MOLOKAI BOOK 2

BALAZS

2 OF 2

4-25-85 -
THURSDAY to be a shark, later found to be a ray - 3-4' wing span. Spent alot of time bang sticking and spearing ray - carefully moving bag inward. Very little fish in net, less than a cooler. Turtles loaded on boat and net picked up. Approx. 10 small slipper (some spiny) lobsters found caught in guide and wings. Lobster net is suppose to be 4" stretch (knot to knot) this net is 2 3/4" nylon; Bag is 2" nylon. Ed said netting was purchased in Kentucky - #14 lb.

Proceeded to "Reef House" where turtles were unloaded. Shallow hot water all around it, except channel from the back (shore) side. Boat
10:40am left to set net at "23 turtle" site on east side of the harbor, reported to be 12' deep - clear water - good for catching both fish & turtles. I took photo of turtles laying on sand bar - house in the background. Lots of Halophila growing in shallow hot water substrate. Pulled alga (Hypnea or Spyridia) off post of house. Lots of this alga noted in places along Palaau.
Boat returned ~ 12:30pm. From 10:40 to 1:20pm Robert & I collected data, took 10 blood samples, and flushed food from 3 of the smaller turtles. All put on ice.

(cont. P. 67)

4/24-4/25/85 THURSDAY

NET SAME SITE AS YESTERDAY

ALL DATA COLLECTED AT "REEF HOUSE" - Robert & d

ONLY 1 Recapture

16 TURTLES + 2 ESCAPES

1- SC - 79.2 X 60.3 N - 79.0
H - 10.9 RFF - 13.0 T - 21.5
P - 64.3 CC - 85.3 X 77.0
TAGS - 8582 - RHF 8583 - RF 8584 - LF

2- SC 70.9 X WIDTH NOT TAKEN N - 70.6
H - 10.6 RFF - 12.1 T - 15.5
P - 57.3 CC - 76.0 X 68.0
TAGS - 8585 - RHF 8586 - RF 8587 - LF

4/24 - 4/25/85
THURSDAY

3 SC - 70.7 x 53.2 N 70.3
H - 10.0 RFF - 11.5 T - 16.0
P - 56.9 CC - 75.0 x 66.5
8588 - RHF 8589 - RF 8590 - LF

4 SC - 61.9 x 49.4 N - 61.7
H - 9.8 RFF - 10.5 T - 10.5
P - 49.7 CC - 67.0 x 61.0
8591 - RHF 8592 - RF 8593 - LF
Ventral Neck Lesion - similar to one yesterday
Red Juice from Mouth

4/24 - 4/25/85
Thursday

5 SC - 63.8 x 50.6 N - N°Notch
H - 9.3 RFF - ~~SC~~ 9.7 T - 11.5
P - 51.0 CC - 69.0 x 63.5
8594 - RHF 8595 - RF 8596 - LF

no charge

Recapture: 59.5 47.0
6 SC - 59.5 x 46.9 N - 59.2
H - 9.3 RFF - 10.3 T - 12.0
P - 46.2 CC - 64.5 x 56.5 (64.0 x 56.0)

~~8597~~ ~~8598~~

LF 7939 RF - 7940
Expanded both tags - ON TOO TIGHT.
NOTE - IN ONLY 13 DAYS! → Trace of algae growing on tags
Bent over tip of lock - Bill apparently hadn't squeezed applicators together hard enough.

* ORIGINALLY TAGGED AND RELEASED KK DOCK 4-11-85; HAD BEEN CAUGHT IN NET OUTSIDE PAKANAKA FISHPOND.

62 4/24-4/25/85
THURSDAY

7 SC - 61.5 X 50.8 N - 61.2
H - 9.6 RFF - 10.8 T - 11.0
P - 49.9 CC - 66.0 X 61.5
TAGS — 8597 - RHF 8598 - RF 8599 - LF
Red Juice in Mouth
B#1 Took Blood Sample
Tried to pump FLUSH Stomach, nothing came out

8 SC 42.7 X 34.6 N - 42.5
H - ~~9.6~~ 7.2 RFF - 7.9 T - ~~11.0~~ 9.0
P - ~~49.9~~ 34.6 CC - 45.5 X 41.0
TAGS — 8600 - RF 8626 - LF
~~Red Juice in Mouth~~
F#1 Food sample taken - FLUSHED
B#2 Blood sample taken

sent TO
DENNIS RUSSELL

X Sample No. 8600 Molokai 4-25-1985

Acanthophora spicifera	90%
Hypnea cervicornis	10%
Halophila ~~ovalis~~ hawaiiana (a flower)	Trace

RECAPTURED 7-17-85 PALAAU -

9 SC - 55.3 X 41.3 N - 55.0
H - 8.7 RFF - 9.2 T - 10.0
P - 43.6 CC - 59.0 X 50.8
TAGS - 8627 - RF 8628 - LF
B#3 Blood sample taken
Did not try for food sample

10 SC - 57.3 X 45.2 N - 57.2
H - 9.1 RFF - 9.6 T - NM
P - 47.0 CC - 61.0 X 55.5
TAGS - 8629 - RF 8630 - RHF 8631 - LF
B#4 Blood sample taken
Did not try for food sample

 4/24 - 4/25/85
THURSDAY

11 SC - 55.0 X 43.5 N - 54.5
H - 8.4 RFF - 9.8 T - 10.5
P - 44.8 CC - 59.0 X 52.5
TAGS - 8632 - RF 8633 - LF
B#5 Blood samples taken w/photos Roll 2
No Food Sample taken

12 SC - 57.8 X 45.1 N - NN
H - 9.1 RFF - 9.5 T - 11.6
P - 47.1 CC - 62.0 X 52.5
TAGS - 8634 - LF 8635 - RF
Right 4th marginal indented & healed
B#6 Blood sample taken
No food samples taken

RECOVERED
6-29-85
KAWELA

See p.114

4/24 - 4/25
THURSDAY

13 SC - 51.3 X 41.1 N - 50.9
H - 8.2 RFF - 9.6 T - 8.0
P - 41.4 CC - 56.5 X 48.0
TAGS - 8636 - RF 8637 - LF
Red foam around Mouth
F#2 Food sample, ~~red~~ particles taken
B#7 Blood sample taken
sent TO Dennis Russell

