

SEA LIFE PARK TURTLE

1970s - 1990s

G.H. BALAZS FILE

CORRESPONDENCE AND ARTICLES

PART 1  
OF 2

NOT CHRONOLOGICAL

April 15, 1995

April 15, 1995

To: George Balazs

From: Michelle Sattler

Re: Turtle diet

Dear George,

I am in the process of formulating a new diet for our sea turtles. The reason for this is in part due to the fact that you have stated on several occasions that our turtles are overweight. Also, as you well know, *Chelonia mydas* are herbivorous as adults. Due to the response from the guests at feeding time, I have been looking at the possibility of "turtle feedings" for our guests. I would like to keep this as tidy of an affair as possible. This is why I thought of a pelleted supplement. I have been working with a wonderful man from Oceanic Institute, Tony Ostrowski. Enclosed is the recipe he has prepared, and the research involved in arriving at this diet. We have offered the turtles the prototype batch made by Tony, and they accept it readily. Due to the size of the pellets, it even increases the forage activity of the turtles. I am aware that a drastic change in diet for any animal can have adverse effects. I would not want to do anything to jeopardize a successful breeding population of a threatened species, so as stated in Tony's paper I would be using this new diet as a supplement only, for a substantial period of time. I would appreciate any input or comments you might have concerning the diet, or of the public feeding idea. As I have said before, I value your opinions!

Thank you for your time



Michelle Sattler  
Curator of Fishes and Reptiles

CTF literature

GHB notes 1995

Differences  
between  
grows and  
adults  
males vs females

Warren's  
bullet

- 70 proteins
- J. Wood papers
- Russell Bolars paper  
Algae not sequenced

Algae being fed?

Routine  
vet oversight

JUNE 21, 1995

June 21, 1995

To: George Balazs

From: Michelle Sattler

Re: Turtle Release

Dear George,

Thank you for your prompt response to my requests and inquiries. And I also thank you for pointing out the misconceptions we have the potential to create concerning Head start and Release programs. I myself have been guilty of using words like "replenish and replace" in reference to what Sea Life Park is doing with the turtles. Once again, you have enlightened me! I will provide a copy of your letter to my staff so we can all be more aware of how we educate the public. Here are the tag numbers of our first clutch, and a recap of the release. About 150-200 people showed up to watch.

On June 12, 1995 there were 70 turtle hatchlings found at turtle lagoon. 67 were alive. 3 were drowned in the scum drain. ( We have designed a new scum drain cover). All turtles climbed out of the nest themselves, we did not have to dig the nest up.

Turtles were tagged with tag numbers: ZA81- ZA99, and YB01- YB51. ZA98 has a deformed jaw. On June 13, one last hatchling emerged from the above nest site. He has a slightly deformed jaw also. Tag # YB53

June 14, ZA98 died.

On June 14, 1995 we did a public turtle release. We had 4 hatchlings in the back of two pick up trucks for people to view and touch. We also roped off the beach area so that the people would not interfere with the turtles plight to the water. Before the release I did a small talk. The release went well. The tide was going out and the moon was 2 days after full. Turtles went right to the water and none of them got washed back. The four turtles in the truck we did not release. Tag #'s ZA82, YB19, YB49, and YB53.

Thank you,





U. S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Science Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396  
(808)943-1221 • Fax: (808)943-1290

29 AUGUST 95

Dear Michelle:

Please call me when you want to work out a suitable date to do the "wotool" ID's on your turtles. Taking measurements on the same morning would be ideal.

Due to many other obligations, and my limited staff, I'd like to ask you to search and inquiry to the fullest extent possible to locate the records Sea Life Park should have on the turtles. I have faithfully given SLP copies of every data set I've ever taken the past 18 years. Have you asked Bob Moore? As a last resort, I encourage you to telephone or fax Steve to ask of the whereabouts.

1995- THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative



(over)

I can't imagine such important records would have been destroyed. Keep in mind that the historical turtle file, wherever it is, contains far more than just my data/measurement contributions. It must also have a wealth of other information - hatching dates and data, growth records, vet care, etc. etc. Isn't a comprehensive documentary, like this, one of the AZPA requirements for certification?

I've just returned from the Big Island, so will be contacting Mike Bailey soon since he called me about Farai.

Warm Aloha,  
Seyf



U. S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Science Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396  
(808)943-1221 • Fax: (808)943-1290

2 Sept. 95

Dear Michelle:

This time I'm getting around to writing you a note for two reasons. First to clarify the seeming discrepancy about PIT tags in Tagged Maui Iani Turtle K968, 11477. Recall that Leilani noted this in her e'ed letter to us of 5 July 95. She is correct. A

PIT tag (IF2648046F) was placed in that turtle (on 6/20/94). And a second one (IF742A36PD) inserted on 7/3/95. There are two possible explanations - 1.) The first PIT tag was lost, or 2.) I didn't scan it thoroughly enough to detect it on 7/3/95. The latter is the most plausible.

So - until the turtle is recaptured, we need to retain both PIT numbers in the database. It is possible to "read" 2 PIT tags in a flipper - one after the other - so that won't be a problem. If they are both present. (OVER)

1995 - THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative



The second issue I want to bring up --  
one that is long overdue for action -- deals  
with consistent routine veterinary care and  
health-screening of SLP turtles! I've brought  
this up several times in the past (long before  
you arrived). We need to discuss in depth  
in person or by phone. Briefly, it is my  
recommendation that a turtle veterinarian needs

to routinely (2-3x a year) examine, diagnosis, and  
generally consult with SLP on the health-status of  
its turtles. The way it is now (and always unfortunately  
has been, against my advice) a vet is only called  
in a crisis, piece-meal, to "treat" specific turtles.  
There is no consistent care and oversight by an  
experienced turtle veterinarian; and there should be.  
This includes SLP turtles at Mauna Lani (where  
300<sup>+</sup> problems and mortalities have occurred in the past) and  
other "loaner" places you may have in mind for your  
turtles. Doesn't this sound reasonable? I think you'll  
AGREE. *Sam Boles*



10 April 1995

MEMORANDUM

TO: Michele Sattler *MS*  
FROM: Tony Ostrowski *TO*  
SUBJECT: Seaturtle diets

Attached is a formulation for a preliminary seaturtle diet. It was formulated based on current knowledge of seaturtle nutrition and my knowledge of digestive physiology of other animals. The seaturtle has an extensive caecum with bacteria to digest cellulose, very much like that of a horse. In addition, the transitional ontological development from a carnivorous juvenile seaturtle (requiring high protein) to that of a more herbivorous adult (requiring low protein) is similar to the transition of the non-functioning to functioning ruminant stage in the lamb. This together with knowledge of the differences in specific nutrient needs of terrestrial animals and marine fish lead to the diet. The diet is only preliminary until I can obtain a more practical ingredient (cheaper) to use to make up the cellulose fraction.

*Day Matter*

An average energy need of 4.2 kcal/kg body weight/day can be calculated from the annual energy budget of an adult, egg laying seaturtle. The diet currently used at SLP consisting of squid, lettuce, and fish contains about 73% protein, 19% fat and only 1% cellulose on a dry matter basis. I calculate a daily gross energy intake of about 2.2 kcal/kg of adult turtle, at a feeding level (dry matter) of 0.044% body weight/day. The natural diet of seaturtles (seagrass, Thalassia testudinum) contains about 22% protein, 45% cellulose, and is very low in fat. Animals eat at a much higher rate than those at SLP (0.22 - 0.33% body weight/d), and gross energy intake is much higher (6.1 - 9.2 kcal/kg/d; average = 7.7 kcal/kg/d). It appears that seaturtles, like many other animals, will consume feed at higher rates if given less energy dense diets. Nevertheless, the poor quality of natural diets has been suggested to be a reason for the slow growth and delayed onset of maturity often seen in wild animals. It can be speculated that the digestibility and utilization of the mix used at SLP is much better than that of the natural diet; not surprising.

The problem you mentioned with "fatty" turtles may be due to the relatively high fat content of the SLP diet compared to that of their natural diet. On the other hand, insufficient levels of fiber in cattle or inappropriate ratios of fermentation products from fiber digestion in sheep leads to "fatty cow" and "soft fat" problems, respectively, in these animals. The very low cellulose levels from lettuce may result in insufficient production of volatile fatty acids as an energy source, which seems to be an important function of the caecum of seaturtles, and may be causing a similar effect.

The formulae described aims to lower fat and protein, and increase fiber levels for your seaturtles, while keeping energy intake at a level somewhere between what they have been receiving and the estimated energy budget need (e.g. 2.2 - 4.2 kcal/kg/d). Based on the apparent gross energy content of this diet (3.6 kcal/gm), the SLP seaturtles need to consume about 0.12% of their body weight daily or about 132 gms of pellet/250 lb (113 kg) turtle/day, as a complete diet. Given that you have 27 turtles, your need should be only about 3.5 kg of diet per day.

To use this diet as a supplement, a rough estimate is to simply replace that proportion of the wet diet you currently use with an equal proportion of the pelleted diet. For instance, if you want to feed the pellet to make up only 10% of your turtles' diet, feed 16 lbs (90% of the 18 lbs wet normally fed) of your combination of squid, lettuce, and fish, and 350 gms diet (3,500 gm x 10%) per day.

Your plan to have visitors feed the animals can be calculated. Each handful of feed weighs about 20 gms. At total diet replacement, a total 175 handfuls of feed are required per day for all 27 turtles. A total of only about 18 handfuls are required at the 10% replacement level. I recommend you try the 10% replacement level for two weeks (14 days = 5 kg feed).

In addition to your normal observations, please note the pellet quality in the water. Does it hold together nicely in the water and not break apart or dissolve before or during feeding? Is the pellet size appropriate? Do the animals reject it?

Sea Life Park

10 April 1995

Seaturtle (Chelonia mydas) diets  
Michele Sattler

<u>Ingredient</u>	<u>% dry matter</u>	<u>Grams as is/5 kg</u>
Soybean meal	32.00	1,684.00
Alphacellulose	25.00	1,316.00
Cornstarch	17.95	945.00
Fishmeal	10.00	526.00
Fish oil	5.00	250.00
Carboxymethylcellulose	2.00	110.00
Molasses	2.00	100.00
Calcium Phosphate	2.00	100.00
Vitamin mix	1.00	55.00
Mineral mix	1.00	50.00
Corn oil	1.00	50.00
Lecithin	1.00	50.00
Florafil R-3	0.05	25.00

Estimated Proximate:

	<u>% Dry Matter</u>
Protein	22
Lipid	7
CHO	30
NDF/cellulose	25/25

Gross energy - 3.6 kcal/gm (estimate 16% from VFA)

- \* Vitamin mix - standard marine fish mix from Moore-Clark
- \* Mineral mix - ICN AIN Mineral Mixture 76
- \* Calcium phosphate is dicalcium phosphate
- \* Florafil R-3 as a carotinoid supplement
- \* Lecithin is soy lecithin - 70% phospholipid

# Sea Life Park Turtle Feeding

## breakfast

- 1 vitamin & mineral supplement > per animal
- 1 calcium gluconate tablet > per day
- 3 lbs squid -(above tablets stuffed in squid)
- 5 lbs herring

## lunch

- 2 lbs squid
- 6 lbs smelt

## dinner

- 4 lbs smelt
- 4 lbs herring

- 10 heads lettuce per week
- 2 1/2 gal bucket sargassum seaweed 3 times/week

from KAREN  
5/4/87

NDC 0781-3248-10

**PURITY**

**Theravim M**

(New Formula)

Vitamin & Mineral Supplement

This package for households without young children.

1000 Tablets

DO NOT USE IF THE IMPRINTED FOIL SEAL UNDER THE CAP IS BROKEN OR MISSING.

Each tablet contains:

### VITAMINS

Vitamin A (Retinyl Palmitate) 5,000 IU  
Vitamin C (Ascorbic Acid) 100 mg  
Vitamin E (Tocopherol Monacetate) 100 IU  
Vitamin B1 (Thiamine Mononitrate) 1 mg  
Vitamin B2 (Riboflavin) 1 mg  
Vitamin B6 (Pyridoxine Hydrochloride) 1 mg  
Vitamin B12 (Cyanocobalamin) 100 mcg  
Vitamin D (Ergocalciferol) 400 IU  
Vitamin K (Methylglucosyl Polyphosphoryl Anhydride) 1 mg  
Folic Acid (Calcium Panthothenate) 1 mg

### MINERALS

Sodium Phosphate (Anhydrous) 100 mg  
Iron (Ferrous Fumarate) 10 mg  
Magnesium (Magnesium Oxide) 100 mg  
Copper (Cupric Sulfate) 1 mg  
Zinc (Zinc Sulfate) 10 mg  
Selenium (Selenium Sulfide) 1 mg  
Calcium (From Processed Seaweed) 100 mg  
Selenium (From Processed Seaweed) 1 mg  
Manganese (From Processed Seaweed) 1 mg  
Iodine (Potassium Iodide) 1 mg  
Chloride (Potassium Chloride) 1 mg

\*Percentage of the U.S. Recommended Daily Allowance for adults.  
\*\*The U.S. FDA has been notified.  
\*\*\*See package insert for full details on this product.  
©1987, Purity Laboratories, Inc. All rights reserved.  
Distributed by  
**WALSH PHARM**  
Baltimore, MD 21202

8803301  
EXP APR 89

Sea Life Park  
Turtle Feeding

breakfast

- 1 vitamin & mineral supplement } per animal
- 1 calcium gluconate tablet } per day
- 3 lbs squid -(above tablets stuffed in squid)
- 5 lbs herring

lunch

- 2 lbs squid
- 6 lbs smelt

dinner

- 9 lbs smelt
- 7 lbs herring

10 heads lettuce per week

2 1/2 gal bucket sargassum seaweed 3 times/week

From KAREN  
5/4/87

TOTAL: 24 lbs fish/squid per day

19 turtles =  
1.26 lbs each  
per day  
+ lettuce &  
Sargassum

0.8% body weight  
of food per day.

Assuming mean of  
150 lbs per turtle





# NOAA Technical Memorandum NMFS-SEFC-158

## **The Husbandry of Hatchling to Yearling Kemp's Ridley Sea Turtles (Lepidochelys Kempi)**

BY

Clark T. Fontaine, Kenneth T. Marvin, Theodore D. Williams,  
William J. Browning, Richard M. Harris, Kathy L. Williams  
Indelicato, George A. Shattuck and Robert A. Sadler

---

U. S. DEPARTMENT OF COMMERCE

Malcolm Baldrige, Secretary

National Oceanic and Atmospheric Administration

John V. Byrne, Administrator

National Marine Fisheries Service

William G. Gordon, Assistant Administrator for Fisheries

---

**JULY 1985**

---

Technical Memorandums are used for documentation and timely communication of preliminary results, interim reports, or special-purpose information, and have not received complete formal review, editorial control, or detailed editing.

Feeding - The food used in the head start project has been a commercially prepared, dry, pelleted diet (Table 5) manufactured by Central Soya and Subsidiaries, Fort Wayne, Indiana. In 1978, the first year of operation, natural foods such as lettuce, fillet of croaker, fillet of freshwater sawfish and fillet of whiting were fed (McVey et al.<sup>4/</sup>), but the cost and inconvenience of using such foods are prohibitive. The diet prepared by Central Soya contained 45% crude protein, 5% crude fat, 3% crude fiber, and 47% other ingredients (including, but not necessarily limited to, moisture). This provided good growth (Fig. 1) and survival (Table 1) of the turtles.

One problem encountered with the Central Soya food was its contamination by small, unidentified beetles when it was stored in a dry, air-conditioned room. Apparently, the food itself was contaminated with the eggs of the insect, but this was never confirmed. The problem with the beetles was eliminated, beginning in 1982, by keeping the food in frozen storage until use. Floating pellets are essential, both to facilitate feeding at the surface and to avoid loss of food through the holes in the bottom of the buckets. The hatchlings and older turtles are capable of diving to the bottom of the buckets to feed, but the feed disintegrates in time. Thus, surface feeding is encouraged, and this requires floating food.

Feeding of hatchlings must be carefully monitored as overfeeding can result in compaction of the gut that may lead to death. Because

---

<sup>4/</sup>McVey, J. P., J. K. Leong, R. S. Wheeler and R. M. Harris. The culture of young Kemp's ridley sea turtles (Lepidochelys kempii). Unpublished manuscript, NMFS SEPC Galveston Laboratory, Galveston, Texas.

the warmer waters of the Gulf of Mexico where the breeding population of Kemp's ridleys is found<sup>2/</sup>. Most recoveries from the 1980-1983 year-class released off Padre Island have been made in the western Gulf of Mexico.

Feeding Regimen and Food Utilization - After 1980, all year-classes were fed only a dry, pelleted diet (Table 5). The utilization of this foodstuff, incidence of feeding, and rate of feeding have been investigated for the 1978-1981 year-class by McVey et al.<sup>4/</sup>. In general, our observations indicated that the gross food conversion ratio (total weight of food fed:total amount of weight gained) for turtles fed this commercially prepared diet was good, ranging from 1.3:1.0 to 1.7:1.0 in the 1982 and 1983 year-classes, respectively. This is particularly impressive since all the food offered was not always eaten. The Kemp's ridley sea turtle evidently possesses very efficient digestive and metabolic systems. It would appear from these data that Kemp's ridleys head started in buckets at the Galveston Laboratory require a very small amount of food to meet daily dietary needs for maintenance. Confinement in buckets may limit the scope of activity and thereby reduce the expenditure of energy (Caillouet et al.<sup>1/</sup>). Turtles head started in captivity gained at an average rate of only 3 g per day during the first year of life. This was slower growth as compared to post-release growth in the natural environment (5 g/day), but it is to be expected if the animals released were still in the exponential phase of growth for a time after their release. In general, growth in captivity is more rapid than growth in the wild (Caillouet 1984; McVey and Wibbels 1984; Caillouet et al.<sup>1/</sup>).

Food Color Preference - During the manufacture of the fiberglass basins, one basin evidently was splattered with a drop of bright red paint. We noticed that any turtle placed in this basin would invariably "worry" or peck at this spot continually during daylight hours. Further, we observed that hatchling and yearling turtles



reacted (by rapid movement) to personnel dressed in red, orange, yellow, or white, while they responded much less to those dressed in darker colors such as black, green, blue, or brown.

Therefore, we designed a study to test possible preferences of head started Kemp's ridleys for foodstuff colored with different food dyes (Appendix 1). Pieces of fresh, abdominal muscle of shrimp were soaked overnight in Kroger, Inc. food coloring (either red, yellow, blue, or green). Pieces of colored food and non-colored (control) food were affixed to a special food holder (Fig. 17) in randomized order. Four colored (red, yellow, blue and green) pieces and one uncolored (control) piece of shrimp were presented on the holder to each of 20 turtles in each of three different consecutively tested groups. The pieces of shrimp were placed on the holder randomly for each turtle tested, so that their location on the holder would not be confounded with treatments (different colors and control). Each turtle was allowed to bite at the food twice to determine its first and second choices. After the first choice (or bite) was made, the holder was flipped over so that the order of food on the holder was reversed before the second choice or bite was made. Any food item removed on the first bite by the turtle was replaced at the same position by an item of the same color as that removed.

The dominant choice of colored shrimp muscle was for pieces colored red, for both first and second choices (Table 8). Possibly the turtles were also reacting to a chemical stimulus created by the food coloring dye itself, as the chemical makeup of the different colors of food dyes is not the same. However, we believe that the choice was based primarily on optical rather than olfactory or other chemo-sensory mechanisms. This is reinforced by the previously observed reactions of turtles to the red spot in one of the basins, and to colored clothing worn by project personnel.

# SEA LIFE PARK HAWAII

Makapuu Point, Waimanalo, Hawaii  
96795

Telephone (808)259-7933 Fax (808)259-7373

Date: 11/8/95 Time: \_\_\_\_\_ Fax no. 943-1290

Please forward the attached facsimile message to:

George Balaz, NMFS

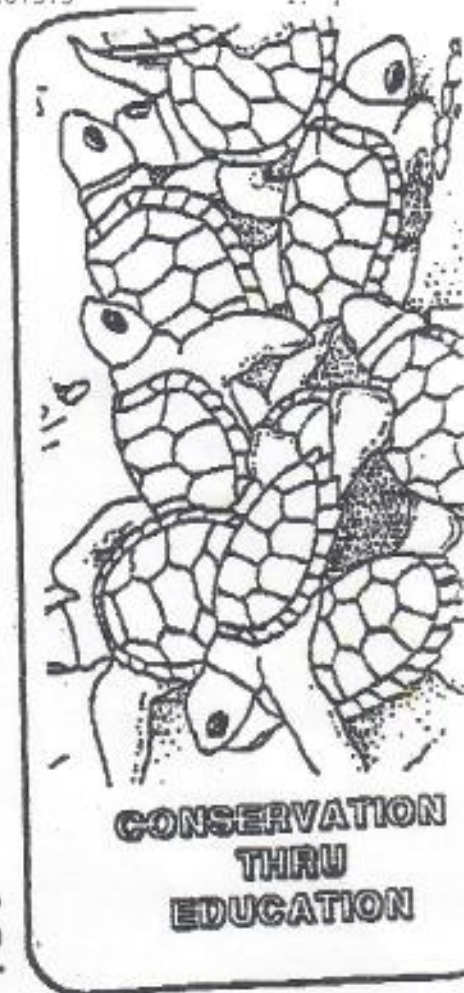
This message was sent by:

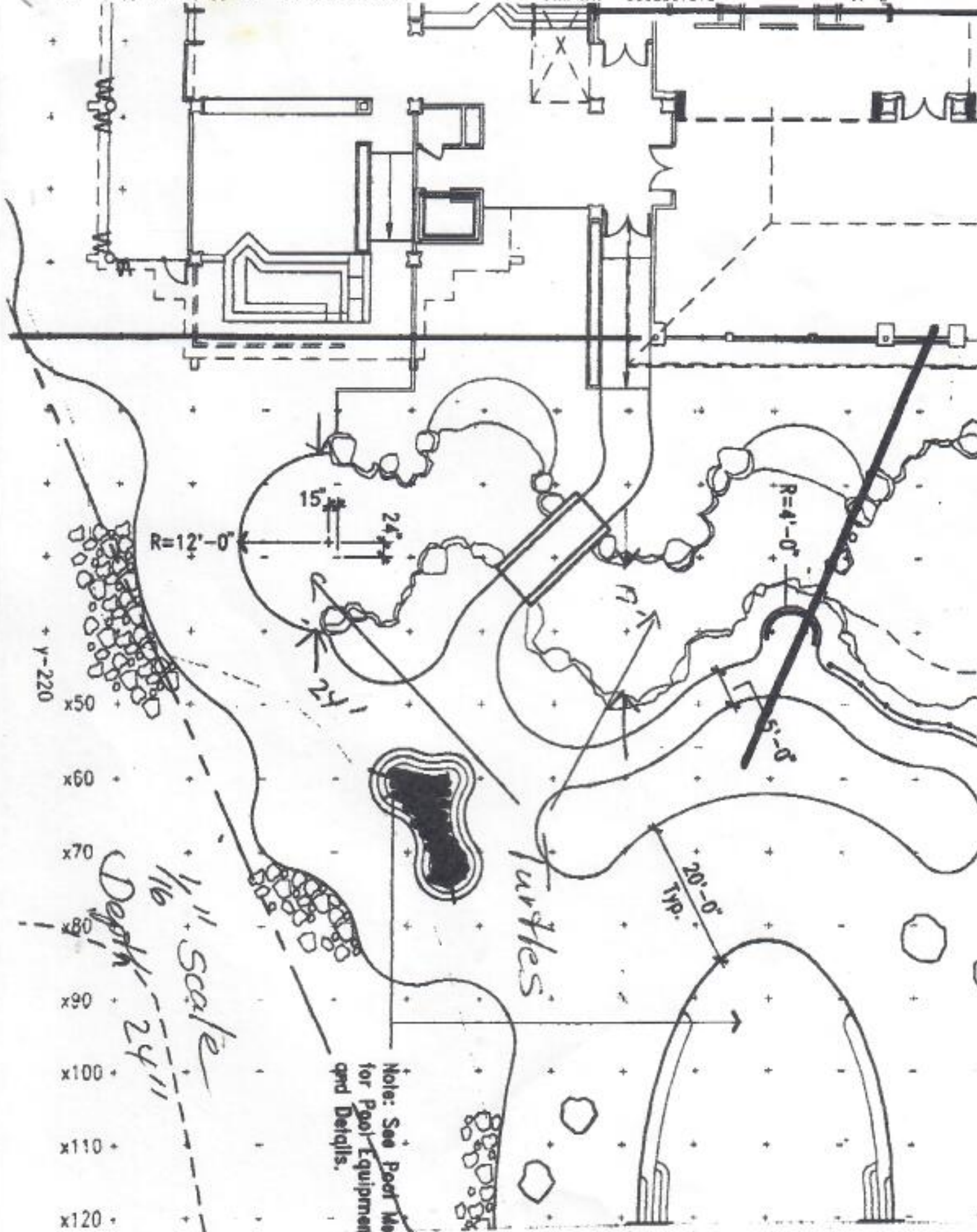
Tim Guild, Operations

This message contains a total of 2 pages including this header page. Should you not receive the total number of pages listed, please contact the sender immediately at (808) 259-7933.

