill, possess, disturb, sell or offer to sell leatherback turtles (Dermodochelys sp.), hawksbill turtles (Eretmodochelys sp.) and green sea turtles (Chelonia sp.) or any parts thereof or the eggs or nests thereof from or within the State of Hawaii and waters subject to its jurisdiction, except as provided in Sections 2 and 4 of this regulation.

SECTION 2. It shall be lawful with a permit issued by the Board of Land and Natural Resources to:

- a. take or possess marine turtles for scientific, educational or propagational purposes.
- b. take or possess green sea turtles for home consumption from the waters surrounding the eight major islands (Hawaii, Maui, Kahoolawe, Lanai, Molokai, Oahu, Kauai and Niihau) provided that the upper shell length is 36 inches or more (straight line measurement) and the head and meat remain attached to the upper shell while in transit over sea or land from the fishing area to the permittee's residence.
- c. possess or sell the eggs or progeny of captive green sea turtles or products thereof.
- d. possess with intent to sell or to sell marine turtles or products thereof acquired prior to the effective date of this regulation.

SECTION 3. It shall be unlawful to use nets for the taking of green sea turtles.

SECTION 4. Nothing in Section 1 shall be construed as making it unlawful for any person to possess for purposes other than sale marine turtles or products thereof acquired prior to the effective date of this regulation.

SECTION 5. Any person violating the provisions of this regulation shall be fined not more than \$500 as provided in Section 187-20, Hawaii Revised Statutes.

State of Hawaii
Department of Land and Natural Resources
Honolulu

Draft #8
(4/1/74)

DIVISION OF FISH AND GAME

The Board of Land and Natural Resources, in conformity with and pursuant to Chapters 187 and 190, Hawaii Revised Statutes, and every other law hereunto enabling does hereby adopt the following regulation relating to the protection of marine turtles.

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- a. take or possess marine turtles or their eggs for scientific, educational or propagational purposes.
- b. take or possess green sea turtles for home consumption from the waters surrounding the eight major islands (Hawaii, Maui, Kahoolawe, Lanai, Molokai, Oahu, Kauai and Niihau) provided that the upper shell length is 36 inches or more (straight line measurement) and provided further that the turtle may be gutted and/or cut up into not more than five parts with one of the parts being the whole upper shell with the entire head attached and all parts shall be kept together until the permittee leaves the shore area for his home.
- c. possess or sell the eggs or offspring of captive green sea turtles or products thereof.
- d. possess with intent to sell or to sell marine turtles or products thereof acquired prior to the effective date of this regulation.

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HOUSE OF REPRESENTATIVES
STATE CAPITOL
HONOLULU, HAWAII 96813

George
That you might
like to have this
Rick
was in my file

ANSON CHONG

Vice-Chairman:
Water/Land Use & Development
Public Employment

Member:
Finance
Labor
Tourism
Agriculture

November 23, 1973

FOR: GREEN TURTLE PEOPLE
FROM: Anson Chong
SUBJ: UPCOMING HEARINGS ... neighbor isles.

I RECEIVED THE ENCLOSED INCLOSED INFORMATION
THIS AFTERNOON FROM ALAN ZEIGLER.

IT IS SELF-EXPLANATORY.

YOU WILL NOTE THAT REGULATION 36 IS WHAT IS
AT STAKE.

THE EXACT TIME, DATES AND LOCATION OF THE
HEARINGS ARE ON ALAN'S MEMORANDUM.

IF YOU KNOW ANYBODY ON THE NEIGHBOR ISLANDS
WHO CAN TESTIFY PLEASE CALL OR WRITE TO
THEM IMMEDIATELY. (PLEASE SEND THEM ALL
THAT GREEN TURTLE INFORMATION WE SENT TO
YOU IN PREVIOUS NEWSLETTERS).

Hope you had a happy thanksgiving. Best
wishes for the holiday season.

BERNICE P. BISHOP MUSEUM

November 15, 1973

P. O. Box 6037, Honolulu, Hawaii 96818 • Telephone 847-3514

Dear Friend,

As you have probably already heard, the Department of Land & Natural Resources' Division of Fish & Game has scheduled additional Public Hearings on its proposed new Regulation 36: RELATING TO THE PROTECTION OF MARINE TURTLES. The new Hearings are scheduled as follows:

- 1) KAUAI--Lihue, Wednesday, December 5, 1973, 7:00 PM, Conference Room, State Office Building.
- 2) MAUI--Wailuku, Wednesday, December 5, 1973, 7:00 PM, Conference Room, State Office Building.
- 3) HAWAII--Hilo, Thursday, December 6, 1973, 7:00 PM, Hawaii County Council Room.

Many of us attended the Oahu Public Hearing on the Regulation last September 21st, and the public response at that meeting was overwhelmingly in favor of this Regulation. We hope that you and many others on your Island may likewise care to testify at your particular December Public Hearing. A copy of the proposed Regulation is enclosed, as are also samples of testimony from the Oahu Hearing, in case you or your friends might need any additional background information.

From the Oahu Hearing we learned that it is especially necessary to point out the importance of certain provisions in the Regulation, for the benefit of many people who may not fully realize the reasons behind specific parts of it.

The minimum size limit on turtles taken for home consumption is set at 36 inches because scientific studies have shown that an animal of this size will have had a chance to reproduce at least a single time before it is killed--thus assuring perpetuation of the non-migratory green sea turtle population found within the State boundaries of Hawaii. Any size limit below this approximate length is therefore almost as useless as no size limit at all as far as permanent maintenance of the Hawaiian green sea turtle is concerned.

Although 36-inch turtles are relatively scarce around our main islands at the moment, the outlawing of the present intense commercial taking of predominantly small, younger, turtles will obviously result in a greatly increased number of turtles being left in the Hawaiian population to reach this 36-inch minimum length --and within only the next few years at that.

The proposed provision that home-consumption turtles must be "...kept whole or unbutchered while in transit..." is related exclusively to Regulation enforcement problems, and could probably safely be relaxed to read somewhat like "...the lower shell may be removed and the inedible internal portions of the turtle discarded but the edible meat must be left attached to the intact upper shell while in transit..."

The use of nets for taking turtles is prohibited only because these long, bottom-weighted nets almost invariably drown all turtles of any size caught in them--not just the legal-size animals.

Hope you will be able to testify at one of the up-coming December Hearings. But, whether you can or can't, we would certainly appreciate you passing on this information to all the other interested persons that you know in your area.

Continued best of fortune in everything--and Mahalo !!

ALAN C. ZIEGLER
Alan C. Ziegler
Vertebrate Zoologist

DIVISION OF FISH AND GAME

The Board of Land and Natural Resources, in conformity with and pursuant to Chapters 187 and 190, Hawaii Revised Statutes, and every other law hereunto enabling does hereby adopt the following regulation relating to the protection of marine turtles.

REGULATION 36. RELATING TO THE PROTECTION OF MARINE TURTLES.

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 - c. possess or sell the eggs or progeny of captive green sea turtles or products thereof.
 - d. possess for the purpose of sale or sell marine turtles or products thereof acquired prior to the effective date of this regulation.
- SECTION 3. It shall be unlawful to use nets for the taking of green sea turtles.
- SECTION 4. Nothing in Section 1 shall be construed as making it unlawful for any person to possess marine turtles or products thereof acquired prior to the effective date of this regulation.
- SECTION 5. Any person violating the provisions of this regulation shall be fined not more than \$500 as provided in Section 187-20, Hawaii Revised Statutes.

From the Office of
ANSON CHONG
State Capitol, Suite 305
Honolulu, Hawaii 96813
Phone 548-4183

Here in Hawaii

Last Outpost for the Green Turtle

By Helen Altonn
Star-Bulletin Writer

Hawaii has the largest and last remaining colony of green sea turtles in the United States — and the responsibility of safeguarding it, says George H. Balazs, University of Hawaii marine biologist.

It's the only green sea turtle colony in the world that can be protected and managed under a single government's jurisdiction at both the feeding and breeding grounds, he points out.

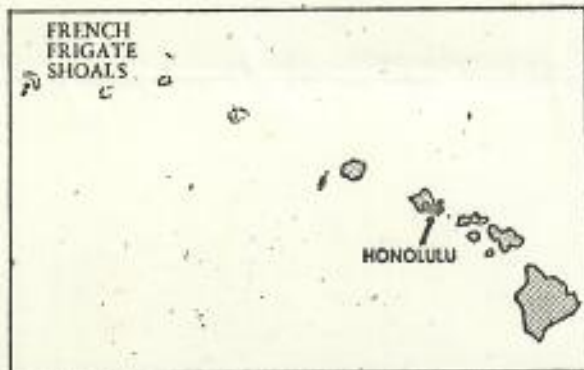
Balazs, of the Hawaii Institute of Marine Biology, has done extensive research on turtles and has led a movement to save them from commercial exploitation.

THE STATE Division of Fish and Game now proposes such a regulation. Public hearings were held Sept. 21 and the division is accepting testimony concerning the measure through Saturday.

Michio Takata, division chief, said he has already received a "mountainous amount" of testimony, mostly favoring the regulation.

The opponents primarily are the commercial turtle harvesters. (Only six persons in the State hunted turtles for profit last year, according to Balazs. The most anyone earned was \$5,000.)

Takata said the regulation will be presented to the Animal Species Advisory Commission at a meeting Oct. 12 on Kauai. Then it must go to the State Board of Land and Natural Resources for approval.



TURTLE TRANSPLANT — George Balazs displays a batch of turtle hatchlings brought from French Frigate Shoals for rearing at Coconut Island. — Staff photo by Warren R. Roll.

THE REGULATION will be ready for board consideration either at its Oct. 26 or Nov. 9 meeting, Takata said.

The regulation would prohibit the sale of any leatherback, hawksbill or green sea turtles or any parts of them — thus abolishing turtle steaks from restaurant menus and use of turtles for curio and jewelry items.

Green sea turtles could be taken for home consumption if their upper shell length was 36 inches or more. But use of nets to capture turtles would be unlawful.

Violations would be punishable with a fine of \$100 or imprisonment of up to 30 days.

BALAZS explains in his testimony on the regulation that the hawksbill and leatherback turtles are on the endangered species list and the green turtle is listed as "depleted" throughout the world.

He says the only nesting site left for Hawaii's green sea turtles is at French Frigate Shoals, about 480 miles west-northwest of Honolulu.

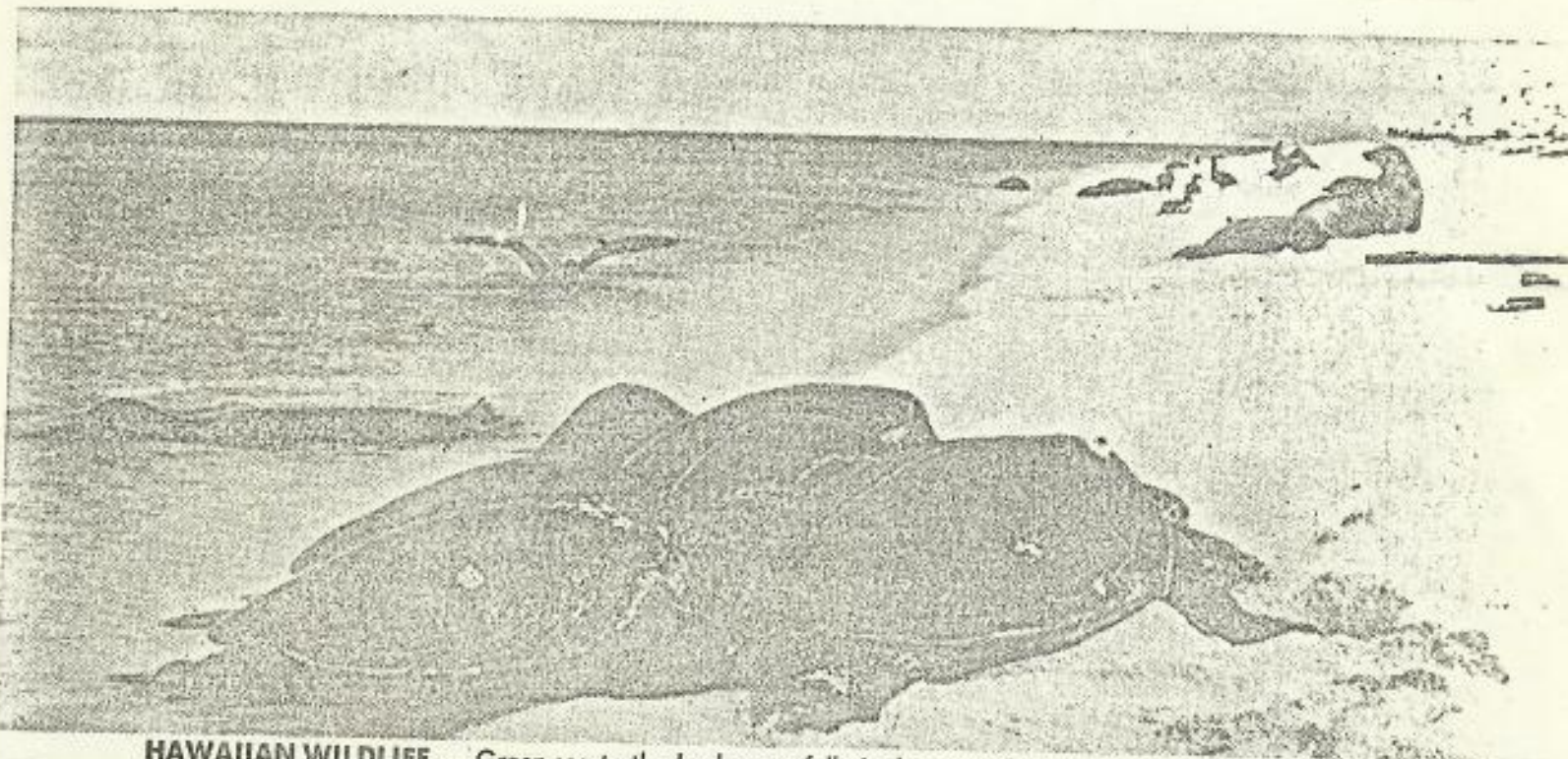
In recent studies of the nesting areas, he found the green turtle population to be under 1,100. He said this is a drastic drop from a 1968 estimate which placed the population between 2,600 to 5,200.