Sample No. 8636

Spyridia filamentosa	99%
Ceramium sp.	Trace
Small snail egg mass	

14 SC - 47.5 X 37.0 N - 47.2
H - 7.8 RFF - 8.7 T - 9.0
P - 37.4 CC - 50.5 X 44.5
TAGS - 8638 - RF 8639 - LF
F#3 Food Sample
B#8 Blood sample
1 turtle Barnacle L posterior (3rd lateral?)
Sent TO Dennis Russell

Sample No. 8639

Acanthophora spicifera	99%
Hypnea cervicornis	Trace
Spyridia filamentosa	Trace
Polysiphonia pseudovillum	Trace

 4/24-4/25/85
Thursday

15 SC - 49.2 x 39.7 N - 48.9
H - 8.1 RFF - 8.8 T - 8.0
P - 39.6 CC - 53.0 x 46.0
TAGS - 8640 - RF 8641 - LF
Extra plate on plastron - small at anterior cent
B#9 Blood sample taken

16 SC - ~~FF~~ 49.7 x 38.6 N - 49.4
H - 7.8 RFF - 8.8 T - 9.5
P - 41.1 CC - 54.0 x 47.0
TAGS - 8642 - RF 8643 - LF
B#10 Blood Sample taken

(CONTINUED FROM p. 58)

4-25-85 ELECTROANETHEZER USED frequently.
THURSDAY Photos of blood sampling - both close up and at a distance.
Seawater Temp. by Net Site #2 = 25°C
Arrived back at Kk Dock at 1:55pm
(25 minute trip)

Saw Bill's Hawksbill in bucket + Hypnea Cor abundant by Bill's house. He has a garden of ogo. Brought them to Pau Hana Inn.

Ate at Pau Hana again this evening. Called NMFS lab twice to check Dr Roberts' dive certification and arrange for ride home from Air Molokai terminal.
Bed ~ 9:30pm.

$5.00 - 35 lbs (1st) > AIR MOLOKAI
15¢ per lbs

4-26-85 Up 5am. 5:30am Bill picked us up and we
FRIDAY met Ed, Diane, Ed's sister and sister's son at Mid-Night Inn for Coffee. At dock and departed at 6:30am.
Arrived at Site #3 well off-shore - 10'+ deep, sandy bottom area. Some south swell up.

(24) 8602 - 8625 } TAGS LEFT WITH
(14) 8812 - 8825 } Bill / Molokai
(25) 8826 - 8850 } 4/26/85 FRIDAY

(63) TOTAL

4/25-4/26/85 FRIDAY FROM SITE #3 10' + deep at bag

ALL 3 RELEASED AT KK DOCK — 10:30 AM

(1) 8644-RF 8645-LF 8646-RHF
SC-67.3 X 54.0 N-66.7
H-9.8 RFF-10.7 T-12.5
P-54.6 CC-72.5 X 65.0

(2) 8647-RF 8648-LF 8649-LHF
SC-71.4 X 56.6 N-71.0
H-9.6 RFF-11.5 T-18.0
P-56.1 CC-77.5 X 71.4
"KOLU" tagged this turtle. Photo of him with turtle just prior to RELEASE.

KOLU

send photo & literature [Jerome Kalama III
P.O. Box 1216
KAUNAKAKAI, HI 96748

9 years old in the 3rd grade. Ed's nephew — (his sister's son)

(24) 8602 - 8625 } TAGS LEFT WITH
(14) 8812 - 8825 } Bill / Molokai
(25) 8826 - 8850 } 4/26/85 FRIDAY

63 TOTAL

70

4/25-4/26/85
FRIDAY
7/88 47.1 cm

3 8650-RF 8601-LF
SC-40.6 x 34.5 N-40.2
H-6.6 RFF-6.8 T-7.0
P-32.0 CC-43.0 x 41.0
Whitish Belly noted

[Food sample taken by inserting aqua air line and injecting water using garden hose on dock. Robert put fish on an incline. Overflow from mouth was collected with the "bailer" from boat.

Sent to Dennis Russell

Sample No. 8650

Acanthophora spicifera	95%
Dictyota friabilis	1%
Hypnea nidifica	1%
Dictyopteris sp.	1%
Laurencia nidifica	1%
Halophila ~~ovalis~~ hawaiiana	1%
Sargassum polyphyllum	Trace
Jania capillacea	Trace
Halimeda discoidea	Trace
Amphipod	

26 April 85

Departed on Air Molokai 3:15pm - $14.99 - Bill drove us to the airport.

At Bill's office, I saw excellent map of West Molokai showing "harbor" cut at Palaau. George Kangda said that "house" was already there when he moved to Molokai (29) years ago.

" 11 x 19.5 MIN. QUADRANGLE
GEOLOGICAL SURVEY 1983
MOLOKAI WEST, HAWAII "

When did Mangroves become common along Palaau? Fred Bicoy knows answer?
He also has large turtle shells at his house, so he reports.
Years ago Bicoy took alot of turtles at Kamalo. Reported there was a large leatherback there they shot, but too large, or they were too scared to bring it in.

DATA SENT BY BILL AFTER RETURNING FROM 22-26 APRIL TRIP.

Date Tagged: April 3, 1985

Location Caught: Palaau

Method of Capture: Nets

Number	Curved Length (cm)	Curved Width ~~xxxxxx~~ (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	46.0(43.5)	41.0(35.5)	7863	7864
2	39.0(37.0)	38.0(32.5)	7865	7866

Remarks: Released at K'Kai Dock same day. 186 turtles tagged to date with 15 recoveries.

Corrected 1/94 AS per info from Bill Puletoa

Date Tagged: April 11, 1985 → WAIKANE Palau site Palau "L"

Location Caught: Just outside ~~Pakanaka~~ Fishpond

Method of Capture: Nets

Number	Curved Length (cm)	Curved Width ~~Length~~ (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	83.0(77.0)	72.5(58.0)	7867	7868
2.	76.0(71.5)	71.0(56.0)	7869	7870
3	43.5(41.0)	39.5(33.0)	7871	7872
4	56.0(52.5)	49.5(41.5)	7873	7874
5 SL 62.3	61.0(56.5)	53.0(44.5)	7875	7926
6	66.0(60.5)	56.5(45.5)	7927	7928
7	74.0(63.0)	64.0(58.0)	7929	7930
8 Recap 7/7/89	70.0(64.0)	62.5(49.5)	7931	7932 only
9	49.0(46.0)	43.0(35.0)	7933	7934
10	61.0(57.5)	53.5(45.5)	7935	7936
11	72.5 61.5(57.5)	68.0 52.0(44.5)	7937	7938 7/9-11/90
12	64.0(59.5)	56.0(47.0)	7939	7940

7/88

early (CAUGHT IN 5-89 Gillnet Tags mailed PALAU") no name or return address

Recap 4/23-26/95 Palau

Remarks: Released at Dock. 198 turtles tagged to date with 15 recoveries.