Here's the location of where the turtles will be. Note the depth and scale on the drawing.

*KANAKA*





Note: See Pool Me  
for Pool Equipment  
and Details.

1/16" Scale  
Depth 24"

Y-220  
x50  
x60  
x70  
x80  
x90  
x100  
x110  
x120

Need -  
# of hatchlings  
produced  
1995 season

August 14, 1995

To: George Balazs

From: Michelle Sattler

Dear George,

12th Proceedings

Aloha! First I would like to use this letter to introduce Sonny Lopez, our new turtle person. Sonny is excellent with the turtles, and has read a lot of your papers. He is very interested in creating more detailed files on individual turtles in turtle lagoon. He is very observant of mating behaviors, and would like to try and keep track of which turtles are actually producing. If you have any histories on the turtles in the lagoon, both he and I would be very interested in them. We were also wondering about devising a way to identify individuals in the lagoon from a distance. This would make it easier to record behaviors etc. Possibly specially designed colored tags? Any ideas would be appreciated. Next time you are at the park I will introduce you to Sonny.

It is a goal of mine with our turtle exchange program, to have turtles represented on the outer islands. I have been speaking with a man named Michael Bailey, I believe you know him, who is involved with Club Lanai. Club Lanai is a private beach park, located on the uninhabited eastern shore of the island of Lanai. I think that this facility has great potential for exhibiting turtles. Visitors come over only by boat from Maui's Lahaina Harbor, and do not spend the night. Other than the staff at the club, there is no local population. In regards to the security of the turtles at night, I feel that the above situation, in combination with other measures, would insure their well being. The club appears to give education a high priority, and encourages visitation by school groups, scout troops, and other organized youths. Finally, they are presently in the process of closing off an area of water for the exhibition of marine life up close. I have been invited out to the island to inspect the facility, and to give suggestions on how to modify the existing enclosure so that turtles would be safe living there. Michael talked about inviting you out also, and I'm sure he will be contacting you soon. I would like your input as to this idea.

Also, I have released two hatchlings, YG39 ( hatch date 7/27 ), and

how many?

how many?

YG86 ( hatch date 7/20 ). They were released on August 9th in front of the park at 7:00 p.m. I have received three turtles from Steinhart Aquarium. The original tag numbers on them were YA76, YA77, and YA78. I will be tagging them with adult tags , and sending them to Mauna Lani. I would like Sonny to tag, weigh, and measure them before they go, and I will send you all this info when I get it from him.

Thanks for your time, I'll be in contact soon.

  
Michelle Sattler

# Aquarium of the Americas & Woldenberg Riverfront Park

Husbandry Department, 1 Canal Street • New Orleans, LA 70130  
Phone: 504-565-3029 • FAX: 504-565-3034

Date: Sept 29, 1995

To: Dr. George Balays

FAX No.: (808) 943-1290

From: Bruce Koike

*(504) 565-3034 FAX*

Comments: Your input would be greatly appreciated. 78° F

from 4 years  
Where NY 25  
Size - 85 cm  
Month pay

Cold H<sub>2</sub>O exhibit

Number of Pages (Including this one): 2

Elliott (909) 392-4751  
Schroeder (407) 575-5407

Please call us should you have any problems with transmission.

Thank You!

Sea World  
San Diego  
loan Loggerhead

18.3° C  
65° F



We FAXed it

In a flash!



## Aquarium of the Americas

Dear Colleague,

I am seeking written comment/opinions whether or not there is any health concern (long or short term) over the placement of a Green sea turtle (*Chelonia mydas*) into 18.3 degree Celcius (65 degree fahrenheit) water for educational display purposes. This is a real situation and your response will assist us in making the appropriate decision.

**Please FAX comments to:** Bruce Koike  
Sea Turtle Coordinator/Curator of Animal Health  
Aquarium of the Americas  
(504) 565-3034

Aquarium of the Americas  
and Woldenberg  
Riverfront Park  
1 Canal Street  
New Orleans, LA 70130  
504 861 2537  
FAX 565 3010

In your response indicate your involvement with this species and your familiarity with water temperatures as it relates to Green sea turtles.

Many thanks and don't hesitate to call me if more information is needed.

Sincerely,

Bruce Koike



## MAUNA LANI RESORT

### Sea Turtles at Mauna Lani

The salt water ponds at Mauna Lani Bay Hotel and Bungalows shelter up to twenty juvenile *honu* - Hawaiian Green Sea Turtles. The tiny youngsters are sent to Mauna Lani by Sea Life Park Hawaii as part of an experimental species restoration program the Oahu facility is conducting.

By providing a temporary foster home for the young sea turtles from Sea Life Park, the Mauna Lani community hopes not only to give them a good head start on life, but to help raise public awareness about these engaging sea creatures, the hazards that threaten them, and the efforts being made toward preservation and restoration of the species.

July 4th is "Turtle Independence Day" each year when Mauna Lani's juvenile *honu* which are big enough are released into the wild.



Caretaker prepares young *honu* for release.

**Sea Life Facts**  
•Endangered Species

## Sea Turtles

featuring the Green Sea Turtle  
*Chelonia mydas*

Hawaiian name: Honu



B. Paris



Sea Life Park Marine Research/Education Foundation



## Sea Turtles at Sea Life Park

Hatch, tag and release programs such as the one at Sea Life Park Hawaii hope to help the green sea turtle population to continue its recent growth. Every year, anywhere from a few dozen to a few hundred sea turtles hatch at the park. Most are tagged and released into the ocean. Some are held at the park or sent to other qualified wildlife facilities "on temporary loan" with permits from National Marine Fisheries Service (the program's informal advisor) for additional rearing and educational purposes.

### What you can do to help

Sea turtles are **protected** under the U.S. Endangered Species Act. Any of the following offenses could result in **one year in prison and a \$50,000 fine.**

- 1) Harassing or trying to ride sea turtles.
- 2) Injuring, killing or keeping sea turtles in captivity. (Special permits allow authorized wildlife facilities to hold sea turtles for scientific and/or educational purposes).
- 3) Buying or bringing any sea turtle products into the U.S.; including meat or shell products.

#### Report injured or dead sea turtles to:

•National Marine Fisheries  
(808)943-1276 or (808)943-1221

#### Report suspected offenses to:

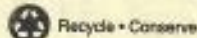
- NMFS law enforcement.....(808)541-2727
- Weekends or Holidays .... (808)587-0077

#### For concerns or more information contact:

Pacific Area Office, NMFS,  
2570 Dole St., Honolulu, HI 96822  
(808) 973-2937

Sea Life Park Marine Research/Education Foundation  
41-202 Kalaniana'ole Hwy, Suite 7  
Waimanalo, HI 96795  
(808) 259-6476

Information source: NMFS. *Sea Life Facts* •  
*Endangered Species* • "Sea Turtles" was produced 1993 by  
SLP Marine Research/Education Foundation. Individuals  
are encouraged to share the information contained within,  
and to pass this brochure onto others, or to make copies  
for non-commercial purposes.



## MAUNA LANI RESORT

### Sea Turtles at Mauna Lani

The salt water ponds at Mauna Lani Bay Hotel and Bungalows shelter up to twenty juvenile *honu* - Hawaiian Green Sea Turtles. The tiny youngsters are sent to Mauna Lani by Sea Life Park Hawaii as part of an experimental species restoration program the Oahu facility is conducting.

By providing a temporary foster home for the young sea turtles from Sea Life Park, the Mauna Lani community hopes not only to give them a good head start on life, but to help raise public awareness about these engaging sea creatures, the hazards that threaten them, and the efforts being made toward preservation and restoration of the species.

July 4th is "Turtle Independence Day" each year when Mauna Lani's juvenile *honu* which are big enough are released into the wild.



Caretaker prepares young *honu* for release.

## Natural History

There are approximately 250 species of turtles; only eight of these are sea turtles. Three types of sea turtles are found in Hawaiian waters: the green, the hawksbill, and the leatherback. All species of sea turtles that live in U.S. waters are listed as endangered or threatened under the U.S. Endangered Species Act of 1973.

### GREEN SEA TURTLES IN HAWAIIAN WATERS

#### Physical Description

- Green sea turtles are reptiles named for their greenish colored fat. They will grow from a 1 oz hatchling to a 200-500 lb adult with a carapace (upper shell) length of up to 42 inches.

#### Longevity

- Green sea turtles may live up to 100 years. Sexual maturity can take 20-50 years.

#### Shell

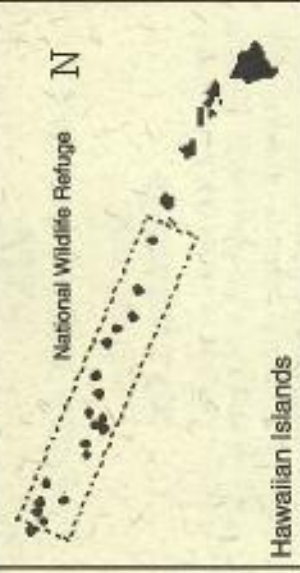
- The shell protects the sea turtle's inner organs. Unable to pull its head and limbs into its shell for protection, the sea turtle relies on camouflage, speed and protective shelter to avoid predators.

#### Breathing

- While active, sea turtles surface to breathe every few minutes. When resting, large sea turtles can stay submerged for over two hours.

#### Senses

- Green sea turtles have good vision underwater, but are nearsighted above.
- They have an excellent sense of smell.
- Although they have no external ears, green sea turtles are sensitive to very low frequency sounds.



#### Activity and Feeding

- Green sea turtles feed on seaweed/algae in water usually less than 35 ft deep.
- Adults often retreat to the underside of ledges or maneuver themselves into deep crevices for extended periods of rest.
- Green sea turtles bask in the sunshine on beaches in the Northwestern Hawaiian Islands, a behavior special to the Hawaiian Islands.

#### Reproduction

- Females are believed to return to lay eggs on the same beach where they were hatched.
- Each may lay between 50 to 150 eggs into a chamber dug into the sand with her hind flippers.
- Then she covers the eggs with sand, and returns to the sea.
- The leathery, round eggs incubate in the warm sand for 50-60 days.
- After incubation, hatchlings take several days to work their way out of the nest and then head for the open ocean. They usually emerge at night to avoid predation and hot daytime temperatures.

#### Causes for Mortality

- Young sea turtles have many natural predators—crabs, birds, fish, and sharks. As few as 1 in 1,000 sea turtles may survive to adulthood.
- Humans, however, pose the largest threat to adult turtles.

## Why are sea turtle populations declining?

Conservation efforts during our century are not helping to significantly increase the world sea turtle population for a number of reasons:

#### International commerce:

Commercial harvest of turtle meat and turtle nests for eggs is still going on. Skins are used for leather items and shells for ornaments and jewelry.

**Habitat destruction:** Coastal development and pollution affect nesting and feeding areas.

**Poaching:** Stealing sea turtle eggs from the nest threatens the future survival of sea turtle populations.

**Subsistence hunting:** In parts of the Pacific, hunting by native populations is reducing already depleted turtle populations.

**Marine debris:** Recently sea turtles have been found with large amounts of indigestible debris (mostly plastic) in their stomachs.

**Accidental entanglement:** Lost or unattended fishing nets can drown or cause injury to a significant number of turtles.



# A3

**POLICE BEAT** \_\_\_\_\_ **A4**  
 Haiku remains \_\_\_\_\_ **A5**  
 Obituaries \_\_\_\_\_ **D1-3**

# Hawaii

## Sea Life Park fined \$500 for

By **Jon Yoshishige**  
 Advertiser Staff Writer

The federal government fined Sea Life Park \$500 for animal handling violations following the deaths of a sea lion and dolphin in recent years, a park official said yesterday.

The deaths were the first from other

than natural causes in the park's 30-year history, said operations manager Jay Dowsett.

The California sea lion died Oct. 30, 1992, after it was left too long in a holding tank without water, Dowsett said. The sea lion's tank must be cleaned twice a week to meet federal guidelines, and it was during the two

hours that its tank was being cleaned that the animal became dehydrated.

The minimum time a sea lion can be without water depends on the animal and the temperature, Dowsett said.

The dolphin died in May 1991, a few days after a tank it shared with four other dolphins was partially drained. Park officials initially believed it over-

**WEDNESDAY**, June 15, 1994  
 The Honolulu Advertiser

**CITY EDITOR:**  
 Dan Nakaso 525-8090

## animal deaths

heated, but a necropsy showed that it died of pneumonia, Dowsett said.

A former Sea Life Park worker reported the violations of the Federal Animal and Plant Health Regulations' Animal Welfare Act to the U.S. Department of Agriculture. The regulations provide for criminal penalties up to \$2,500 and/or a year in jail, and civil

penalties up to \$2,500 per violation.

The Sea Life Park Marine Research/Education Foundation's mission is to educate others about marine conservation, develop research on protected or endangered species, help injured marine animals and sea birds, and study and preserve marine flora and fauna.

# Sea Life Park fined \$500 for violating laws

By Helen Altom

Star-Bulletin

The U.S. Agriculture Department has fined Sea Life Park \$500 for violations of federal animal handling laws in 1990 and 1991.

A former park employee reported the violations to the federal agency after the deaths of a California sea lion and a dolphin.

But the information was all "public record," available to the Department of Agriculture's veterinary officer who frequently inspects the facility, Jay Dowsett, the park's operations manager, said today.

He said the sea lion's death Oct. 30, 1992, was "a very unfortunate accident" that occurred when the animal became overheated.

It had been removed from its tank while being cleaned, which is done twice a week to meet federal requirements, he said. "It turned out that the animal was out too long," he said, ex-

6/5/94 AT STAR-BULLETIN  
plaining the sea lions use water to keep body temperature down.

It was the first such death at the marine research and conservation facility, Dowsett said. He noted the animal population there includes nearly two dozen sea lions, one of them 28 years old. The average life span of a sea lion is 16 years, he said.

The dolphin died of pneumonia in May 1991, Dowsett said. The fine wasn't for the death but for leaving the animal in a tank with less than two feet of water, he said.

Normally, the tank is drained and the dolphins are moved but that time they were left for about an hour with an inadequate water supply, he said. The dolphin died a few days later.

The only other death at the park that wasn't of natural causes involved a penguin that decided to swim through a drain in a tank, Dowsett said.

The drain is about 4 1/2 inches wide — the same size as the penguin, and it got stuck, he said.

All drains now have covers, he said.

Sea Life Park was informed of the penalties last month by the Animal and Plant Health Inspection Service's regulatory enforcement staff.

Criminal penalties up to \$2,500 and/or a year in jail may be imposed for violations under the federal Animal Welfare Act. Civil violations may draw fines up to \$2,500.

SLP

8/10/91 STAC Bull.

**Ocean World accused of animal abuse**

FORT LAUDERDALE, Fla. — Ocean World was charged by the federal government with animal abuse, becoming what authorities say is the first marine park in the country to face legal action for allegedly mistreating dolphins.

Ocean World "willfully violated" federal regulations, allegedly keeping dolphins in an undersized petting pool and subjecting them to overchlorinated water until their skin peeled off, said the complaint filed yesterday by USDA's Animal and Plant Health Inspection Service.

The complaint also alleges that the park caused dolphins trauma, behavioral stress, physical harm and unnecessary discomfort; failed to provide adequate vet care; failed to protect the mammals from injury by other animals and the public; and failed to maintain health and water standards.

*From staff and wire reports*

SLP

...to reduce the number of turtles inadvertently netted. This is to be achieved by the use of turtle excluder devices, known as TEDs. The TED is designed to allow turtles to escape from the trawl nets while still retaining the valuable shrimp catch.

As of 1 October, shrimp boats of 8 m or more in length fishing offshore in the Canaveral, Florida, area will be required to use TEDs. Requirements for other offshore boats are to be phased in next year starting on 1 January when boats in the southwest Florida area will have to carry TEDs when fishing within 24 km of the shore. All boats fishing in Gulf waters within a 24 km nearshore area during the period from March–November will have to install TEDs while shrimpers in all Atlantic waters will be required to use TEDs from May–August.

The regulations exempt boats of less than 8 metres fishing in offshore waters and boats of any length fishing inshore providing they restrict their tow-times to less than 90 min. NOAA expects the introduction of these new regulations to significantly reduce the number of sea turtles accidentally killed in the sea area between Texas and North Carolina. All five endangered species—the loggerhead, Kemp's ridley, green, leather-

back, and hawksbill—are hoped to benefit from the move.

ALEXANDRIA DUFF

### Underwater Mining Institute 1987

The annual meeting was held in Newport, Oregon on 4–6 October, 1987 at the Hatfield Marine Science Centre of Oregon State University. The first day was given to an extensive presentation about shelf placers on the Pacific west coast. The second day started with reviews of Pacific coast deep polymetallic deposits, progressed through some environmental protection aspects of marine mining and concluded with an evening presentation by senior officials of Inspiration Gold about their Nome (Alaska) nearshore gold dredging operation and its environmental protection programme. There were reviews of progress in exploration, development and leasing for the Gorda Ridge and Hawaiian manganese crust developments, and a review of environmental protection programmes at coastal and marine mines and smelters in the context of relevance to nearshore and offshore mining.

DEREK ELLIS

Marine Pollution Bulletin, Volume 18, No. 12, pp. 623–627, 1987.  
Printed in Great Britain

*Gil Hewlett  
with many thanks  
for your help.  
Mike Waldichuk*

## VIEWPOINT

Viewpoint is a column which allows authors to express their own opinions about current events.

# Sea Turtles—Endangered Species

M. WALDICHUK

Dr. Waldichuk is Senior Scientist at the West Vancouver Laboratory of the Canada Department of Fisheries and Oceans. He is also a member of the Board of Governors of the Vancouver Public Aquarium and past chairman of its Building and Exhibits Committee.

Depending on what one reads, one will find that turtles have been on this planet for anywhere from 100 to 200 million years. If the longer period is accepted, the Age of the Turtle has spanned a stretch of geological time in which the dinosaurs have come and gone. Actually, fossil sea turtles of families to which the living species belong date back 75–100 million years. Yet in the relatively brief period of 1 million years that man and his close ancestors have been on earth, this prehistoric reptile is being threatened with extinction through human activities.

### Species of Sea Turtles and their Distribution

There are over 200 species of freshwater and land turtles, the latter sometimes referred to as tortoises, but there are basically only seven species of sea turtles living today: leatherback, *Dermochelys coriacea*; loggerhead, *Caretta caretta*; green turtle, *Chelonia mydas*; flatback, *Chelonia depressa*; hawksbill, *Eretmochelys imbricata*; olive (Pacific) ridley, *Lepidochelys olivacea*; and Kemp's (Atlantic) ridley, *Lepidochelys kempi*. All except the loggerhead are considered endangered; the logger-

head is regarded as *threatened*, a term applied to species somewhat further from extinction.

The range of sea turtles is generally the tropical and subtropical seas; but the leatherback, while it nests in the tropics, has been seen feeding as far north as Nova Scotia, Canada, and the British Isles, in the Atlantic, and northern Japan in the Pacific. Loggerheads are considered to be somewhat of a temperate zone species, being found in U.S. coastal waters from the Carolinas to Florida. The flatback occurs entirely in Australian waters. Although sea turtles migrate long distances at sea, they invariably come back to the same area, often the same beach, to lay their eggs. There are isolated stocks, such as the green turtles of Ascension Islands in the South Atlantic, that have probably evolved unique traits and might eventually be considered a sub-species. In fact, separate populations may be genetically quite different, so that it would be difficult, if not impossible, to restore extinct populations by transplantation of individuals from other populations. For example, the world population of loggerhead adult females is about 100 000, but the species is nearly extinct in the Mediterranean. Therefore, it is not enough to just maintain a global population of a given species of a sea turtle at a self-perpetuating level; it is essential to maintain separate populations at sustainable levels as well. The marine turtle population in the Caribbean has drastically declined in the last 10 years (UNEP, 1985a), and attempts at recolonization have not been too successful so far.

#### Vulnerability of Sea Turtles to Human Activities

Why are sea turtles so vulnerable to human activity? There are a number of reasons for this. Sea turtles are in much demand as food. Generally the meat is excellent tasting, and turtle soup is savoured by connoisseurs. Turtle eggs are regarded as a delicacy. So adult turtles and their eggs have been harvested for a long time by native populations on tropical and semi-tropical islands as a food source. Oil from the green turtles is used in cosmetics. The eggs of the Kemp's ridley turtle are a major ingredient in an expensive aphrodisiac cocktail served in Mexico. At least one of the sea turtles, the hawksbill, has been exploited for its 'tortoiseshell', a beautiful brown and yellow horn, used for jewellery and other decorative purposes. Turtle hides have been used for fashionable leathers, such as handbags. Small turtles are encased in plastic for paperweights or stuffed and sold to tourists as souvenirs.

While at sea, turtles may be taken incidentally in fishermen's nets and trawls. In the Gulf of Mexico, the toll is particularly heavy on green and ridley turtles captured inadvertently by shrimp trawlers. It was estimated that during 1980, off the southeastern coast of the USA, 2000 sea turtles drowned after being caught incidentally in shrimp trawls. Nets lost or deliberately cast adrift by fishermen can entangle turtles and cause them to drown or die of starvation (Balazs, 1985). Turtles can even become entangled in monofilament fishing lines, and while swimming with such entanglement, become

snagged on a bottom rock or some artificial structure and drown.

Probably the greatest threat to sea turtles stems from their unique egg-laying activity. All sea turtles must lay their eggs on a sandy beach, if they are to perpetuate their species. This is done by digging a hole in the sand above high tide (seawater destroys the eggs) and depositing 50-200 table tennis ball sized, leathery eggs in the hole. A green turtle may dig four or five nests over the course of several days and deposit about 100 eggs in each. The eggs are then covered with sand, and the female departs back to sea, leaving the eggs to be incubated for about 60 days, in the case of the green turtle, by the heat of the sun. The females are most vulnerable to human predation during their egg-laying activity. These generally timid, docile creatures can be easily flipped on their backs, while going to or coming from their beach nests, and become completely helpless. Once they commence laying their eggs, they are not distracted by humans or animals. Animals such as raccoons may remove turtle eggs when they are deposited or dig them up shortly after the nest is covered. Natives of tropical islands sometimes sit by an egg-laying turtle and catch the eggs as they are dropped. Then the turtle covers up the nest as though it contained its eggs and departs to sea. The green turtle nests only once every two or three years, so that such egg losses can have a serious impact on the population.

But the most dangerous time in the life of a sea turtle is just after it has hatched from the egg. The tiny hatchlings, weighing less than 50 g, emerge from the sand under darkness of night and hastily scurry across the sand to the sea. It is at this time that birds and mammals, such as gulls, vultures, raccoons, skunks and coonimundis, capture many of the hatchlings before they reach the water's edge. Once in shallow water, the hatchlings may be preyed on by predatory fishes, invertebrates and water fowl. In nature, without the intervention of man, the problem of predation is overcome by the vast numbers of hatchlings that emerge from their eggs and head for the sea at once, with always a certain proportion escaping capture.

It should be clear from the foregoing that preservation of the nesting habitat of sea turtles is vital if the species is to be protected against extinction. While strong efforts are now being made everywhere to prevent disturbance of beaches used by sea turtles for nesting, this has not always been the case in the past. Development of a beach area for industry or even for tourism can have a devastating effect on a sea turtle population if it happens to nest in the area. If nesting takes place only once in two or three years, such an event can be easily overlooked if no careful environmental impact assessment is carried out before a project proceeds.

#### Effects of Marine Pollution

On top of the foregoing obstacles to the survival of sea turtles are the problems of marine pollution that can affect turtles directly, their food supplies or their habitats (see *Mar. Pollut. Bull.* 16, 177-178). Oil pollution

that hits a beach where turtles have nested or are about to lay their eggs can be devastating. All young sea turtles are carnivorous, feeding on marine worms, molluscs, sponges and other invertebrates. As adults, green turtles are largely vegetarian, eating underwater grasses and seaweeds. The hawksbill is a typical reef-dwelling species where it forages primarily on sponges. Kemp's ridley turtle, found in the coastal waters and bays of the Gulf of Mexico and the sub-tropical Atlantic, feeds mainly on shellfish. The loggerhead is the species most commonly encountered in southeast US coastal waters, and is most frequently observed near wrecks, underwater structures and reefs, where it forages on crabs, molluscs, and sponges. The leatherback, which has a wide range latitudinally, lives almost exclusively on jellyfish. It is easy to visualize how pollution by oil or other contaminants could affect young sea turtles and their food supplies in coastal waters. Contamination of sediments could easily affect adults of species that forage on shellfish, sponges and other invertebrates. Sea grasses and seaweeds can be contaminated by oil or sedimentary material from dredging, ocean dumping or coastal construction.