U.S. Fish and Wildlife personnel have shown by tagging turtles that they migrate from French Frigate Shoals to the major Hawaiian Islands.

"IT CAN therefore be concluded that French Frigate Shoals is the only remaining breeding grounds for the feeding population which inhabits Hawaii's major Islands," Balazs said.

The breeding grounds are federally protected as the National Wildlife Refuge. But there is no protection for the feeding areas in the main Hawaiian Islands, Balazs said, adding:

"Any turtle colony with a total breeding population of only slightly less than 1,100 that is being subjected to increasing commer-



HAWAIIAN WILDLIFE — Green sea turtles bask peacefully in the sun with Hawaiian monk seals and birds at French Frigate Shoals in the northwestern islands of the Hawaiian archipelago. Note the large albatross "chick" in the water. It had just taken off — learning to fly. That's as far as it got. — Photo by George Balazs.

...al exploitation is most definitely in an insecure position."

He attributed "extremely large" increases in pounds of turtle caught over the past 10 years to the increase in tourism, with the incentive coming from restaurants and hotels.

"IF THIS is the case, it then logically follows that few fishermen are erod-

ing a unique Hawaiian resource to provide an exotic luxury food for short-term Mainland visitors," Balazs said.

"It is unfortunate that those to suffer the most from this practice will be the low-income, less fortunate residents of Hawaii. The turtle that could have been captured for home use to provide additional meat will now be all the more difficult to find."

Balazs appeals to restaurants to support the ban on sale of turtle meat.

"Replace the turtle on your menu with other equally attractive and exotic luxury foods, such as our locally grown Malaysian prawns," he suggested.

"HELP SUPPORT our studies so that one day you may again serve turtle steak — steak that is ob-

tained from domestically raised animals specifically for this purpose."

Balazs said Archie Carr, the world's foremost authority on marine turtles, told him he would like to see a moratorium on taking of all sea turtles from Hawaiian waters until a careful survey of breeding, feeding and basking populations can be made.

The State House of Representatives has passed a

bill sponsored by Rep. Arson Chong which would provide funds to conduct such research. The measure is pending in the Senate, Balazs said.

TESTIMONY PRESENTED BY GEORGE H. BALAZS ON SEPTEMBER 21, 1973,
CONCERNING REGULATION 36 WHICH RELATES TO THE PROTECTION OF MARINE
TURTLES IN HAWAIIAN WATERS

Although the plight of marine turtles has been widely recognized in other areas of the world, a concern for these animals in Hawaiian waters has been slow in coming. As no Hawaii State regulations exist for the protection and perpetuation of marine turtles (other than the outlawing of firearms for harvesting and the prohibition of the sale of speared animals) proposed protective measures offered by the State Fish and Game Division represent positive action to ensure the continued viable existence of our marine turtle colony. In the words of Dr. Archie Carr, the world's foremost authority on marine turtles:

"If things are left as they are, the commercial sea turtle industry seems certain to go on cynically mining to exhaustion its sources of supply."

In my opinion, sufficient knowledge is presently at hand to warrant the utmost concern for Hawaiian turtles. I have arrived at this conclusion after investigating various aspects of Hawaii's marine turtles over the past two years. Although initially only involved in research on the captive rearing and nutritional aspects of these animals at the Hawaii Institute of Marine Biology, I soon became increasingly concerned about the welfare of the natural populations. Little effort was being directed toward determining the status of this resource in Hawaii and evaluating whether or not its distribution and numbers were being reduced. In addition to examining our own situation, I have also researched the status of marine turtles at other localities in order to learn what was being accomplished to slow their decline.

I would like to present some of the important aspects of this information which I have collected in order to justify the enactment of the regulations which are being proposed. In general, my discussions will deal with the following topics: 1) the present status of the three species of turtles found in Hawaiian waters, 2) the conservation laws and regulations which protect marine turtles that are currently in effect in other States and countries, 3) the recommendations for the State of Hawaii which have been offered by qualified marine turtle biologists familiar with our situation, 4) the results of research which was conducted during this year's breeding season at French Frigate Shoals in the Hawaiian Islands National Wildlife Refuge, and 5) the results of studies which I have conducted on turtle catch statistics compiled by the State Fish and Game Division.

Before closely examining each one of these topics, it may prove beneficial to briefly state some of the more important facts of the life history and biology of marine turtles. Since the major portion of my testimony will deal with the green turtle, the facts pertain specifically to this species. However, in general the other types of marine turtles exhibit most of these same traits. To summarize then, green turtles: are air-breathing, salt water reptiles; reach sexual maturity sometime between 6 to 13 years of age; weigh as much as 250 lbs and measure 33 to 36 inches upper shell length when first reaching sexual maturity; reproduce only once every two to four years; migrate long distances from feeding areas to nesting beaches for reproduction; lay several clutches of 100 eggs each within each nesting season; lay eggs on the same beaches during subsequent nesting seasons and are not known to change places of reproduction; exhibit high mortality (at least 99 percent) during the first year of life; have few predators except large sharks and man after reaching adult size; have not been successfully restocked by releasing young or transplanting eggs in depleted areas; are slow to recover from overexploitation; were formerly abundant in many areas of the world but have been subsequently decimated by indiscriminate hunting; and can provide benefits to man if managed wisely. Keeping these basic facts in mind, I would like to proceed and discuss each of the major topics which I have outlined, starting with the present status of the three types of marine turtles that are found in Hawaiian waters.

Of the five genera (or major types) of marine turtles which exist in the world today, only three are represented around our islands. These include the Pacific green (Chelonia sp.), the hawksbill (Eretmochelys sp.) and the leatherback (Dermochelys sp.). The hawksbill and the leatherback are only infrequently seen. Both of these animals are vanishing species throughout the world and do not occur in large numbers at any one location. The hawksbill has been commercially decimated for its laminae or "tortoise-shell," which can be made into fine polished jewelry. Numbers of leatherbacks have been drastically reduced due to the destruction of nesting habitats and to the taking of eggs for food in lesser developed countries. Both of these animals are included in the United States' List of Endangered Foreign Fish and Wildlife. That is, they are

"in immediate danger of extinction and their continued survival is unlikely without the implementation of special protective measures."

Under international agreement, these animals or any products derived from these animals may not be imported into the United States or moved between cooperating countries. Because this Federal law deals only with international transportation, and because no Hawaii State law presently exists to protect these animals, both the endangered hawksbill and leatherback can now be killed in Hawaiian waters without violating any regulation.

Hawaii's third type of turtle is the Pacific green. Green turtles are officially listed by the International Union for the Conservation of Nature (the recognized world organization for conservation) as 'depleted.' That is

"although they still occur in numbers adequate for survival, the animal has been depleted considerably and continues to decline at a rate which gives cause for serious concern."

Several kinds of green turtles (e.g., Chelonia mydas, Chelonia agassizi) have been recognized in different areas of the world. Although more taxonomic work needs to be conducted, there is reason to believe that green turtles found in the Hawaiian Archipelago are genetically unique from those of other geographic locations.

Next I would like to review some of the conservation laws that are now in effect in other countries and states. Concern by private citizens and governments throughout the world over the dwindling numbers of marine turtles and the continuing increases in turtle harvests has led to the passage of much needed conservation measures. Whether the protection afforded in each case is adequate and soon enough in coming, only time will tell. A list of some of the countries which protect marine turtles and a brief abstract of each law follows:

Trust Territories: Complete protection for eggs and all sea turtles less than 26 inches in carapace length.

Kingdom of Tonga: Complete year-round protection for eggs and for turtles with a carapace length of less than 35 inches. Protection for all turtles of all sizes between November and March. Complete protection for leatherbacks of all sizes at all times.

Fiji Islands: Complete year-round protection for eggs and for turtles with a carapace length of less than 35 inches.

Panama: Full protection for green turtles.

Ascension Island: Full protection for all turtles and eggs.

British Indian Ocean and Seychelles Islands: Complete protection for turtles and eggs.

Europa Island (France): Full protection for all turtles and eggs.

South Africa: Full protection for all sea turtles and eggs.

Queensland, Australia: Full protection for all sea turtles and eggs.

Tahiti (French Polynesia): Sale of sea turtles prohibited in all of French Polynesia.

States in the U. S. mainland which have seen fit to protect marine turtles include the following:

New York: No hawksbill, Atlantic ridley or leatherback turtle may be imported, transported or sold.

Delaware: Illegal to possess, transport or sell any hawksbill, Atlantic ridley or leatherback turtle.

North Carolina: Unlawful to take, disturb or destroy any sea turtle or eggs at any time during the months of May, June, July, August and September.

Connecticut: Hawksbill turtles or any part thereof may not be sold or offered for sale.

South Carolina: Unlawful to kill, offer for sale or sell any sea turtle or eggs.

- Florida:
- a) Unlawful to take, kill or possess a green turtle from the east (Atlantic) coast of Florida.
 - b) Unlawful to take, kill or possess any other species of sea turtle from the east coast of Florida, during the months of May, June, July and August.
 - c) Unlawful to take, kill or possess any turtle from the west coast of Florida except those in territorial waters having a carapace length of more than 26 inches.
 - d) Unlawful for any person to take, kill or possess any green turtle from Monroe county (Florida Keys) unless such turtle has a carapace length of more than 41 inches.

Georgia: Total protection, sea turtles or eggs may not be taken at any time.

Texas: Unlawful to take, kill or disturb any sea turtle or eggs in or from the waters of the State.

California: Unlawful to import into the State for commercial purposes, to possess with intent to sell or to sell any part or product of any sea turtle.

It might be valuable to point out at this time that Hawaii has the responsibility of safeguarding the largest remaining colony of green turtles left in the United States. Although loggerheads (*Caretta* sp.) and several other species of turtle are still frequent nesters in a few of the Southern states, very few green turtles are found nesting. One estimate places the total number of greens utilizing mainland U. S. beaches during recent years at less than 50 individuals. Juvenile green turtles are sometimes seen along Gulf coasts, however these are only migrant visitors. Besides having the largest green turtle colony in the U. S., Hawaii has the only one in the world that can be protected and managed under a single government's jurisdiction at both the feeding and breeding grounds. Although Hawaii's breeding grounds are Federally protected (Hawaiian Islands National Wildlife Refuge), no protection is afforded in the feeding grounds. The practice of only safeguarding a turtle's breeding grounds while allowing unchecked exploitation to occur in the feeding areas is no longer sufficient for adequate conservation. Because Hawaii's green turtles are being subjected to substantial increases in commercial exploitation, there may now be sufficient justification for placing this animal on the Department of Interior's United States' List of Endangered Native Fish and Wildlife.

Several recognized specialists on marine turtles have examined Hawaii's situation. Dr. Archie Carr of the University of Florida and Dr. Harold Hirth of the University of Utah have both visited the Hawaiian Islands and made preliminary investigations on our turtle populations. Dr. John Hendrickson of the University of Arizona studied Hawaii's turtles while serving as Director of Oceanic Institute here on Oahu. All three of these authorities are members of the I. U. C. N. Marine Turtle Specialists Group. This group is composed of ten members from various countries and are dedicated to the conservation and better understanding of the world's marine turtles. Recommendations which have been offered by these gentlemen include the following:

Dr. Harold Hirth: In 1971 a report (FAO/UN No. 482/71) on marine turtle resources in the Pacific was prepared by Dr. Hirth, then a consultant for the United Nation's Fisheries Development Agency. In the section of this report that dealt with turtles in the Hawaiian Islands, it was recommended that "The sale of stuffed turtles of all sizes should be prohibited and turtle meat and soup be eliminated in hotels and restaurants." Further recommendations indicated that in-depth studies throughout the entire Hawaiian Archipelago were necessary in order to more fully understand the dynamics of this colony.

Dr. John Hendrickson: In 1969 Dr. Hendrickson presented a paper on Hawaiian turtles to a meeting of the Marine Turtle Specialists Group in Morges, Switzerland. In this paper it was pointed out that there were no laws governing the taking of marine turtles around the major islands and that increases in the tourist industry were producing greater demands for exotic luxury foods such as turtle steak. Further it was stated that while "green turtles are no longer considered common enough to support full-time professional net fishermen, every Tom, Dick and Harry who happen upon a turtle have the strong incentive to capture it. A 200 lb turtle represents perhaps \$50 plus a good meal for family and friends, in addition to a shell to keep or sell." It might be added that the same turtle now sells closer to \$200, thus making the personal gain incentive all the more attractive. Dr. Hendrickson also stated that calculated values for the predation on green turtles "conformed with the subjective impression that Hawaiian turtle populations are over-exploited, under-protected and declining at a significant rate." In addition, it was noted that the State Fish and Game Division would probably encounter difficulties in trying to protect marine turtles because the 'local citizenry included a large proportion of people who were closely tied to the sea by culture, custom and emotion, and that in this regard they would be jealous of restrictive regulations.'