74

Date Tagged: 4-30-85

Location Caught: Palaau, outside biomass plant

Method of Capture: Nets

Number	Curved Length (cm)	Curved Width (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	48.0(45.0)	41.5(36.5)	8812	8813

Note: Straight measurements in parenthesis

+ Release at Kawela

Remarks: 245 turtles tagged to date with 19 recoveries

CONTINUED ON P. 106

NOTE - Includes 22-26 April DATA - NOT TYPED BUT WRITTEN HERE

757

MAY 1985

MOLOKAI - Robt & Balazs

RETURNING TO KK INSIDE

watched ED Bag net

ZODIAC SURVEY & SNORKEL Palau

ZODIAC SCUBA/SNORKEL COMBINATIONS "IN greenholes" #1, 2, 3, 4 CAPTURE

ZODIAC KAWELA CHANNEL SCUBA #5, 50min 40 ft.

SURVEY MALAWA BEACH

SUN	MONDAY	TUESDAY	WED.	THURS.	FRIDAY	SAT
19	20	21	22	23	24	25
26	27	28	29	30	31	1

JUNE 85
SATURDAY
6AM NOON 6PM

Kamla & Balazs

WAIKIKI SNORKEL 1-2pm high

2-3pm HIGH

2-3pm HIGH

For tide time at following places, add or subtract from Honolulu time.

PORTS	Hrs.	Mins.	PORTS	Hrs.	Mins.
HANALEI BAY, KAUAI	−1	40	KAUNAKAKAI, MOLOKAI	0	09
NAWILIWILI BAY, KAUAI	−0	32			
PORT ALLEN, KAUAI	−0	32	KAHULUI, MAUI	−1	48
			KIHEI, MAALAEA BAY, MAUI	−0	14
HALEIWA, OAHU	−1	36			
HANAUMA BAY, OAHU	−0	55			
[illegible], OAHU	−1	35	HILO, HAWAII	−0	59
	−1	48	HONUAPO, HAWAII	−0	24
	0	16	MAHUKONA, HAWAII	−0	24
	1	15	KEALAKEKUA BAY, HAWAII	−0	16

MOON PHASES

FULL MOON	LAST QUARTER
MAY 4	MAY 11
NEW MOON	FIRST QUARTER
MAY 19	MAY 27

JUNE 1985

SUN	MON	TUES	WED
2	3	4	5

Snorkel Petroglyph side [illegible]

SCUBA #1 KAWELA [illegible]

SNORKEL - EAST OF [illegible]

Zodiac, 5 bottles, 25 hp Evinrude, anchors etc shipped 5-17 on Air Molokai $80.70 538 lbs.
(late 4:05 pm flight)

21 MAY 85 Depart HA FL 750 ~ 5:20 pm
TUESDAY for Molokai - Robert and I.
Check in Pau Hana #26 (Business rate) Rm 108
AVIS compact $18.95. wagon - SENTRA NISSAN
Dinner at Pau Hana - Short Rib.

22 MAY WED. UP 5am, breakfast at Midnight INN. TO Molokai Airport - AIR MOLOKAI opened at 6:45pm. Loaded all gear and drove to pier where we assembled the Zodiac. Took 5 Scuba bottles to Arthur Pua's house (Tel. 553-5278), Stopped for lunch food, loaded and departed KK dock at ~11 AM. High cloud overcast, cool, calm seas, light south/west wind. Small South swell. Very low tide. Motor west outside reef until just before reef house. Breakers looked big in front of us, extending seaward, so we cut in crossing over the reef and this point. Lots of shallow water - coral heads near the surface. Picked our way between them to the deep green "harbor" heading right to the house. Followed it out to see the entrance. Sort

22 MAY 85. "Check out the grounds"

BULLPEN WAS ORIGINALLY A FISH AND TURTLE CATCHING OPERATION.

WEDNESDAY

of parallel waves partially obscuring the entrance. Motor back toward shore, then west across the reef flat, eventually having to walk the zodiac across soft mud ground. Lots of algae - Acanthophora; ~~Hypnea~~ com and stringy green. _____? Came to deep green area, crossed it, then motored to second deep green area. Motored seaward and anchored for lunch at 12:45pm. Can clearly see Pakaraka fishpond just west. Dotted segments of pond wall with mangrove growing from it. Motored more toward pond after lunch, anchored at ~1:30pm over coral head inside gentle wave break. During a 5 minute period, Robert saw ~10 "heads" surface to the west a short distance, in and around a green cut (hole) (channel) area. Still slightly east of Pakaraka pond. I saw 15 head to the east of zodiac. Turtles "waking up" with the rising tide? Snorkel this area for 40 minutes back and forth. During this time, water became more "dusty" with increased wave breaks & rising tide.

Lots of coral heads with deep convoluted areas in between. Often what looks like pure silt ... at bases under coral heads. Lots of coralline algae present, also stony coral

They can "go to sleep" quickly, as evidenced by Maralua Bay turtle.

that appears (is) dead matted with silt (or blue green algal growth?). Bleached-out spots also present. Only one turtle seen on the dive - medium size came flying out from deep under a coral head - trailing a steak of silt from carapace. Such silt obviously settles rapidly, on shell probably from cloud that rises when the turtle enters to rest.

SEAWATER - 25.5°C

Moved 2-300 YARDS to the west, now toward front (outside of) Pakaraka pond, again anchoring just a short distance inside where small waves break. Swam seaward ~20 MINUTES to green area - deep here - need scuba to survey bottom properly. No turtles seen underwater, but one seen at the surface in this area before we entered. Also, a few heads seen slightly to the west. Cleaner water here than at previous dive site, but still not good visibility. Again, lots of pot holes. Rain started - not heavy - but drizzel constantly. Heavy overcast. Cold. Motored toward fishpond - came to deeper area (channel parallel) - with iron stake markers. PUA reports turtles sleeping in here.