But the pollutants of which the effects on sea turtles have been best documented are persistent plastics and other marine debris (see *Mar. Pollut. Bull.* 17, 83-84; Balazs, 1985). The impact of plastic nets and fishing lines cast adrift has already been noted. Another major problem arises from plastic sheets and bags floating in the sea. Sea turtles, particularly leatherbacks, mistake this plastic material for jellyfish. In the last 20 years, plastic bags have been found in four of the seven species of marine turtles: leatherbacks, hawksbills, olive ridleys and loggerheads (Wehle & Coleman, 1983). Evidence is growing that, in some cases at least, ingested plastic causes intestinal blockage. In Natal Province, South Africa, a ball of plastic was extracted from the gut of an emaciated leatherback turtle (cited in Wehle & Coleman, 1983). When unravelled, the plastic sheet measured 3.7 m long and 2.7 m wide. A mass mortality of green turtles off Costa Rica was attributed to ingestion of plastic banana bags (Wehle & Coleman, 1983). Clearly, plastic bags can be a serious problem for sea turtles because of mistaken identity.

### Research on Sea Turtles

Much of the research on sea turtles conducted so far has almost unanimously led to the conclusion that these marine reptiles are endangered. Their populations appear to be declining almost everywhere. Little is known about the life history of sea turtles once they have left the sandy beaches, where they were hatched, and entered the vast expanse of the open ocean. They can migrate long distances at sea, feed and grow until they are sexually mature, and then return to the beach where they were hatched to repeat the cycle. It is their tendency to nest exclusively on one beach that presents serious problems in conservation of sea turtles, inasmuch as a population can be wiped out or drastically reduced if that preferred beach is contaminated or in other ways rendered unusable for nesting. Attempts

have been made for a long time to unravel the mysteries of the migration (e.g. Carr, 1967). They have been tagged in various ways, including radio transmitters and balloons, so that their movements could be tracked.

One of the greatest mysteries of all is the technique that these animals use to find their way back from distant oceanic places to nest on exactly the same beach where they were born. Some scientists believe that baby turtles, after they are hatched or even while still in the eggs, are imprinted by the sand in which they were born, much in the same way that salmon fry are imprinted by the water in which they were hatched and reared. But to home on a continental or island beach in the first place from distant oceanic feeding grounds requires some form of long-distance navigation. It is believed by some scientists that sea turtles, like other migratory animals, are imprinted by a geomagnetic phenomenon. Research on the brain of the Kemp's ridley turtle has shown that it contains magnetite particles that can actually sense geomagnetic fields. A working hypothesis for direction-finding by sensing geomagnetic fields is that while the sea turtle is in the embryonic stage, tiny crystalline magnetite particles form in the meninges of the brain. These particles are then used to guide the animal back, after it has matured, to the same beach for nesting each year. It is thought that the geomagnetic system remains quite dormant while the young turtle is growing. Then as the turtle reaches sexual maturity, hormonal changes activate the animal's geomagnetic system. Understanding the sea turtle's homing behaviour and what triggers it is important in any plan to introduce sea turtles for nesting at new beaches.

A programme has been underway in the Gulf of Mexico, coordinated by the US National Marine Fisheries Service (NMFS), to increase the population of Kemp's ridley turtle (Anon., 1986), which is the most critically endangered of all species. This species is known to lay its eggs at only one site, a small and obscure beach near Rancho Nuevo on the east coast of Mexico. This site was jeopardized by the blowout of an upcurrent offshore oil well (Waldichuk, 1980). Over 47 000 female Kemp's ridleys were counted coming ashore in 1947, when the beach was discovered. Since then the numbers have steadily dwindled in spite of protection from the Mexican government. In 1985, less than 500 egg-laying female ridleys came to the beach. Clearly, action was needed to stem this decline and reverse the trend in the population of this species.

The strategy for increasing the number of Kemp's ridley turtles has to be not only to hatch more turtles and protect the hatchlings against the high mortality they experience in nature, but also to 'retrain' them to nest elsewhere than solely on the Rancho Nuevo beach. Through the cooperation of several US agencies, including the NMFS, the National Park Service and the US Fish and Wildlife Service, with the Mexican government, a cooperative effort was begun in 1978 to establish another nesting site for the Kemp's ridleys in the Gulf of Mexico. The site chosen was on Padre Island, Texas, USA. Eggs were taken from egg-laying ridleys on the Rancho Nuevo beach. A plastic bag was placed into



the nest to line it before the female started dropping her eggs. Thus the eggs never touched the sand of Rancho Nuevo and were prevented from imprinting on it. The eggs were packed into styrofoam incubator boxes, which were filled with sand from Padre Island, in case the imprinting process begins in the eggs. Then the eggs were taken to the National Park Service hatchery at Padre Island. After hatching, the baby turtles were taken to the beach of Padre Island for further imprinting. When the young turtles are three to five days old and weigh about 17 grams each, they are taken to the NMFS laboratory in Galveston, where the hatchlings are placed individually in perforated plastic buckets suspended in a tank or 'raceway'. They live there for 10 to 11 months, being fed by a high-protein diet developed especially for turtles. They are then tagged, taken back to Padre Island and released offshore from a vessel. Since 1978, NMFS has released more than 12 000 turtles. This NMFS Head Start programme is supplemented with captive breeding in which young Kemp's ridleys are placed in private marine aquaria around the USA.

What success has the Padre Island transplant programme achieved? By 1986, no NMFS-tagged Kemp's ridleys had returned that had been officially identified (Anon., 1986). One egg-laying Kemp's ridley was spotted in the spring of 1985 by visitors to a Padre Island beach, but before NMFS scientists arrived, the turtle had returned to the ocean. The hatchlings from the deposited eggs were indeed Kemp's ridleys, but it could not be ascertained if they were the offspring of one of the turtles imprinted with Padre Island sand. Some scientists believe, however, that it may be eight or ten years before the imprinted turtles come in significant numbers to lay their eggs on Padre Island, inasmuch as it takes that long for Kemp's ridleys to reach sexual maturity.

#### Actions to Reduce Sea Turtle Declines

The plight of sea turtles the world over is recognized by all countries with sea turtle populations, by conservation agencies and by international organizations. What is being done to combat the decline of these marine creatures that have been on this planet for so long? Many nations have passed legislation to protect them as endangered species, and have banned the harvesting of sea turtles or in any way disturbing their habitats, particularly their nesting areas. Under the US Endangered Species Act, the unauthorized taking or harvesting of sea turtles, dead or alive, or taking their eggs or disturbing their nests is prohibited and can carry fines up to \$20 000. According to the NMFS, a subsistence authorization for the taking of sea turtles is only allowed if an existing culture is dependent on the taking of sea turtles, and if the sea turtle stock involved would not be jeopardized by the subsistence take. Parties indigenous to Guam and Hawaii were denied their request for a subsistence take by the NMFS (see *Mar. Pollut. Bull.* 16, 177).

Trade in all sea turtle products is now banned worldwide under the Convention on the International Trade

in Endangered Species of Wild Flora and Fauna. In recognition of the need to protect habitats for unique and endangered species in the Mediterranean Sea area, the nations surrounding the Mediterranean, which are parties to the Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention, brought into force on 12 February 1978) adopted a Protocol in Geneva on 2 April 1982, concerning Mediterranean Specially Protected Areas (UNEP, 1985b). In support of this Protocol, a Regional Activity Centre for Specially Protected Areas was established in Tunis, Tunisia, to assist governments in applying actions set out in the Protocol. Under the Protocol, action will be taken to conserve the nearly extinct East Mediterranean population of the green sea turtle, *Chelonia mydas*, which breeds on only a few beaches. The Protocol should also help to protect beaches where the loggerhead turtle, *Caretta caretta*, nests.

The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention), adopted in 1972 and brought into force in 1975, prohibits the dumping of persistent plastics and other persistent synthetic materials into the ocean. However, enforcement of such prohibition depends on national legislation of contracting parties to the Convention. In the USA, the Marine Protection, Research, and Sanctuaries Act provides control over ocean dumping in US waters and prohibits the deliberate dumping of significant amounts of persistent plastic materials at sea. In Canada, the Ocean Dumping Control Act is patterned after the London Dumping Convention and prohibits the dumping of persistent plastics. At the Ninth Consultative Meeting of Contracting Parties to the London Dumping Convention, held in London, September 1985, a resolution was adopted urging "Contracting Parties to consider measures for collecting and disseminating information on the hazards to living resources and marine life caused by the disposal of persistent plastics and other persistent synthetic materials (including fishing nets) and to identifying practicable means to reduce these hazards".

Further to the foregoing convention is the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the protocol of 1978 (MARPOL 73/78). When Annex V of this convention is brought into force, the disposal into the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets and plastic garbage bags, derived from normal operation of vessels would be prohibited. This Annex is designed to control disposal from freighters and other large vessels, so that fishing boats and recreational vessels would be left to voluntarily control overboard disposal.

Nations, both developed and developing, are taking special measures to protect sea turtles. In Australian waters, where the flatback lives exclusively, sea turtles are fully protected. Their nesting grounds on Heron Island, in the Great Barrier Reef area, are protected under the Great Barrier Reef Marine Park Authority. Malaysia, as an example of a developing country, has undertaken a programme to protect the habitat of the

leatherback turtle; some of its actions were proudly displayed by the Malaysian government at EXPO 86 in Vancouver, Canada. The Marine Entanglement Programme of the US National Oceanic and Atmospheric Administration (NOAA) has completed a 2-year study on plastics in the sea. Because plastic bags are recognized as a cause of mortality in turtles, NOAA is funding research on the physiological effects of ingestion of plastic bags by the marine reptiles (see *Mar. Pollut. Bull.* 17, 529-530).

Private and semi-private organizations are also assisting with protection, conservation and restoration of sea turtles. The Center for Environmental Education, a non-governmental institution based in Washington, DC, is funding rescues of entangled sea turtles in the North Atlantic and is supporting the use of new fishing gear to save sea turtles from shrimp trawls. It is also spearheading a beach clean-up in Texas and a campaign to end plastic disposal in the Gulf of Mexico (Center for Environmental Education, undated). Sea Life Park on the island of Oahu in Hawaii is participating in the Head Start programme involving the green sea turtle, in cooperation with the State of Hawaii, the United States Government and the University of Hawaii. Sea Life Park is conducting a breeding programme with green turtles held in captivity in its Turtle Lagoon. Hatchlings born to captive green sea turtles are tagged and sent out on loan to various aquaria around the world for care and rearing until they are two years of age. Then they are returned to Sea Life Park for release to the wild. The Vancouver Public Aquarium is involved in this programme.

Aside from the Head Start programme, the Vancouver Aquarium has exhibited sea turtles since it opened in 1956 and has undertaken exchanges with other aquaria. In 1956, at its grand opening, a pair of green sea turtles were flown to the Vancouver Aquarium from the Waikiki Aquarium in Honolulu. On the thirtieth anniversary of the Vancouver Aquarium in 1986, after these two turtles delighted visitors for three decades, they were returned to Honolulu and placed in Sea Life Park's Turtle Lagoon, where they will serve for breeding in the special conservation programme. The turtles weighed 13.6 kg (30 lb) when they arrived at the Vancouver Aquarium in 1956, and after 30 years in filtered seawater heated to 27°C and regular feeding, the male weighed 45.5 kg (100 lb) and the female weighed 70.5 kg (155 lb). It is believed that they set a record for the longest-lived turtles in captivity. Two hawksbill turtles have also been flown recently from the Vancouver Aquarium to the Tokyo Aquarium for breeding purposes.

### Future Prospects for Sea Turtles

It is too early to tell how effective the various conser-

vation measures taken to protect sea turtles and their habitats will be. Certainly, if the onslaught of harvesting these creatures can be stemmed there is bound to be a favourable effect on the populations. Although strong measures are being taken by various national governments to prevent poaching, some illegal captures of sea turtles will undoubtedly continue. The inadvertent loss of sea turtles through commercial fishing, especially for shrimps, will probably continue, but genuine efforts are being made to design shrimp trawls that will exclude sea turtles. The problem of persistent plastic fishing gear cast adrift and entangling sea turtles is being partly resolved through education and publicity on the damage that they cause. The same course of action may succeed, at least in part, with respect to plastic sheets and bags thrown into the sea.

Conventions and national legislation on ocean dumping already limit the amount of plastic material dumped into the sea. International conventions and national legislation to control disposal of persistent plastic materials from ships will do a great deal to further reduce the amount of such material in the sea.

It is obvious that above all, nesting grounds of sea turtles must be protected. Measures are being taken by some countries to give these nesting grounds the special status of ecological reserves or specially protected areas. Perhaps more of these important habitats should be so designated.

Sea turtles are not yet fully on the road to recovery, but we should feel encouraged that there are so many people, organizations, and nations interested in their welfare that at least their decline should be stemmed.

I thank Mr. K. G. Hewlett, curator of the Vancouver Public Aquarium, for providing some of the relevant information on sea turtles.

- Ann (1986) A turtle's race against time. *Aquarium* 15, 1-5. Louisiana Sea Grant College Program, Louisiana State University, Baton Rouge, La., USA.
- Balazs, G. H. (1985) Impact of marine debris on marine turtles: Entanglement and ingestion. In *Proceedings of the Workshop on the Fate and Impact of Marine Debris*, 27-29 November 1984, Honolulu, Hawaii (R. S. Shomura & H. O. Yoshida, eds) pp. 387-429. National Marine Fisheries Service, NOAA, Honolulu, Hawaii, NOAA-TM-NMFS-SWFC-84.
- Carr, A. (1967) Caribbean green turtle: Imperiled gift of the sea. *Animal Geography* 131, 876-880.
- Center for Environmental Education (undated) *Plastics in the ocean: A special report*. 624 9th Street, NW, Washington, D.C.
- UNEP (1985a) *Oceans and Coastal Seas*, Programme Activity Centre for Oceans and Coastal Areas, United Nations Environment Programme, Nairobi, Kenya.
- UNEP (1985b) *Mediterranean Action Plan: Mediterranean Coordinating Unit*, UNEP, Athens, Greece, and Programme Activity Centre for Oceans and Coastal Areas, United Nations Environment Programme, Nairobi, Kenya.
- Wakabayashi, M. (1980) Retrospect of the Isuro I Hōmei. *Mar. Pollut. Bull.* 11, 182-186.
- Whele, D. H. S. & Coleman, F. C. (1983) *Plastics at sea*. *Nature History* 2/83, 20-26.

3 given to her staff  
2/8/86



**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Region  
Western Pacific Program Office  
P. O. Box 3830  
Honolulu, Hawaii 96812

February 25, 1986 F/SWR1:ETN

Ms. Marilyn C. Lee  
Curator of Education  
Sea Life Park, Inc.  
Makapuu Point  
Waimanalo, Hawaii 96795

Dear Ms. Lee:

This is in response to your letter of February 6, 1986 requesting the acquisition of three Olive Ridley turtle hatchlings from the Maui nesting site that died of natural causes. We understand that these specimens will be utilized in your educational programs at Sea Life Park. These animals were legally taken under the authority of the Endangered Species Act of 1973 by the National Marine Fisheries Service and the State Division of Aquatic Resources in October 1985. It is the position of our Agency to make the best scientific and educational use of animals or materials that are so obtained. In accordance with this policy and by copy of this letter I will recommend that the Honolulu Laboratory transfer the above mentioned turtles to Sea Life Park on a long term or permanent loan basis for educational purposes.

Sincerely yours,

Doyle E. Gates  
Administrator

cc: F/SWC2 - George Balazs ✓  
F/SWR41 - H.E. Witham

# SEA LIFE PARK



February 6, 1986

217

WPSO	
DFG	✓
JJB	
STN	✓
PAM	✓
LDG	✓
GRH	
GFM	
cy	✓

Mr. Doyle Gates  
National Marine Fisheries Service  
Western Pacific Program  
P.O. Box 3830  
Honolulu, Hawaii 96812

Dear Mr. Doyle,

The Education Department at Sea Life Park would like to acquire 3 of the hatchling Olive Ridley Turtles that resulted from the nesting on Maui and later died of natural causes. I was referred to you by George Balazs, who concurs that the specimens are very beneficial to the Education Programs offered by our oceanarium.

Our staff provides presentations to many school and educational groups in the efforts to teach them more about the marine environment and respect for its inhabitants. In the presentations we use many props to assist in the teaching and learning process (i.e. dried and preserved specimens, molts, skulls, and illustrations). In this way we encourage learning through the use of all senses - taste, touch, smell, sight, and hearing. Enclosed are two sample flyers of our programs which offers weekly Sea Turtle presentations.

In previous years, we have obtained specimens such as Green and Hawksbill Sea Turtle shells and embryos, baleen plates and whale teeth from the U.S. Fish and Wildlife Enforcement Division via Ms. Kimberly Wright. These are excellent specimens to share with students to increase the awareness, interest, and concerns for the marine environment and its inhabitants.

If you should obtain other specimens from Cetaceans, Sea Turtles, and Sea Birds, they would surely enhance our Marine Education Program at Sea Life Park. We appreciate your consideration in granting approval in this matter and future requests. If you have any questions, please contact the Education Department, 259-7933. Thank you for your support in promoting marine education.

Mahalo,

Marilyn C. Lee  
Curator of Education

Enclosures

SEA LIFE, INCORPORATED:

PARK: Makapuu Point • Waimanalo, Hawaii 96795 • Phone 259-7933

SALES OFFICE: 2222 Kalakaua Avenue • Suite 1309 • Honolulu, Hawaii 96815 • Phone 923-1531

# "Legends Of The Sea"

at Sea Life Park

featuring The Turtle of Tamarua  
begins October 22, 1984



In addition to Sea Life Park's regular marine show, teachers of grades 1, 2, or 3 may now request "Legends of the Sea." The one-hour docent program offers students an opportunity to learn about the green sea turtle in a factual, sensory-aided presentation. Illustrations, vocabulary cards, simulated models and props such as a green sea turtle shell, hatchling specimens and a skull are used by the docent to share information about this endangered species.

The second portion of this program involves the presentation of a 20-minute play based on a Polynesian legend called "Turtle of Tamarua." Children walk through the archway which leads them to the enchanted village of Tamarua on the Island of Mangaia.

Here they meet Princess Ina who is taking care of her almost blind father. As the play unfolds, students respond enthusiastically to the process of learning through creative expression. In the end, the coconut palm is presented as a gift to Ina from the Prince of Sea Turtles. As in all legendary folklore, the arrival of natural wonders, such as the coconut, is explained as one way which people believed it came into being.



**PROGRAM DATES:** October 24, 1985 through June 5, 1986

**PROGRAM DAYS/TIMES:** Thursdays, 9:00 a.m.-11:45 a.m.— includes all regular Sea Life Park shows

**GRADE LEVELS:** 1-3

**STUDENT MAXIMUM:** 120

**RESERVATIONS:** 923-1531, Reservations Office

**MORE INFORMATION:** 259-7933, Sea Life Park Education Department

Sea Life Park requests that 1 adult aide accompany each 10 students.

**Sea Life Park's**  
**"SENSE-SATIONAL MARINE EDUCATION PROGRAM"**  
**begins October 21!**

In addition to Sea Life Park's regular marine shows, teachers of grades 4, 5 or 6 may now request the "Sense-sational Marine Education Program." The one-hour docent-operated program enables students to experience two of four different marine learning stations available at each grade level.



**Mondays**

**Grade Level 4:**

*Invertebrates and vertebrates of the ocean*

- 1**  
Tidepool Creatures
- 2**  
Fish Observation
- 3**  
Octopus
- 4**  
Dolphin Observation

**Wednesdays**

**Grade Level 5:**

*Habitats and Adaptations of Marine Animals*

- 1**  
Sea Birds of Hawaii
- 2**  
Sea Lions and Seals
- 3**  
Sea Turtles of Hawaii
- 4**  
Penguins

**Fridays**

**Grade Level 6:**

*A Look Inside and Out*

- 1**  
Corals of Hawaii
- 2**  
Fish Dissection
- 3**  
Plant Discovery
- 4**  
Whales

The program is scheduled Monday, Wednesday and Friday Mornings from 8:45 a.m. to 12:00 noon.

**October 21, 1985 through June 6, 1986.**



*Sea Life Park requests that 1 adult aide accompany each 10 students.*

**For reservations call:**

Sea Life Park  
 2222 Kalakaua Avenue, Suite 1300  
 Honolulu, Hawaii 96815

**923-1531**

**For more detailed information:**

Education Department  
 Sea Life Park  
 Makapuu Point, Oahu 96795

**259-7933**

A3

# HAWAII

Wednesday, August 19, 1992 ■ Star-Bulletin

A3

## NEWSWATCH

### Puna Geothermal Venture halts tests

HILO — Puna Geothermal Venture halted testing of its 25-megawatt power plant last night following an afternoon of high hydrogen-sulfide readings.

Civil Defense Director Harry Kim said company Vice President Steve Morris determined the high levels resulted from human error. But Morris ordered the halt, effective about 8 p.m., after company engineers couldn't assure him the gas leaks would not continue, Kim said.

The company last night and today was to try to find and stop the leaks, and a decision on possibly restarting the tests was planned after that, Kim said. The company was in its seventh day of testing.

The latest round of problems started about 2 p.m. yesterday, when a resident near the power

plant called Kim to report a hydrogen-sulfide reading of 39 parts per billion. The company is allowed no more than 25 parts per billion averaged over a one-hour period.

Later readings taken in a mild, 15-mph wind fluctuated from moment to moment from 0 to 60 parts per billion.

At the company's regular 4 p.m. meeting with the community, Morris faced a crowd angry over two cases of high gas levels and an instance of caustic soda mist, all since Saturday. Morris offered to pay affected families for temporary relocation to Hilo hotels, Kim said.



Harry Kim

### Marine Corps cancels bias hearing

A hearing scheduled today before a mainland Naval Discharge Review Board to determine if the dismissal of an Asian-American Marine from Officers Candidates School in 1989 was discrimination has been canceled by the Marine Corps.

Bruce Yamashita of Honolulu, an attorney, was dropped from the school two days before completion because of poor performance reviews. He is trying to get his Marine Corps commission and personnel records changed, said Bill Kaneko, president of the Hawaii chapter of the Japanese-American Citizen League.

On Monday, the group will submit documents to the Quantico, Virginia Naval Review Board which is expected to render its decision on the discharge in early September, Kaneko said.

### Baby green sea turtles to be released

Less than two days after hatching at Sea Life Park, 35 green sea turtles will be released into the ocean tonight at Kumu Coves in Waimanalo.

The 8 p.m. release is open to anyone wanting to wish the turtles farewell, said Steve Kaiser, curator of reptiles and fishes at Sea Life Park.

"The green sea turtles are protected under current laws, and we want to educate the public about the need to increase Hawaii's turtle population and assure the species' survival," Kaiser said.

3/13/92 HSB A3

## Back from northern exposure



By Dean Sennel, Star-Bulletin

Mollie Luebbe of Sea Life Park examines one of five green sea turtles that returned to Hawaii yesterday from a two-year visit to the Vancouver Aquarium.





Monte Costo Special to the Star-Bulletin

**Headed for the wild:** Jimmy Humphreys displays two of the 10 young green sea turtles that will gain their independence on July 4 when Sea Life Park Hawaii releases them into the ocean as part of the Mauna Lani Bay Hotel's third annual Turtle Independence Day celebration on the Big Island. The turtles were born at Sea Life Park.



# Summer 1992

Fee for all of the classes includes same-day admission to all park shows, exhibits and lectures. More info: Education Dept. 259-6476 or 259-7933.

## Breakfast Club

Start your morning with Sea Life Park Hawaii and SLP Marine Research/Education Foundation in the Breakfast Club! \$14 fee includes a ham & cheese omelette breakfast. All classes run from 8:30-10:30am on Saturdays. Each registration must include one adult.

Ages: 12 yrs to adult Limit: 30 people

**Breakfast with the Dolphins (BC1) ..... June 13**  
Discover more about these marine mammals as you enjoy breakfast with a park trainer near the Hawaii Ocean Theater. Tour the behind-the-scenes training facilities, and learn more about ongoing dolphin research.



Now!

**Breakfast with the Sharks (BC2) ..... August 6**  
Join park Curator of Fishes Steve Kaiser for the facts about these magnificent, often feared animals. Find out how reef animals have adapted to living with sharks as you visit the park's world-famous 300,000-gallon Hawaiian Reef Tank. Watch a shark feeding session and learn about the care needed to maintain this aquarium.