Dr. Archie Carr: In January of 1973 Dr. Carr indicated to me that he personally "would like to see a complete moratorium on the taking of all sea turtles throughout the Hawaiian Islands until a careful survey of breeding, feeding and basking populations could be made." He also stated that he was very glad to see an awakening of interest in Hawaiian sea turtles and hoped that the efforts to protect them would be given the support needed.

The need to do further in-depth research on Hawaiian turtle populations was stressed by each of the aforementioned authorities. I would like to note that a request (HB 1635) by Representative Anson Chong for funds necessary to conduct such research presently resides in the State Legislature. Passage in the House has already been effected, and during the next session the Bill's approval in the Senate seems very likely. It is apparent that many of our State legislators are already aware of Hawaii's responsibility for safeguarding our country's last green turtle colony.

My next area of discussion will be a presentation of some of the significant results obtained from scientific research which I conducted in cooperation with the U. S. Fish and Wildlife Service during this years green turtle breeding season at French Frigate Shoals. It may be beneficial to first briefly review our present knowledge on the breeding status of green turtles in the Hawaiian Archipelago. Some of the important points are as follows:

- 1) There are no longer any nesting sites left on any of the major Hawaiian Islands. As short a time as 60 years ago there existed one major nesting site and at least five sites of lesser importance. Today there are none.
- 2) The only remaining nesting areas are located in the Northwestern Hawaiian Islands, specifically the Hawaiian Islands National Wildlife Refuge. Within this Refuge, several small sand islands at French Frigate Shoals account for 95 percent of all green turtle nesting.
- 3) Research carried out by U. S. Fish and Wildlife personnel has revealed that the turtles tagged at French Frigate Shoals migrate back to the major Hawaiian Islands. Tag returns have been obtained from around five of the inhabited Islands (Kauai, Oahu, Molokai, Maui and Hawaii). These results are in agreement with work conducted in other areas of the world which has demonstrated that green turtles migrate long distances to nesting beaches and subsequently return to feeding areas where the major portion of their life is spent. It can therefore be concluded that French Frigate Shoals is the only remaining breeding grounds for the feeding population which inhabits Hawaii's major islands.

One of the more important questions that has been raised concerning our green turtle colony is 'what is the size of the breeding population?' In other words, how many sexually mature individuals are there to contribute offspring for maintaining or increasing numbers of the total population? No censusing work of this nature had been conducted at the nesting sites through entire breeding seasons due to the limited number of Fish and Wildlife personnel and to necessary involvement with many other threatened species which utilize the Refuge islands.

Our work at French Frigate Shoals accomplished this goal, although it will be wise to do repeated studies in coming years. Our work concentrated on East Island, an 11 acre sand islet within the Shoals. Previous observations by

Fish and Wildlife personnel indicated that East Island hosted the greatest number of nesting turtles of the ten sand islands present. Our work confirmed this observation to be correct. A total of 67 females nested on East Island during the study. Numbers nesting on the other islands were determined by making surveys every second day and counting nesting pits. From these data it was possible to make a valid estimate of the total breeding population (both males and females) using French Frigate Shoals (assuming a three-year breeding cycle, an equal sex ratio, and allowing for a very liberal 20 percent addition to account for animals that may have been missed either before or after the study was conducted.) The total value arrived at came to 1,074 animals. An estimate made in 1968 by Dr. Hendrickson which was based upon all available data at the time placed the French Frigate Shoals breeding population at between 2,600 and 5,200 animals. In view of our more recent 1973 study it would appear that drastic reductions have occurred in the breeding population, although there is always the possibility that the earlier estimates were in error. Whatever the explanation, the fact remains that any turtle colony with a total breeding population of only slightly less than 1,100 individuals that is being subjected to increasing commercial exploitation is most definitely in an insecure position.

In addition to census information, valuable data on the size distribution of the Hawaiian nesting population was obtained. Our work revealed that the smallest nesting turtle measured 33 inches in straight line upper shell (carapace) length, while the largest individual was 41 inches. Dr. Archie Carr's 17 years of tagging work in the Caribbean has shown that the majority of green turtles reach sexual maturity at a shell length of between 33 and 36 inches. Research by U. S. Fish and Wildlife personnel has shown that Hawaiian turtles between 33 and 36 inches average about 210 lbs in weight. It will be very important to keep these two points in mind when I discuss Hawaii's catch statistics, particularly that portion dealing with the mean weight of the turtles being taken for commercial purposes.

Licensed fishermen in Hawaii are required by law to report to the State Fish and Game Division all turtles that are sold. Information contained in these catch reports include numbers caught, pounds caught, pounds sold and value, method of capture and area where taken. Turtles that are not sold do not have to be reported. In an effort to learn as much as possible about the commercially taken turtles, all catch data on file at the State Fish and Game Division was compiled and analyzed. Mr. Michio Takata was kind enough to make available all of these records for my study. Mr. Randal Chau of the University's Marine Options Program spent many hours over the past six months under my direction tabulating pertinent data. These statistics greatly added to our knowledge of turtle populations around the major Islands. Such information is difficult to come by since no congregated nesting presently exists and animals are dispersed over many miles of coastal water.

Although some large yearly catches were reported in the late 1940's and 1950's, trends displayed since 1963 indicate that more turtle is now being taken than ever before. For the calendar year 1963, a low of 380 lbs was reported while in 1972 it rose to 25,583 lbs. Up to date information shows that for the first 6 months of 1973 the reported catch has already exceeded 14,900 lbs indicating that a record high will again be established for this year. It is

interesting to note that the pounds of turtle taken since 1963 follows the increasing trends of tourism, and that much of the incentive to exploit turtles is provided by restaurants and hotels that depend on tourism for a large portion of their business. If this is the case, it then logically follows that a few fishermen are eroding a unique Hawaiian resource to provide an exotic luxury food for short term mainland visitors. It is unfortunate that those to suffer the most from this practice will be the low income, less fortunate residents of Hawaii. The turtle that could have been captured for home use to provide additional meat will now be all the more difficult to find.

Several months ago, in the course of discussing the drastic increases in turtle taken in recent years, it was stated that 'the larger number of animals killed proved that the population was in no danger since they were so abundant.' It was my feeling that such an argument was the reasoning of the Buffalo hunter who felt that the next large herd was always over the next hill. The low reproduction rate of turtles makes them quite different from fish and other marine organisms that spawn hundreds of thousands of young each year.

Since the reports submitted by commercial fishermen are uncheckable and rely solely on individual integrity, there is always the possibility of non-reporting or under-reporting. For example, for the years 1957 through 1969 absolutely no turtle catch reports were given for the Island of Kauai. During 1970, 1971 and 1972, 830, 855 and 200 lbs, respectively were reported for Kauai. One wonders just how much of the true catch these values represent since more than several restaurants on Kauai serve turtle steak. One also wonders how many pounds the sport fishery and 'home' catch represent. In Dr. Hendrickson's presentation to the I. U. C. N. Marine Turtle Specialist Group it was pointed out that the home catch plus the unlicensed commercial catch probably far exceeded the reported commercial catch in Hawaii.

Of particular interest from the studies of catch statistics were the mean weights of the animals taken commercially. For the recent high poundage years of 1969 through 1972, mean weights for turtles were 114, 135, 131 and 150 lbs, respectively. For the first 6 months of 1973, turtles averaged 107 lbs. These data show that many of Hawaii's turtles are being removed from the population before they ever have a chance to become sexually mature and reproduce. Green turtles that weight 107 to 150 lbs will measure between 25 and 29 inches in upper shell length. As I emphasized earlier, nesting first takes place when animals are a minimum of 33 to 36 inches. The size restriction placed in the proposed Regulation 36 will give our turtles the opportunity to grow to adult size and reproduce before they are subjected to hunting by man.

The question has been presented more than once that 'if we eliminate commercial fishing for turtles would this not put a lot of people out of work and take away their means of support?' An investigation of this aspect revealed the following facts: 1) In 1970 there were only eight fishermen in the entire State responsible for all the commercially taken turtle. The most earned by one person was \$2,765 while the other seven averaged \$321 (range \$17 - \$992) each. For 1971 there were also eight fishermen,

the most earned by one person being \$6,350 while the other seven averaged \$521 (range \$25 - \$2,684) each. During 1972 only six fishermen in the State captured turtles for profit and only one made slightly more than \$5,000 while the rest averaged \$1,116 (range \$28 - \$2,899). From this information it is apparent that turtle taking is mainly a part-time business.

One other point of interest is that some of the old time turtle fishermen who have quit the business have noted the reduction in numbers that turtles have undergone in Hawaii. As an example, in 1968 one fisherman wrote on a catch report 'that between 1948 and 1950 he used to take at least 100 turtles in four to five days in the feeding grounds between Molokai, Lanai and Maui - but for some reason there were no turtles there now.'

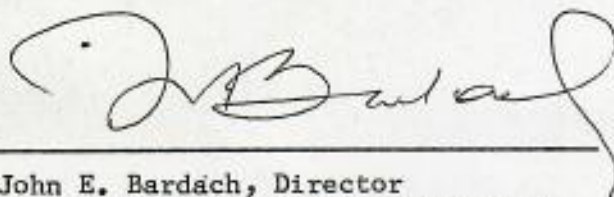
In conclusion I would like to ask all fishermen to endorse the proposed turtle regulations for the benefit of the species. Since the coming of man over 230 vertebrate species have become extinct; half of these have been lost in the past 100 years. Extinction is a very absolute thing, because once the animal is gone, it is gone forever. We must learn to adopt a philosophy that attempts to get animals off the Endangered Species List, not onto it.

To the restaurants that have provided the incentive for the exploitation of Hawaiian turtles, I would like to issue a special plea. Consider the facts which I have presented and set your own individual self-interests aside and willingly support this ban on the sale of turtle meat. Replace the turtle on your menu with other equally attractive and exotic luxury foods, such as our locally grown Malaysian prawns. Finally, I would like those restaurants that have benefited from the exploitation of Hawaii's green turtles to consider giving assistance to research on the captive rearing of green turtles. Help support our studies so that one day you may again serve turtle steak - steak that is obtained from domestically raised animals specifically for this purpose.

STATEMENT CONCERNING REGULATION 36 WHICH RELATES TO THE PROTECTION
OF MARINE TURTLES IN HAWAIIAN WATERS

Having had exposure to problems of living marine resources management, including marine turtles, both in the tropical Atlantic and the Pacific and having had as part of my administrative duties the facilitation of the studies of Mr. George Balazs on marine turtles at the Hawaii Institute of Marine Biology and in the Hawaiian Islands and having carefully studied Mr. Balazs' well-prepared and pertinent testimony of September 21, 1973, concerning Regulation 36, I strongly endorse the recommendations made in this statement.

In view of the State's professed commitment to qualify growth including the promulgation of wise, long range conservation measures I deem it of utmost importance that turtles be given complete protection now if for no other reason than to permit the best possible assessment of the present status of turtle populations in Hawaiian waters. Only with a moratorium on the taking of turtles can such an assessment be made, eventually to establish if perhaps limited turtle fishery exploitation can be permitted or if the preservation of the several species demands complete protection from hunting.



John E. Bardach, Director
HAWAII INSTITUTE OF MARINE BIOLOGY

September 21, 1973

Coors Beer

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

DIVISION OF FISH AND GAME
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

April 29, 1976

Senator Jean King
Chairman
Committee on Ecology,
Environment and Recreation
The Senate
State Capitol
Honolulu, Hawaii

Dear Senator King:

This is in response to your letter of April 14, 1976 regarding the sale of turtles and turtle products in Hawaii.

First of all I must emphasize that I am not an expert on this very complex subject. Any views I might have are strictly personal, and based upon my experiences with laws, rules and regulations and interpretations of same by others who are qualified to do so.

If Ms. Chock as Deputy Attorney General says that the State cannot prohibit the sale of turtle products in Hawaii because of the constitutional prohibition of interfering with interstate commerce under Regulation 36, I believe that the same would be true of Regulation 6, which is adopted pursuant to our "State Endangered Species Law". Regulation 36 states that "It shall be unlawful to sell or offer to sell leatherback turtles, hawksbill turtles and green sea turtles or any parts thereof from or within the State of Hawaii and waters subject to its jurisdiction" Regulation 6 states that "It shall be unlawful to sell or offer for sale any indigenous, endangered... within the jurisdiction of the State of Hawaii." If turtles were declared endangered under Regulation 6, it is my opinion that the constitutional question would still arise.

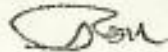
Of course, under the Federal Endangered Species law, such a prohibition would be enforceable by the Federal government as the Interstate commerce aspects are covered.

Senator Jean King
Page 2
April 29, 1976

Again, the question of whether the State would run afoul of constitutional prohibitions of interfering with interstate commerce by prohibiting the sale of turtle products acquired outside its boundaries under our endangered species laws and regulations should be answered by legal authorities.

I wish I could be more helpful to you on this matter.