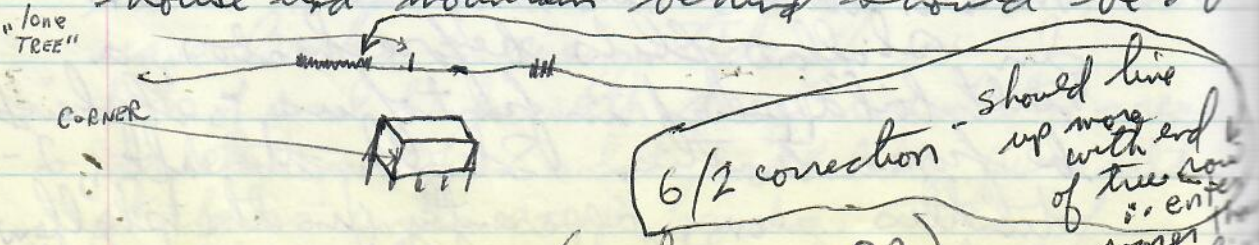
Motored back toward "House" and "Harbor". In shallow flats before harbor, a "silt boil" appeared in front of us - believed to be from a turtles. Shortly thereafter, 2-4 turtles seen, apparently in the shallows feeding on algae. Algae silt laden -

22 MAY 85
WED.

- holdfasts on chunks of coral rock. Anchored for a short time here in just a few feet of water. Noted raindrops "floating" in spheres on the surface. Motored out "harbor" - noted edges where turtles might sleep.
Breaking reef extends quite a ways out to the left of harbor entrance when exiting. Hold to motor way out and around. Returned to 4th pier ~ 4:30pm. Cleared gear, removed motor, picked up scuba bottles, got gas, saw Bill on pier.
Dinner (chicken) at Pau Hara. Rain during the evening.

23 MAY 85
THURSDAY

Up 5am - breakfast at Mid-night Inn - Readied zodiac and departed 4th pier for Palau. High overcast, rainsqualls in the distance. no wind, calm seas. Tried to find harbor entrance, but entered short again. Correct line-up of house and mountain behind should be:



(cont. Page 82)

5-22-85 NOTES: ON A DECREASING TIDE, SILT IS MORE LIKELY TO SETTLE OUT, THEREBY GIVING BETTER VISIBILITY.

→ Recall that on 4-22/4-26 TRIP, ED COMMENTED THAT HE DOESN'T LIKE TO LEAVE HIS NET AT PACAIKU/PAKANAKA FOR MORE THAN ONE NIGHT, BECAUSE THE LINE GETS FILLED WITH SILT, MAKING IT HEAVY ∴ DOESN'T FLOAT AS WELL.

- NOTES BASED ON TALK WITH ARTHUR PUA AND FRIENDS:

(1.) TURTLE JUST "RUN" ALONG GILL NETS; DON'T OFTEN GET TANGLED (AND WHEN DO, BREAK IT?).

(2.) HOLES IN LOBSTER NETS BELIVED TO BE MOSTLY FROM TURTLES. OLD-STYLE LOBSTER NETS COULD HOLD TURTLES. NEW (LIGHT-LINNEN LINE?) CAN'T.

(3.) "RICE-PADDY": ACROSS FROM REFUGE AT KANELA - 2 REEFS OUT THERE RUNNING PARALLE TO SHORE - BIG TURTLES SLEEP ALONG IT. PLACE WHERE YOU CAN LAUNCH A BOAT FROM A TRAILER JUST THIS KK SIDE. CHANNEL THERE (?) TURTLES JUST OFF THERE.

(4.) BIG TURTLES OFF KAMALO (35' - 60') - NO CURRENT - WAVE SURG THERE. SAND FLATS WITH LARGE CORAL HEADS, TURTLES LAY OUT IN THE OPEN.

(5.) LOTS OF TURTLES OFF PAKANAKA POND. THEY SLEEP VERY CLOSE TO SHORE. IN CHANNEL RIGHT CLOSE TO POND. OTHER DEEP SPOTS IN CLOSE TO SHORE.

Reef Collection #2 5-23-1985 Waikane, Molokai

Spyridia filamentosa
Halimeda discoidea
Laurencia carolinensis

23 MAY 85
THURSDAY Entered harbor and proceeded over shallow mud flats at small "pocket" shoreside in harbor

← ocean

Motored aways, then turned seaward toward reef ridge (where it breaks a short distance thereafter. Mud "bar" charges into zone of coral heads - all too shallow with this low tide to let the zodiac over. We had to pole and pick our way over. Grounded too many times, so we anchored up and readied for scuba. Saw a green area on reef ridge, but only one visible. no others seem to be in this particular area, however overcast and absence of bright sun may be masking them from our vision. Scuba #1 in this green hole - 8:30 - 9am (17 minutes) 10-15 feet, saw 5 small to medium size turtles, but they were all on the move. Very difficult to maneuver around coral heads/shallow water with scuba gear on. Tide falling, but still the suspended particles make vision limited and difficult. Reflection occurs from particles? Hard to see inside dark overhangs. Pure silt seems to collect/settle down in many areas and the base of live coral heads.

Pulled anchor, motored inshore far

"Reef Framework" – "Cracks in reef."

23 MAY 85
THURSDAY

Enough to be out of coral head area, and moved ~300 yards to the west. Motored back out toward the reef rim again. Inside wave break there is a narrow green channel running out diagonal toward Lanai. Scuba

Total a+b

9:30 – 10:30 am (#2a) 20 minutes (a+b), 10' deep here – followed edges around – Saw 2 small to medium turtles, one at the end seaward, base before wall goes up. Nice buffer here from incoming waves – like one at Eastern Island, Midway.

Scuba (#2b) Snorkeled from 2a to deeper ~15' green area – more on break i.e. slightly further out. Saw 5 small to medium turtles, all moving, most seemed to come down from above us. Turtles seeing, or hearing(?), us before we see them. Based on heads seen, and movement of turtles, one would suspect that turtles have not in a sleeping mode. After coming off scuba, we snorkeled back toward Zodiac. Along here I spotted the back of a turtle stuck out from under a coral head in a deeper area (6-8') (not green). Put on scuba and hand captured. Put turtle in boat and immediately proceeded to snorkel to the west, past Scuba #1 channel. Followed a deeper area which lead seaward to area green... slightly outside or on of wave break. Shear walls

10:10 – 11:15 AM (Scuba (#3) 34 minutes 25 ft)

Thursday
23 MAY 86

Saw LeRoy Fernandes

of living coral and coralline algae. Got down to 23-5 feet, and realized we were still heading seaward. No turtles seen along the edges of this green area. However, soft silt piles at bases and inside overhangs. Two cave-like depressions seen with silt bottoms that certainly looks like excellent turtle-sleeping sites. Swam back at the surface in to the zodiac. In wave-break zone I noticed scar-marks ⌐ ⌐ in coralline algae (pink hard & smooth) apparently bites of fish. Outside of green area, probably back in Scuba #2 green channel, I saw 2 turtles swimming.