**Breakfast with the Sea Turtles (BC3) ..... August 29**  
Enjoy breakfast and the latest information on Hawaii's endangered sea turtles with the park's turtle experts. Learn about Sea Life Park's cooperative sea turtle conservation and education projects with the Nat'l Marine Fisheries Service. Tour our sea turtle facilities and find out how the staff takes care of these protected animals.

### Refund Policy

Registration fees are refundable with cancellation notice seven (7) days prior to class. There will be NO refund for cancellations less than seven (7) days prior to class unless the class is full and your vacancy is filled. Full refunds will be given if a class is cancelled due to low enrollment.

## Elementary Students

### Sea Creatures and Crafts

Students spend Saturdays, 2-4:30pm, exploring sea secrets, enjoying games, stories & a take-home craft.

Fee: \$12.50/student/section Ages: 6 to 8 years  
Limit: 15 students Instructor: Meryl Abrams  
SC4: Whales & Dolphins ..... June 20  
SC5: Fish Observation ..... June 27  
SC6: Sea Turtles ..... July 11  
SC7: Penguins ..... July 25  
SC8: Sea Lions & Seals ..... August 1

### Tidepool Discovery (TD9)

Students "get their feet wet" in four 8-11am sessions Monday, 6:29 to Thursday, 7:2, with field trips to nearby beaches and tidepools to study invertebrates, fish, seaweed and more! Students will be wading only.

Fee: \$60/person Ages: 9-12 years  
Limit: 16 students Instructor: Terry Heckman

## Preschoolers with Adults

### Keiki and Adult Explorations

Join your favorite 4 or 5-year-old for marine animal fun & facts! Stories, role-playing, live animal observations, songs & craft projects fill these Saturdays, 9-11am.

Fee: \$15.00 per team Instructor: Lon Ward  
Limit: 10 adult/child teams  
KA10: Whales & Dolphins ..... June 20  
KA11: Fishy Facts ..... June 27  
KA12: Super Sea Turtles ..... July 11  
KA13: Penguins ..... July 25  
KA14: Sea Lions & Seals ..... August 1  
KA15: Whales & Dolphins ..... August 22

### Keiki and Adult Seashore Series (KA16)

This five-part course runs on Fridays from 9-11am. \$65 fee per adult/child team covers entire series.

Instructor: Kathy Hogue

Sea Stars ..... July 31  
Sea Shells ..... August 7  
Crusty Critters ..... August 14  
Octopus ..... August 21  
Sea Birds ..... August 28



Illustrations © SLP, Inc.

## Family Adventures

### Focus on Fish (FA17)

Ocean fun for the whole family! Get a close-up look at fish with hands-on props, games, bamboo polefishing and fish printing! Saturday, July 18, 9am to noon. Registration must include at least one adult.

Fee: \$12.50/person  
Limit: 18 participants  
Ages: 6 yrs and up  
Instructor: Terry Heckman



## June Special Events

### June is Zoo and Aquarium Month—ZAMI

Congress designated June as Zoo & Aquarium Month in 1983 to build awareness of the valuable role zoos and aquariums serve in the conservation, education and research of wildlife & habitats.

Join Sea Life Park Hawaii and the SLP Marine Research Education Foundation for Zoo & Aquarium Month!

• Discover the Sea—Sea Turtles... at a mobile cart in the park daily at 11:30am. Call for more ZAM activities!

### Saturday, June 6—Conservation Today 1992 Fair

Visit SLP on this third annual nationally recognized event. Hawaii's environmentally aware organizations gather to help others learn how to make a greener planet for our future!

Free admission for 17 yrs & under with a grocery sack full of crushed

aluminum cans;

Special kamaaina

rate only \$6.95

when you mention

"Conservation

Today!"



## Coming up in September

Our annual Volunteer Docent Workshop begins September 4! Learn all about marine life in this workshop, as you prepare to become a very special Sea Life Park education volunteer!

## Class Registration Form

Registration requested at least two weeks before class date. Make checks payable to: Sea Life Park Hawaii. Registration for Breakfast Club: Make a separate check out to SLP Marine Research Education Foundation. Fill in all info & mail to:

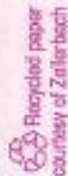
Sea Life Park Hawaii  
Education Class Registrar  
Makapu'u Point  
Waimanalo, HI 96795

Limited enrollment—mail now to ensure a spot!

Name: \_\_\_\_\_  
Address (street, apt #): \_\_\_\_\_  
(City/Zip): \_\_\_\_\_  
Phone: Day: \_\_\_\_\_ Eve: \_\_\_\_\_  
Class title: \_\_\_\_\_ Class #: \_\_\_\_\_  
Dates: \_\_\_\_\_  
Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Fee: \_\_\_\_\_  
Class title: \_\_\_\_\_ Class #: \_\_\_\_\_  
Dates: \_\_\_\_\_  
Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Fee: \_\_\_\_\_  
Class title: \_\_\_\_\_ Class #: \_\_\_\_\_  
Dates: \_\_\_\_\_  
Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Fee: \_\_\_\_\_  
Total enclosed: \_\_\_\_\_

Do you have a friend who would like to be on our mailing list for classes and special events?  
Name: \_\_\_\_\_  
Address (street & apt #): \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Child's Age: \_\_\_\_\_

Yes! I am interested in learning more about marine life. Send me information about the Volunteer Docent Workshop that starts September 4!



PPG-4004000

courtesy of Zellerbach

Sea Life Park Hawaii/Makapu'u Point/Waimanalo, HI 96795

## Summer at a Glance

### June : Zoo & Aquarium Month! Conservation Today Fair—June 6!

- 6/13 BC1: B'fast w/ Dolphins
- 6/20 SC4: Whales/Dolphins
- 6/27 KA11: Fishy Facts
- 6/20 KA10: Whales/Dolphins
- 6/27 SC5: Fish Observation
- 6/29 TD9: Tidepool Discovery (to 7/2)

### July

- 7/11 KA12: Super Sea Turtles
- 7/18 FA17: Focus on Fish
- 7/25 SC7: Penguins
- 7/11 SC6: Sea Turtles
- 7/25 KA13: Penguins
- 7/31 KA16a: Sea Stars

### August

- 8/1 SC8: Sea Lions/Seals
- 8/7 KA16b: Sea Shells
- 8/14 KA16c: Crusty Critters
- 8/22 KA15: Whales & Dolphins
- 8/29 BC3: B'fast w/ Sea Turtles
- 8/1 KA14: Sea Lions/Seals
- 8/8 BC2: B'fast w/ Sharks
- 8/21 KA16d: Octopus
- 8/28 KA16a: Sea Birds

### September 4: Volunteer Docent Workshop!



Get a Tickle  
out of your  
**Summer**

at



Sea Life Park  
Hawaii

Bulk Rate  
U.S. Postage  
PAID  
Waimanalo, Hawaii  
Permit No. 17

Please post

August 6, 1991

Matt & Ronna Hayden  
46300 Big Fall Creek RD.  
Fall Creek OR 97438

Dear Matt & Ronna,

I would like to take this opportunity to thank you for your time and concern in rescuing the green sea turtle with the hook stuck in him. As you may know sea turtles are a highly endangered species and every turtle we can save is important to the survival of the species.

Just to let you know we had a veterinarian look the turtle over and declare him fit for release. He is now tagged on both front flippers (numbers 10992 & 10993) and has been released back to the wild.

Again, thank you for your concern,

Steve Kaiser  
Curator of Fish and Reptiles

8/5/91

10992 10993

SL = 36.3

CL = 39.9

# It's a turtle's life!

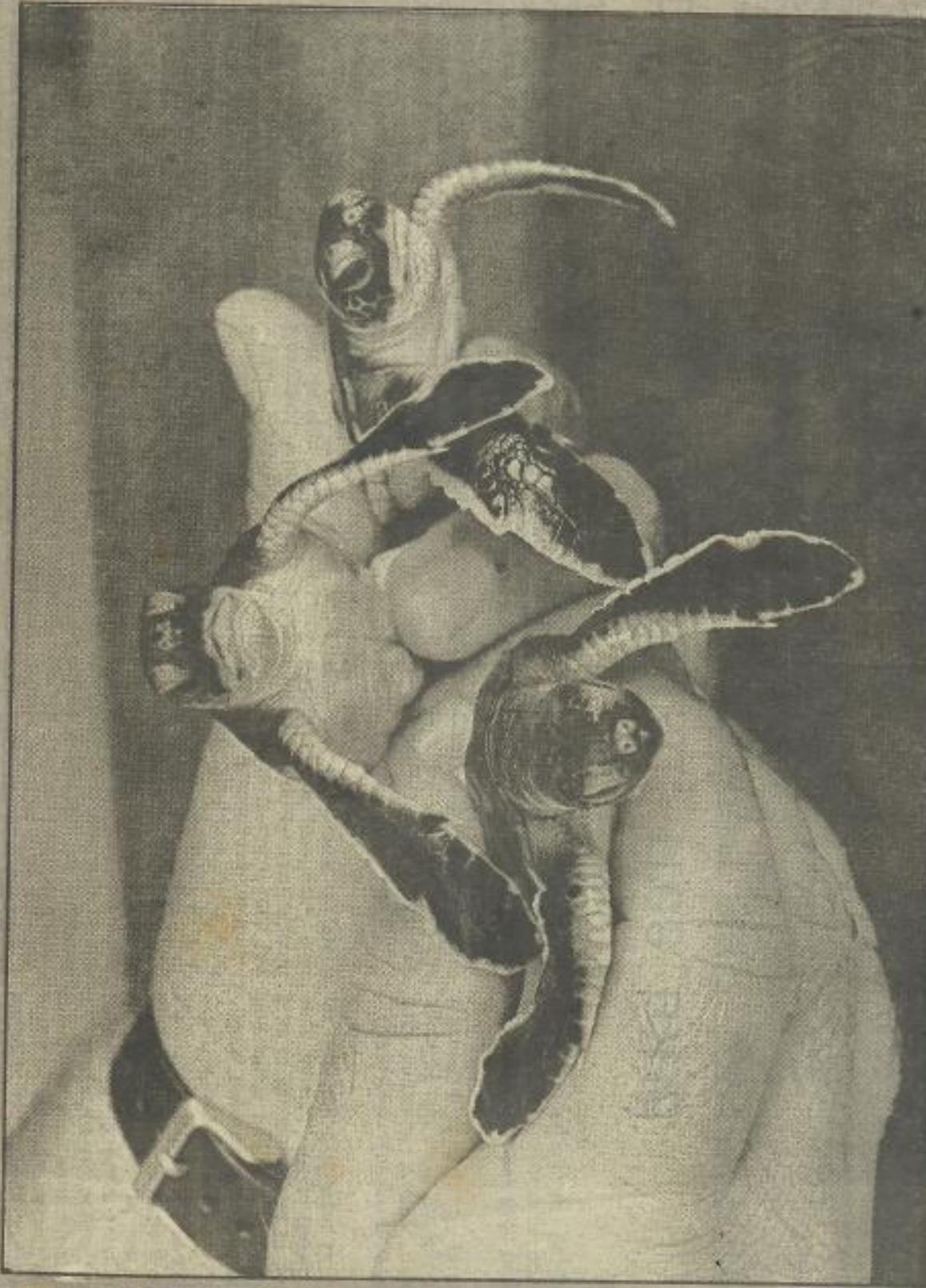
8-29-91 HSB A3



By Craig T. Kojima, Star-Bulletin

Sea Life Park's Mollie Luebke shows off two of the 21 baby green sea turtles that hatched Sunday. The turtles will remain at the park for now, although many will be lent to mainland institutions to be raised. They'll eventually be released to the open sea.

## Turtle hatchlings



They're so small now, but these green sea turtles — part of a group of 21 hatched recently at Sea Life Park — will grow to weigh between 200 and 400 pounds and live 100 to 150 years. The park's captive breeding program has resulted in more than 1,500 of the endangered creatures being returned to Island waters.

Sea Life Park photo

6/17/91 SLP  
Y-34 MORTALITY

-----  
: Owner's :  
: Name Sea Life Park :  
: :  
: :  
: :  
: :  
: :  
-----

State of Hawaii  
DEPARTMENT OF AGRICULTURE  
Division of Animal Industry  
Veterinary Laboratory  
99-762 Moanalua Road  
Aiea, Hawaii 96701

-----  
: Date Rec'd 6/17/91 :  
: Log No. 91-1935 :  
: Test NC HE(91-06-44) :  
: PS BK(826 - 829) :  
-----

YS/MPP No. 5358

Final Report Date: July 15, 1991

REPORT TO DR THOMAS R SAWA  
VET LAB DEPT OF AGRICULTURE  
99-762 MOANALUA ROAD  
AIEA HI 96701

Species & Breed: Sea Turtle ( Hmb Y-34 ) Sex: F Age: A

Type of Specimen(s): (A)Body[ X ] (B)Fixed[ ] (C)Blood[ ] (D)Others[ X ]  
Examination completed: PM[ 1 ] Histo[ 4 ] Bact[ 9 ] P/O[ 3 ] Cyto[ ] Viro[ ]  
Chem[ ] Hemo[ ] Sero[ ] Tox[ ]  
Other

Result(s)

- Gross findings: 1. Diffuse fibrin deposit on serosal surfaces of heart, lungs, liver, GI tract and other viscera  
2. Retroperitoneal cavity was filled with 200 or more egg follicles, some of which were ruptured,  
3. several joints also contained either pus or fibrin-tinged fluid.

Microscopic: Multifocal inflammation, suppurative, serosal, chronic, multiple organs.

Parasitology: Direct smears - saline - none seen  
- Dobell's Iodine - none seen  
Flotation smear - none seen.

Bacteriology: (826)Gut - Salmonella sp. isolated  
(827)Joint - Serratia marcescens isolated  
(828)Oviduct - Proteus vulgaris, Serratia marcescens, Escherichia coli (anaerogenic),  
Aeromonas putrefaciens, and alpha-Streptococcus isolated.  
(829)Peritoneum - Serratia marcescens and Staphylococcus epidermidis isolated.

Pathological Findings (Final):

- (1) Bacterial sepsis
- (2) Synoviarthritis, suppurative, chronic
- (3) Peritonitis, suppurative, fibrinous, chronic

Comments:

cc:  
cc:  
cc:  
VL-4  
1/89

Pathologist:   
Crane H. Hahn, D.V.M., M.S.



---

**MARINE RESEARCH AND  
EDUCATION FOUNDATION**

July 3, 1991

George Balazs  
National Marine Fisheries Service  
2570 Dole St.  
Honolulu, HI 96822-2396

Dear George,

On behalf of the Sea Life Park Marine Research and Education Foundation, I would like to thank you for your part in the "Breakfast with Sea Turtles." We feel our first breakfast club, with your assistance, was very well received. We hope to continue to offer this opportunity to the public in the future.

Enclosed is a small token of our appreciation. Hope you will enjoy them. The evaluations from the class participants are also enclosed. They all seem to be very positive. Thanks again.

Mahalo,

Marilyn Lee

Terry Heckman





### SEA LIFE PARK MARINE RESEARCH EDUCATION FOUNDATION

An organization dedicated to furthering marine research and educational opportunities with an emphasis on protected species and injured and stranded animals. (Founded 1985)

#### OBJECTIVES:

- 1.) To provide resources towards the continuance of programs committed to the rehabilitation and related research of stranded marine animals and sea birds.
- 2.) To further and develop research opportunities in applied animal and marine sciences and education, with special emphasis on marine mammals, rare, protected or endangered species.
- 3.) To study and preserve marine flora and fauna - marine mammals, endemic, protected or endangered species.
- 4.) To stimulate support and understanding of marine environments and inhabitants and their interactions with man through displays, lectures, special events and interpretive materials.
- 5.) To support and establish marine and related educational opportunities for diverse groups, with a focus on outreach programs.
- 6.) To periodically publish a summary of the research and education activities of the Foundation, including articles on related topics.

Your interest and support are very much appreciated. If you would like more information, contact: Sea Life Park Marine Research and Education Foundation, Makapu'u Point, Waiananalo, Hawaii 96785. (808) 259-7933.

ingest the sand & stay on the bottom thereafter. Is this ~~an~~ natural

for the young turtles at Sea Life Park?

#### Evaluation for Breakfast with Sea Turtles

We appreciate your honest evaluation of our program so that we may continue to improve and develop our programs. Please complete the form, fold it in half and mail it to us. Thank you.

Circle the number that corresponds to your feelings about the statements:  
5-strongly agree; 4-agree; 3-neutral; 2-disagree; 1-strongly disagree; and N-not applicable.

- CONTENT: 1. I felt the material covered was useful and appropriate. (5) 4 3 2 1 N  
 2. The material was presented in a clear interesting fashion. <sup>Barbara</sup> ~~sampled a bit~~ (5) 4 3 2 1 N  
 INSTRUCTOR: 3. The instructors exhibited a thorough knowledge of the subject. (5) 4 3 2 1 N  
 4. The instructors were able to communicate effectively with the participants. (5) 4 3 2 1 N  
 5. The instructors provided an atmosphere for free exchange of ideas. (5) 4 3 2 1 N  
 LOGISTICS: 6. I felt the general atmosphere of the breakfast was conducive to a good learning experience. (5) 4 3 2 1 N  
 7. I felt the seating arrangements and rooms were comfortable. (5) 4 3 2 1 N  
 OVERALL: 8. My objectives in attending this breakfast were met. (5) 4 3 2 1 N  
 9. I would encourage my friends to attend future Sea Life Park classes. (5) 4 3 2 1 N

Enjoyed all handouts

My overall Rating of this class would be:

(10)	9	8	7	6	5	4	3	2	1
Excellent	Good	Fair	Poor	Very Poor					

Please feel free to write any additional comments.

Christopher and I really enjoyed our day with the turtles. We appreciated the "behind the scene" interaction with some of the younger turtles. I was a little troubled over the point taken by a gentleman that had worked with turtles in Florida. He mentioned that the young turtles when put into a tank w/ sand would immediately thereafter. Is this ~~an~~ natural

inscript that may not be allowed



### SEA LIFE PARK MARINE RESEARCH EDUCATION FOUNDATION

An organization dedicated to furthering marine research and educational opportunities with an emphasis on protected species and injured and stranded animals. (Founded 1986)

#### OBJECTIVES:

- 1.) To provide resources towards the continuance of programs committed to the rehabilitation and related research of stranded marine animals and sea birds.
- 2.) To further and develop research opportunities in applied animal and marine sciences and education, with special emphasis on marine mammals, rare, protected or endangered species.
- 3.) To study and preserve marine flora and fauna - marine mammals, endemic, protected or endangered species.
- 4.) To stimulate support and understanding of marine environments and inhabitants and their interactions with man through displays, lectures, special events and interpretive materials.
- 5.) To support and establish marine and related educational opportunities for diverse groups, with a focus on outreach programs.
- 6.) To periodically publish a summary of the research and education activities of the Foundation, including articles on related topics.

Your interest and support are very much appreciated. If you would like more information, contact: Sea Life Park Marine Research and Education Foundation, Makapu'u Point, Kaneohe, Hawaii 96755. (808) 259-7933.

#### Evaluation

#### for Breakfast with Sea Turtles

We appreciate your honest evaluation of our program so that we may continue to improve and develop our programs. Please complete the form, fold it in half and mail it to us. Thank you.

Circle the number that corresponds to your feelings about the statements:  
5-strongly agree; 4-agree; 3-neutral; 2-disagree; 1-strongly disagree;  
and N-not applicable.

- CONVENT: 1. I felt the material covered was useful and appropriate. (5) 4 3 2 1 N
2. The material was presented in a clear interesting fashion. (5) 4 3 2 1 N
- INSTRUCTOR: 3. The instructors exhibited a thorough knowledge of the subject. (5) 4 3 2 1 N
4. The instructors were able to communicate effectively with the participants. (5) 4 3 2 1 N
5. The instructors provided an atmosphere for free exchange of ideas. (5) 4 3 2 1 N
- LOGISTICS: 6. I felt the general atmosphere of the breakfast was conducive to a good learning experience. (5) 4 3 2 1 N
7. I felt the seating arrangements and rooms were comfortable. (5) 4 3 2 1 N
- OVERALL: 8. My objectives in attending this breakfast were met. (5) 4 3 2 1 N
9. I would encourage my friends to attend future Sea Life Park classes. (5) 4 3 2 1 N

My overall Rating of this class would be:

10	9	8	7	6	5	4	3	2	1
Excellent	Good	Fair	Poor	Very Poor					

Please feel free to write any additional comments.

*I didn't know much About Sea turtles before, but now I am very interested and will look them up at our sea world in San Diego Ca. Thank you for a very interesting morning.*

*Sincerely  
Larry Harrison*



### SEA LIFE PARK MARINE RESEARCH EDUCATION FOUNDATION

An organization dedicated to furthering marine research and educational opportunities with an emphasis on protected species and injured and stranded animals. (Founded 1986)

**OBJECTIVES:**

- 1.) To provide resources towards the continuance of programs committed to the rehabilitation and related research of stranded marine animals and sea birds.
- 2.) To further and develop research opportunities in applied animal and marine sciences and education, with special emphasis on marine mammals, rare, protected or endangered species.
- 3.) To study and preserve marine flora and fauna - marine mammals, endemic, protected or endangered species.
- 4.) To stimulate support and understanding of marine environments and inhabitants and their interactions with man through displays, lectures, special events and interpretive materials.
- 5.) To support and establish marine and related educational opportunities for diverse groups, with a focus on outreach programs.
- 6.) To periodically publish a summary of the research and education activities of the Foundation, including articles on related topics.

Your interest and support are very much appreciated. If you would like more information, contact: Sea Life Park Marine Research and Education Foundation, Makapu'u Point, Waianalo, Hawaii 96795. (808) 259-7933.

### Evaluation for Breakfast with Sea Turtles

We appreciate your honest evaluation of our program so that we may continue to improve and develop our programs. Please complete the form, fold it in half and mail it to us. Thank you.

Circle the number that corresponds to your feelings about the statements: 5-strongly agree; 4-agree; 3-neutral; 2-disagree; 1-strongly disagree; and N-not applicable.

- CONTENT:** 1. I felt the material covered was useful and appropriate. (5) 4 3 2 1 N
2. The material was presented in a clear interesting fashion. (5) 4 3 2 1 N
- INSTRUCTOR:** 3. The instructors exhibited a thorough knowledge of the subject. (5) 4 3 2 1 N
4. The instructors were able to communicate effectively with the participants. (5) 4 3 2 1 N
5. The instructors provided an atmosphere for free exchange of ideas. (5) 4 3 2 1 N
- LOGISTICS:** 6. I felt the general atmosphere of the breakfast was conducive to a good learning experience. (5) 4 3 2 1 N
7. I felt the seating arrangements and rooms were comfortable. (5) 4 3 2 1 N
- OVERALL:** 8. My objectives in attending this breakfast were met. (5) 4 3 2 1 N
9. I would encourage my friends to attend future Sea Life Park classes. (5) 4 3 2 1 N

My overall Rating of this class would be:

10	9	8	7	6	5	4	3	2	1
Excellent	Good	Fair	Poor	Very Poor					

Please feel free to write any additional comments.



### SEA LIFE PARK MARINE RESEARCH EDUCATION FOUNDATION

An organization dedicated to furthering marine research and educational opportunities with an emphasis on protected species and injured and stranded animals. (Founded 1986)

#### OBJECTIVES:

- 1.) To provide resources towards the continuance of programs committed to the rehabilitation and related research of stranded marine animals and sea birds.
- 2.) To further and develop research opportunities in applied animal and marine sciences and education, with special emphasis on marine mammals, rare, protected or endangered species.
- 3.) To study and preserve marine flora and fauna - marine mammals, endemic, protected or endangered species.
- 4.) To stimulate support and understanding of marine environments and inhabitants and their interactions with man through displays, lectures, special events and interpretive materials.
- 5.) To support and establish marine and related educational opportunities for diverse groups, with a focus on outreach programs.
- 6.) To periodically publish a summary of the research and education activities of the Foundation, including articles on related topics.

Your interest and support are very much appreciated. If you would like more information, contact: Sea Life Park Marine Research and Education Foundation, Makapu'u Point, Halemauilo, Hawaii 96795. (808) 258-7933.

### Evaluation for Breakfast with Sea Turtles

We appreciate your honest evaluation of our program so that we may continue to improve and develop our programs. Please complete the form, fold it in half and mail it to us. Thank you.

Circle the number that corresponds to your feelings about the statements: 5-strongly agree; 4-agree; 3-neutral; 2-disagree; 1-strongly disagree; and N-not applicable.