Sincerely yours,



RONALD L. WALKER, Chief
Wildlife Branch

RLW:nn

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PRESIDENT

DUKE T. KAWASAKI
VICE PRESIDENT

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SEICHI HIRAI
CLERK

The Senate
The Eighth Legislature
of the
State of Hawaii
HONOLULU, HAWAII



April 14, 1976

George Balazs
P. O. Box 1346
Kaneohe, Hawaii 96744

Dear George:

We have received a reply from the Deputy Attorney General in response to our letter asking for an opinion on Regulation 36.

We are enclosing a copy of this reply, as well as a copy of our subsequent letter to Ron Walker inquiring about the reply.

Sincerely,

Jean

JEAN KING
Chairman
Committee on Ecology, Environment and Recreation

JK/nm

ADDRESS REPLY TO
"THE ATTORNEY GENERAL OF HAWAII"
AND REFER TO
INITIALS AND NUMBER

SYMC: rmm

CABLE ADDRESS:
ATTGEN



RONALD Y. AMEMIYA
ATTORNEY GENERAL

STATE OF HAWAII
DEPARTMENT OF THE ATTORNEY GENERAL
STATE CAPITOL
4TH FLOOR
HONOLULU, HAWAII 96813

April 2, 1976

The Honorable Jean S. King
Senator
The Eighth Legislature
State of Hawaii

Dear Senator King:

In response to your letter of March 12, 1976, and my conversation with Nancy Moore, we understand your question to be whether Regulation 36 of the Department of Land and Natural Resources, Division of Fish and Game, pertaining to turtles also applies to products of turtles from outside Hawaii's territorial waters.

Regulation 36 covers turtles taken from the waters under the jurisdiction of the State of Hawaii. This includes all inland waters and the territorial sea surrounding the State. Section 1 prohibits the taking of all turtles no matter what purposes the turtle will be eventually used for, subject to Sections 2 and 4.

Regulation 11 provides for a licensing procedure in order to sell turtle or the products caught from outside the State's territorial waters.

Prohibition of selling turtles or the products originally from waters outside of the State's territorial waters are not part of the regulations. The State cannot prohibit the sale of turtle products in Hawaii because of the constitutional prohibition of interfering with interstate commerce.

Very truly yours,
Susan Y. M. Chock
SUSAN Y. M. CHOCK
Deputy Attorney General

APPROVED:
Ronald Y. Amemiya
RONALD Y. AMEMIYA
Attorney General

JOHN T. USHJIMA
PRESIDENT

DUKE T. KAWASAKI
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EIGHTH DISTRICT
GEORGE H. TOYOFUKU

SEIICHI HIRAI
CLERK

The Senate
The Eighth Legislature
of the
State of Hawaii
HONOLULU, HAWAII



April 14, 1976

Mr. Ronald L. Walker
Chief, Wildlife Branch
Fish and Game Division
Department of Land and Natural Resources
Honolulu, Hawaii 96813

Dear Mr. Walker:

We have received a letter from Susan Y. M. Chock,
Deputy Attorney General, in reference to Regulation
36.

This letter states that the Regulation covers turtles
taken from the waters under the jurisdiction of the
State of Hawaii and states that prohibition of selling
turtles or the products originally from waters outside
the State's territorial waters are not part of the
regulations, and that the State cannot prohibit the
sale of turtle products in Hawaii because of the con-
stitutional prohibition of interfering with interstate
commerce.

Could the sale of these products be prohibited under
the State Endangered Species Law, or would we run
into a constitutional problem?

Sincerely,

Jean

JEAN KING
Chairman
Committee on Ecology, Environment and Recreation

JK/nm

March 3, 1983

George,

Enclosed find copy of HB-837 for your info. If it passes as is Mederios' operation will be illegal and with it goes our "goldmine". You might want to consider the possibility of having an additional provision added to the bill something to the effect of allowing scientific collection of specimen using bullpens with longer than 10' guides. In the future when time, money, and manpower allows we may want to utilize a set up currently employed by Mederios to collect turtles. I've yet to see a better way of doing it.

Bill

Bill

(To be made one and ten copies)

HOUSE OF REPRESENTATIVES
TWELFTH LEGISLATURE, 1983.
STATE OF HAWAII

H.B. NO. 837

RECEIVED

FEB 15 1983
AQUATIC RESOURCES

A BILL FOR AN ACT

HS
PK
AK
EO
LN

RELATING TO AQUATIC LIFE.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. Chapter 188, Hawaii Revised Statutes, is
2 amended by adding a new section to part II to be appropriately
3 designated and to read as follows:

4 "§188 Bullpen trap; description. (a) For the
5 purpose of this chapter, a "trap" includes bullpen trap. A
6 "bullpen trap" is a contraption which utilizes a length or
7 lengths of material:

- 8 (1) Normally foreign to the ocean; and
- 9 (2) Which is situated to guide aquatic life into a
10 porous or nonporous receptacle designed to prevent
11 the escape of some or all of the aquatic life
12 entering the receptacle;

13 whether or not the length or lengths of material are connected
14 to the receptacle.

15 (b) If the length or lengths of material utilized in
16 the type of trap described under subsection (a) have mesh
17

18

Note: Section 3
of this Bill
incorporates HB 838

1 intended to entangle aquatic life, the length or lengths
2 shall also be considered a net under this chapter."

3 SECTION 2. Section 188-29, Hawaii Revised Statutes, is
4 amended to read as follows:

5 "§188-29 Nets and traps. (a) It is unlawful for any
6 person to use nets or traps of any type with a stretched
7 mesh of less than two inches, or to use any trap which is
8 not portable or which is more than ten feet in length or six
9 feet in height or width; provided that:

- 10 (1) Persons engaged in sport fishing may use throw
11 nets with stretched mesh of not less than one and
12 one-half inches,
- 13 (2) Pond owners or operators who hold a license issued
14 under section 188-44 may use nets of smaller mesh
15 to take young mullet or pua for stocking their
16 fish ponds,
- 17 (3) Commercial marine licensees who hold a license
18 issued under section 188-45 may use nets of
19 smaller mesh to take nehu, iao, marquesan sardine,
20 or any other species for which an open season may
21 be declared by the department of land and natural
22 resources for use as bait,
- 23 (4) All persons may use nets of smaller mesh to take
24 shrimp or opae, opelu, makiawa, or mikiawa,

- (5) Aquarium fish collectors with a valid aquarium fish permit issued by the department pursuant to section 188-31 may use nets of smaller mesh to take aquarium fish in conformance with the conditions of the permit, and
- (6) All persons may use a net with mesh of not less than one and one-half inches to take akule; provided that no akule measuring less than eight and one-half inches in total length from the tip of the snout to the tip of the tail shall be taken with a net during the months of July, August, September, and October.

(b) For the purposes of measuring the length of a trap under this section, the length of a bullpen trap described under section 188- shall be measured as the length of the material utilized to guide aquatic life into the receptacle or length of the receptacle itself."

SECTION 3. Section 188-30.2, Hawaii Revised Statutes, is amended to read as follows:

"[[§188-30.2]] Fishing with gill nets[.] or traps. It is unlawful for any person engaged in gill net fishing or using a trap to leave [his] any portion of the net [unattended]

or trap in the same location for a period of more than twelve hours. For the purpose of this section, "same location" means any location which is less than _____ feet away from any portion of the net or trap."

SECTION 4. Statutory material to be repealed is bracketed. New material is underscored.

SECTION 5. This Act shall take effect upon its approval.

Connie Olson
Sprenger

INTRODUCED BY:
FEB 8 1983

Wright L. Yukimura

Haruo Segawa

Byron W. Bahr

Scott Hayes

Russell Blair

Imma R. K.

Kathleen Staley

Ed Bradley

Calvin K. Day

Bob Jam

Cliff F. Lewis

Nozue Hiroo

Joseph X. Leary

~~Demetrius~~

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Norma Young

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2

HAWAII CLIPPING SERVICE
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Victoria Custer Elaine Stroup

HONOLULU STAR BULLETIN
APR 2 1983

For the Love of Fishing

As an Island-born resident, I have always loved the ocean, especially fishing.

I have been fishing since the age of 5.

On the "Let's Go Fishing" TV program on March 20, there was a segment in which commercial fishermen with the aid of aerial spotter plane and nets surrounded an entire school of ulua (pupio).

It makes me sick, to see game fish such as ulua being harvested in this manner.

As a surfcaster, I have been fishing for the last 25 years in search of ulua.

I have been experiencing less and less and less catches or none at all. I am not alone in this situation.

And I feel that somehow, the state should regulate this commercial activity especially when this incident occurred in 20 feet of water.

It might have taken nature 10 years or more to amass population of ulua this size only to have it wiped out in a couple of hours by greedy men.

Barton Akamine

Ariyoshi Approves

Gov. George Ariyoshi yesterday signed into law a bill that authorizes him to call the Hawaii National Guard to active duty for non-emergency activities and training.

Because of the broad wording of the bill, state Sen. Neil Abercrombie had voiced concerns, saying it could allow the governor to order Guardsmen to fill jobs during a public employees' strike or to intimidate strikers.

But Ariyoshi said that under the new law, he will call Guardsmen to active duty for "normal service activities."

"The bill's purpose was to give the governor of Hawaii the statutory authority to use National Guard members for protocol, civil defense and other ceremonial and training functions," Ariyoshi said.

"IT HAS been a long-standing practice to use Guard personnel for these activities; this act will merely 'legitimize' this practice, nothing more," he said.

The governor now has the power to fill jobs involving the public safety with Guardsmen if there is an emergency situation.

Ariyoshi signed into law 20 other bills passed by the 1963 Legislature and he vetoed one measure.

He vetoed a Senate bill that would have permitted the Hawaii Housing Authority to write off delinquent rent accounts for vacant, federal housing projects within 90 days. Ariyoshi said the

Senate measure is identical to a House bill passed by the Legislature — which he signed yesterday.

BILLS approved by the governor are:

—Senate Bill 182 (Act 71) eliminates the requirement that the state Board of Dispensing Opticians submit an annual report to the governor.

—Senate Bill 255 (Act 72) requires a person who arrives in Hawaii and has a firearm shipped into the state to register it with police within 48 hours of its arrival.

—Senate Bill 492 (Act 73) permits state public defenders to order a court transcript without paying in advance.

—Senate Bill 519 (Act 74) restricts the membership of the Board of Social Services.

—Senate Bill 650 (Act 75) repeals state laws controlling poultry advertising and marketing which are superseded by federal laws.

—Senate Bill 760 (Act 76) allows the state Department of Planning and Economic Development to seek court action against state and county agencies and other persons for violations of the Coastal Zone Management Act.

—Senate Bill 839 (Act 77) makes technical changes to the law governing the State Employees' Retirement System.

—Senate Bill 1092 (Act 78) consolidates the Bureau of Crime

27 Legislative Bills

Saturday, May 21, 1983

A-2 Honolulu Star-Bulletin
Statisticians and civil identification with the Hawaii Criminal Justice Data Center.

—Senate Bill 1186 (Act 79) gives exclusive jurisdiction to Family Court over proceedings involving domestic-abuse protective orders and trials of adults charged with violating those orders.

—Senate Bill 1294 (Act 80) raises the allowances received by Neighbor Island legislators when traveling interisland on state business.

—House Bill 237 (Act 81) requires doctors and hospitals to submit to the state Department of Health information and X-rays of patients suspected of having tuberculosis.

—House Bill 249 (Act 82) empowers the Department of Health to make rules governing blood samples taken from pregnant women for syphilis tests.

—House Bill 251 (Act 83) allows the state Department of Land and Natural Resources to issue permits for persons to hunt game birds and mammals under certain conditions.

—House Bill 284 (Act 84) eliminates the appeals board for commercial employment agencies and replaces it with an administrative hearing procedure.

—House Bill 314 (Act 85) reduces from 90 to 60 days the amount of time the state must honor numbers given boats by the U.S. Coast Guard and other states.

—House Bill 814 (Act 86) allows the Hawaii Housing Authority to write off delinquent rent ac-

counts in a shorter period of time.

—House Bill 837 (Act 87) makes use of "bullpen" traps with a mesh of less than two inches illegal.

—House Bill 862 (Act 88) puts Hawaii's net income-tax law in conformity with the U.S. Internal Revenue Code.

—House Bill 1117 (Act 89) repeals state law that allows the Department of Planning and Economic Development to conduct an agricultural fair.

—House Bill 1221 (Act 90) permits forfeiture by marijuana growers of materials and equipment used in marijuana cultivation.



Frank Farm weighing in the catch during the HCDC spearfishing eliminations tournament.



Chosen to represent Hawai'i at the national spearfishing contest in Florida as HCDC teams "B" and "C" are (l to r) Tom Parker, Terry Lentz, Wendall Kam, Dennis Okada, Earl Almeida, Franklin Ota and alternate George Matsuda.

HCDC

Spearfishing Eliminations



■ On April 30 and May 1, the spearfishing eliminations tournament was conducted to select two additional teams of three men each to represent Hawai'i in the U.S. National Skindiving Spearfishing Tournament sponsored by the Underwater Society of America. The Hawaii Council of Dive Clubs is one of the many member councils that make up the U S of A.

Since Hawai'i won last year's tournament held in waters off of Kona, we are privileged to send three teams instead of the customary two, if we choose so to do. Our first place team will remain intact and represent us as the "A" team. Although the tournament was a two-day elimination the decision was made to conduct a two-day elimination tournament off the windward coast of O'ahu to select the best skindiving spearfishermen in the islands for the "B" and "C" teams.

