

Owner's
Name Sea Life Park
c/o Steve Kaisor
Mokapu Pt.
Waimanalo, HI 96795

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

Date Rec'd 4/7/87
Log No. 6152V
Test - NC TX HE 87-4-25 PS
BK 6307 6308 6309 6310 6311 6312

Report to Dr. Thomas Sawa
Vet. Lab., Department of Agriculture
99-762 Moanalua Road
Aiea, HI 96701

Date: April 23, 1987

SEA LIFE PARK Oahu collected
25 2 hatchling

Species & Breed: Hawkbill Turtle

("Pomakail"

) Sex: M

Age: 11Y

Type of Specimen(s): (A)Body[X] (B)Fixed[X] (C)Blood[] (D)Others[X]
Examination completed: PM[1] Histo[8] Bacti[18] P/O[2] Cyto[] Viro[]
Chem[] Hemo[] Sero[] Tox[1]
Other

Result(s)

Gross findings: Neck area chewed up by other turtles - chronic ulcerated granulated defect back of neck; ulcerated abscess in posterior plastron; grayish fat; liver - fatty.

Microscopic: Intestine - Necrotic foci - tips of villi; dense infiltration of submucosa by inflammatory cells; necrosis of mesenteric fat. Urinary bladder - few submucosal lymphocytic foci. Neck lesion - ulceration, not much reaction in underlying connective tissue; bacteria (embolus) in small arteriole; edema of subdermis. Kidney - inflammatory cell aggregation around some glomeruli; degeneration/necrosis of epithelium of some tubules; degeneration (atrophy & hyalinization of capillary tufts) of some glomeruli. Spleen - hyperplasia of white pulp. Lung - no significant lesions. Liver - fair number of melanocytes bacterial emboli.

P/O: Direct smear & Flotation Smear (Sodium Nitrate) = None seen.

Bacteriology: Photobacterium sp., Lucibacterium sp., Pseudomonas putrefaciens, Staphylococcus aureus, Edwardsiella tarda, Citrobacter freundii, Escherichia coli, Vibrio sp., & Aeromonas sp. isolated. No Salmonella isolated.

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(Pg. 2)

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Report to Dr.

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Other

Result(s)

Toxicology:	Tissue	P.p ¹ - DDT	P.p ¹ - DDE
	Liver	- N.D.	- N.D. N.D. = Not Detected
	Stomach	N.D.	Trace (less than 5ppb)
	Fat	37.79ppb	80.39ppb

DIAGNOSIS (Final)

- (A) Ulcerated granuloma.
- (B) Septicemia/toxemia.
- (C) Staph. aureus, Edwardsiella tarda.

Oral Report Date:

Comments: Autolysis noted in all sections.

cc: Head, DAI
cc: Sea Life Park
cc: Dr. George Balazs, NMFS (2)
VL-4
10/86
10/86

Pathologist:

Thomas R. Sawa
Thomas R. Sawa, DVM, PhD.

JOHN WAIHEE
GOVERNOR



SUZANNE D. PETERSON
CHAIRPERSON, BOARD OF AGRICULTURE

ROBERT Y. TSUYEMURA
ACTING DEPUTY
TO THE CHAIRPERSON

State of Hawaii
DEPARTMENT OF AGRICULTURE
Division of Animal Industry
99-762 Moanalua Road
Aiea, Hawaii 96701-3246

July 6, 1988

Dr. George H. Balazs, Zoologist
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Center Honolulu Laboratory
2570 Dole Street
Honolulu, HI 96822-2396

Dear Dr. Balazs:

Re: Adult Female Hawksbill Turtle
(NMFS Tag No. 757)
(Vet Lab Log No. W-0980, HE (88-04-06))

Additional notes which may answer your questions in your letter of May 31, 1988 to Dr. Hahn who wrote the final report (toxicology results pending).

1. The most probable cause of death is pulmonary insufficiency as a result of the presence of massive amount of blood clots in the lung and possibly circulatory collapse based on the report of blood loss from mouth and nostrils prior to death. More than likely the blood loss and clots were in response to the stress of being dropped; i.e. no actual break in the blood vessels but due to diapedesis. There were no apparent muscle or soft tissue damage around chest cavity, and even the lung parenchyma appeared physically intact. We see this kind of stress-related response in guinea pig lung. The cholesterol granulomata seen in lung sections by light microscopy are incidental findings.
2. Sorry about the oversight but there were many (>200) ovarian follicles in varying stages of maturity (smaller than 0.3cm to obviously gravid follicles more than 2.0cm in diameter).
3. Edwardsiella tarda isolated from the liver has been associated with enteritis in dolphins and man. Although I have no information, it may have been the cause of the intestinal lesions.