Ate lunch from 11:30–12:10 pm. Drifted inshore away from coral head ridge, then motored close to and immediately in front of Pakanaka Fishpond. 2 rebars mark coral head crush - deep area here, said by Arthur Pua to be used by sleeping turtles. Glassy still with overcast - 2-3 area photos taken. One aiming at KK & pier - right after I took it a turtle surfaced in deep area slightly to the right. 2-3 more times we saw turtles surfacing - both to the west and to the east. Geared for Scuba here, got into the water and attempted to follow channel edge down, but slope was complete soft silt-

23 MAY 85
THURSDAY

NOTE: Great difficulty in getting to green spots when tide is so low. Choked with coral heads - zodiac hits them alot.

Cloudy lifted up each time swim - coming novel over it. Visibility nearly "zero" - could barely see my hand held out in front of me! Swam across to seaward side of channel - tried following slope down here, clearer - but not enough to see anything but soft mud bottom right at your face. Gave up and returned to boat. Wind now blowing offshore, causing small white-capped chop. Motored to the east and closer in to shore by the mangroves. Can't get right up to them because it gets too shallow. Anchored and processed the turtle. Data on following page: Motored back to KKL Pier along the inside of the reef - arriving ~5pm. West of Coconut trees we saw 2 net boats and one boat with outboard setting nets - 34 men. Puleloa reports this man named Ching - been setting nets for years - Bill worked for him when he was young. Stays overnight with his net. Gills them, but forms a pocket at the end to hoist the fish. May take turtles if he gets them. Dinner at Hotel Molokai - Telephoned Bill Gilmartin.

SEE INSERT p. 87

MAY 23, 85
Thursday

HAND CAPTURE in ~6-8' hole Palau reef edge - sleeping under coral head, by GHB

8453 Right hind

8454 R Front

8455 L Front

S - 60.2 x 48.4
NOTCH - NT

C - 64.5 x 58.5

PL - 48.3

HEAD - 9.4

TAIL - 14.0

RFF - 10.6

V-wedge taken from 10th marginal left.

Blood sample taken. 2 VIALS OF SERUM

Red skin alga present in small to moderate quantities

1 skin barnacle seen.

Carapace is darkish with light spots.

Good food sample obtained - looks like all Amansia (3 photos with tube in mouth - #1, 2 & 3 tray below.

Spots of algal mat on carapace, with lots of silt in it.

Sample No. 8453 5-23-1985

Amansia glomerata	99%
Ceramium sp.	Trace
Hypnea sp.	Trace
Tolypiocladia calodictyon	Trace
Amphipod	

MOUTH SAMPLE

INSERT FOR PAGE 85

23 MAY 85
Thursday Motored directly out from Pakarafa fishport and anchored on bed of coral heads at 1:15 pm. SCUBA #4 - 20 minutes, 10 ft. in green hole. No turtles seen at coral/sand ⊥ base of green hole, or anywhere else in area.

24 MAY 85
FRIDAY Up at 5am, breakfast at Midnight INN. Readied zodiac and departed ~ 7am. Motored to the east to meet Ed at Kawela netting site. Smooth water at first, but turned into brisk wind with chop blowing right at us. Found Ed in harbor channel (Kawela) picking up friends from mainland and Bill Puleloa. Boat can be launched from trailer here. One of Ed's engines had quit running. Followed Ed out to where the net had been laid. Bill commented later that this was a very bad site. No turtles in fog, and very little fish. Any in would have escaped over the top where floats were partly down (snagged on coral?) according to Bill. With Bill aboard, we proceeded into Kawela channel and anchored in shallows up on reef. Robert and I did SCUBA #5 - 50 minutes - 40 ft. starting ~ 9:15am. Dropped down along channel edge - west side - to ~ 25 ft. Saw a

24 MAY 85
FRIDAY

school of Papio come back and forth by us silty down and on coral heads - moderate visibility. Followed channel edge out and around to the west bordering main channel separating Molokai and Lanai. Water clarity still excellent and live coral very abundant on cliff face. Sheer - straight up and down in places. No current whatsoever detected. Lots of fish ie Surgeon fish (black), Menpachi, Kuhee. Silt at the base of cliff, but I didn't go to the bottom after awhile because it became deeper - at farthest point as I dive estimated to be ~60'+. Returned along the same route to zodiac where we met Bill. He had speared a couple octopus. Motored zodiac to Bill's ocean front house, where we stored everything for next week. Ate lunch at his house. Picked up car at KK Pier and cleaned all remaining gear. From ~1pm on wrote up notes in hotel room. On the way back from the airport, Bill drove us up hill through KAWELA PLANTATION. Took photos of coast line and where we did Scuba #5.

KALOHI CHANNEL

Departed on Hawaiian Airlines ~7:30 after it was ~hours late. Jan Christy picked us up.

- soft mud
- Define "green hole"

A Mr Hokajo, Puerto Rican, is said by Bill to regularly set "bul pen" style nets at Kawela. Has turned in 10+ turtles to Bill over the months for tagging.

28 MAY 85 TUESDAY Depart on Hawaiian w/KAM Air DASH 7 at ~11:45 am. Strong trades - heavy sea & white caps. AKs van to Pau Hana Inn. Got same room (108) and station wagon as last week. Worked on papers, etc. in room. Departed ~3:30 pm for Waikane. Road seems much better than during past years. Parked at Coconut Grove at Waikane and walked on the beach. Found several bleached-out turtle ribs. Also, a small dead shark (another seen at "Petroglyph" site earlier). 4:30 pm - with binoculars, regularly saw head surface rapidly in muddy water zone. Short surface intervals. Departed at 5:05 pm. To Pulelo's at ~4.5 mile marker. Picked up scuba bottles and some other gear. Big Sailvessel "Manu Tea", Port Villa, at anchor at Kawalo - ~10 mile marker. Acanthopora and Hypnea c. washed up. 6:30-45 pm

Rib bone of large juvenile found at KAWALO

NOTES: Turtles stay where they recruit, if food and rest areas are available - Seem ... unwilling to relocate, even when in a heavily used recreation area. Protected area, OKs

Dinner - at Pau Hana

but if not, they would get taken. Also consider high shark predation if habits & habitat not correct.