Early in the morning of April 30, a roll call was held at the He'eia Kea Harbor in Kane'ohe to confirm that the 23 divers signed up were present. A briefing was conducted which included a reconfirmation of the tournament rules with emphasis on the fish species allowed, legal sizes and weights, etc. The contestants were assigned to the four boats provided after which they checked their gear, loaded it aboard and made ready for departure.

The boats traversed the chosen tournament area between Pyramid Rock and Moku-manu to place marker

buoys and to acquaint the contestants with the area, its boundaries, water conditions, etc. The officials and divers synchronized their watches at 9:20 a.m. and the tournament commenced. The waters were generally choppy with a little surge and some ground swells. The visibility underwater was approximately 50 to 75 feet in deeper water and nearer the shore it was much less because the bottom was stirred up. At 1:20 p.m. the cease spearfishing signal was sounded and the first half of the tournament was over. The catch from the first day was considered to be good after the counting and weighing in were completed.

The weather improved on the second day. The tournament commenced earlier (8:30 a.m.) because there was no need for a briefing and explanation of the rules. The catch was better than the first day and included a couple of ulua.

After the counting and weighing in of the fish, the winners were declared. In first place was Tom Parker (Kona); 2nd, Terry Lentz (Kona); 3rd, Wendall Kam (O'ahu); 4th, Dennis Okada (O'ahu); 5th, Earl Almeida (O'ahu); 6th, Franklin Ota (Kona); and 7th, as an alternate, George Matsuda (O'ahu). The winners and alternate enjoyed several hours of He'eia State Park - Ula Mau and enjoyed several hours of a good food, beverages and fellowship before calling it a day.

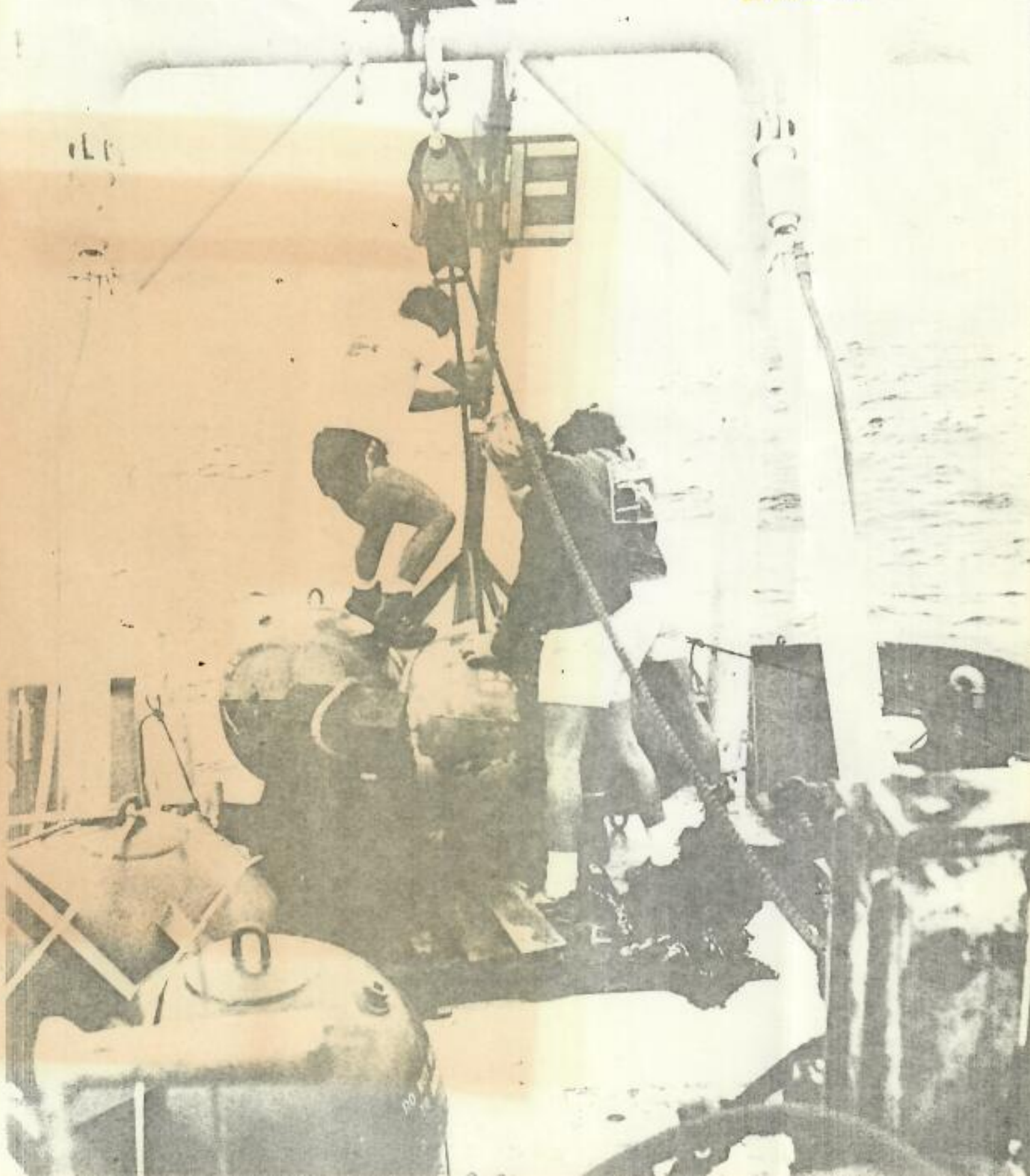
The Alii Holo Kai Dive Club is the home club for the Hawai'i teams. In order to defray some of the expenses of the teams and their coach, Frank Farm, a fund-raiser selling Portuguese sausage is planned. Anyone who wishes to make a donation or purchase sausage tickets, please contact Frank Farm at 732-1756. The U.S. National Skindiving Spearfishing Tournament will be held July 24 at Islamorada, Florida, located in the Florida Keys. The teams will leave two weeks early in order to scout the tournament area thoroughly. Good luck, guys!

... Bob

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
REPORT TO THE GOVERNOR

1981-82



GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



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

January 24, 1983

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

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

Honorable George R. Ariyoshi
Governor of Hawaii
State Capitol
Honolulu, Hawaii

Dear Governor Ariyoshi:

This is our Annual Report for Fiscal Year 1981-82. The Report will show the many tasks carried out by our department during the year.

We have promoted economic activity by developing water sources and agricultural parks, by lending technical assistance on fisheries resources, aquaculture and biomass for alternate energy, and by providing State lands and waters for appropriate recreation and resort uses.

We have not neglected our stewardship of the State's natural resources and environment. This report names new natural area reserves and marine life conservation districts. Work in propagating and preserving native and endangered species and in protecting and restoring historic sites is steadily advancing.

We continue to work with other public agencies in a number of ways. We prepared four of the State's twelve functional plans and participated in preparation of others. We acquired the 1.5 acre St. Augustine School property in Waikiki for a social and health services center. Of some \$8.0 million in revenues from State land, about \$1.1 million was transferred to the Office of Hawaiian Affairs, and nearly \$0.8 million to the Department of Hawaiian Home Lands.

We appreciate the support and guidance you have given us during the fiscal year and in years past. We also acknowledge the assistance provided us by the Legislature.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Susumu Ono".

SUSUMU ONO
Chairman and Member
Board of Land and Natural Resources

Attachment

BOARD OF LAND AND NATURAL RESOURCES

The department of land and natural resources shall be headed by an executive board to be known as the board of land and natural resources. The department shall manage, administer, and exercise control over public lands, the water resources, and minerals and all other interests therein and exercise such powers of disposition thereof as may be authorized by law. The department shall also manage and administer the state parks, historical sites, forests, forest reserves, fisheries, wildlife sanctuaries, game management areas, public hunting areas, natural area reserves, and other functions assigned to it by law.

—*Hawaii Revised Statutes*
Section 173-3.



Takeo Yamamoto

Stanley Hong

Thomas S. Yagi

Roland Higashi

Susumu Ono
Chairman

J. Douglas Ing

CITATIONS AND ARRESTS

Type of Violations	Number
<u>Fishing</u>	
Unlawful possession/taking Lobster closed season	9
Unlawful taking/possession of Oysters	11
Unlawful possession/taking of Lobsters with eggs	7
Unlawful fishing with chemicals	1
Unlawful fishing in Marine Life Conservation District	8
Selling undersize Opihi	1
Unlawful use fine mesh net	22
Unlawful spearing of Green Sea Turtle	1
Selling undersized Papio	1
Restricted fishing w/net in Waiakea Canal	1
Unlawful fishing w/fine mesh trap	2
Unlawful possession Green Sea Turtle	1
Use of net exceeding fifty feet to take Nehu	1
Unlawful use/possession fine mesh thrownet	25
Unlawful taking of Iao	1
Restricted netting of Akule (Bahalalu)	2
Fishing without valid Freshwater Fishing License	8
Restricted fishing w/net in Kapaa Canal	1
Unlawful fishing with electrical device	6
Unlawful speared/mutilation of Lobsters	4
Unlawful taking/possession Mullet closed season	12
Unlawful taking/possession undersized Octopus	20
Restriction on taking of Nehu	1
Restriction on fishing with spear	3
Unlawful taking/possession undersize Lobster	6
Possession of illegal fishing gear, Mahiawa PFA	2
No entry permit Mahiawa PFA	1
Exceeding fish bag limit (Tucunare)	3
Taking Bait fish without permit	4
Total Fishing Violations	165

Hunting	NUMBER
No entry permit	24
Hunting without license	54
No colored garment	24
Hunting game birds during closed season.	1
Hunting in closed area	18
Hunting on weekday	6
Illegal hunting weapon	4
Loaded firearm in safety zone	21
Hunting with dogs in closed area	7
Unlawful night hunting	14
Loaded weapon in vehicle	4
Prohibited hunting	3
Hunting on private land without permission	13
Possession of Coat	1
Hunting during closed season	2
Failure to display hunting license	7
Illegal use of firearm	4
Prohibited hunting on public land	1
Hunting without permit	13
Possession of game bird during closed season	1
Unlawful keeping of wild bird	1
Firearms in archery area	2
Unlawful possession of hen pheasant	1
Failure to check in/out	2
Restriction on use of Dog in hunting area	1
Hunting goats during closed season	1
Total Hunting Violations	230

CITATIONS, PENAL SUMMONS, ARRESTS AND DISPOSITIONS

Island	No. of Citations	Parking Citations	Penal Summons	No. of Arrests	No. of Charges	Bill Forfeitures	Juvenile Authorization	Cases Stipulated	Convictions	Fines	Split Sentences		Suspended Sentence	
											Fine	Suspended Fine **		
Hawaii	198	113*			196	\$ 70+ \$1,825		1	14	\$ 410			2(8/8 1 yr.)	
Hawi, Lanai & Molokai	78		7	38	123	\$ 275		1	24	\$ 800		1(\$100/\$25 susp. 6 mos.) 1(\$ 75/\$25 susp. 1 yr.) 1(\$ 50/\$25 susp. 6 mos.) 2(\$ 50/\$25 susp. 3 mos.) 1(\$150/\$75 susp. 1 yr.) 1(\$100/\$75 susp. 1 yr.) 1(\$800/\$300 susp. 6 mos.) 1(\$100/\$40 susp.) 1(\$ 25/\$15 susp. 6 mos.) 2(\$100/\$75 susp. 1 yr.) 1(\$100/\$65 susp. 1 yr.) 1(\$100/\$50 susp. 1 yr.) 1(\$100 or 50 hr. comm. serv.)		
Kauai	101			2	103	\$ 275	1(C&R)***	5	24	\$1,130		2(\$250 or 125 hr. com. serv.)	1(4/2 days Jail)	
Oahu	141	2,589		16	157	\$ 750	2(C&R)	1	3	\$ 150				
TOTAL	518	2,702	7	56	581	\$3,125 \$ 70*	3(C&R)	8	65	\$2,490		\$775/\$265 susp. 6 mos. \$725/\$440 susp. 1 yr. \$100/\$ 50 susp. 3 mos. \$300/\$150 susp. \$200 or 50 hrs. com. serv. 2(\$250 or 125 hrs com. serv. ea.)	2(8/8 1 yr.) 1(4/2 days Jail)	

* Parking

** Suspended Fine is a portion of total fine that defendant need not pay provided no laws are violated during period specified by court.