Yours truly,

Thomas R. Sawa
Thomas R. Sawa, D.V.M., Ph.D.
Chief, Veterinary Laboratory



*Can be isolated from
"normal" animals, including man!
I don't think it's usually
considered a "major"
pathogen - Bill*

*now
That's
a lot
better!
know anything
about this??*

May 31, 1988

F/SWC2

Dr. Crane H. Hahn, DVM
Division of Animal Industry
Veterinary Laboratory
99-762 Moanalua Road
Aiea, HI 96701

Dear Dr. Hahn:

I am writing to seek clarification on the autopsy report you prepared on the adult female hawksbill turtle (National Marine Fisheries Service tag #757) that died on April 3, 1988 at Sea Life Park (copy of report attached). This turtle was the oldest and last remaining hawksbill of Hawaiian genetic origin in captivity. As you may recall, an adult male that died last year at Sea Life Park was also examined at your laboratory. The Hawaiian Sea Turtle Recovery Team had hoped that these two turtles would form the nucleus of a captive breeding program for this seriously endangered population. At least two juvenile Hawaiian hawksbills have also died in captivity in recent years, indicating that our ability to properly care for this species requires improvement.

The current fatality happened after the turtle fell a few feet and impacted on cement. Apparently a frayed rope broke that was being used to move the turtle from one site to another. Immediately after the fall the turtle was returned to a seawater tank, at which time blood was seen flowing from the mouth and nostrils. The turtle died a short time later. Under the "results" section of your autopsy report, the statement "much blood clots in lung" appears. However, under "diagnosis" there is no mention of this finding. Presumably the blood in the lungs was the direct result of severe hemorrhaging caused by the impact of the fall. Or, did your findings and diagnosis suggest otherwise? I would appreciate your clarification of this important point. It was also my understanding that the turtle was gravid with numerous well-developed ova. Was this in fact the case?

Thank you for your continuing interest and assistance with Hawaiian sea turtles.

Sincerely,

George H. Balazs
Zoologist

cc: Sea Life Park
GHB:gr
bcc: GHB ✓
HL

mortality
CAPTIVE Reared Hawksbill at (SLP)

Documentation & Report on;

- ON Endangered Species list since -

Source - W. Samoa, date, Is. late Banner, purpose
of W.S. hatchery (photos); size: ^{Nutrition - Growth - ~~Reproduction~~ ^{purpose in Hawaii}}
Investigators; places held; conditions ^{at UH-Manoa} Aquarium
② Water tables at CI ③ suspended cages at CI
④ Tidal ponds ⑤ TO SLP and Aquarium (dates)

Diet at SLP - size of reef tank - on display, ^{show} on TV,
10. feedings per day. Studies/observations of gently
respiration - activity (cycles) - Move to pond
(photos) - [Backup - appeared obese] - Reproduction -
- (stress) - dead after - day - second one
moved back to reef tank - lost weight results →
Second attempt to move - conditioning in
intermediate tank.

Note - early observations of tank change - water
table to deeper green tank.

Title -

Fate of Captive Releases at FFS

(Case History) Report on the Mortality
of a captive hawksbill turtle (at
SCP)

Sections

Source

Chronology

References

— Check on Brooks map - track of
Gambia and South Seaman



B I S H O P M U S E U M

1525 BERNICE STREET • P.O. BOX 19000A • HONOLULU, HAWAII • 96817 0916 • (808) 847-3511

12 July 1988

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

Dear George:

We have just finished preparing the most recent hawksbill sea turtle from Sea Life Park which Steve Kaiser of the Park tells me had NMFS no. 757. We have assigned our catalog number BPBM 11510 to the complete skeletal specimen. Steve could not provide me with much information on it and said that your records on the animal are more complete. Could we please have a copy of your file on the turtle, or if the information has to be gleaned from several sources, would you provide us with a summary? The information we have at this point is as follows:

Locality: Hawai'i, no exact locality. Captive at Sea Life Park.

Collector: Unknown

Date collected: Unknown. Records at NMFS indicate it was at Sea Life Park
in 1968.

Date died: 4 April 1988

Tags: NMFS 757

Sex: female (gravid)

We would like to fill in the unknowns if at all possible. At the very least, we'd like to confirm the earliest date it was examined at Sea Life Park. Measurement records would be useful.

At some point would it be possible for you to visit the museum and help us take straight line carapace lengths on this turtle and on the hawksbill male received in 1987 (BPBM 11460)? We do not have the necessary caliper.

Thank you for your help,

Carla

Carla H. Kishinami
Collection Manager, Zoology (Vertebrates)

12/6/73
S-85.7 x 69.2
C-90.8 x 83.2

Rare Hawksbill Turtle Found in Tide Pool

A tiny hatchling hawksbill 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.