Common features vs → Differences

Similarities vs →

TOLERANCES - list

29 MAY 85 WEDNESDAY Up 5 am - 5:30 breakfast at Midnight Inn. 6 am drove to Waikane. 8 am pick-up with one man camped on beach by coconut grove. (LIC ARN182?). A couple limpers fishing with home-made wood floats on the beach. While we were getting ready to go out a flat-bottomed boat came in with 3 men aboard - more nets in the bow. They unloaded a small cooler.

See of water out of beach in intertidal.

We walked to the east to the remains of the fishpond wall - walked out along it in very shallow water. Soon noted abundant growths of HALOPHILA in soft mud/sand. This vegetation continued to ~1/2 way to reef - where bottom is mud/sand. Closer to reef, corals became ~~more~~ abundant - coral rock on the bottom. Lots of coral heads dead, with silt/algal mat covering them. Noted a lot of what believed to be ~~Spyridia~~ OR one of the LAURENCIAS (yes) (p.81) fuzzy appearance ~~indeterminate~~ not so when brought out - ID needed.

7:35 am Low tide But starting up.

Nidifera = in Algae Book

29 MAY 85
Wed.

SEPARATING MOLOKAI & LANAI:
KALOHI CHANNEL
MOLOKAI & MAUI: PAILOLO CHANNEL

Snorkeled zig-zagging back and forth to the west until out from adjacent fish pond. Left water at ~ 10:40 am (2½ Hours total dive). Found cracks, and channels, and deep small spots, but most don't seem as deep as snorkel dive Robert and I made from "Harbor" net site to the west. Came across 2 large (fairly) sand-bottom/silt-bottom areas, the western most of which had a ~15' channel running out through the small breakers. On the western side of this channel there started to be Asparagopsis commonly on the coral and dead substrate.

SIGHTINGS of turtles: 2 small juvenile within a few minutes of each other shortly after start of dive (with 20 minutes).

4 juveniles - 3 all together resting on shallow porites rubble; one by we slightly inshore same site.

NO TAGS NOTED ON THE TURTLES TO TOTAL

1 adult alone thereafter, 4 times, 1 large juvenile, other 3 small. 2 of which were resting, but alert - swam up quickly. All were alert, and had silt on their backs, - except the last on which the head alone was seen ~30' from Alan when we were returning - ½ way in over soft mud with Halophila pastures. This one seemed to be a juvenile too. Bits of coral collected for ID, and some benthic algae. Don't forget that coralline algae (Pink Porolithon that crumbles easy, and hard

P.87 NEOGONIOLITHON FRUTESCENS

29 MAY 85 ("PORE LITHON - RIDGE")
WED.

p77 - Hydrolithon reinboldii ?
smooth pink, seems to be the major component of the fringing reef. No Caulerpa taxifolia (heavier blade), or is it C. sertularioides (upright branches round) (upright branches angular) in the mud-bottom zone close to shore where Halophila occurs? Coastal terrestrial vegetation here is kiawe - cattle land. At Palaau, nearshore waters are encroached by Mangroves - backed by shrimp farm experiment and cattle/agriculture land. Salt flats.

At the western end of dive, we saw more "domes" of purple fuzzy seaweed on coral heads, often near Limu kohu - possibly DOTYELLA hawaiiensis. (p65 Algae ID book).

NOTE: NO Hypnea cervicornis or Acanthophora seen during the dive.

Algae samples collected for photography. Consider also having Tatima do plates from Algae book.

Passed People cove, but all gear and boat there when we returned. Camping and netting tonight? Drove to side road by west end of Pakanaka Pond. This is the start of heavy mangrove. To the west, kiawe but small sprouts of mangroves are starting. Found relatively fresh head, one side of pelvis, rib bone - all from juveniles. Found over a wide area, so all probably different... "Pocket" here is a collection point for detached algae and other debris.

Read 98-99 of Algae book.

"Acanthophora spicifera, on the other hand, is a newcomer that is not useful and has displaced many of the algae species previously inhabiting Hawaiian reef flats."

29 MAY 85 WED. Returned to hotel - 11:45 Am. Wind strong 30kt. I believe it started gradually at ~9 Am. Took 4 bottles to Pritchard

Wrote letters & other NMFS office work during the remainder of afternoon due to strong gusty winds. 36 hr. report on Molokai.

30 MAY 85 THURSDAY Up at 4:40 AM - Picked up coffee at Midnite Inn at 5:30 and drove to Waikane site. About a 30 min trip. Camping gear all gone, but boat still anchored there. Photo taken of fish pond to the east. Drove to petroglyph site - blue trash barrel. Small seeps present along here in intertidal zone -- low tide now. Noted Acanthophora washed up, and also growing on hard substrate just out from shore. Hard area like this was not present when we walked out from Waikane yesterday. Hard bottom only lasted a short distance, then turned into mud bottom shallow with Halophila alone growing all over. Distance about the same as yesterday to zone where it becomes deeper (waist +) and coral heads occur. We headed at a prominent exposed head just to the left of a stick-marker in the coral head zone. Heads of Porites, like some yesterday. Also the smooth coral covering heads over surface. Overall there were many more deeper cracks and holes.... throughout this dive, or even ones Robert and I made last week (excepting green areas)

IN WATER ~6:25 AM

TAKES ~ 15 MINUTES TO WALK OUT.

30 MAY 85
THURSDAY

NOTE - NO HYPNEA MUSCIFORMIS found on Molokai

Where we went out, the reef fringing extended out further than adjacent areas. Overall, there were areas of very clean water (less silt deposits noted), and cloudy water. Alga I saw yesterday is Laurencia, but with fuzzy all over it (reproducing?). SPHERIDIA patch here on hard bottom.

11 TURTLES total seen. 2 large juvenile (#6 grabbed) 9 others small juvenile.

In one quite area, apparently very well protected by buffering coral heads, there was a thick silt bottom with lots of Halophila. This was within the coral head zone. When sun came out bright intermittently, I could see silt brown of breaking waves. Only 2 of the turtles of the (11 were first) seen resting on the bottom. The large juvenile I grabbed, but lost, was slippery fin from silt. was laying between 2 low underwater mounds in very turbid water - saw only his head and neck. In quite area (above noted) 2 turtles were seen a short distance from each other. All others seemed like separate sightings but cloudy water probably often prevented an accurate appraisal. Dive ended ~9:15 when we swam inshore across the shallow mud zone and Halophila, coming out at the fishpond where we started yesterday. Walked across the inside of the pond remains. Very soft mud with lots of Halophila growing in it.