*** C & R - Counsel and Release

DISPOSITION OF PENDING CASES

Island	No. of Citations	Parking Citations	Penal Summons	No. of Arrests	No. of Charges	Bill Forfeitures	Juvenile Authorization	Cases Stipulated	PARDON	Convictions	Fines	Split Sentences		Suspended Sentence
												Fine	Suspended Fine	
		61			61	\$712		2	61	1	\$ 10			2(12 hr. CS)* 3(48 hr. CS) 1(S/S 1 mo.) 4(S/S 6 mos.) 0(S/S 1 yr.)
Hawaii					29	\$877		5	21	64	\$1,425			\$100/\$250 susp. \$200/\$140 susp. 3 mos. \$1,300/\$560 susp. 6 mos. \$1,575 \$1,000/\$400 susp. 1 yr.
Hawi, Lanai & Molokai			3	16	30		6	13	25	40	\$1,575			\$ 40/\$90 susp. 6 mos. \$ 25/\$15 susp. 10 mos.
Kauai				3			4	16	2	27	\$ 820			\$400/\$215 susp. 1 yr. 2 firearms forfeited 1(S/S) 2(S/S 1 day) 1(S/S 30 days) 3(S/S 6 mos.) 1(S/S 1 yr.) 4(S/S 3 mos.) 1(18 hrs. CS) 2(12 hrs. CS) 1(4 hrs. CS)
Oahu			2	6	119		5	15	101	47	\$1,765			2(\$50/36 hr CS)
TOTAL			5	22	190	\$877	15	49	149	184	\$5,585			\$1,260/\$600 susp. 6 mos \$1,400/\$815 susp. 1 yr. \$ 200/\$140 susp. 3 mos. \$ 25/\$15 susp. 10 mos. \$ 300/\$250 susp.
		61			61	\$712		2	61	1	\$10Parking			1(S/S) 1(S/S 1 day) 2(S/S 30 days) 7(S/S 6 mos.) 9(S/S 1 yr.) 4(S/S 3 mos.) 3(48 hrs. CS) 1(18 hrs. CS) 4(12 hrs. CS) 1(4 hrs. CS)

CS - community service
S/S - suspended sentence

THE OLD WAY



In the old days, copies of processed documents were filed away into record books which were then shelved. The row on the left is 60 feet long, 7 feet high, and 15 inches wide, containing 35 cubic feet of space, holding 2,177 record books that took 2 years to fill.



Public access to hard copy of recorded documents. Note size of book.

THE NEW WAY



Nowadays, records are stored on microfilm. The rolls of film are kept in filing cabinets. One cabinet occupies 19 cubic feet of space, holds 1,300 rolls of microfilm, equivalent to 3,900 books, and takes 5 years to fill.



Microfilm viewer. One roll of microfilm contains 3 books of documents. Each roll is on a plastic holder 1" x 4" x 4".

COPYING



Copies of the old records are made by using a xerox machine.



This machine is used to make hard copies of records stored on microfilm.

A program plan for threatened and endangered flora and invertebrates was prepared and is currently being reviewed. The plan provides program background, establishes goals, then addresses specific problems and suggests possible solutions.

Endangered and Threatened Animal Species Program

Biannual inventories were made to determine trends in water bird populations, including the native endangered Hawaiian stilt, gallinule, coot, and duck. Populations were surveyed in August and January on a statewide basis. The survey sites generally include permanent, regularly used waterbird areas in the lowlands. The results were:

	August 1981	January 1982*
Hawaiian stilt	1,217	694
Hawaiian gallinule	78	194
Hawaiian coot	997	785
Koloa (Hawaiian duck)	68	128

*Difference in numbers from last count reflects seasonality.

Under the island-wide Shearwater Aid Program on Kauai, a total of 1,123 threatened Newell shearwater fledglings were salvaged, banded, and released in the fall of 1981. This Aid Program helps fallen birds that might otherwise perish. In addition, 5 endangered Dark-rumped petrels were rehabilitated and released under the Program. Ninety-eight percent of the rescued birds were released into the wild.

Nene (Hawaiian Goose) Restoration Project

The monitoring of Hawaii's State bird, the wild Nene, continued in order to determine distribution, movements, reproduction, and survival on Hawaii and Maui. Habitat improvement and predator control were conducted on a localized basis on Hawaii. Although up from an estimated low of 30 wild Nene in 1951, the current statewide population of wild Nene is estimated at no more than 500 birds. It is believed that the wild Nene will not be able to reproduce and survive in the wild and that captive rearing needs to be continued in order to maintain the population.

The project continued with the production of young at the Endangered Species Breeding Facility at Pohakuloa. Seven pairs of captive Nene at Pohakuloa produced 19 goslings during the 1981-82 breeding season. These birds will eventually be released on either Maui or Hawaii. No birds were released this year on either island. Since the program began in 1960, a total of 1,319 Nene have been released on the Big Island. The statewide total of Nene released on Hawaii and Maui is 1,792.

The Division also participated in Nene management meetings and in the review of a draft Nene Recovery Plan which is being prepared by the U.S. Fish and Wildlife Service.

Alala (Hawaiian Crow) Restoration Project

An action program to bring this unique species back from the "brink of extinction" is in progress. Field studies to relocate and monitor known nesting sites and pairs were continued by Division biologists. Only two active nests in the Honaunau Forest Reserve and one on Puuwaawaa Ranch were found. An unemployed (non-nesting) pair was also found in Honaunau. The number of active nests located this year was lower than past years, due in part to loss of access to some private lands which support breeding pairs of Alala. Alala fledglings were monitored and two (in Honaunau) were banded with plastic and aluminum leg bands. This brought the number of adult (6) and juvenile/fledgling (32) Alala banded to 38. To date, 13 individuals have been identified in the field using their individual color band combinations. Division biologists are able to gather comprehensive field information by following the banded birds.



"Luukia", the female (left), and "Umi", the male (right), are the primary breeding pair of Alala (Hawaiian crow) at the Division's Endangered Species Breeding Facility at Pohakuloa, Hawaii.



Dr. Calvin Lum, General Curator and Veterinarian for the Honolulu Zoo, works with Division personnel in performing a laparoscopy on a young crow to determine its sex.

Efforts to breed Alala in captivity continued. The breeding and rearing efforts were concentrated at the Endangered Species Breeding Facility at Pohakuloa, in consultation with Honolulu Zoo personnel. A team of four cooperating veterinarians, formed in March 1981 especially to advise on this project, provided guidance and technical assistance on veterinary matters. The Phoenix Zoo loaned an aviculturist to the Alala project for four months in order to provide constant care and observations of the breeding adults, monitor incubation and rear any young that hatched. However, problems with the reproductive organs of "Luukia", the project's only paired female, apparently hindered egg laying and resulted in no eggs being laid in 1982. In an attempt to get a head start on the 1983 breeding season, laparoscopies were performed on the four juvenile Alala at Pohakuloa in May in order to determine the sex of these birds. Knowing the sex of these juveniles before the 1983 season will allow project personnel to introduce birds of the opposite sex to one another to facilitate the formation of pair bonds. Three of these juveniles were raised in captivity at the Honolulu Zoo last year, the first ever to be so raised.

Koloa (Hawaiian Duck) Restoration Project

Thirty-eight of the thirty-nine Koloa raised at the Endangered Species Breeding Facility at Pohakuloa during the 1981 breeding season were sent to Honolulu in March to be released in Ho'omaluhia, a City and County park in Kaneohe. After four days of quarantine, the flight feathers of one wing of each bird were removed and the ducks placed in a pen on an island in the park's wildlife sanctuary. A yellow dye, placed underneath the wings by Division biologists, will help in tracking the movement of these Koloa within and outside the park. The pen was opened on April 7, 1982 to let the birds roam as they pleased. This "gentle release" technique allowed the Koloa to become oriented to and familiar with their new surroundings while at the same time protecting them from predation. Sightings after their release indicated that the birds have become oriented to their new home and are feeding and loafing in the streams and ponds within the park. No Koloa were released on the Big Island this year.



Oahu District Biologist Ralph S. Saito checks a Koloa (Hawaiian duck) just prior to releasing it at Ho'omaluhia Park in Kaneohe.

Northwestern Hawaiian Islands Management

Division biologists made several trips to Kure Atoll in the Northwestern chain to continue a monitoring program for seabirds and atoll vegetation. Green Island and adjacent sandpits within the atoll are part of the Hawaii State Seabird Sanctuary system, and active management is necessary due to the presence of a U.S. Coast Guard Loran Station within the refuge.

Species counts and observations of their breeding status were made on many of the 14 indigenous seabirds, including the Laysan albatross ("Gooney Bird"), Red-tailed Tropicbird, Brown Booby and Sooty Tern. Aerial photographs together with ground inspections are being used to prepare vegetation maps of Kure Atoll to record long-term changes of vegetation distribution and composition. A cooperative program with the U.S. Coast Guard was initiated to control polynesian rats which prey on seabirds on Green Island of Kure Atoll.

Mauna Kea Sheep and Goat Eradication

A Federal Court determined that maintaining feral sheep and goats on Mauna Kea on the Island of Hawaii is contrary to the Endangered Species Act of 1973 because of the threat posed to the habitat of a native bird, the palila. An eradication plan was carried out through a program using public and staff hunters. Between July 1, 1980 and August 1, 1981, public hunters accounted for 1,327 feral sheep and 112 feral goats taken on 3,895 hunter-trips. The staff took an additional 104 feral sheep (no goats) off Mauna Kea in September and October. It was estimated that there were 40 feral sheep and 6 feral goats remaining on Mauna Kea on August 1, 1981, the deadline for eradication. Thereafter, the remnant flocks were systematically hunted.

Kahoolawe Management

Last year, there was a period of ideal tree-planting weather, and 10,600 Tamarisk seedlings were planted. The goal for 1983 is 20,000 plants. Trees planted prior to 1981 are growing well and forming good windbreaks.

Revegetation of Kahoolawe is a joint effort started in 1970 by the Department, the U.S. Forest Service and the Navy. The program is now in full swing hampered only by unpredictable weather.

FOREST RECREATION PROGRAM

There has been a growing demand for forest recreation facilities and opportunities. The Division is working to meet this demand by building and maintaining hiking trails, trail shelters, vista points, hunting grounds, and other outdoor provisions. This program is under LNR-804, Other Inland-based Outdoor Activities.

Maui District Projects. On Maui, 19.8 miles of forest trails were maintained primarily in the popular Polipoli area within the Kula Forest Reserve. Almost 60 miles of forest roads were maintained again, especially in the Kula Forest Reserve where public access for hunting and recreation is in great demand. Over 17 miles of forest fences were maintained.

The popular roadside stops at Waikamoi, Puohokamoa, and Haipuaena are regularly maintained to preserve their beautiful natural settings. These recreation stops along the Hana Highway receive heavy use.

On Molokai, the entire Molokai Forest Reserve access road was maintained and kept open except during an unusually wet winter period. Lack of an equipment operator on Molokai handicapped repair efforts. Waikolu Lookout and Picnic Grounds and Lua Moku Iliahi (Sandalwood) measuring pit continue to be popular attractions along the forest road.

Kauai District Projects. Funds for the acquisition of a Nonou Forest Reserve right-of-way were deposited at the District Court pending condemnation proceedings.

Recreation work involved improvement and maintenance of existing trails, shelters, arboreta, and other public facilities.

Threatened/Endangered
9.12

P. 30
"an turtles"



DNR

REPORT
TO THE
GOVERNOR

1982-83

53

DIVISION OF AQUATIC RESOURCES

The Division administers the State's programs in commercial fisheries and aquaculture, aquatic resources and environment protection, and aquatic recreation. It is concerned with the research, development and management of the State's fisheries resources.

Major activities include providing opportunities and facilities for recreational fishing, protecting native and other resident fish and aquatic species and their habitat, providing technical assistance to aquaculture development, and conducting fishery development projects consistent with the interests of the State.

COMMERCIAL FISHERY AND AQUACULTURE PROGRAM

The program assists commercial fishery enterprises by increasing their productivity through improvements in production methods, product processing, equipment usage and management methods. Activities also include: developing new and improved aquaculture products by providing technical assistance and demonstration projects so as to enhance the quality and diversification of Hawaii's commercial fishery production. Analysis of commercial fishermen catch reports and stock assessments are conducted to gather information about commercially important fish and shellfish species, to determine the effects of fishing so that appropriate laws and rules may be adopted to manage and sustain the resources.

Midway Albacore Tuna Fishery

In 1982, the State legislature funded a study to determine the feasibility of developing a fishery support base at Midway Islands for transshipment of albacore tuna caught in the North Pacific waters to the cannery in Honolulu, and to evaluate the existing fishery infrastructure in the main Hawaiian islands for potential expansion of the commercial fishing fleet. Consultants were subsequently hired to conduct the study under the direction of the Division and the Hawaii Fisheries Coordinating Council. The final report is planned to be presented to the Legislature in 1984. The study will include such topics as an assessment of the North Pacific albacore tuna resource, the design of a fishery support base compatible with the national defense needs of the U.S. Navy, an economic analysis of the fishing fleet and support base operations, environmental assessments, and cost-benefits.

Statewide Fish Aggregating System

Fishermen reported catching 206,087 pounds of fish at the State's 25 fish aggregating devices (FADs). Fishermen made at least 2,378 trips to the FADs and caught ahi or yellowfin tuna (99,319 pounds), aku or skipjack tuna (33,584 pounds), a'u or marlin (31,824 pounds), and mahimahi or dolphinfish (20,538 pounds). These fish comprised 90 percent of the total poundage produced by the FADs during the fiscal year.

The fishing methods most frequently used around the FADs were: live-bait, pole-and-line by aku boats (2% of catch), handlining (33% of catch), rod-and-reel (14% of catch), and trolling (42% of catch).

In October, 1982 the Ocean Thermal Energy Conversion (OTEC) buoy in North Kona and its mooring were transferred to the Department upon termination of the OTEC-1 project. The OTEC buoy served as an effective fish aggregator producing 48,707 pounds of fish for the west Hawaii fishing community since its acquisition by the State. The average poundage caught around the OTEC buoy was 122 pounds per trip.