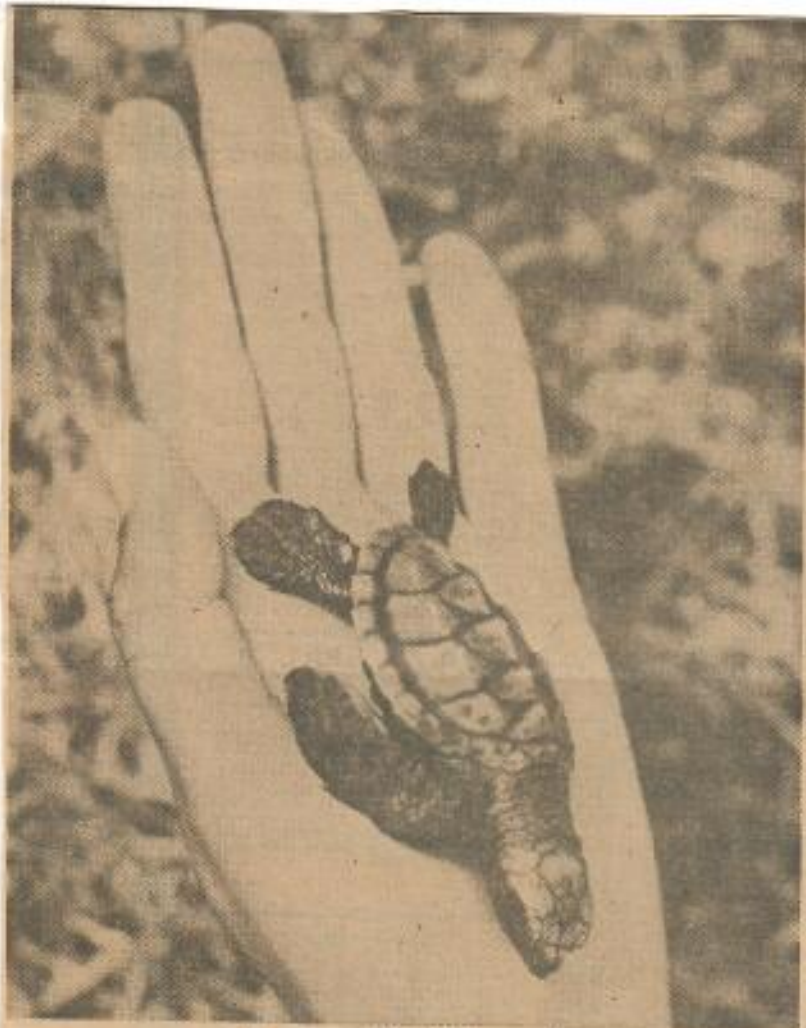
Many marine scientists thought the hawksbill had ceased to breed here because of Oahu's heavy population and construction near their natural breeding grounds on the sand beaches.

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.



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



In safe hands

This baby hawksbill 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 4/3/75

A PROPOSAL TO UNDERTAKE THE BREEDING
OF HAWKSBILL TURTLES IN CAPTIVITY AT SEA LIFE PARK

by

George H. Balazs
National Marine Fisheries Service
and
Hawaii Institute of Marine Biology

March 1981

Background

Three hawksbill turtles (Eretmochelys imbricata, an Endangered Species) are in captivity for commercial display purposes at Sea Life Park on the island of Oahu. The largest of these animals is a female of Hawaiian origin measuring 86 cm in carapace length that has been at the facility since the 1960s. The second largest is a 79-cm female that is the sole survivor of four hawksbill transferred to Sea Life Park by the author during 1974. These four turtles were originally obtained as hatchlings from Western Samoa in March of 1972. The third and smallest hawksbill (73 cm) is a male that was found as a hatchling at Malakahana Bay on Oahu in January of 1975.

The two female hawksbills are presently being held in Sea Life Park's "turtle lagoon" along with 19 green (Chelonia mydas) and two loggerhead (Caretta caretta) turtles. The male hawksbill resides in the Park's reef tank display along with a single 75-cm green turtle. During recent months the male has been repeatedly observed attempting to mate with the green turtle. It is not known if actual copulation has taken place, but such an occurrence is a distinct possibility. The male's tail has exhibited significant lengthening and enlargement, however, the size and characteristics of a fully mature adult have not yet been obtained.

The approximate ages of the three hawksbills are as follows:

86-cm Hawaiian female	>20 years
79-cm Western Samoan female	9 years
73-cm Hawaiian male	6 years

Experimental Procedure

An appropriate time has been reached to undertake a small breeding project with the hawksbills at Sea Life Park. As a first step, each female should be brought together with the male during separate time periods. Considering the smaller and therefore presumably more compatible size, the female from Western Samoa appears to offer the best possibility for copulation taking place. Each female could be alternately introduced into the reef tank display where the male is now located.

Another option would be to transfer the male-female pair to one of the holding tanks situated outside of the Park's display area. It would not be advisable to move the male to the turtle lagoon display due to the presence of relatively large numbers of turtles of different species.

The artificial sand beach associated with the turtle lagoon has been successfully used for nesting and hatchling production by green turtles in both 1976 and 1980. Hawksbills in the wild are generally less discriminating than green turtles in their nesting site requirements. It is therefore reasonable to expect the captive hawksbills at Sea Life Park to use the artificial beach should they become gravid.

The green turtle that has been the focus of the male hawksbill's attention and possible fertilization should eventually be transferred from the reef tank to the turtle lagoon so that access exists to a nesting beach. Although rare, specimens thought to be hybrids of the hawksbill and green turtle have been reported from other areas of the world.

Outcome

The breeding and successful production of hawksbill hatchlings in captivity at Sea Life Park would constitute the first case for this species known to the author. Few facilities that display sea turtles are equipped with a sand beach, consequently, the opportunities for captive breeding are currently very limited. Further achievements in this field by Sea Life Park will promote sea turtle conservation and serve as a model for other marine display facilities.