- CONTENT:** 1. I felt the material covered was useful and appropriate. 5 (4) 3 2 1 N  
 2. The material was presented in a clear interesting fashion. 5 (4) 3 2 1 N
- INSTRUCTOR:** 3. The instructors exhibited a thorough knowledge of the subject. 5 (4) 3 2 1 N  
 4. The instructors were able to communicate effectively with the participants. 5 (4) 3 2 1 N  
 5. The instructors provided an atmosphere for free exchange of ideas. 5 (4) 3 2 1 N
- LOGISTICS:** 6. I felt the general atmosphere of the breakfast was conducive to a good learning experience. 5 (4) 3 2 1 N  
 7. I felt the seating arrangements and rooms were comfortable. 5 (4) 3 2 1 N
- OVERALL:** 8. My objectives in attending this breakfast were met. 5 (4) 3 2 1 N  
 9. I would encourage my friends to attend future Sea Life Park classes. 5 (4) 3 2 1 N

My overall Rating of this class would be:

10	(9)	8	7	6	5	4	3	2	1
Excellent		Good	Fair	Poor				Very Poor	

Please feel free to write any additional comments.

6/18/91

**Quality Inn**  
**Marineland**  
OF FLORIDA



First Coast Highway A1A • Marineland, Florida 32065 • (904) 471-1222

George -

Let's order

2 - 100 gm Papain 1:10,000  
@ \$13.45 ea

2 - 100 gm Trypsin 1:100  
@ 10.25 ea

I will have to play around with  
concent. etc to try to dissolve  
the tumor tissues & also determine  
that it does not dissolve  
the eggs.

Have enclosed the info info.

Hope your trip was a success

I treated 2 turtles at sea like -  
one died before I had a chance  
to see it - one with a terrible  
shell abscess - I probably will not  
make it - one w/ neck abscess.  
used Kenovon A.B. eyedrops.



*Bob*  
MORRISUM



# Sea Life Park tends to its own flock of frigate birds

**"C**OME on babies, here's a fish," murmured Sea Life Park trainer Kiana Pugh, as she held a herring high over her head.

We searched the sky for a response. Within seconds, a dark shape materialized over the ocean, growing quickly in size as it flew toward us. It hovered over our heads for several seconds, checking the scene, then, with stunning grace, swooped down and plucked the fish from Pugh's fingers with chopstick precision.

"The world's original hang-glider," Pugh laughed as her frigate bird diner banked for another fingertip meal.

About 14 frigate birds now regularly visit Sea Life Park's seabird colony, managed by Pugh and Alexis Joseph. Park biologists collected most of these birds a few at a time as 2-month-old chicks from Kure and other remote islands, then brought them to the park to grow up in the presence of people.

Because frigate birds and all other seabirds in Hawaii are protected by both federal and state laws, the park had to obtain special permits to take the young birds.

"The fluffy chicks are just adorable when they get here," Pugh said. "We put them in the colony during the day, then bring them into enclosures at night to protect them from dogs and other predators."

During the day, trainers hand feed the chicks, teaching them that certain people, the food givers, are parent substitutes.

How long does this imprinting take? Pugh laughs, "Oh, about a day. These birds aren't shy about taking food and they're smart. They get the idea quickly."

Frigate birds first try their wings when they're 4 to 5 months old, but unlike all other seabirds, they stay dependent upon their parents for food even after they're flying. During this intermediate period, fledglings bone up on the skills they will need to survive on their own. This accounts for the playful behavior of young frigate birds, which often throw sticks to one another or use flapping flags on boats in dive-bombing games.

We once lost a wind-direction device, called a windex, from the top of our mast during these frigate bird training maneuvers. Earlier in the day, the young birds had amused us for hours by swooping at the twitching arrow. We weren't so amused later, however, when we heard the expensive and useful windex splash into the water after a successful attack.



## OCEAN WATCH

By Susan Scott

Sea Life Park's adolescent frigate birds are free to leave whenever they feel like it. Sometimes they return daily for fish snacks, other times the birds are gone for days or even months. As they grow older and become more proficient at fishing, these semi-tame birds stay away longer. Because of this, bird trainers aren't sure how many frigate birds the park "keeps."

The day I visited, several adolescents were making themselves at home in the open-air colony, some dozing, others hovering around the nearby fish bucket with interest.

I was astonished when Kiana approached a resting bird and reached down to pick it up. Frigate birds are powerful seabirds with 8-foot wingspans and beaks like meat hooks. I wouldn't be quick to reach out and touch one.

But this was one of Kiana's babies. The bird stepped briefly onto its trainer's hand, then gracefully banked against the wind. "Oh, you'd rather fly in this nice breeze, huh?" Kiana said affectionately as the bird floated up. "OK, bye-bye."

Taming frigate birds is not a new idea. In some parts of Micronesia and Polynesia, people once coaxed frigate birds into carrying messages interisland. In Samoa, several people on different islands would put up identical-shaped perches near their houses and feed frigate bird chicks there. After the birds grew up, they would fly interisland on food excursions, then sit on the familiar perches to rest and get a handout.

Soon, these marine carrier pigeons could be semi-relied upon to provide a primitive postal service, flying letters and small objects, such as fishhooks, interisland. People placed their messages in reed cylinders that they fastened to the leg or wing of the bird.

Frigate birds have had reputations for stealing other birds' food, nests and chicks. But evolution has rewarded these brutal survival tactics, similar to our own, with a strong, successful seabird species that is easy to admire.

Susan Scott is a marine science writer and author of *Oceanwatcher*, a guide to Hawaii's marine animals. Her *Oceanwatch* column appears Monday in the *Star-Bulletin*.

2/4/91 HSB AZ

6/15/90  
Response



THE UNIVERSITY OF NORTH CAROLINA  
AT  
CHAPEL HILL

SEA LIFE PARK  
FILE

Institute of Marine Sciences

The University of North Carolina at Chapel Hill  
3407 Arendell Street  
Morehead City, North Carolina 28557

29 May 1990

Dr. George Balazs  
NOAA NMFS  
SWFC Honolulu Lab F/SW62  
2570 Dole St.  
Honolulu, HI 96822-2396

Dear George:

Was good to see you at the meetings. Keep plugging away for the sea turtle commemorative stamp. I seek your thoughts on the following. I maintain turtles here, as you heard at the recent meetings. During the winter when in cold and below their lethal they are kept, 8 loggerheads, 1 small green, in stainless steel tanks 4.1 x 1.5 x 0.5 on deep. Configuration is 5 loggerheads in one tank, rest in another. Now our University review committee is starting to be concerned that that space may not be enough and they also worry that the turtles touch each other or often lie on top of another. They aren't too active at this time for they only have to lift their heads to breathe with little or no swimming. I know your greens bask, etc. How much is space, touching an issue, in your opinion. Reason for the review committee is a do-gooder type got all worked up and made a big fuss about the time the University was being sued by animal rights types over monkey care. So to protect the University a committee of veterinarians was formed. They check facilities periodically to say all is or isn't okay. They know nothing about turtles.

As you are aware I have kept and grown these turtles for 12 to 22 years with no problems. I don't feel the space, touch or lying is a problem, but what do you feel from your experience in field or from the aquarium holding aspect there?

Sincerely,

Frank J. Schwartz  
Professor

FJS:lw

Karen Wilson  
Kaiser

April 6, 1990

Bridgit Stegenga  
549 Papalani Street  
Kailua, Hawaii 96734

Mr. William Paty  
Chairman of the Board  
Department of Land and  
Natural Resources  
1151 Punchbowl Street  
Honolulu, Hawaii 96813

Dear Mr. Paty,

Several weeks ago, I called the Conservation and Resources Division Enforcement Office on a Sunday morning to file a complaint about overnight campers on Flat Island, which is a shearwater sanctuary in Kailua Bay. By the time the enforcement officer arrived in Kailua from Kahuku almost 2 hours later (he was delayed in traffic), the campers were gone. The officer then came to my home to get the information he needed for his report.

This letter concerns some of the conversation we had at that time. He told me that a main concern of his was the free use of the ocean that results in abuse of it. I certainly agree. I then told him that I was very concerned about the green sea turtle and that I was involved with Sea Life Park. It was at this point that the officer made the very disturbing statement that there are too many green sea turtles to the point that they have become obnoxious. This was just one of several disturbing and erroneous comments made by the officer regarding the need for protection, turtle nesting, hunting for cultural diet, his own hunting experiences and general knowledge. And this person is paid to enforce the laws protecting this specie?

My own knowledge of the green sea turtle is extensive and I have voluntarily educated thousands of school children about this marine animal; the laws protecting it and marine debris which is a contributor to its demise. I give them explicit ways in which each one of them can help contribute to creating a healthier marine environment. They learn that having knowledge about the green sea turtle is a very important part of its protection.

It is extremely disturbing that an enforcement officer who is in a front line position with the public would show such a lack of concern and definite lack of knowledge. I checked further into some of the statements he made to find out that indeed they were erroneous. It disturbs me that he may be expressing this attitude



to people who aren't informed and they therefore believe that the sea turtles don't need to be protected.... and why? Of course, because an enforcement officer for the Land and Natural Resources Department said so....and he must know! It's always easier to form an opinion on what someone in an authority position says rather than on real facts. I have seen opinions not based on fact carried all too often into our legislative body. This is frustrating and it is dangerous.

However, it is not just the Department of Land and Natural Resources who is at fault for the existence of this type of problem; it is the legislature as well. For an island where the use of its resources and environment is so extensive and so important to its economy, it makes me both sad and angry there only enough funds budgeted for about 20 enforcement officers. This does not excuse attitude problems or lack of education, but it certainly does contribute to it. The impetus to have knowledge based on fact and the development of an attitude of concern must start at the top.

I am sure you feel that it is important to work toward correcting a problem like this. As a citizen, I expect an enforcement officer's opinions or statements to be based on fact, not personal likes or dislikes. I would hope that people who are hired as an enforcement officers are chosen for their genuine commitment, concern and knowledge for all aspects of the environment.

Protecting sea turtles and understanding what that protection is all about is a key to having a clean and healthy ocean environment in Hawaii. There is no substitute for quality.

I would appreciate your considering this matter. Thank you for your time.

Sincerely,

Bridgit Stegenga

copy: Governor John Waihee  
Senator Stan Koki

blind copy: George Balaz ✓

*Dear George,  
Thanks so much for your support!  
I'll let you know what happens.  
Bridgit*

# SEA LIFE PARK

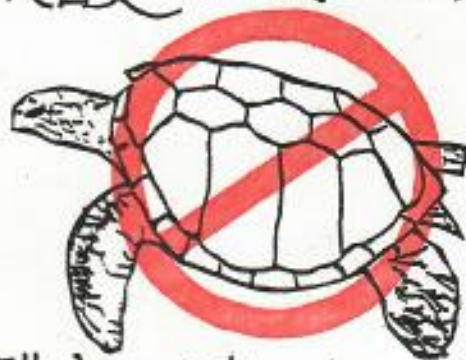


Sea Turtle

Protection

Turtle Items can't sell

海亀の保護の爲に製品をお売り



しませんので御協力をあねがい致します。

Please understand, cooperation

This is the literal translation, when read in Japanese it makes more grammatical sense. Or so I'm told by our Japanese translator!

T.

# SEA TURTLES

PROTECTED



SPECIES

“If You Don't Buy Them, They Won't Kill Them!”

January 6, 1990

NMFS

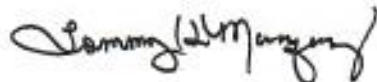
George Balazs

Dear George,

In regards to your concerns of the appropriate posting or labeling of the items used in our presentation of Sea Turtles in the Discovery Cart, I have utilized the red circle with slash and a simple message and have developed the two signs attached, which are now posted with our presentations.

Thanks for the reminder - it served as a prod to push this concern back up on the priority list!

Cordially,

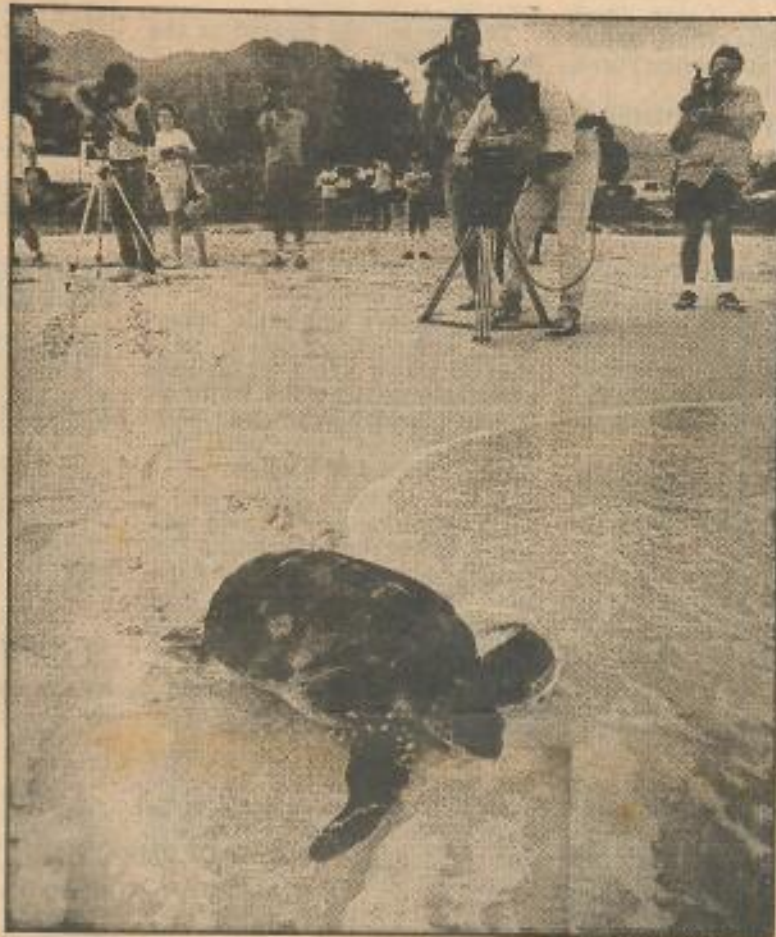


Tommy H. Marquez  
Sea Life Park Hawaii  
Education Department

P.S. I'm still checking on a bumper sticker type.

Also if you have any additional thoughts or concerns on this matter, please call or drop a line.

T.



By Debi Sensul, Star-Bulletin

1-6-90  
HSB  
A3

## Flippers, don't fail me now

Five young green sea turtles' move to the ocean captured the attention of a host of photographers yesterday. The turtles — members of a threatened species protected by federal law — were released by Sea Life Park personnel at Waimanalo Beach. They were hatched at the park in 1986. One of the turtles, however, decided he wasn't ready for the journey and returned to the beach. "He was gonna hit the road and catch the bus back (to the park)," said Steve Kaiser, Sea Life Park curator.

9911 12/1/90 = S-49.9  
C 48.5  
y39,40 12/1/90 = 541.0 C 44.0

## NEWSWATCH

### Quayle starts Maui vacation today

Vice President Dan Quayle will be arriving on Maui today for a week-long vacation, the guest of former college roommate and golf teammate Mark



Mark  
Roling

Roling, a spokeswoman in Roling's sports marketing office said yesterday.

Officials in the offices of Gov. John Waihee, Maui Mayor Hannibal Tavares and the Commander in Chief, U.S. Pacific Command, said no meetings have been set with the vice president.

George Akahane, executive director of the state Republican Party, said his office had been in contact with the vice president's office on the possibility of Quayle taking part in a

party fund-raiser here.

However, Akahane said arrangements couldn't be worked out. Akahane said he has not been in contact with Quayle's office recently and does not know what the vice president plans to do here.

### Green turtle finally heads out to sea

No. 9911 — a green sea turtle hatched at Sea Life Park — appears to be settling happily in a new ocean home after refusing to leave shore in January.

"It finally discovered freedom is more fun than swimming in a round tank," said park Operations Manager Jay Dowsett.

The 2-year-old animal and a companion turtle were released yesterday morning. No. 9911 swam parallel to the shore for about a mile, then took off for the open seas, Dowsett said.

9911

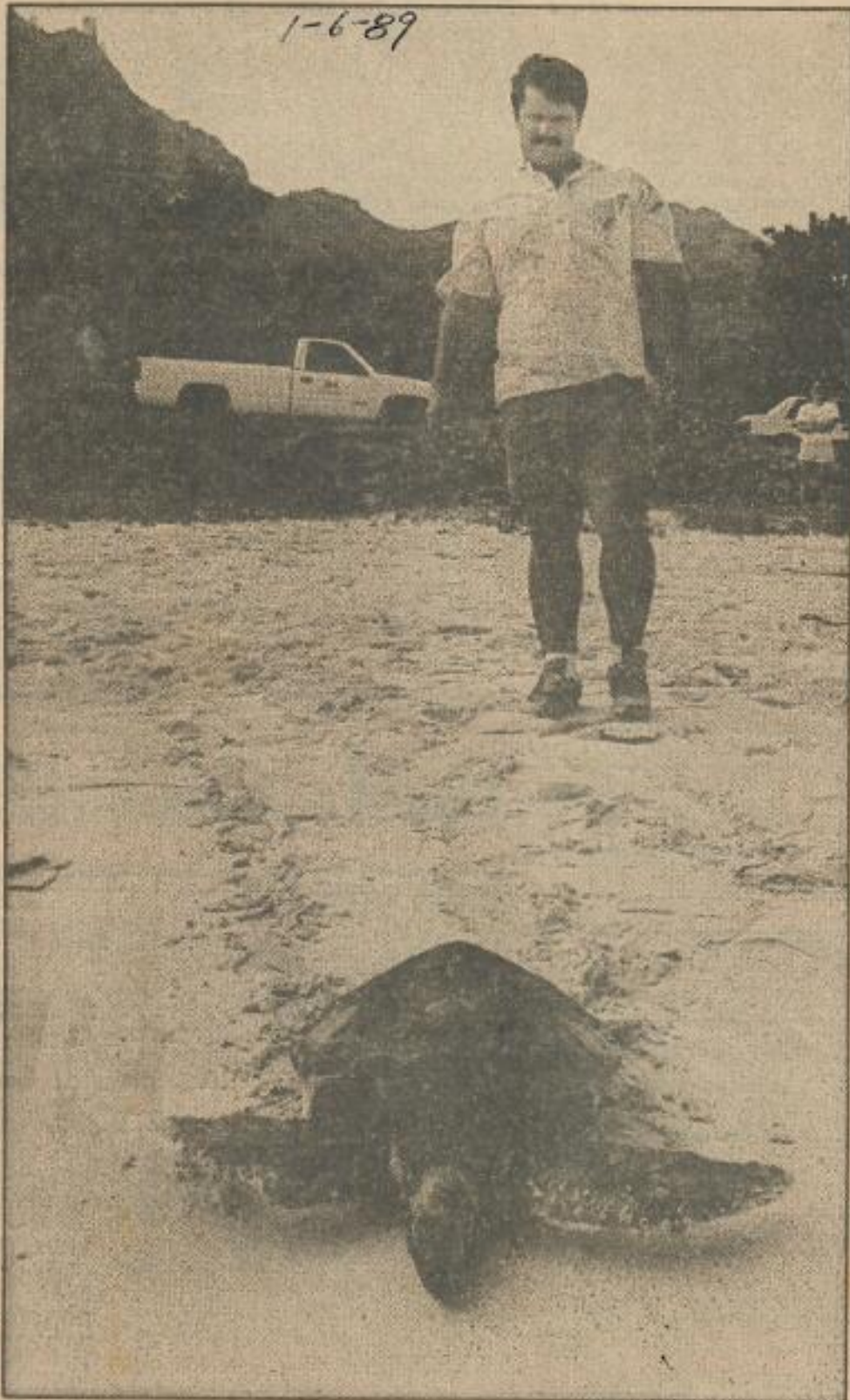
+9910

# HAWAII

Saturday, March 24, 1990

Star-Bulletin

1-6-89



Advertiser photo by Bruce Asato

1/6/89  
Released  
1/5/90

Y-338  
Y-339  
10,985  
10,984

measurements on 12/1/89  
S=46.7  
C=50.0  
Bellows

Y-37 > S-46.0  
Y-38 > C-49.5  
12/1/89 measurements

Y-41 > S-43.5 = 12/1/89 measurements  
Y-42 > C-47.0

### Critters here and there

Sea Life Park curator Steve Kaiser, at right, watches as a juvenile green sea turtle makes its way to the ocean at Waimanalo beach yesterday. The park which has the only captive breeding program for the threatened turtles in the United States, released five turtles hatched there in 1986. Things were more relaxed at the Honolulu Zoo, below, where two lions gazed out at the ocean from a perch on a hill overlooking Monsarrat Avenue yesterday.



Advertiser photo by Carl Vit





College of Veterinary Medicine  
University of Florida

Department of  
Small Animal Clinical Sciences

Box J-126 Health Science Center  
Gainesville, Florida 32610-0126  
Telephone: 904/392-4751  
Fax Telephone: 904/392-8351

September 21, 1989

George Balazs  
National Marine Fisheries Service  
Southwest Fisheries Service  
Honolulu Laboratory  
2570 Dole St.  
Honolulu, Hawaii 96822-2396

Dear George:

Enclosed are duplicates of slides taken on our trip to Hawaii.

The hatchling green turtle sent to me had a severe Pseudomonas dermatitis which had ulcerated into the underlying musculature. Despite treatment with amikacin (a broad spectrum antibiotic) the turtle died. I expect that it was severely septic.

Pseudomonas is an opportunistic pathogen which is omnipresent in the environment. However, it has a tendency to grow in stagnant water. Often it invades an animal that has been debilitated by some other problem. Trauma may have contributed to the infection in the turtle.

Will be speaking to you in the near future.

With best regards,

Elliott Jacobson, DVM, PhD  
Associate Professor

*SL - 6.2 cm.  
Shipped to him  
9/9/89 from  
this year's hatch,  
(I thought tissue  
mass might be  
TME)  
Print  
photos taken*

6/29/89

Dear George,

on behalf of the Sea Life Park Marine Research and Education Foundation & Marilyn, I want to Thank you for the terrific turtle lecture Tuesday night & for hosting our evening ramble through the Reef Tank and to the turtle lagoon.

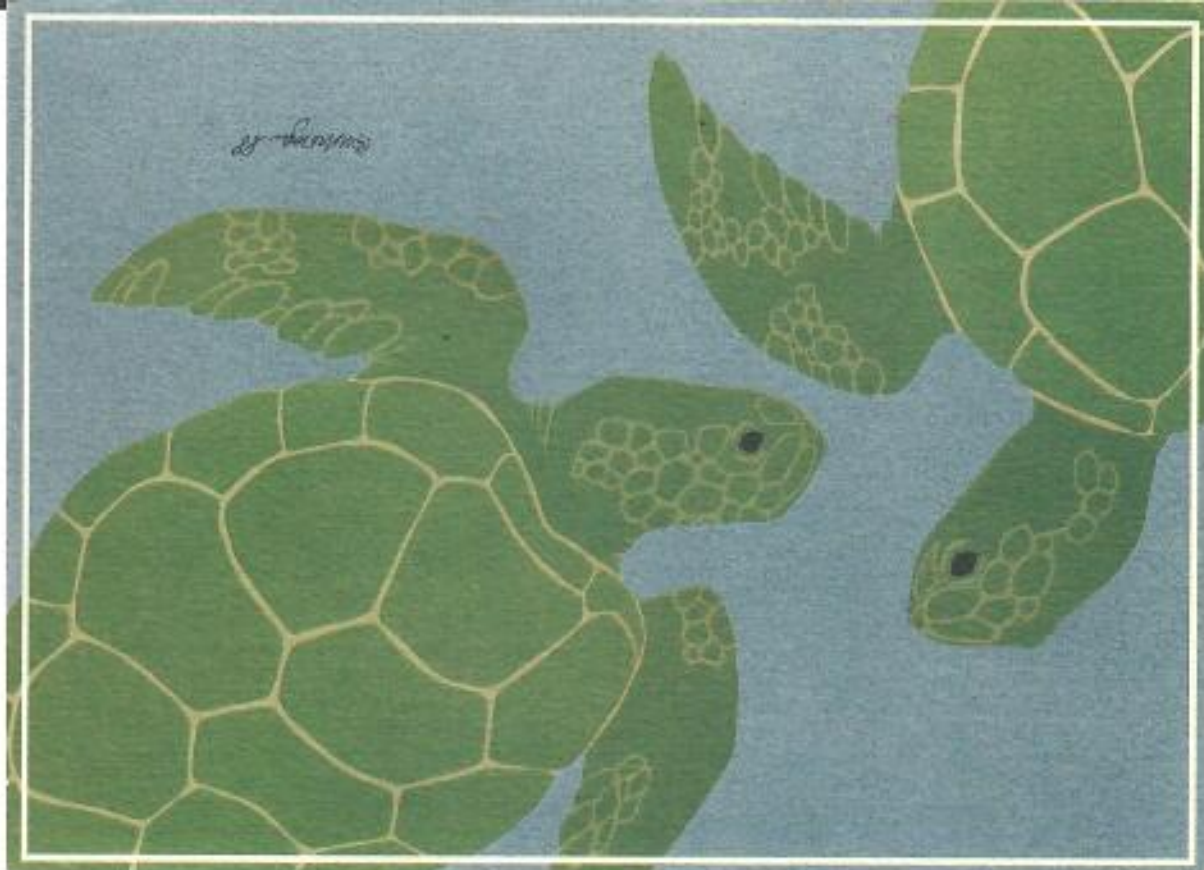
I've received nothing but positive comments from the staff & volunteers who attended. I was delighted that at least half the people were from the community.