30 MAY 85 Toward shore it felt like "quicksand!"
Thursday Acropora common both yesterday and today with "hollow" tips = GALAXAURA RUGOSA (p. 69)
Again, Limu kohu common today. Yesterday Alan found some ~~[illegible]~~ AMPHIROA ↑ in crack area between coral heads.
OUT ~9:15am - Ate breakfast in car & drove back to Pau Hana.
~1pm drove to Kawaloa Harbor for Scuba.
Strong gusty winds - Entered ~2pm - walked out to
SCUBA #1 deserted wood pier. Started scuba across to red △
56 minutes marker on reef, but surface wind dictated following
25 ft. channel drop to the east of earthen-rock pier. Large turtle seen at the surface for a minute or more prior to dive (middle of this channel pocket). Drop is ~20' - slope of silt-soft mud, with interspersed dead coral head. No ledges where turtle might sleep. Channel bottom while on the way to △ was 25'. Featureless smooth silt at the bottom of drop, which we followed along to the east. Regularly came across mounds, rows, of Hypnea cervicornis, that had obviously been swept along reef flat and settled into channel. Much of it looked alive. "Pocket" circled around close to end of pier, and in this area we saw 1 and 3 spiny lobsters in dead coral debris. Beyond the end, in 25' depth, there was vast quantities of Acanthopora, looked alive, deeper than any depth. Why monospecific mounds collected in the two places?

31 MAY 85 Up at 5am - Breakfast at Mid-nite
FRIDAY 5:30 am - Had to change tire - flat.
Returned to Hotel to wait for a change of
car. Departed ~ 7:30am. Arrived at
Petroglyph site for snorkel - took photos
close up of Halophila at this very low
tide. Walked out to zone of coral heads
at ~ 8:30am. When driving in, there
were ~7 Axis deer running from east Waikoloa
fishpond area - likely getting freshwater
seeping on beach from low tide. I tasted some
by Petroglyph site and it seemed very fresh.

Turtle caught at ~ 9:20am resting land-side
at base of coral head, in small depression
sand on bottom - depth ~ 6'. Took turtle
a short distance to prominent coral head we
headed for initially when walking out for yesterday
snorkel. Sat up on it for tagging:

8462LFL

C-53.3 x 46.0

8463RFL

Carapace color brownish w/clear areas. Red skin
alga. Green algal scum on fl and carapace -
also a small amount on plates of head. Some silt
still on carapace.

31 MAY 85 From 8:30-920 - 5 total turtles seen
FRIDAY (includes the one captured), as follows: 1 juvenile
small swimming; 2 rising up, swimming away fast
(1 small, 1 large juvenile); 1 head surfacing ~20'
from us.
Continued on zig-zagging to the west. Very silty
water, undoubtedly due to rising tide, and wind.
Visibility probably not more than 10 feet. Less
when looking toward east quadrant of sky. About
100 yards west, and shoreward, of large coral head we
sat on, I caught another - seen resting ~5' deep
seaward base of coral head - grabbed it as it swam
quickly out. Sat on a low coral head
at 9:50am

8460 RFL C - 46.0 x 44.5

8461 LFL Brownish narrow shell w/o clear areas. Only a
few small specks of algae on carapace &
plastron - seemed to be growing where scratch
spots - abrasions were present. Noted fine
sharp teeth - transparent edge at end of
flippers. Small amounts of green skin algae.
Amphipod on my wetsuit from turtle.
This turtle likely a recent recruit to this
coastal area.
Returned to the beach at ~10:15am.
Shortly prior to catching the above, I
saw 4 others (3 juvenile, 1 large juv.) All close
together - 2 of which came up from resting.

31 MAY 85
FRIDAY

Following dive, we ate lunch in car at petroglyph site. Then drove to KOLO wharf. No trespass locked gate, so couldn't enter. Saw dilapidated wharf from hill top. Brown, muddy water all over.
Returned to Hotel. Had a bad headache all afternoon and evening.

1 JUNE 85 SATURDAY

Up ~ 6am. Breakfast at Midnite; Drove to Bill Puleloa's at 7:15am. Disassembled and loaded zodiac, motor, etc. and moved everything to KK pier for reassembly. Virtually no wind still at 8:30am but by 9am it started blowing hard. Decided to cancel going to Palaau today very low tide now, so can't possibly motor inside the reef. Instead, decided to drive to Halawa Beach to examine status, and look for evidence of hawksbill nesting. Stopped at Kamalo on the way (sail vessel gone), and at "Wavecrest". Arrived at Halawa at ~ 11:30am. Right beach had 3-4 4-wheel type vehicles parked together up high (surfers & beach goers). Photo walked this beach carefully, but no evidence of nesting seen. Crossed the river at a shallow place to left hand beach. Noted lots of vehicle tracks, +

1 JUNE 85
SATURDAY

motorbike. Departed Halawa ~ 1pm. Stopped at an unofficial rubbish dump/lookout. Photo of offshore islet (MOKUHOONIKI & KANAHA Rock). Looks somewhat like a turtle back & head from this angle. Photed coastline hoping to get Kumuhonu, but in looking at map I saw that it was much further to the NE and surely hidden by KUA and KAHEI Pt.
Returned to the hotel - ate dinner at MID-NITE; attended Mass, where I saw Bill Puleloa and family. He will be going to many graduation parties tonight and all day Sunday.
Starting at 9pm - again loud music at the Pau Hana bar - EBBTIDE. After returning from Halawa, we visited the Molokai dump - spent ~ ½ hour searching for turtle parts. None found, but 2 assis-deer remains found.
Visited side-road where Bill had found remains over a year ago. More remains seen, but all very dried and as old as the ones Bill had showed me during April trip.