Diver conducting fish transect on pentasphere buoy off Laie, Oahu

The fish aggregating system lost 20 FADs during the year attributable to strong current, winter storm, and corrosion of metal hardware on the mooring line. Hurricane Iwa that hit the main Hawaiian Islands in November, 1982, broke-loose two fish buoys and overturned three. Replacement of some of these lost buoys was delayed due to delay in obtaining parts.

In an effort to improve the system, the Division removed the wire cable in the mooring line and redeployed a new FAD design buoy consisting of a single 58-inch diameter metal sphere. The single-sphere buoy has minimum surface current drag and has about 3,000 pounds of buoyancy.

Northwestern Hawaiian Islands Bottomfish Surveys

Two commercial fishing vessels — the F/V KAIMI and the F/V WICKED WAHINE were contracted for a total of four bottomfish cruises during the months of October and November 1982. Each vessel fished one cruise in the Northwestern Hawaiian Islands (NWHI) and the other in the main Hawaiian islands. Data on fish catches, fishing effort and market prices were collected and will be used to analyze fishing operations in both of the areas. The catches totaled 21,620 pounds and were sold for a gross value of \$33,524.79. Catches from the NWHI which were sold fresh and frozen, totaled 19,213 pounds and grossed \$22,822.60.

The remaining 2,408 pounds of fresh fish were caught in the main Hawaiian islands and sold for a gross value of \$10,940.97. Although prices for fresh bottomfish from the main Hawaiian islands were significantly higher, smaller catch rates and small overall catches made bottomfishing unfeasible for the larger vessels.



SCUBA diver conducts one of 106 fish transects to assess the nearshore fishery resources of the Northwestern Hawaiian Islands.



White ulua catch from a NWHI Bottomfish Survey Cruise

Based upon previously collected economic data, bottomfishing trips to the NWHI were marginally profitable. Irregular landings of NWHI bottomfish catches, a limited local fresh-fish market system and the resulting inconsistencies of ex-vessel bottomfish prices appear to constrain expansion and development of a NWHI bottomfish fisheries.

Fishery Information Network (FIN)

Worked continued on this federally-funded study of the Division's fisheries statistics system with the objective of making it more efficient while filling the data needs of Hawaii's fisheries community. A draft report of the study, which included descriptions of the Hawaiian fisheries, current data needs and compilation effort, the current statistics system in detail, and a set of alternatives and recommendations, was circulated "in-house" for review. By mid-August an initial draft report will be sent out for external review. The comments received from the various agencies and groups will then be evaluated for incorporation into a final Hawaii FIN report.

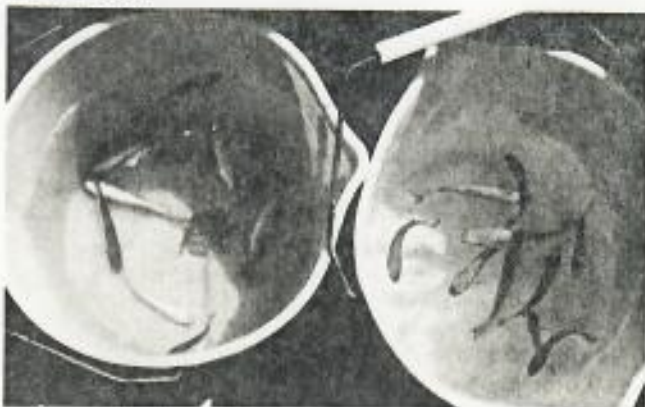
Hawaii Fisheries Coordinating Council

The Division provides administrative support for the 21-member Hawaii Fisheries Coordinating Council that advises the Board of Land and Natural Resources on fisheries matters in the State. The Council met on September 17, October 29, December 14, 1982, and April 15, 1983. The major issue discussed during the year was the severe shortage of baitfish supply faced by Hawaii's aku fishermen. With Council's endorsement, a joint Department of Land and Natural Resources-National Marine Fisheries Service (Honolulu Laboratory) baitfish workshop was held in April 1983. The workshop reviewed the baitfish problem and identified possible solutions. As a result of the workshop, the Council was able to recommend immediate actions to be implemented by the Department to help alleviate the baitfish problem.

During the year, the Council reviewed the Department's commercial fisheries projects and budget, as well as Hawaii fisheries project proposals submitted to the Pacific Tuna Development Foundation for Fiscal Year 1983.

Aku Baitfish Activities

In November and December, 1982, aku fishermen's difficulty in getting enough live baitfish worsened. Much of the bait caught in Pearl Harbor died in the baitwells as the aku boats headed out to the fishing grounds through patches of "red water." In January, 1983, the Tuna Boat-owners' Co-op, Inc., asked the Division to assist in determining the cause of the mortality and develop a remedy to the problem.



Juvenile mullet dying (left) after 15 minutes exposure to "red water". Mullet exposed for the same period of time to water taken outside the "red water" patch show no sign of stress (right).

Staff biologists tracked "red water" distributions and took samples. The organisms apparently responsible were identified as *Cochlodinium catenatum* and *C. citrom*, planktonic dinoflagellates related to "red tide" species. The identity was confirmed by a scientist at the Hawaii Institute of Marine Biology of the University of Hawaii. The State's Aquaculture Disease Specialist reported that the signs of death in baitfish were consistent with blockage of oxygen transport across the gills. Staff members assembled a system of portable generator, compressor, air lines and valves, and suc-

cessfully demonstrated how baitfish could be kept alive with artificial aeration while the baitwells were sealed off from contact with "red water" patches. The problem has subsided since early spring, and the co-op has acquired a compressor for the fishermen to use should "red water" recur.

The Oceanic Institute, a private research company at Makapuu (Oahu), continued its attempts to spawn mullet in captivity and to grow juveniles to supplement natural stocks of baitfish for aku fishing. In June, 1983, about 64 lbs. (7,200 fingerlings) were delivered for field testing. A staff biologist observed the performance of the cultured mullet aboard a commercial aku boat. While the small-scale test was not conclusive, useful information resulted: again, mullet proved harder than nehu in baitwells but was not very effective as aku bait. Mullet mixed with nehu worked well, so that possible cultured mullet (if available cheaply and in quantity) could be used to produce larger aku catches from the limited amount of nehu available to fishermen.

Shrimp Industry Development

In 1981 the Department of Land and Natural Resources and the Pacific Tuna Development Foundation (PTDF) supported a Hawaiian deep sea shrimp *Heterocarpus* spp. development project involving fishing operation, shrimp processing, and market evaluation of the product. A final project report was completed during fiscal year 1982-83.

A total of 66,000 pounds of shrimp was caught by traps, with an average trap set time of approximately 20 hours. There were four boats hired by the contractor to trap shrimp. Two boats that fished around the main Hawaiian Islands landed an average of 7.3 pounds per trap while two other boats that fished the Maro Reef area averaged 5.4 pounds per trap. The highest one day per trap average for the Maro Reef boats was 10 pounds while the highest average for the main Hawaiian Islands boats was 13 pounds.

Ciguatera Test Development

Ciguatera is a type of fish poisoning caused by the ingestion of the flesh and viscera of fish containing ciguatoxin (CTX). CTX, a lipid-base toxin which originates in the benthic marine dinoflagellate (*Gambierdiscus toxicus*) accumulates in fish (by ingestion) to levels which affect humans. Ciguatera is the most prevalent type of fish poisoning seen in Hawaii, Florida, and the Virgin Islands. Although the toxin source, chemical structure, and fish species prone to be ciguatoxic are known, there has yet to be developed a cost-effective assay.

In partial fulfillment of this study's objectives, CTX analysis was done on 700 fish samples collected from the Northwestern Hawaiian Islands during July 1982. Fish species which recorded high percentages of positive (a toxic designation) or borderline scores were the po'ou (*Chelinus unifasciatus*), ulua (*Caranx ignobilis*) and the manini (*Acanthurus triostegus*).

During the year CTX analysis was also performed on fishes collected from the Barbers Point deep draft harbor project area and other selected inshore areas around Oahu. One thousand sixty-eight (1,068) fish specimens have been analyzed from October 1982 to May 1983. Of 751 fishes tested between October and December 1982, only 8% were evaluated to be positive and/or borderline in toxicity. These species were the maiko (*Acanthurus nigroris*), kole (*Ctenochaetus strigosus*), taape (*Lutjanus kasmira*), menpachi (*Myripristis kuntee*), and the moana (*Parupeneus multifasciatus*). However when extractions from positive and borderline specimens were tested in mouse bioassays, results indicated that no illness in humans would have occurred if the fish were consumed which suggests that in addition to the CTX, other closely-related but less toxic compounds are being detected in the analysis.

From January to May 1983, frequencies of positive toxicity values increased in certain fish species. Of the 317 fishes tested, 24 percent were evaluated to be positive and/or borderline in toxicity. These species were the palani

(*Acanthurus dussumieri*), naenae (*Acanthurus olivaceus*), po'ou (*C. unifasciatus*), kole (*C. strigosus*), poopaa (*Cirrhitus pinnulatus*), taape (*L. kasmira*), menpachi (*M. kuntee*), and humuhumu (*Rhinecanthus rectangulus*). Tested extractions in mice bioassays proved negative again indicating no threat to humans if consumed.

Current information on ciguatera outbreaks suggests that an increase in incidences comes after environmental disturbance is completed. Future monitoring of ciguatoxin in fish is therefore necessary.

During the year, the State Department of Health reported three cases of fish poisoning. One involved the roi (*Cephalopholis aroas*), on Maui, and two involved the po'ou (*C. unifasciatus*), one caught near Pearl Harbor, Oahu, the other near Kawaihae, Hawaii. Retrieved specimens from these cases will be used to further refine the method of rapid CTX detection procedure known as ELISA.

Aquaculture—Anuenue Fisheries Research Center (AFRC)

Giant freshwater prawn (*Macrobrachium rosenbergi*) aquaculture research and development activities at the AFRC continued with the production of approximately 8.5 million post larval prawns distributed among some 104 acres of ponds under cooperative agreement with the State. There were 21 growers who produced approximately 320,000 pounds of marketable prawns in 269 acres of ponds. The prawns were estimated to value nearly \$1.6 million to the producers.

A "Seaweed Investigations" project was initiated with focus on mass producing two local seaweed species: *Gracilaria bursapastoris* (ogo) and *Gracilaria coronopifolia* (limu manaua). Laboratory scale "in vitro" spore settlement experiments conducted at AFRC have been very successful. Preliminary results of mass spore settlement on small coral-lime rocks to produce "seed rocks" also appear promising. The project will continue with the rearing of *Gracilaria* sp. sporelings on "seed rocks" for out-plantings into new and existing natural seaweed beds.



Ogo "sporeling" on a coral chip seed rock.

Legislation

The Twelfth Hawaii State Legislature (1983) passed several measures affecting the Commercial Fisheries and Aquaculture Program. Act 15, Session Laws of Hawaii (SLH) 1983, amended Hawaii Revised Statutes (HRS) to clarify the Department's functions relating to aquaculture, aquatic life and wildlife programs.

Act 62, SLH 1983 removed a statutory "sunset" clause where all speared fish except shark, uu, uhu and kumu would have been prohibited from sale after December 31, 1983. It is now legal to, and will continue to be legal, to sell all speared fishes beyond December 31, 1983. Act 62 was passed on the basis of commercial catch data from the

Division, which indicate that stocks of fishes being speared commercially are not being significantly affected. The Division will continue to monitor commercial spearfishing effects, and will take appropriate action should evidence arise to indicate the need to regulate this fishing.

AQUATIC RESOURCE AND ENVIRONMENT PROTECTION PROGRAM

The objectives of this program are to conserve and to enhance the fish and other aquatic animals and plants which collectively belong to the people of Hawaii, including the species which have been classified as threatened or endangered, and to protect the habitats these organisms need.

Marine Life Conservation Districts (MLCD)

The State's MLCD system has been established to protect marine life in special areas with unusual value, due to particular combinations of favorable physical conditions, natural biological richness, and accessibility to wide ranges of Hawaii residents and visitors.

The Department established the State's seventh MLCD in January, 1983, at Pupukea, one of the few protected beaches on Oahu's North Shore. With a parking area close above and a system of lava tubes in shallow waters, Pupukea has long been a popular site with novice divers, underwater photographers, and admirers of reef fishes. Due to requests at a public hearing, fishing with pole-and-line and by hand, by spear while skin diving (but not spearing with SCUBA), and limu picking are permitted in the Pupukea MLCD; one area is also open for netting.

Barbers Point Deep Draft Harbor Marine Survey

In August, 1982, construction began on a deep-draft harbor at Barbers Point. Division divers conducted underwater observations to monitor the impacts of construction activities on the quality and quantity of marine life in the area.

Four permanent 250-yard transect stations were established on the outskirts of the construction zone by October, 1982. Turbidity, high surf and storm surge (as with Hurricane Iwa in November 1982), make biological surveys difficult. Only partial data could be obtained during December-March and from May-June of 1983; however, all four sites were monitored in November (before Iwa), 1982, and in April, 1983.

Between September 29, 1982, and June 30, 1983, 1,068 fish specimens were collected for ciguatera fish toxin assay by the University of Hawaii.

Aquarium Fish Collecting Study

The collection of small reef fish with fine mesh nets for aquariums was monitored throughout the year by means of the established permit and catch reporting system.