I know this is a busy time for you so we especially appreciate your taking time for this event.

Mahalo nui loa

Mary Pickett

SEA LIFE PARK  
Education Department  
Makapu'u Point  
Waimanalo, HI 96795



GREEN TURTLES, *Chelonia mydas*; 30"-60" long, 120-200 pounds. This large marine sea turtle is thoroughly aquatic and is found world-wide in warm tropical waters. It has a true shell, flipper-like front legs used for swimming, and a long prehensile tail. It seldom comes to land except to lay eggs at a limited number of nesting sites. Several clutches may be laid in one season generally at night and above the high tide mark. Because of its large size, highly esteemed meat, large number of eggs laid at predictable nesting sites, and coastal developments, the green turtle is a threatened species.

*Chelonia mydas*  
GREEN TURTLES NC-102-125  
©1988 original design by Wendy Morgan  
CRANE CREEK GRAPHICS  
Box 387 • Wilson, Wyoming 83014

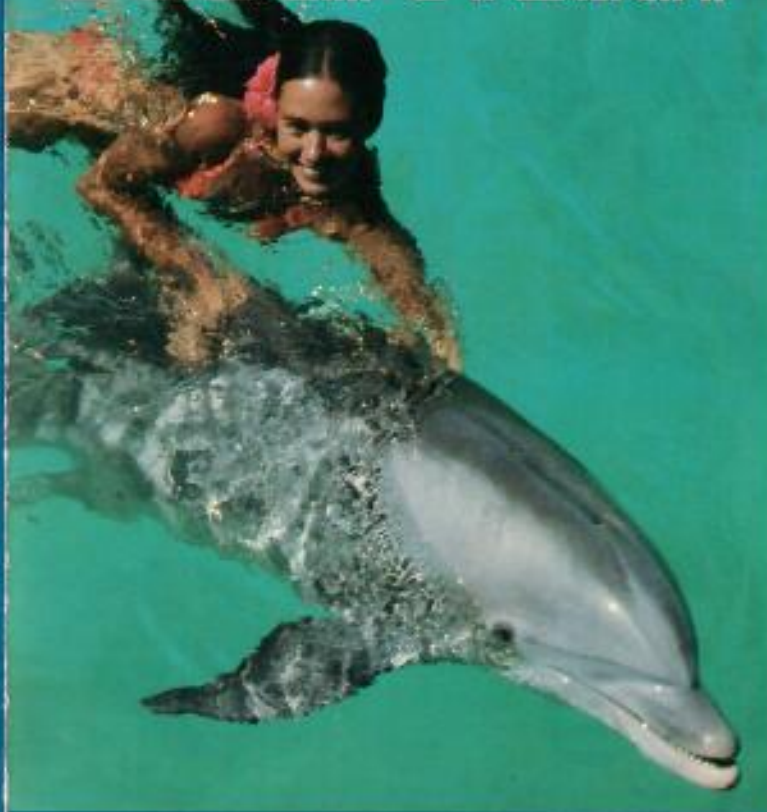
... I know you may  
want to edit this  
a bit.  
MSP



Sea Life Park's rustic **Galley Restaurant** offers a delicious assortment of snacks, hot meals, salads, sandwiches and sweets. Open every day, visitors to Makapuu can acquaint themselves with island specialties, or pick their favorite all-American fare from the plentiful buffet.

The **Spouter Deck** offers tropical drinks and cocktails in the cool indoor-outdoor setting overlooking the ocean and the park below. Our special torchlit Hawaiian evening events bring many guests to the park for authentic luaus, complete with outstanding entertainment in an unsurpassed setting. Continuous Shows from 9:30 a.m. daily. Last series of shows begin at 3:15 p.m. (4 p.m. during summer months).

# SEA LIFE PARK



**The Beauty of our People  
The Excitement of our Ocean**



## SEA LIFE PARK

Contact your travel agent or hotel travel desk.

**PARK:** Makapuu Point, Waimanalo, Hawaii 96795  
(808) 259-7933

**WAIKIKI OFFICE:** 2222 Kalakaua Avenue, Suite 1309  
Honolulu, Hawaii 96815 / (808) 923-1531

250M 10/83





## Don't Miss **SEA LIFE PARK**

Oceans of Fun!  
Just 30 Beautiful  
Minutes from  
Waikiki!

Internationally known for its majestic setting alongside the rolling Pacific Ocean, Sea Life Park displays for its visitors the mystery and beauty of Hawaii's marine life.

The salty scent of the ocean, the towering Koolau mountains and the rocky shoreline of Makapuu Point, are gifts of nature treasured by the park and its people.

Dolphins frolic and perform classy hulas; sharks cruise by just inches from your nose; sea lions bark rudely for your attention. A replica whaling ship appears to have sailed into a tropical lagoon, where early whaling days are re-told; 1600 pound tropical killer whales breach in front of your lens.

And don't miss the Pacific Whaling Museum—the most amazing collection of whaling artifacts in the country! And it's free!

The creatures that live in our warm tropical waters are awesome, beautiful, mysterious, whimsical and brilliantly colored. Two thousand of them live in our 300,000 gallon Reef Tank exhibit. You will be enchanted as you view closeup their life on a Hawaiian coral reef, three fathoms below the surface.

Feed a sea lion; watch the native birds soar overhead; linger near a waterfall; and see first hand why Sea Life Park has been the pride of Hawaii for more than fifteen years.



HAWAII CLIPPING SERVICE  
P.O. Box 10242  
Honolulu, Hawaii 96816  
PHONE: 734-8124  
Victoria Custer Elaine Stroup  
HONOLULU STAR BULLETIN

JAN. 6 1990



By Dean Sensel, Star-Bulletin

## Flippers, don't fail me now

Five young green sea turtles' move to the ocean captured the attention of a host of photographers yesterday. The turtles — members of a threatened species protected by federal law — were released by Sea Life Park personnel at Waimanalo Beach. They were hatched at the park in 1986. One of the turtles, however, decided he wasn't ready for the journey and returned to the beach. "He was gonna hit the road and catch the bus back (to the park)," said Steve Kaiser, Sea Life Park curator.

## Turtles throughout time



Wildlife biologist George Balazs will discuss "Magnificent Marine Turtles—Their Biology, Conservation and Sacred Symbolism Throughout Time" at Sea Life Park on Tuesday, June 27 at 7 p.m. in the Galley Restaurant. Call 923-1531 for reservations.

## ANTHURIUMS

Guaranteed Fresh

**\$19.95 \***

For One Dozen  
With This Coupon  
Regular \$24.95

Variety of  
Arrangements  
\*plus shipping



Take Home  
or We Mail

We also offer an  
excellent array of  
ORCHID PLANTS  
for shipment

COUPON

COUPON

### PRINCE KUHIO FLORIST

Phone: 924-1466 • Open daily 10am to 10pm  
Kuhio Mall • 2301 Kuhio Avenue • Waikiki  
Toll Free 1-800-877-4646

# Tida's

AUTHENTIC  
JAPANESE WARE  
SINCE 1900

PHONE 973-0320

ALA MOANA CENTER

street level, mountain side

QUALITY • COMPETITIVE PRICES  
SELECTION • FRIENDLY SERVICE

- CHINA • HOUSEWARES
- LACQUER & BAMBOO WARE
- DOLLS • TOYS
- WINDSOCKS • KITES
- GARDEN ORNAMENTS
- FLOWER ARRANGEMENT SETS

We gift wrap & mail . . . CREDIT CARDS WELCOME



"MARI"  
PLATES

July 7, 89 A3 HA



Advertiser photo by Gregory Yamamoto

### Independence Day turtles freed

These Hawaiian green sea turtle hatchlings celebrated independence day yesterday as they were released into the ocean last night at Waimanalo Beach by Steve Kaiser, Sea Life Park curator of fishes. The turtles, hatched on July 4, are some of the more than 1,200 turtles released to the wild since 1976 from the park's captive-breeding program, which is aimed at increasing the numbers of the endangered reptiles.





Sea Life Park photo

### Just out of the shell

This little Hawaiian green sea turtle and others like him were hatched by the Sea Life Park as part of a project to increase their numbers. Some of the hatchlings were to be released last night off Waimanalo Beach.



COME AND JOIN US FOR A SPECIAL EVENING

AT

SEA LIFE PARK

"MAGNIFICENT MARINE TURTLES - THEIR BIOLOGY,  
CONSERVATION, AND SACRED SYMBOLISM THROUGHOUT TIME"

Evening Lecture by George Balazs - Wildlife Biologist  
National Marine Fisheries Service  
Endangered Species Program



Tuesday, June 27, 1989



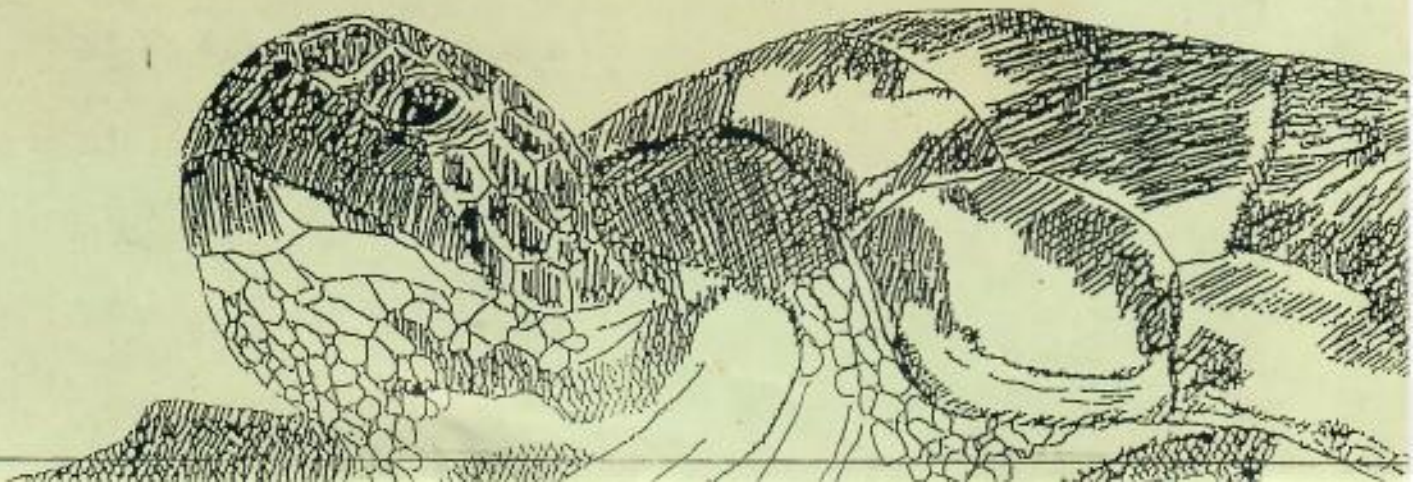
7:00 p.m. at the Galley Restaurant, Sea Life Park

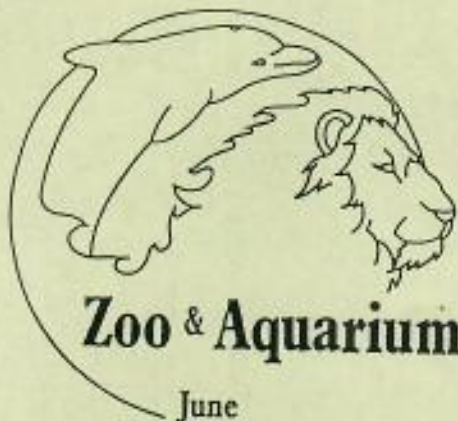


\$2.00 donation appreciated with the proceeds to benefit  
the Sea Life Park Marine Research/Education Foundation



For Reservations, call 923-1531





## Zoo & Aquarium Month

June

JOIN US FOR SPECIAL ACTIVITIES!!!

### FREE BEHIND-THE-SCENES GUIDED TOURS

- Saturdays and Sundays throughout June
- 5 times daily
- Limited to 16 participants on a space available basis

### A SPECIAL PRESENTATION: DISCOVER THE SEA--MARINE TURTLES!

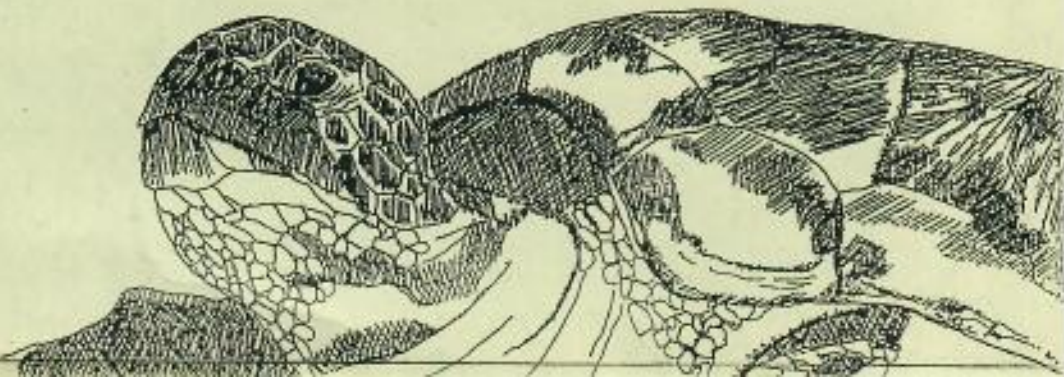
- Monday through Friday in June
- Beginning at 11:40 a.m. near the Turtle Lagoon

EVENING LECTURE by GEORGE BALAZS,  
WILDLIFE BIOLOGIST  
NATIONAL MARINE FISHERIES SERVICE  
ENDANGERED SPECIES PROGRAM

- "Magnificent Marine Turtles - Their Biology, Conservation and Sacred Symbolism Throughout Time"
- Tuesday, June 27, 1989
- 7:00 p.m. at the Galley Restaurant, Sea Life Park
- \$2.00 donation appreciated with proceeds to benefit the Sea Life Park Marine Research/Education Foundation
- Reservations, 923-1531

### SUMMER CLASSES

- Classes for individuals as well as for the whole family make learning about Hawaii's ocean fun!
- Information and registration - Sea Life Park  
Education Department  
259-7933



# Bulletin Board

HAWAII CLIPPING SERVICE

P.O. Box 10242

Honolulu, Hawaii 96816

PHONE: 734-8124

Victoria Custer Elaine Stroup

HONOLULU STAR BULLETIN

JUN 22 1989

■ **A Symposium on Personal Style:** Learn image-making secrets of the stars with Robert Pante and Paul Brown, 9 a.m., Paul Brown Salon, 1347 Kapiolani Blvd. Call 947-3371.

■ **In Celebration of the Piano:** Pianists Alan Fairberg, Robert Shannon and Jeffrey Swann perform works by Bach, Moussorgsky, Liszt and Beethoven, 4 p.m., Honolulu Academy of Arts theater. Tickets \$10 general, \$8 students/seniors. Call 535-3593.

■ **Music After Polo:** Country music by Danny Aarhus, 4:30 p.m., Hawai Polo Club, Mokulea. Free. Call 837-7556. Repeats July 2 and 9. (Admission \$5 to 2 p.m. polo matches.)

■ **Unity Hits concert:** Jay Lamin, Richard Orndall, Geraldine Grayson and more perform, 7 p.m., Unity Church, 3508 Diamond Head Circle. Offering. Call 735-4436.

## MONDAY

■ **"The Power of Decision" deadline:** Register by Monday to hear Theresa Godfrey speak on decision making at Powerful Women of Hawai luncheon, scheduled 11:30 a.m. June 30, Special Events Room, Ala Moana Liberty House. Call 948-3687.

■ **Networking with Personal Computers:** Management Development Foundation faculty leads workshop, 8:30 a.m., Sheraton-Waikiki Hotel. Call 955-1500.

■ **Living with Schizophrenia:** Lecture by James Curran of Veterans Administration Medical Center, noon, UH Gartley Hall 102.

■ **Mon — The Japanese Family Crest:** Learn symbolism and history of family crests with Philip Markwert, 6:30 p.m., Kaui Building at Kapiolani Community College. Costs \$15 general, \$20 for couples. Register at 734-9211.

■ **Keys to a Loving Relationship:** With Myrna Zezza, 7 p.m., Kaimuki Library, 1041 Koko Head Ave. Call 487-0710.

## TUESDAY

■ **Revolution:** Walking tour explores the events surrounding the 1893 overthrow of the Hawaiian Kingdom, 6 p.m., King Kamehameha Statue, King Street. Costs \$5 general, \$2 students/children. Register at 734-9211.

■ **Island Politics — Patterns of Power and Ethnicity:** Learn about recent Hawai political history with Professor Daniel Boylan, 6:30 p.m., Iihei Building 104, Kapiolani Community College. Fee \$15 general, \$25 for couples. Register at 734-9211.

■ **Magnificent Marine Turtles:** George Balazs of National Marine Fisheries speaks on the biology, conservation and sacred symbolism of turtles, 7 p.m., Galley Restaurant at Sea Life Park. Donation. Reserve at 923-1531.

## WEDNESDAY

■ **Brown Baggin' "The Thirteen Daughters of Chut Afong"** with Paul Wilcox, noon, Richards Street YWCA. Costs \$3. Register at 538-7061.

HAWAII CLIPPING SERVICE  
P.O. Box 10242-Honolulu, Hawaii  
PHONE: 734-8124  
Victoria Custer Elaine Stroup

HAWAII HOCHII

MAY 26 1989

## Zoo & Aquarium Month at Sea Life Park

A lecture by a National Marine Fisheries Service biologist and free weekend tours will highlight Zoo and Aquarium

Month this June at Sea Life Park.

George Balazs, wildlife biologist with the Endangered Species Program, will discuss "Magnificent Marine Turtles — Their Biology, Conservation and Sacred Symbolism Throughout Time" on Tuesday, June 27, at 7 p.m. at the park's Galley Restaurant. There is no charge; however, a small donation to benefit the Sea Life Park Marine Research Education Foundation would be

greatly appreciated.

Reservations are recommended. Call 923-1531.

In addition, the park will offer free Behind-the-Scenes tours on Saturdays and Sundays in June with paid park admission. (Regular price is \$2 with paid admission.) Tours for up to 16 persons will be offered five times daily.

The tours will give a "backstage" look at the park's inner-workings. Stops include the normally off-limits training tanks and a closer look at the park's false killer whale and the unique wholphin — a hybrid whale/dolphin.

Vib No. 8

Sea Stars Continued.....

Sea Life Lines 2/89



Easy Living in Bateson's Bay

The three Pacific Bottlenose females residing in Bateson's Bay, Uila, Okoa and Laukani, are enjoying a fairly placid life, eating, being trained and oogling visitors at their underwater view ports. Soon, however, they will be working with researchers from the Earth Trust organisation. More on that in future issues.

Keiki Sea Lions Trained for Show

Trainers are working with several 1 1/2 year old female sea lion pups in efforts to enhance the sea lion show during the period when Whaler's Cove will be closed for improvements. They are Puunani, Hanai and Maalaea (Redlet). Hanai is the pup whose mother was too ill after the birth to raise her. In an unprecedented occurrence, Makai I, "adopted" and nursed Hanai alongside her own slightly older pup. Maalaea was Red's pup and one of our first efforts at "joint custody" where Red's milk was supplemented with bottlefeedings, but the pup remained with the mother. (See Sea Life Lines, Nov/Dec 1988).

Sea Lion Colony Update

A sad note at the Feeding Pool colony was the death on December 22 of Nalu of pancrease problems and other age-related symptoms. He had been at the park since 1972. The ladies of the pool are without male companionship at the moment but will be joined at the end of February by Opihi who is retiring from Ocean Science Theater. It's also weaning time and two pups have already been moved into the training area to give their mother's a well-deserved break. Not that either moms or pups appear to appreciate our efforts as the park rings with their soulful barks for a few days after the separation. Kamuela, the bottle-fed pup of Naniho, is also being weaned by gradually thickening the texture of his formula. Right now he is handling quarter-inch chunks of herring along with his "milk".

by Mary Pickett

REEF TANK RAMBLINGS.....

Stormy weather these past couple of months has kept Reef Tank collectors from setting fish traps out in the ocean. However, Steve did receive a total of 5 small Brown-Sting Rays (*Dasyatis latus*) from other collectors. They are doing well -- in fact 2 were taken to the Kahala Hilton last week for their pools. These animals are bottom dwellers that are usually seen in the tank in the sandy areas. In the wild, they feed on molluscs and are widely distributed from the Pacific to Australia and throughout the Indo-Pacific waters.

The spotted Eagle Ray (*Aetobatis narinari*) is eating more and doing well in the Reef Tank. It is a welcome addition to the Reef Tank. In its natural habitat, the Spotted Eagle Rays inhabit all warm seas of the Pacific, Atlantic, and Indian Oceans. They are shoreline inhabitants that use their fleshy lower jaw to dig/search for bivalve and other molluscs in the sandy bottom.

Remember the White-tip Reef Shark (*Triaenodon obesus*) that was in one of the Gallery Tanks? Well, the shark was placed into the Reef Tank but no one has seen it -- most likely it has found a place in the reef; these sharks are fairly docile and will remain resting in one area for lengthy periods of time and are not roamers. In the wild, this species can be found in shallow areas and although reported to be seven feet in length as adults, most are usually smaller. They are distributed in the tropical or sub-tropical waters from the Red Sea east across the Indian Ocean, through the East Indies and across the Pacific Ocean.

Turtle tidbits...George Balazs, Zoologist at National Marine Fisheries was invited to speak at the California Academy of Science Conference in San Francisco in January on Green Sea Turtles. His unique travel companions were two of Sea Life Park's turtles (hatched in the summer of 1988). These turtles were taken to Steinhardt Aquarium for their display as part of the park's loan program, set up with the Vancouver and Seattle Aquariums to share information about the endangered Green sea turtles. The turtles are loaned for about one year after which they are returned to the park having outgrown their "foster" tanks. The program is a cooperative effort among the participating aquariums, Sea Life Park and the National Marine Fisheries Service.

by Glynnis Nakai

Eagle ray (hihimanu)  
*Aetobatis narinari* To 4 ft.





## PARK PENGUINS PAIRING UP TO POSSIBLY PROCREATE!!!

The Leeward Isles exhibit has taken on a new "South of the Equator" look as a section has been set up as a temporary penguin honeymoon haven. Six of our Humboldt penguins, Kala, Leilani, Nui, Gordie, Elua, and Kane, were moved into the area last month in hopes that they would find the retreat from show business more conducive to romance. After all, breeding season, not to mention Valentine's Day, is nearly upon us.

Since somebody has to keep the show going, Fat Fred, Mano (a.k.a. Jaws), and Kaku (a.k.a. Piranha Lips) remain at Ocean Science Theater.

Our penguins had previously nested in wooden nesting houses, so deluxe versions were provided in the form of "Dog-loos," fiber-glass igloos, insulated to maintain even interior temperatures. They were carefully placed in the sanctuary and lined with an appealing assortment of rocks and sand, only to be met with total indifference by the penguins. Other than that, they appear to be delighted with their new accommodations, swimming in the pool and vigorously digging out nesting burrows.

Romance is blooming and all six have formed pairs, not without a little scene-setting by Carol Chang, head trainer at Ocean Science Theater. First there was the problem of Gordie, a female that joined us late last year from the Kahala Hilton. Since she had never been part of the park flock, Carol was afraid the other penguins might pick fights with her. After the area was prepared, Gordie was put in alone for about 10 minutes - just long enough for her to establish it as her territory. When the other penguins were placed in the exhibit, Gordie was not only accepted, she was actively courted by Nui and they have begun to "bond." This is one of those heart-warming, second time around romances. "Papa" Nui was one of the four original penguins brought to Sea Life Park on October 3, 1967 along with Pokii, Fat Fred and Kane. He and the late Pokii were the parents of Leilani, Kala and Elua. Leilani and Kala went on to produce Jaws and Piranha Lips, making Papa Nui a grandfather. (Are you getting this? It's perfectly clear to

the penguins and Carol Chang!)

Anyway when Pokii passed away some years ago, Nui was expected to remain a widower since penguins of the Humboldt species tend to mate for life. But love springs eternal and who could resist Gordie, a sophisticated lady from the Kahala Hilton with a territory of her own.

Leilani and Kala have been setting the pace with a shallow nesting pit under the naupaka bush at the front of the enclosure. Watch for an egg...Leilani is seriously snuggled in.

This leaves Kane and Elua as a couple, probably through the process of elimination. They have begun hanging out together and digging a nest, but with less enthusiasm than the other two couples.

Another problem surfaced...literally. Much of the penguin paradise is underlain with plastic sheets to inhibit weeds. It didn't stop Leilani and Kala but the other pairs were having trouble breaking through it to complete their nest. Again it was Carol to the rescue along with a shovel. I wonder if Carol's job description includes burrow building?

All this effort is not without its serious side. Of the 17 penguin species, Humboldts are among the most endangered. Also known as Peruvian penguins, they breed on the islands of the west coast of South America from Valparaiso, Chile, north along the Peruvian coast. Their range is confined to the coastline served by the Humboldt Current. They have always nested in burrows dug into deep layers of their own guano, but in the last century their populations have declined drastically because the guano has been stripped away to be used as fertilizer. Other problems have been over-fishing of anchovies on the west coast of South America, severely depleting their food supplies. Let's wish our three couples every success!

by Mary Pickett

*FLASH! On Feb. 9, Leilani and Kala produced an egg!*



## SEA LIFE PARK

---

10-26-88

Dear George,

Thank you so very much for taking the time to thoroughly review the packet of information on sea turtles. It's definitely very important for the park's docents to give the correct information!

I've enclosed a copy of the corrections that was distributed to staff and docents. The original packet has been corrected as well.

Thank you, again, for your time!

I'm looking forward to working with you on the sea turtle guidelines and will contact you during the week of November 14<sup>th</sup>!

Mahalo,  
Gynnis Nakai



# SEA LIFE PARK

## SEA TURTLE UP-DATE

Many thanks to George Balazs, National Marine Fisheries, for going through the Sea Life Park Volunteer Docent Workshop Learning Station packet. He has made a number of VERY IMPORTANT CORRECTIONS to the information provided in the packet.

BE SURE YOU READ THIS THOROUGHLY AND CORRECT YOUR PRESENTATIONS!  
Refer to Sea Turtle Learning Station Packet!

1. (PAGE 2-2nd paragraph). FALSE: "Although sea turtles have a difficult time dragging their bodies across sand beaches (females who nest)."
2. (PAGE 4-1st paragraph). FALSE: "It is believed that these matings do not serve to fertilize the eggs that the females are about to lay, but are for the fertilization of eggs to be laid in the next two to three years."
3. (PAGE 4-3rd paragraph). Should read: ".Females may lay several clutches of eggs (up to five) at 10-14 days intervals throughout the summer."
4. (PAGE 4-5th paragraph). FALSE: "Most sea turtles are scavengers or opportunistic feeders and will feed on almost anything they find or are able to catch."
5. (PAGE 4-Section on "Variety in Diet":  
"The Hawksbill Sea Turtle feeds largely on sponges and other invertebrates."  
"The Loggerhead Sea Turtle is classified as omnivorous, but is mainly carnivorous, feeding on crabs, mollusks, jellyfish, and sponges; they have also been seen eating marine grasses."  
FALSE: "Since they are scavengers in the wild."
6. (PAGE 5-1st paragraph). FALSE: "Turtles in their natural habitat eat approximately 3 to 4 pounds of food each day." "In the wild they eat at no specific time, usually eating a little all day long." THERE IS NO VALID DATA TO SUPPORT THIS STATEMENT!
7. (PAGE 7-1st paragraph). FALSE: "All species of sea turtles in the world exist in small populations." THIS IS NOT TRUE, FOR THERE ARE A FEW VERY LARGE POPULATIONS.
8. (PAGE 7-last paragraph under "How you can help sea turtles". CORRECTIONS ON PHONE NUMBERS:  
National Marine Fisheries Service: 541-2727  
Oahu: 548-5918
9. (PAGE 10-Entire Green Sea Turtle Information). THE WHOLE PAGE SHOULD BE DELETED FROM THE PACKET. THE INFORMATION IS VERY OUT-DATED.
10. (PAGE 20-SUGGESTED LECTURE FORMAT). IMPORTANT CORRECTIONS!  
II.F.2. "Hawksbill turtle - called Honu'ea" NOT JUST 'EA.  
II.F.6. "Flatback - Australia" ONLY NESTS IN AUSTRALIA. NO MODERN RECORDS IN MALAYSIA.  
II.H. Should read: "After hatching most sea turtles spend their entire life in water, only coming ashore to lay eggs. An exception is the green sea turtle in the state of Hawaii, which often comes up on the beach in the Northwest Hawaiian Islands to bask in the sun."  
III.A.2. "Color - often olive color"  
III.A.3. FALSE: "Since they are basically scavengers."  
IV.B.3. Should be read: "The population is very small and the hawksbill may be extinct by the time today's school children have children unless steps are taken to help the population."



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

July 24, 1987

F/SWC2:GHB

Mr. Steve Kaiser  
Sea Life Park  
Waimanalo, HI 96795

Dear Steve,

Enclosed is a list of live hatchlings that have been produced at Sea Life Park dating back to 1976. I have recently summarized this information, as you requested, from chronological note books I routinely keep on work-related activities. I could very well have missed a hatch or two, so if you are aware of any additions please let me know.

I look forward to seeing more hatchlings this year, and I certainly encourage and endorse your idea of a "double" nesting beach.

Sincerely,

George H. Balazs  
Zoologist

Enclosure



Summary of hatchling Hawaiian green turtles produced at Sea Life  
Park's captive breeding facility

Compiled by

George H. Balazs  
Southwest Fisheries Center Honolulu Laboratory  
National Marine Fisheries Service, NOAA  
Honolulu, Hawaii 96822-2396

July 24, 1987

Date	Number of live hatchlings surviving >1 day
12/30/80	2
2/10/83	12
7/23/84	35
8/10/84	9
9/11/84	27
6/18/86	46
6/25/86	36
6/28/86	38
7/10/86	46
7/22/86	53
8/04/86	73
8/16/86	73
8/28/86	67
7/18/87	13
<u>Yearly totals</u>	
1976*	343
1977-79	0
1980	2
1983	12
1984	71
1985	0
1986	432
1987	13 (to date)
Total - 873	

\*See Bourke, R. E., G. Balazs, and E. W. Shallenberger  
1977. Breeding of the green sea turtle (*Chelonia mydas*)  
at Sea Life Park, Hawaii. Drum and Croaker (New England  
Aquarium), October:4-9.

# An educated glimpse at the life of a sea turtle



By Susan Scott, Star-Bulletin

Baby sea turtles like this one usually spend the first two years of life far out at sea, rarely seen by man.

I almost stole a sea turtle last week.

We were delivering a batch of Sea Life Park's new turtle hatchlings to the ocean and, as I watched them flip and flap in their buckets, I fretted about all the fish and birds out there that would view these tiny turtles as hors d'oeuvres on their own crackers.

And, as baby animals go, sea turtles are up there in cuteness with puppies. How could we dump these defenseless darlings into the sea?

Steve Kaiser, curator of Sea Life Park's reef tank and turtle lagoon, agreed that it was hard to turn them loose. But he had already kept 12 for the park's head start program; nature would have to take care of the other 67.

I lost all temptation to slip one of those little black-and-white babies into my pocket when I saw how well they took to the open ocean. They were strong and able swimmers.

Some curious shearwaters swooped low to see what was going on and we were relieved that they didn't snatch any baby turtles, at least while we were watching.

Steve and I could see a few tiny turtle heads catching breaths at the surface as he started the boat to leave. We reassured each other that some would make it. The mortality rate of hatchling sea turtles may be high, but the system has worked for millions of years.

Turtle hatchlings normally emerge at night all together since it takes a group effort to push away all the sand covering them. Then they run toward the brightest light, since, in the absence of



## OCEAN WATCH

By Susan Scott

human lights, the ocean is always brighter at night than land.

If and when they reach the ocean, these strong little swimmers immediately paddle far from shore where they remain for at least two years. During this stage of life, people almost never see them, either near shore or at sea.

Researchers believe that the hatchlings swim to where the currents catch them; then they live along driftlines, where currents converge. These areas collect floating objects such as seaweed and small invertebrates which provide the turtles with food and some protection.

The currents also collect human garbage and oil from spills, so life in the driftline is not what it used to be.

About two years ago, one tagged baby turtle was found dead, washed up on a beach near Laie. Scientists found three or four tiny plastic pellets in its stomach. And hatchlings sometimes chew on tar balls and drift onto beaches dead or starving, their jaws stuck together.

If the small turtles survive offshore pollution and predation, they return to the shoreline after about two years when they are about 14 inches long. It is then that they begin their life-long occupation of foraging for seaweed and resting, either on the water's surface, on the ocean floor or, in the special case of the Northwest Hawaiian Islands, on the beach.

Sea Life Park kept 12 hatchlings from this most recent clutch that was laid by one of the park's nine female green turtles. Six babies will stay at the park, two will go to the Seattle Aquarium, and four to the Vancouver Aquarium.

All will be on display until they outgrow their tanks. Then the aquariums will send the turtles back to Hawaii where they will be released into the ocean with their Sea Life Park siblings.

All sea turtles are fully protected in Hawaii by federal and state laws.

Susan Scott is a marine biologist and free-lance writer. Her Ocean Watch column appears Monday in the Star-Bulletin. Write her at the Star-Bulletin, Box 3080, Honolulu 96802.

A-2 □ Monday, July 11, 1988

# Sea Life Lines

SEA LIFE PARK EDUCATION DEPARTMENT

VOL. 6, NO. 3

JANUARY 1988

1988 - - HERE WE COME!

1988! A new year sneaked in on us! For Sea Life Park, we look forward to 1988 with optimism. And with several new projects, complete with all of their challenges, to tackle.

\*\* Humpback Whale Awareness Month - A conservation program kicks off the month of February. This will be the third annual special event which includes three evening lectures given by leading marine mammal researchers, an intermediate and high school youth art competition and finalists' exhibit, and in-park humpback whale mini-lectures.

\*\* Classes for the community will be scattered throughout the spring term. These classes are both fun and educational -- just ask Kathy Hogue and Laurie Starks (Keiki and Adult Explorations and Sea Creatures and Crafts instructors, respectively).

\*\* School programs are filling up such that we have already made plans to provide an additional OST show and a new sea lion show during heavily booked days! Ingrid and staff are busy working on the new show, designed with young people in mind. Keene Rees has a new/old crew rehearsing for the returning Turtle of Tamarua program for 1st thru 3rd grade students ... we're delighted to have Sam Wright join them as the handsome turtle prince! T of T will help the already successful Whale and Sorcerer program out by providing another educational, fun experience for the students on Thursdays.

\*\* Before spring comes to a close, our plans include the testing of a pilot program, Discovery Stations. Robbie Roberson, one of the senior docent staff working on the development of the program, has diligently been working on the sea turtle discovery station. In order to create an informal educational experience for park visitors, Robbie visited with the U.S. Fish and Wildlife Enforcement Division to obtain additional contraband turtle items, made a turtle nest model, and is writing up a fact sheet for reference as well as general instructions on the "how-to-do's" of a Discovery Station!

Realization! Since I have a limited amount of space in our newsletter, I believe that it would be best to cover the rest of our year's objectives in another issue. There are so many "things" that the education department is doing and planning! It will be an exciting year!

by Marilyn Lee



## SEA LIFE PARK VOLUNTEERS DONATE ALMOST 35,000 HOURS SINCE 1979!

Hours volunteered to SLP since 1979 were compiled by Mary Pickett in December. She discovered that the total number of hours volunteered by both docents and volunteer students as of December 9 were 34,904 or 16.75 man years. MILDRED BACHMAN is our docent with the most hours - 601.5. JOE MARTINO is the student volunteer with the most hours - 2409.5 or more than one man year (2080 hours). Mary's figures are as follows:

Total docents since 1979	=	200	
Total volunteer students	=	219	
		-----	
		419	
Total docent hours	=	18,160	
Total vounteer student hrs	=	16,744	
		-----	
		34,904	or 16.75 man years

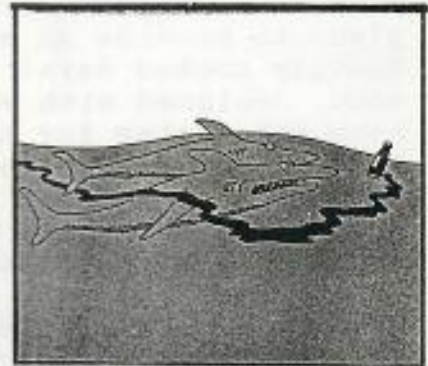
Hoaloha docents since 1979 (40 hours or more)	=	103	
Hoaloha volunteer students (40 hours or more)	=	79	
		-----	
		182	

Super Hoaloha docents (200 hours or more)	=	30	
Super Hoaloha students (200 hours or more)	=	17	
		-----	
		47	

Average hours per docent	=	90.8
Average hours per student	=	76.5

### CURRENT VOLUNTEERS

Hoaloha docents	=	13
Super hoaloha docents	=	16
Regular docents	=	19
Hoaloha students	=	3
Super hoaloha students	=	3
Regular students	=	2



"What the -- ? Ketchup? We followed a ketchup trail for three miles?"

## FIELD TRIP COMMITTEE SETS TENTATIVE SCHEDULE FOR WINTER/SPRING 1988

The volunteer field trip committee met Dec. 7 to plan an agenda of monthly field trips for Sea Life Park volunteers and staff. Excursions selected include north shore aquaculture facilities in January with Richard Fassler of the state's Aquaculture Development Program (very tentative at press time); Kewalo Basin Marine Mammal Laboratory, February 23; Kaneohe Bay with Dr. Art Reed, rescheduled for March 26; Blue-water Marine Laboratory, April; Kaneohe Marine Corps Air Station Red-footed Booby Colony, May; and the Haiku Valley "Ladder to the Sky" in June (if the missing steps are replaced by then!) Committee members are following up by contacting appropriate officials and making further arrangements. Suggestions and help would be appreciated by the committee which includes: Kip Wildern, Cheryl Rodman, Bridget Stegenga, Robbie Roberson, Mary Leandro, Sue Arnest and Mary Pickett.

Sturgis Printing Company Inc.  
537 Ahui Street  
Honolulu, Hawaii 96813

August 10, 1987

Dear Nancy,

This letter is in regard to the reproduction of the Sea Turtles are protected in the Hawaiian Islands poster which I have enclosed. The poster will remain the same except for the following:

- 1) National Marine Fisheries Service Phone Number is now 541-2727.
- 2) U.S. Fish and Wildlife Service Phone Number is now 541-2618.

The acknowledgement of who prepared and paid for the advertisement will be the following:

- 1) Hawaiian Humane Society
- 2) National Marine Fisheries Service
- 3) Sea Life Park Marine Research/Education Foundation
- 4) Waikiki Aquarium

These four companies will be paying for 2000 copies of this revised poster at \$347 dollars for this amount of posters. The total for this reproduction with tax is \$360.88. The Sea Life Park Marine Research/Education Foundation will be paying for \$305.88, and the Waikiki Aquarium will be paying for \$55.00. The Aquarium should be billed separately for this amount, while the rest of the amount is billed to the Sea Life Park Marine Research/Education Foundation. The addresses for these two companies is the following:

- 1) Sea Life Park Marine Research/Education Foundation  
Makapuu Point  
Waimanalo, Hawaii 96795
- 2) Waikiki Aquarium  
2777 Kalakaua Avenue  
Honolulu, Hawaii 96815

Upon completion of the printing please call me at  
259-7933 (Sea Life Park-Education Department.)

Thank you for all your help and assistance; if you have  
any questions, please call me.

Sincerely,



George Vance Chun  
Sea Life Park  
Education Department  
Makapuu Point  
Waimanalo, Hawaii 96795



# SENSE-SATIONAL MARINE EDUCATION

A program for  
fourth through sixth grade students



**SEA LIFE PARK**

## GENERAL INFORMATION

In addition to Sea Life Park's regular marine shows and exhibits, teachers of grades 4, 5 or 6 may request the "Sense-sational Marine Education Program."

The one-hour docent-operated program enables students to experience two of four different learning stations available at each grade level.

Review sheets are provided for each learning station. Successful completion of the review sheets, as determined by the teacher, earns the student a certificate and free pass to return to Sea Life Park.

## LEARNING STATIONS

Four different learning stations are designed for each grade level. The stations are offered on specific days of the week during the school year.

### **Mondays Grade Level 4**

#### **"Invertebrates and Vertebrates of the Ocean"**

Tidepool Creatures  
Fish Observation  
Octopus  
Dolphin Observation

### **Wednesdays Grade Level 5**

#### **"Habitats and Adaptations of Marine Animals"**

Sea Birds of Hawaii  
Sea Lions and Seals  
Sea Turtles of Hawaii  
Penguins

### **Fridays Grade Level 6**

#### **"A Look Inside and Out"**

Corals of Hawaii  
Fish Dissection  
Plant Discovery  
Whales



## SCHEDULING INFORMATION

### **DAYS:**

Mondays, Wednesdays, Fridays  
October 19, 1987 to June 8, 1988.

### **TIMES:**

8:45 a.m. to 12:00 noon, includes regular  
Sea Life Park shows and exhibits.

### **\*RATES:**

\$1.75 per student  
One adult supervisor is admitted free for  
every 10 students.  
\$4.50 for each additional adult.

### **GRADE LEVELS:**

Mondays—Grade 4  
Wednesdays—Grade 5  
Fridays—Grade 6

### **STUDENT MAXIMUM:**

100 students—Mondays  
135 students—Wednesdays and Fridays

### **RESERVATIONS:**

923-1531

### **MORE INFORMATION:**

259-7933, Sea Life Park Education Department

\*rates subject to change

# SENSE-SATIONAL MARINE EDUCATION

A program for  
fourth through sixth grade students



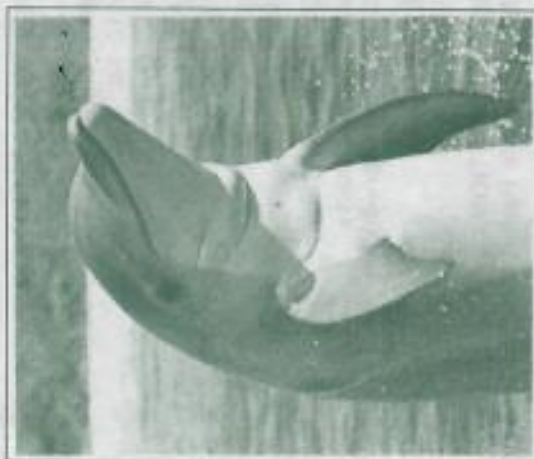
SEA LIFE PARK



SEA LIFE PARK  
Education Department  
Makapu'u Point  
Waimanalo, HI 96795

BULK RATE  
U.S. Postage  
**PAID**  
Waimanalo, HI  
Permit No. 17

Join Us!



# Oil spills affect seabird mating

When a seabird eats a glob of oil or gets a sticky patch on its feathers, it can seriously affect the bird's reproduction.

That information, based on research conducted in Hawaii, reinforces the danger of oil spills in Island waters.

Researchers gave some wedge-tailed shearwaters oil pills and rubbed oil on the breast feathers of others.

Even after the oil was gone, those birds produced fewer eggs, and fewer of the eggs they did produce hatched, and fewer of those survived to adulthood than was the case among birds not given the oil treatments.

Reduced reproduction among oiled birds continued in the second breeding season after the oiling.

The research was conducted on birds at Manana, or Rabbit Island, and was published last year in the Archives of Environmental Contamination and Toxicology. The authors are D. Michael Fry and C.R. Grau, both of the University of California at Davis Department of Avian Sciences, L.A. Addiego of the Point Reyes Bird Observatory in California, and Anita Kang, formerly of Sea Life Park at Makapuu.

The researchers rubbed two milliliters of "weathered" crude oil on the chests of some birds, and fed other birds a similar amount of oil in a gelatin capsule. Two milliliters is about enough to fill two small dice. Weathered oil is crude oil placed in water and exposed to the elements so the more volatile compounds evaporate, as might happen in an oil spill at sea.

Over two years the



Jan  
TenBruggencate  
Kauai Bureau

researchers compared the oiled birds with other Manana shearwaters that were left largely alone.

The birds rubbed with oil had cleaned it off within a month and exhibited no damage to their feathers. Most of the oiled birds never returned to their nests for the breeding season, and among those that did, success was poor, the researchers found.

With the un-oiled birds, 54 percent were found on eggs, 50 percent of those eggs hatched and 65 percent of those chicks survived.

Of birds given oil orally, only 32 percent incubated eggs, 38 percent of the eggs hatched and 53 percent of the chicks survived.

Of the birds rubbed with oil, just 12 percent were seen incubating eggs, and no eggs hatched. Some were abandoned and all were broken early in the incubation period.

A year later, more of the oiled birds still failed to reproduce.

The researchers said their results suggest "that long-term breeding depression may result when seabirds are externally exposed to a single small amount of oil."

It seemed more dangerous for a bird to get oil on its feathers than to eat a similarly-sized dose at once. The study said

Ann. Seabirds SB & Adver.  
26 July 87



Advertiser file photo

This oil-soaked bird was cared for at Sea Life Park earlier this year.

that one-time oral dose would pass through the digestive system fairly quickly. But oil on feathers would be cleaned off with the beak over a period of days, so while there would be a smaller total amount, it would have more time to be absorbed into the bird's system.

The researchers gave two possible reasons for the continued low level of reproduction in the second year after the oiling.

- The oil could have caused liver and kidney damage, and related medical problems suppressed breeding.

- The breeding failure in the

first year broke up pairs. Birds with new mates suffered from inexperience and reduced teamwork. In long-lived seabirds, studies have shown better reproduction among pairs that have stayed together over many years.

The researchers said their study doesn't necessarily mean the reduced breeding will continue beyond the second year. There could be extended physical impairment, but if mate-switching alone caused the reduced second year results, time will restore the flock's production as the pairs get to know each other better.