During the year, 179 persons were issued aquarium fish collecting permits: 111 (62%) for home aquarium use and 68 (32%) for commercial sale of the aquarium fishes. The total number of permits declined slightly from last year's total of 186 permits. About 98% (114,690) of all the fishes collected (120,726) were harvested for sale with an estimated value of \$228,626. This is equivalent to an average value of \$1.89 per fish, slightly higher than the average value of \$1.81 obtained last year. Over the past five years, commercial aquarium fish collectors have accounted for an average of 98% of the aquarium fish catch.

Environmental Impact Evaluations

During the year staff biologists reviewed 400 proposals to evaluate potential effects of projects, developments, and uses of natural resources on aquatic environments, aquatic animals and plants, and public fishing. On-site investigations, extensive literature research and consultation with expert sources of specialized knowledge contributed to these evaluations and to recommendations to protect the public interest in aquatic resources.

Division biologists also assisted Department of Health responses to 10 potential water pollution incidents during the year by investigating reports of fish-kills. Participation was also extended in a U.S. Navy operation which cleared nearly 60 World War II ordnance from shore waters of the Malaekahana (Oahu) State Recreation Area.

Legislation

The 1983 Legislature passed Act 111 to enhance the State's special protection of indigenous aquatic and terrestrial plant and animal species, particularly those threatened with extinction. The Act clarified definitions, specified permit provisions and updated penalties. Act 87, SLH 1983, defines a "bullpen trap," and requires such traps to meet the same requirements as other nets and traps. It also provides the Department authority to establish rules for trap features which would allow fishes and other aquatic life to escape if the traps have not been emptied after a reasonable period of time. The Department is developing appropriate rules to implement Act 87 against indiscriminate fishing and fish losses.

AQUATIC RECREATION PROGRAM

Program activities that enrich the leisure time of the public by providing opportunities and facilities for recreational activities include: investigations, surveys and inventories of fish species and populations; sport fishermen surveys and operation of fishermen checking stations; monitoring of introduced fish species; development and maintenance of public fishing areas; and information and education activities to promote better understanding and support of the program.

Northwestern Hawaiian Islands (NWHI) Nearshore Resources Assessment

During July and August, 1982, four Division staff members plus two students from the University of Hawaii Marine Option Program boarded the *F/V WICKED WAHINE* to continue the Department's survey of nearshore fishery resources from Nihoa Island to Pearl and Hermes Reef in the NWHI. The team made 106 underwater fish counts and collected 566 fish specimens to inspect food items and reproductive condition, to gather data on length-weight relationships, and to provide tissue samples for ciguatera (fish poison) assay. The survey also included netting and trapping of Kona crabs at Gardner Pinnacles and Maro Reef, and spiny lobster trapping at Maro Reef and Pearl and Hermes Atoll.

During two days at Kure Atoll in June, 1983, three Division biologists collected 210 fish specimens (for dietary, reproductive, growth data, and for ciguatera assay). They also repeated a fish count at a site previously surveyed in order to monitor the condition of fish stocks at Kure.

In May, 1983, the Department co-sponsored a symposium entitled "Resource Investigations in the Northwestern Hawaiian Islands," with the National Marine Fisheries Service, the University of Hawaii Sea Grant College Program, and the U.S. Fish and Wildlife Service. The symposium brought together researchers from these and other organizations in a public forum to exchange results and to discuss implications for resource management.

I want this statement to be kept in its entirety at the public hearing Sept. 16, 1971 so my testimony will be in its entirety in the records thank you.

TO - DIV. OF Fish & Game, Land and Natural Res. Honolulu, Oahu.

FROM - Ahika Cooper - 163 Kaiulani St. Hilo,

(Aho ai) Ke aloha;

DIVISION OF FISH & GAME	
DIRECTOR	<input checked="" type="checkbox"/> Def. of Dates
FISH. CHIEF	<input checked="" type="checkbox"/> Copies Dates
WILD. CHIEF	<input type="checkbox"/> Draft Reply
ENF. CHIEF	<input type="checkbox"/> Reply Direct
FISH. BR. AMB	<input checked="" type="checkbox"/> Comments
WILD. BR.	<input type="checkbox"/> Information
ENF. BR.	<input type="checkbox"/> Comp. Act. & File
OFF. SERV.	<input type="checkbox"/> Return To:
SECRETARY	<input type="checkbox"/> Remarks
FED. AID	

It is sad that the state Div. of Fish and game is trying to set up affecting laws to stop turtle fishing in the eight Hawaiian Islands.

Let's look at the problem. The turtles start to leave these eight main Hawaiian Islands in March and April. A person who has fished at French Frigate Shoals, will know that turtles travel toward French Frigate Shoals in March, April and May. If you have fished turtles around these eight Hawaiian Islands, like I have since 1944, you will know that the green sea turtle is absent from these waters from March to October. The turtles start arriving at French Frigate Shoals in May & June.

Each mature female Green

RECEIVED

SEP 20 1973

Division of Fish & Game

(2)

Sea turtle will lay 3 times, and at each laying will have about 100 eggs. In July and August and up till the middle of Sept., depending on the year, these small turtles hatch, crawl into the ocean and disappear. We start to see the small turtles about 7 or 8 months later around the Flag Lines 100 or 50 miles from shore. After that they start popping up around the Hawaiian Islands. This turtle weighs from 8 to 15 lbs.

Let me take you back to French Frigate Shoals when the turtles hatch. You can visualize many small sand islands a few feet above the water. The turtles are hatched by the millions. As the baby turtles reach the top of their nest, the birds are a problem, for they eat the baby turtles, before they reach the water. If these infant turtles survive the bird attack, the sharks, Kahala, ulua, uku, etc. will ^{wipe} them. I would estimate that ^{less} ~~at least~~ ^{than} 1% of one % survivors become one year old. We don't see

(3)
these turtles until about
8 months later when they
start to arrive at Hawaii.

By the first week in Sept.
nearly all of the large sea
turtles leave French Frigate
Shoals and by October and
November they have returned
to our eight Hawaiian Islands.

In recent years, I have seen very few small Hawaiian born turtles. I could list 20 or more places where turtles laid eggs in the past

How do we solve this problem of what appears to be a diminishing number of turtles in our Hawaiian waters. FIRST of all, you ought to stop all spearing of turtles and shooting of turtles with power heads. Other methods such as hooking, grabbing and netting ought to continue to be permitted. It would be highly advisable to program a team of fisherman to French FRIGIT Shoals during the hatching period, millions of young

(4)

turtles can be brought back to Hawaii. ALL available resources can be used to raise these turtles up until about one year old. At this time the turtles can be released in the ocean. This proposal can be a joint venture with the State Div. of Fish & Game, the Bureau of Commercial Fisheries, the University of Hawaii, Sea Life Park, Oceanic Institute, Under Sea War Fair, Makapuu (they are doing lots of turtle work), and all others who would like to participate. In five years, if this program is put into effect, there should be a significant increase in turtles and all of the turtles needed will be available in these waters surrounding our Islands.

Dr. John Hendrickson, of the marine Division of the University of Arizona would be a able Resource person, For he is one of the turtle specialists in the world today. He has written many projects that were not funded years ago. If these projects had been funded, the turtle decimation would be

⑤
nonexistent today. Baby turtles
have been raised successfully
in Hawaii in the past.

There seems to be a growing
string like cancer type growth
on turtles that are caught
around harbors and in polluted
areas. This unique growth is also
a subject worthy for research.

The decision to ban turtle fishing in these Hawaiian Islands is another instant where the people who will make decisions have not included the commercial fisherman in the decision making process. There are commercial fisherman who make their living by catching turtles.

To stop turtle fishing clearly deprives the fisherman of his livelihood. I wonder if the responsibility of the decision making group doesn't entail them to providing affirmative action steps for providing a viable income resource to the fisherman, especially would the ~~decision~~ decision making board be held

in direct responsibility for displacing a fisherman from the required investigation preceding this decision has not been thoughtfully undertaken. ⑥

The real causes for turtle desecration is pollution, spearing, shooting, poisoning by man's waste, and many other causes that proper studies will reveal.

As I look at the set of rules and regulations for control, I believe that these were drawn up on emotional biases and not on facts.

Let us look at some of the regulations for control

1. Prohibiting the sale, etc.

I ask you, what will happen to the fisherman who fishes turtle on a full or part time basis?

It seems that a control of this nature is an INFRACTION of a citizen's constitutional right for any law that deprives a person of his occupation is inappropriate. Now when the law has been

(7)

based on inadequate Research and little or no facts about the cause of turtle decimation, nor the exploration of alternative Remedies, it can be a real INFRINGEMENT OF a Fisherman's constitutional Rights if the Law proposed are carried out.

#2 Permitting etc. Why 36 inches maybe 24 inches measurement would be more Reasonable.

#3 A PERMIT seems to be

UnConstitutional also,

#4. Prohibiting use of nets.
Nets are the only humane way to catch turtles, FOR the turtles are not cut, prused or hurt. my type of turtle nets, maybe one out of 200 turtles are found dead in the nets.

How many turtles were taken by nets? How many by spear, powerhead, shooting, hook or grabbing? Unless the facts can VERIFY that net fishing is the contributor to the problem, a decision of this matter can not be made.

Who's livelihood will be cut off, ^{will the fisherman} he be Reimbursed for his turtle equipment. he now

(8)

uses FOR catching turtles? Will he be able to ~~do~~ deduction on his state and Federal taxes? these questions are realistic and must be answered by the group that makes the decision to cut OFF a person's source of income.

When I Read the Regulations FOR turtle control, I Felt that they are unjust. I still Believe this.

ALL OF the people of the sea know that the solution to turtle decimation is not ~~the~~ ~~the solution~~ a regulatory control measure meant to stop the catching of turtles. This is an impractical, unreasonable and unconstitutional plan. ~~if~~

IF a reasonable size of 24 inches shall be placed on turtles and stop all spearing, shooting, you will find that the existing laws are adequate. In the same instance, meaningful research should be undertaken to determine other alternative solutions to the problem.

And last but not least this board should be made more accountable to its responsibilities by issuing a firm position against pollution.

In these alternative suggestions, I feel are the reasonable approach to practical solutions to an existing problem.

Aloha a Nui Ioa Kaha,
Nui Kaha,

hikea looper

Commercial Fishermen

In Opposition

P.S. I would be very happy to work with with your group.

September 24, 1973

CONFIDENTIAL

Mr. Michio Takata
Hawaii State Fish and Game Division
1170 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Takata:

At your request, I have reviewed the testimony relating to proposed Regulation 36 which was submitted by Mr. Alike Cooper on September 16, 1973. Although most of the points he has mentioned were discussed and clarified during the public hearing, it may still be beneficial for me to comment on each of his major topics.

- 1). Page 1: There is no reason to believe that green turtles are absent from our waters between March and October. Monthly catch reports reveal that turtles are taken throughout the year. It is very likely that approximately 1/3 of the breeding population migrates to French Frigate Shoals each year starting during April and May and returning during August and September. Green turtles are known to have a 2 to 4 year breeding cycle.
- 2). Page 2: Turtles are not hatched out by the "millions" at French Frigate Shoals. Perhaps when Mr. Cooper last visited this area in the 1940's or 1950's large numbers of this magnitude were produced. During the 1973 breeding season I estimated that fewer than 100,000 hatchling were produced before predation started.
- 3). Page 3: Mr. Cooper's observations reconfirm our findings that there are no longer any nesting sites on the major Islands. Habitats have been destroyed and distribution has been reduced.
- 4). Page 3 and 4: The proposal to transplant millions of young turtles from French Frigate Shoals to our major Islands for rearing to one year before release is not based upon scientific knowledge and, in fact, could possibly destroy what is left of our colony. Several programs of this nature were tried over the

Mr. Michio Takata
September 24, 1973
Page 2

past 20 years in other areas of the world. No real evidence was ever obtained showing that such practices were beneficial. Because the green turtle has a migratory life history, it is completely unknown what effects rearing in captivity and transplanting will have on the animal's behavior and ability to reach sexual maturity and successfully reproduce. As Dr. Archie Carr has stated, "Releasing pen-reared sea turtles may possibly be just a laborious (and expensive) way to kill them. To go into any massive program of this sort before careful tests have been made seems irresponsible". At present the best method of natural stocking is to provide protection for nesting females, eggs and hatchlings on the beaches. Of course one first has to ensure that there are turtles for reproduction. Hopefully Regulation 36 will aid us in this respect.

- 5). Page 5: Growths on sea turtles have already been described and studied in several areas of the world.
- 6). Page 6: The literature reveals that overexploitation by man is by far the major cause for the destruction of sea turtle colonies.
- 7). Page 6 and 7: Regulation 36 is not "based on inadequate research and little or no facts about the cause of turtle decimation". To the contrary, all available information strongly indicates that our turtles are underprotected, overexploited and declining at a significant rate.
- 8). Page 7: The question is asked "why 36 inches?" As described in testimony, this proposed restriction is based on the fact that by the time a green turtle has reached this size the opportunity has been afforded to reproduce at least once. Twenty four inches is suggested as an alternative; on what basis?
- 9). Page 7: Although Mr. Cooper's type of net may not drown turtles, it is apparent that all nets used are not constructed or set by his method.

In summary, it might be said that many parts of Mr. Cooper's testimony support the enactment of Regulation 36 since he is in agreement with the belief that turtle numbers have been and are continuing to be reduced in Hawaiian waters. If I can be of further assistance, please contact me at 247-6631.

Sincerely,

George H. Balazs
Jr. Marine Biologist

GHB:ah