AUGUST 11, 1986

HAWAII ADVERTISER

**LOCAL ONLY:** And you think your house is overrun with kids this summer? Talk to **Steve Kaiser**, curator of fishes at **Sea Life Park**. He's clear up to here in baby sea turtles. Last week's arrival of 72 babies, which made six clutches in eight weeks, brought the summer total up to 295. The record, 327 in the summer of '76, is definitely an endangered statistic . . . The Ladies Pacific Billfish team again made its annual spectacular entrance onto Kailua Pier for the final day of the Hawaii Int'l Billfishing tournament at Kona. This year's act will be tough to top — team captain **Lin McIntosh** arranged for the women to arrive on the back of motorcycles in punk rock clothes. Says Lin: "It may not help us catch more fish, but it sure scares the other anglers" □ □ □

**THE BOTTOM LINES:** Architect **Robin Nelson** has been brushing up on his French. The chief golf course designer at Belt-Collins, he's just signed to start work on a master plan for a big resort with links at



**Nelson**

Normandy. He has also designed courses in Malaysia, Singapore and Australia, but golfers know Robin's work as — Mauna Lani, the new nine at Keauhou-Kona and remedial work at Mauna Kea . . . Oh, you Sooners dept.: **Steve Wright**, president of the Oklahoma Club of Hawaii, was already ecstatic that KORL will carry Oklahoma U. football games. And then Steve was interviewed via phone by OU All-American footballer **Spencer Tillman**, which was carried by 12 Oklahoma radio stations . . . I'll get excited when somebody carries Oregon Duck games □ □ □

# Hawaii



don  
chapman

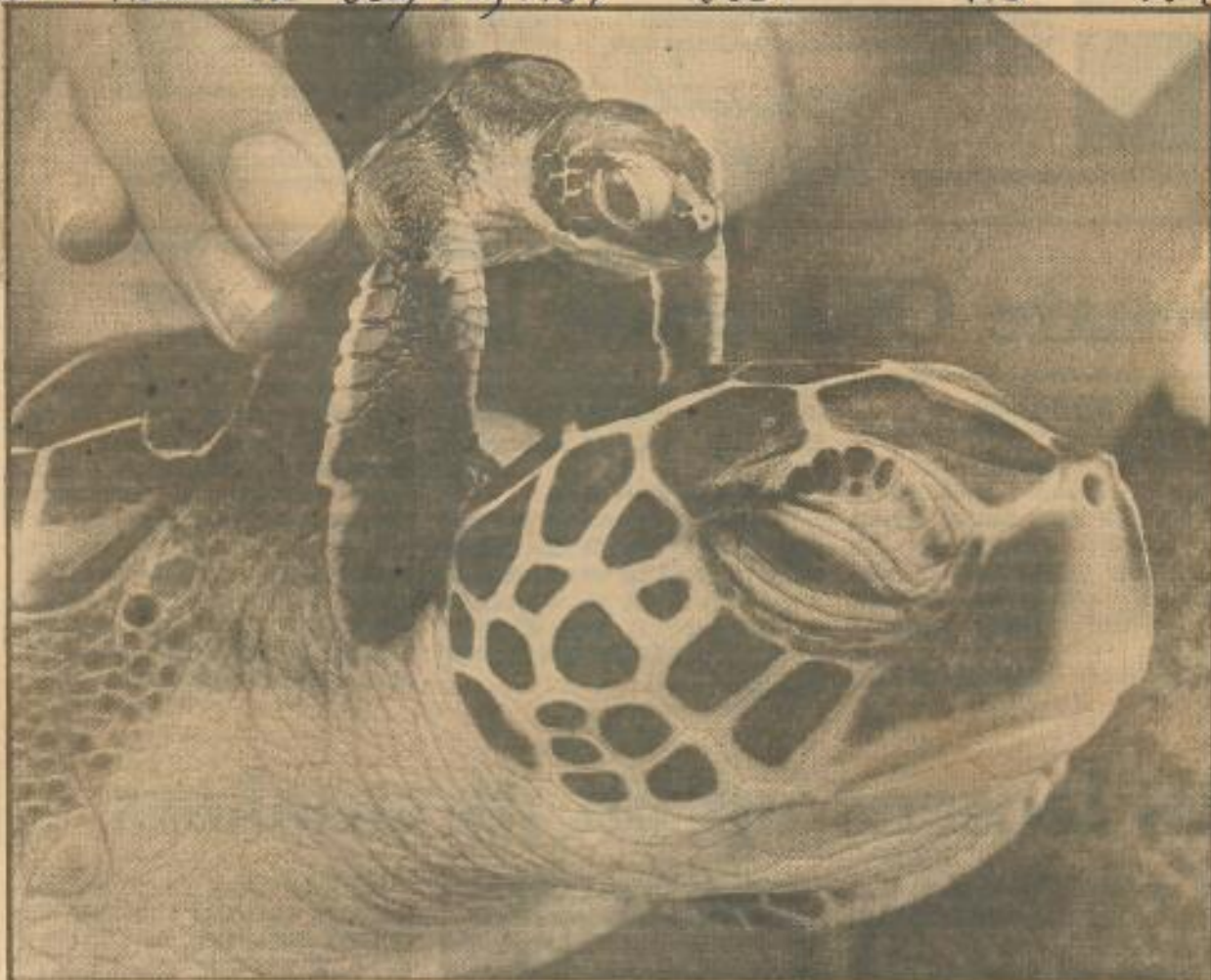
**THIS DOT'S FOR YOU:** It's getting to be such a predictable thing. We've heard about a guy in Chinatown who is already making plans for a contest to guess the date and time of next year's Annual Island-Wide Power Blackout . . . August is the one month that the nastiness of the aging process doesn't seem like such a bum deal. Driving past high school football fields and watching young men suffering through two-a-day practices has a lot to do with that . . . Cocktail conversation helper dept.: You won't want to miss the UH seminar led by **Marc Collett** called "Regulation of Phototransferase Activity of the Rous Sarcoma Virus *SRC* Oncogene Protein" . . . Hawaii statehood isn't the only big deal celebrating a silver jubilee this week. **Leslie Nunes** postcards from the 25th Japan Ukulele Assoc. festival at Yamano's Music Hall in Ginza-Tokyo . . . In New Zealand, former Halekulani mgr. **Andrew Thomson** is readying the Regent of Auckland for opening early next year □ □ □

**DIS AND DOT:** Baby boom boom boom dept: Five sea lion pups and 50 green sea turtles have been born at Sea Life Park this summer. The staff at the Makapuu park has also adopted a poi puppy and about 20 sea birds . . . Real Fresh Milk has won the nat'l Package of the Year Award from the Packaging Institute of the USA. There's no pull date for this item . . .



Worley

Remarkable: **Gene Kaneshiro** appeared



Advertiser photo by Carl Viti

## Good year for turtles

Although Sea Life Park has had mixed success with its green sea turtle breeding program, this little tyke, born Saturday, has helped make this a good year for the program. A year from now, if he survives after being

released into the open ocean, he'll be the size of his cousin below, and eventually he'll weigh about 400 pounds and live as long as 80 years. So far, 450 hatchlings from the program have been set free.

# HAWAIIAN HUMANE SOCIETY

NEWSLETTER

2700 Waialae Ave. • Honolulu, Hawaii 96826 • Honolulu, Hawaii 96826

May-June 1987

*Come  
celebrate  
with us!*

National Be Kind To Animals Week is May 3-9 this year, and the Hawaiian Humane Society has teamed up with Sea Life Park to offer a once-in-a-lifetime opportunity to learn about the habits and habitats of marine animals around Hawaii and around the world.

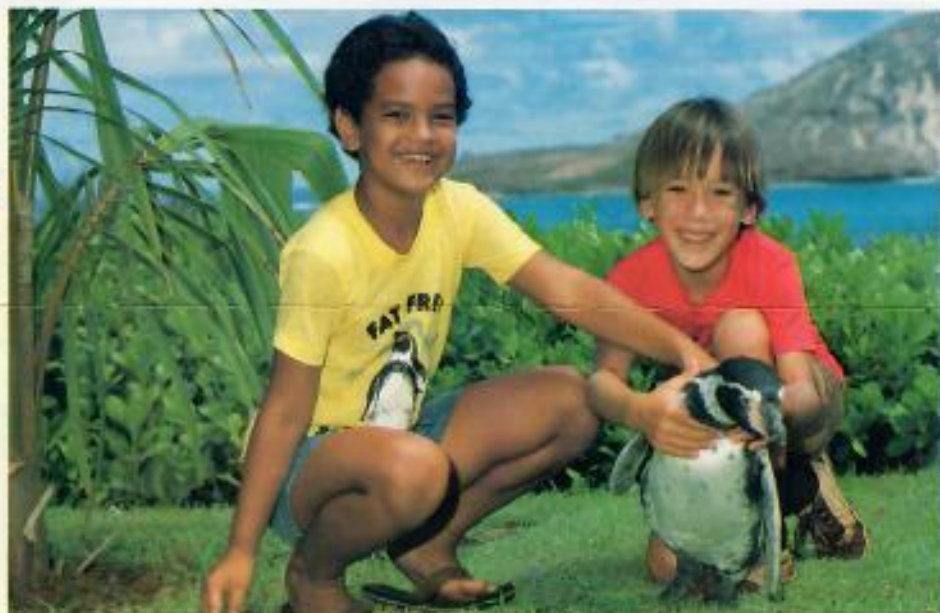
Sea Life Park has always been a favorite place for visitors in Hawaii to enjoy the many demonstrations and exhibits on ocean-oriented creatures. On May 3rd, the newly renovated and improved park becomes especially affordable for all of us who live here as well!

On Sunday, May 3, from 9:30 a.m. until 5:00 p.m., Sea Life Park will be open to the public for mere pennies; a penny a pound to be exact. All of the regularly scheduled shows will go on as usual, with the addition of some special attractions such as Mr. Kent Ghirard with the Aloha Land Pony Circus and Petting Zoo, a combined display by the Hawaii Veterinary Medical Association and the Honolulu Veterinary Society, and the K-9 Training Class with a fly-ball and agility demonstration.

Listed on page two of the newsletter is a complete schedule of events for Sunday, as well as the coupon to clip out and present at the gate for the special penny-a-pound entry fee.

***If you forget to clip the coupon, or your friend's family wants to go also, fear not . . .***

We are reliably informed that the special entry fee is also offered with presentation of the Whaler's Club Card, available through Sea Life Park.



## Be Kind to Animals Day At Sea Life Park • May 3, 1987



*It is fitting that this year we focus on being kind to marine life . . .*

as Be Kind To Animals Week takes on a special significance in 1987. The Hawaiian Humane Society is celebrating ninety years of caring for all the animals of Hawaii, and we reaffirm that sense of commitment May 3rd with education and enlightenment on some of the animals we share our environment with who are not domesticated.

All in all, the day promises to be fun, exciting and educational, not to mention the best entertainment value around. So come on out to Sea Life Park on May 3rd and help us celebrate Be Kind To Animals Week in a wet and wonderful way!



# SCHEDULE OF EVENTS

Sunday, May 3, 1987

- 9:45 a.m. Hawaiian Reef Tank
- 10:00 a.m. Ocean Science Theatre
- 10:30 a.m. Hawaiian Reef Tank & Leeward Isles Lecture
- 10:45 a.m. Seal Pool Lecture & Turtle Lagoon Lecture
- 11:00 a.m. Whaling Museum Lecture
- 11:15 a.m. Whaler's Cove Show
- 11:45 a.m. Hawaiian Reef Tank
- 12:00 p.m. Sea Lion Lecture & Turtle Lagoon Lecture
- 12:15 p.m. Leeward Isles Lecture & Whaling Museum Lecture
- 12:30 p.m. Ocean Science Theatre
- 1:15 p.m. Whaler's Cove Show
- 1:45 p.m. Hawaiian Reef Tank
- 2:00 p.m. Sea Lion Lecture & Turtle Lagoon Lecture
- 2:15 p.m. Leeward Isles Lecture & Whaling Museum Lecture
- 2:30 p.m. Ocean Science Theatre
- 3:15 p.m. Whaler's Cove Show
- 3:45 p.m. Seal Pool Lecture & Turtle Lagoon Lecture
- 3:50 p.m. K-9 Flyball and Agility Demonstration
- 4:00 p.m. Leeward Isles Lecture & Whaling Museum Lecture
- 4:15 p.m. Hawaiian Reef Tank
- 4:30 p.m. Ocean Science Theatre
- 5:00 p.m. Park Closes

9:30 a.m. - 5:00 p.m. Aloha Land Pony Circus & Petting Zoo

9:30 a.m. - 5:00 p.m. Hawaiian Humane Society Displays

9:30 a.m. - 5:00 p.m. HVMA & HVS Educational Display

## Our Anniversary



## Birthday Bash!

On Friday, February 27, the Society officially turned ninety years old. It was as good a reason as any to have a party, so we did!

From architect to Board member to relation of the founder, everyone turned out to see where we are and where we're going - not to mention a free lunch. There was a proclamation from the Mayor's office and a welcoming speech from the Board of Directors, after which everyone was encouraged to browse and munch; while our cameraman, Tomas del Amo, simply browsed . . .



Clockwise from top left: Jean Marchant loads Stan Hirose with birthday cake; Kinou Wilder, descendent of our founder; Eve Anderson & June Chambers joke with Judith Ellis, (right) co-creator of the new signage; architects Ted Candia (left), Patrick Seguirant and contractor Larry Kitsuki; Ms. Ouida Hill, donor of the new Puppy Pen with Stan Hirose.

## BE KIND TO ANIMALS DAY

at  
**SEA LIFE PARK**

May 3, 1987

9:30 a.m. to 5 p.m.

Present this coupon at the gate and weigh in for big savings! All members of the family will be admitted for a penny per pound!

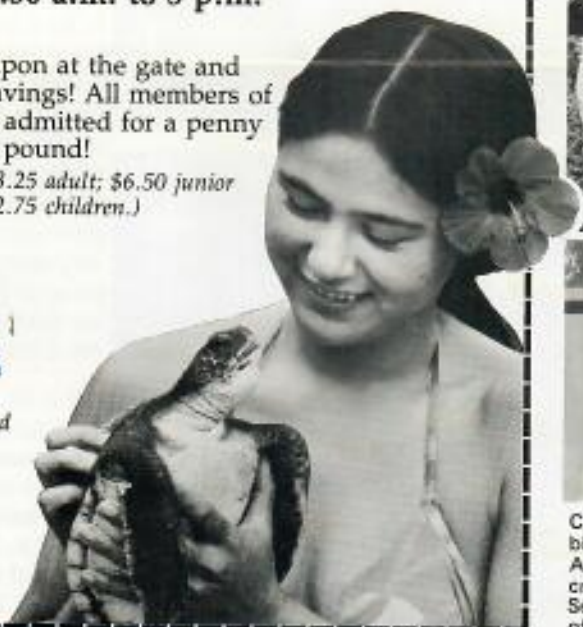
(Reg. admission: \$8.25 adult; \$6.50 junior  
\$2.75 children.)



**SEA LIFE PARK**

Cannot be combined  
with any other  
discount offer.

Valid only on  
May 3, 1987.



HELP! IBM PC or compatible needed on a short term basis immediately!



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

April 22, 1987

F/SWC2

Ms. Carla Kishinami  
Vertebrate Zoology Department  
Bernice P. Bishop Museum  
P. O. Box 19000-A  
Honolulu, HI 96819

Dear Carla,

Here is the information you requested for the two dead sea turtles which we recently made available to the Bishop Museum.

Olive Ridley - Adult female

Straight-line carapace length - 61.2 cm  
Straight-line carapace width - 56.2 cm

March 19, 1987 - Found alive in Kaneohe Bay by Frazer Black and Joe McCabe. Both front flippers amputated but healed.

March 27, 1987 - Turtle died of unknown causes at National Marine Fisheries Service, Kewalo Research Facility. Tissue specimens submitted to Dr. Thomas R. Sawa (State of Hawaii Veterinary Laboratory) indicated chronic interstitial nephritis of an undetermined etiology.

Hawaiian Hawksbill - Adult male

January 1, 1975 - Hatchling found by Nancy Johnson in a tide pool at Malaekahana Bay, Oahu. Turtle may not have hatched in this area, but rather could have been blown ashore by strong prevailing tradewinds. Turtle was taken to Sea Life Park where it was subsequently raised in captivity for display under a permit from the U.S. Fish and Wildlife Service (Honolulu). Turtle was named "pomaikai." Periodic measurements were made by G. H. Balazs as follows (SLCL = straight-line carapace line):

November 23, 1979	67.1 cm SLCL
June 1980	Lengthening of tail evident
December 30, 1980	72.6 cm SLCL
(Inconel flipper tags 5103, 5104 applied this date)	
August 17, 1981	74.9 cm SLCL
(Transferred from Reef Tank to Turtle Lagoon this date)	
July 7, 1982	75.9 cm SLCL
December 9, 1983	78.8 cm SLCL
February 5, 1986	79.3 cm SLCL



April 6, 1987 - Found dead in Turtle Lagoon with ulcer on the neck. Autopsy conducted by Dr. Sawa suggested septicemia possibly of a bacterial etiology.

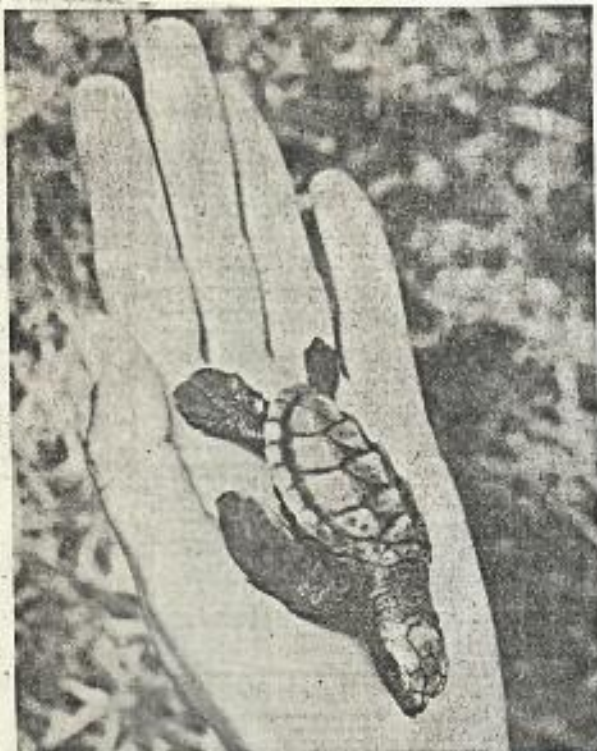
We are pleased to know that these specimens can become a permanent part of the Museum's collection.

Best regards.

Sincerely,

George H. Balazs  
Zoologist

cc: Sea Life Park  
U.S. Fish and Wildlife Service  
Law Enforcement, Western  
Pacific Program Office



### In safe hands

This baby hawkbill turtle — of an endangered species that many scientists believed was no longer breeding in Hawaiian waters — was found on the beach at Malaekahana in Windward Oahu. The finder, Nancy Johnson of Manoa, delivered it to Sea Life Park, where the turtle is receiving special care. The park plans to build a home for it and place it on public display.

*front page Honolulu Advertiser 1/3/75*

A-14 Honolulu Star-Bulletin Friday, January 17, 1975

## Rare Hawksbill Turtle Found in Tide Pool

A tiny hatchling hawkbill turtle was found by Nancy Johnson in a tidal pool near Malaekahana in Windward Oahu.

Fortunately she recognized the rare creature

for what he is, and whisked him to Sea Life Park for tender loving care.

He's one of the U.S. Government's rare and endangered species of wildlife.

Many marine scientists thought the hawkbill had ceased to breed here because of Oahu's heavy population and construction near their natural breeding grounds on the sand beaches.

At Sea Life Park, Dr. Edward Shallenberger and all the other turtle watchers are encouraged. The baby is gobbling up squid, smelt and herring, and seems to be in excellent condition.

Plans are afoot to place him in a public display as soon as possible.

*Oahu currents? brought from Malakal*



**HOWZIT**—A full grown hawkbill turtle at Sea Life Park takes a look at a new arrival — a hatchling found on Oahu's Windward shore.

DEPARTMENT OF FISHERIES AND AQUACULTURE  
HONOLULU LABORATORY  
2570 DOLE STREET  
HONOLULU HI 96822-2396

August 4, 1986

F/SWC2:GHB

Mr. Bruce Ulrich  
General Manager  
Turtle Bay Hilton  
P. O. Box 187  
Kahuku, Hawaii 96731

Dear Mr. Ulrich:

While back your hotel complex expressed considerable interest in constructing a display area for sea turtles that would involve captive breeding efforts patterned after the successful project at Sea Life Park. It is my understanding that your plans had to be postponed due to other more pressing priorities.

I am writing to you at this time to express whole-hearted support for a sea turtle project at your facility. The expertise in sea turtles that exists within our research laboratory is available for technical advice and other forms of assistance that may be necessary and appropriate. Please contact me when you are ready to proceed with this worthwhile project.

Sincerely,

George H. Balazs  
Zoologist

cc: WPPO  
Gene Witham  
Kimberly Wright  
Robert Moore, Sea Life Park

bc: Balazs ✓  
HL

MEMORANDUM

February 19, 1985

TO: FILES  
FROM: Jasmine *J*  
RE: Turtle Bay Hilton  
Proposed Green Sea Turtle Project

Per telephone conversation with Mr. Bruce Ulrich, General Manager, on the date noted above:

He met with their corporate officer last Thursday regarding status of project to date. He was informed that project funds were not approved for 1985. Recent renovation efforts were quite costly and the returns have been slow to come. Since turtle project is considered non-revenue, it is difficult for management here to push for high priority status to get project approved. *Ally*

He will contact Sea Life Park in the event the project is reevaluated and considered in future years.

Thanks the Park for its interest and support.

cc: Mr. Bruce Ulrich  
Bob Moore  
Steve Kaiser

NATIONAL MARINE FISHERIES SERVICE  
HONOLULU LABORATORY  
P. O. BOX 3830  
HONOLULU, HAWAII

May 1, 1984

F/SNC2:GHB

Mr. Steven Kaiser  
Mrs. Jasmine Wong  
Sea Life Park  
Hakapuu Point  
Waimanalo, HI 96795

Dear Steve and Jasmine,

Thank you for your letter of April 20, 1984 along with the "Preliminary Proposal" for the Turtle Bay Hilton green turtle program. I appreciate being formally included as an advisor. The turtles in captivity at Sea Life Park have periodically served as valuable research animals for my work over the past 10 years. I look forward to the planned display at the Turtle Bay Hilton offering similar opportunities that will also ultimately benefit the species.

While we are still at this preliminary planning stage, I want to suggest that a change be made to more accurately reflect the program we are interested in realistically implementing. Under the "Objective" heading in the proposal, the principal emphasis is now placed on developing "a second captive breeding and head start program." The topics of "education" and "display" seem to be given a lower priority, at least from my reading of the document. I recommend that these priorities be reversed. Captive breeding and head starting are indeed worthy goals to strive for, but as in the case of Sea Life Park, they are likely to be secondary to display and education. An attractive and properly interpreted display, such as at Sea Life Park, is tremendously beneficial to the species by informing the public about survival problems in the wild and natural history aspects. A display at the Turtle Bay Hilton will undoubtedly reach many people who would otherwise never see or learn about these animals. "Display" and "education" as priority objectives are therefore entirely warranted and accurate.

I would be happy to talk with you about this further by telephone if you wish. Again, thank you for including me in your planning process.

Sincerely,

George H. Balazs  
Wildlife Biologist

GHB:ey

# SEA LIFE PARK



April 20, 1984

Mr. George H. Balazs  
Wildlife Biologist  
Marine Mammals & Endangered  
Species Program  
National Marine Fisheries Service  
P.O. Box 3830  
Honolulu, Hawaii 96812

Dear Mr. Balazs:

As a result of a meeting on Friday, April 13, with Eugene Nitta of National Marine Fisheries, Kimberly Wright of U.S. Fish & Wildlife Service, Bruce Ulrich of Turtle Bay Hilton, Jasmine Wong and myself of Sea Life Park, we are offering the attached guidelines for loaning some of Sea Life Park's Green Sea Turtles (Chelonia mydas) to the Turtle Bay Hilton. Our proposal outlines the objectives of the program and the steps taken to achieve the results. We are well aware that to implement such a program takes the cooperation of many agencies and we are therefore asking for your input and consideration for approval.

Please review the enclosed proposal outline and provide us with any comments or suggestions that would help us achieve the end result - a breeding and head start program at Turtle Bay Hilton.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven Kaiser".

Steven Kaiser



PRELIMINARY PROPOSAL for the purpose of satisfying permit requirements.

Turtle Bay Hilton & Country Club  
Loan Agreement, Care & Maintenance of Green Sea  
Turtles (Chelonia mydas)

Objective

To develop a second captive breeding and "head start" program for green sea turtles at Turtle Bay Hilton and to educate the public about them. Our main concern is for the health and well being of these animals.

Holding Facilities

Sea Life Park will work with Turtle Bay Hilton's architects supervising the design of a turtle lagoon including but not limited to a nesting beach and haul out area, in order that it meets not only the guidelines of Government agencies but also Sea Life Park's.

Care & Feeding

The care and feeding of the turtles loaned to Turtle Bay will be closely monitored by Sea Life Park's staff and if any irregularities occur, we will reserve the right to cancel any agreement with them and return the turtles to our facility.

Education

Sea Life Park will work with Turtle Bay Hilton on design and information display signs describing the uniqueness of these animals, their endangerment status and the laws regarding their protection.

Mr. George Balazs, National Marine Fisheries Wildlife Biologist has agreed to be an advisor in the project as he has done in the past for Sea Life Park.

List of turtles to be considered for transfer

<u>Tag No.</u>		
3525	Juvenile, sex unknown	S.L.P. 12/80 Hatch.
3524, 6496	" " "	" " "
5105	Male	S.L.P. 1976 Hatch.
3287, 6495	Male	" " "
3285 RFL	Male	Pre-act
2070, 5817	Female	Pre-act
2986 RFL	Female	Pre-act
Blue gearing left distal	Male	Pre-act

Note:

To date we have released 527 captive born hatchlings to the wild, in addition to 47 head start hatchlings, that is hatchlings that were kept from 6 months to a year and then released, hoping their larger size would give them a better chance of survival.

In addition to our very successful hatchling program we have also released 7 large adult turtles that we had deemed excess animals, one of which was later observed nesting at French Frigate Shoals.

Distribution:

Mr. Eugene Nitta  
Marine Mammal Coordinator  
National Marine Fisheries Service  
P.O. Box 3830  
Honolulu, Hawaii 96812

Ms. Kimberly Wright  
Special Agent  
U.S. Fish & Wildlife Service  
P.O. Box 50223  
Honolulu, Hawaii 96850

Mr. Henry Sakuda  
State of Hawaii  
Department of Land & Natural Resources  
Division of Aquatic Resources  
1151 Punchbowl Street, Room 330  
Honolulu, Hawaii 96813

Dr. David J. Gilhooly  
Area Veterinarian in Charge  
U.S. Department of Agriculture  
Animal & Plant Health Inspection Service/  
Veterinary Services  
P.O. Box 50001  
Honolulu, Hawaii 96850

Mr. George H. Balazs  
Wildlife Biologist  
Marine Mammals & Endangered Species Program  
National Marine Fisheries Service  
P.O. Box 3830  
Honolulu, Hawaii 96812