2 JUNE 85 SUNDAY Up 5am - ate breakfast cereal in the room. Loaded zodiac at dock and departed at 6:10am for Paloau. Calm sea surface - decreasing tide. Arrived off Harbor at ~ 6:35am - entered reef slightly too far to the west. Motored just to the west of harbor, just east of second "harbor." This second one leads right in to a "cove" in the mangroves. It is just

2 JUNE 85

SUNDAY east of the "point" of mangrove growth in which mangroves are not completely enmeshed. Snorkeled coral head (gone) tried going to the east first, but rising sun made underwater visibility nearly impossible. ∴ moved to the west (zig-zagging in and out exploring are areas for resting turtles. Very low tide (see charts). Tops of all coral heads exposed. No turtles seen during snorkel, except for at one concentrated site 6-7' deep where 5-6 turtles moved out of. 1 med. juvenile seen resting on the bottom, but got away. 2 other med. juveniles sped by, one almost hitting me, others were small juvenile. Water was very cloudy at this site.
DIVE TIME 7:10 - 9:00 am 1 hour 50 min
ALAN CAUGHT TURTLE — Ate lunch and drifted in and anchored by green deeper area (2nd harbor). 26°C Seawater
At 9:30 am we saw a turtle swim by the anchored zodiac. [This observ. 12:15 pm] Noise on aluminum floor boards made it swim quickly - startle. 10 am we motored into 2nd harbor and grounded on the mud to the left (west) side. Low tide had exposed all mud flats here. Photos + 1 of Mangroves. Shallow water covering Halophila, Spyridia (?), an unknown, and Acanthophora
→ very warm.. Photos close up. Warm water makes algae grow better?

2 JUNE 85
SUNDAY

Caulerpa ____ and Halophila in soft mud.
(can sink in deep!) TOES First others on hard substrate.

→ Mixed sample of this vegetation collected for D. Russell ID.
11 am motored all the way in 2nd harbor (deep enough to do so, even at this low tide.) Grounded on the right and walked to Mangrove shack built on stilts. Landing with tires sett up, plus sleeping, cooking (etc. No sign of turtle remains or shells.
BLUE TARP
11:30am motored to and anchored just outside 3rd harbor (deeper green area) to process turtle Alan had jumped on from zodiac when we motored from dive. Turtle was visible moving in shallow water toward shore. This shallow area, seaward and adjacent to 2nd Harbor (TO the WEST) seems to be lighter colored substrate - probably more sand than mud.
NOTE: Characteristics of area (Palau) are difficult to discern unless bright sun is out, and surface water is relatively still.
12 noon - A med. juvenile closed in ~~[illegible]~~ flats. Anchored just west of 1st harbor.
12:15pm anchored just off "Mangrove" Point Small turtle swam by - head bang on floor boards.
~ 1pm we headed for KK Pier. 1.5 ft tide is high enough to get zodiac over nearly all heads. Brisk wind blowing. Radio reported S. Swell up. At ~ 1/2 point, Alan saw a small turtle swim by. Arrive pier ~ 2 PM.

2 JUNE 85
SUNDAY 9:45am PALAAU CAPTURE - HAND CAUGHT FROM ZODIAC BY HAN: ~3' deep.

8458 LFC S - 41.2 x 33.9
NOTCH - 40.6
C - 43.3 x 40.7

8459 RFC
PL - 31.8
HEAD - 6.7
TAIL - 8.5
R FRONT FLIPPER - 7.3

Small amount of green algae on PL & pelvis. Nearly clean carapace & front flippers + skin off neck.

1 small turtle barnacle on 3rd lat. left.
1 amphipod seen from mouth.

Blood sample obtained. (1 VIAL OF SERUM)

Food sample via tube. (Spyridia ?)

This turtle likely a recent recruit.

Sample No. 8458 6-2-1985 Molokai

Hypnea sp.	Trace
Laurencia sp.	Trace
Codium edule	Trace
Oscillatoria sp.	Trace

SUNDAY
2 JUNE 85

4pm - pulled out zodiac, deflated and readied all gear for shipping to Honolulu. Photos. Radio reports that South swell is up - some harbor entrances may be hazarous.

3 JUNE 85 - Transported gear to AIR MOLOKAI
MONDAY -

Departed at 11:35am on HAWAIIAN AIR FL 729
Brought back juvenile hawksbill raised in a bucket at Bill Puleloa's house.

Reef Collection #2 6-1-1985 Palaau, Molokai

Spyridia filamentosa
Caulerpa sertularioides
Dictyota crenulata
Laurencia nidifica
Chondria tenuissima
Halophila ovalis

Molokai Reef Sample

Hypnea cervicornis
Sargassum polyphyllum
Laurencia nidifica
Spyridia filamentosa

CONTINUED FROM p. 75

Date Tagged: May 7, 1985

Location Caught: ½ mile west of Biomass plant, Palaau, Molokai

Method of Capture: Nets

Number	Curved Length (cm)	Curved Width ~~XXXXXX~~ (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1*	82.0(74.5)	76.0(61.5)	7246	7247
2**	73.5(68.5)	65.5(54.0)	8814	8815
3	43.0(40.5)	39.5(33.5)	8816	8817
4***	43.5(41.5)	39.0(33.5)	8818	8819
5	48.0(44.5)	43.5(37.5)	8820	8821

NOTE: Straight measurements in parenthesis.

1* This is a recapture from 5-16-84 which was also tagged in this same general area. Released at: See below

2** Plates on carapace odd. See attached sheet #1.

4*** Left rear flipper deformed. See attached sheet #2.

Remarks: All of the above was released at site of capture.

249 turtles tagged to date with 20 recoveries.

Date Tagged: May 8, 1985

Location Caught: ½ mile west of biomass plant, Palaau, Molokai

Method of Capture: nets

Number	Curved Length(cm)	Curved Width ~~Length~~ (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	48.5(45.5)	43.0(36.0)	8822	8823

Note: Right rear flipper deformed.

Remarks: Released at Kaunakakai Dock. ~~XX~~ 250 turtles tagged to date with 20 recoveries.

Date Tagged: May 9, 1985

Location Caught: ½ mile west of house, Palaau, Molokai

Method of Capture: nets

Number	Curved Length (cm)	Curved Width ~~Length~~ (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1*	53.5(50.0)	48.0(41.0)	7305	7306
2	81.0(75.5)	74.5(61.0)	8824	8825
3	70.0(65.0)	61.0(52.0)	8602	8603

1* This is a recapture from 1/6/84, originally caught in this same area and released at Kawela.

Remarks: 252 turtles tagged to date with 21 recoveries.

Date Tagged: 5-19-85

Location Caught: ~~Kawela~~ BIOMASS PALAAU = Palau "M"

Method of Capture: Incidental catch in nets of Hocajo

Number	Curved Length (cm)	Curved Width ~~Length~~ (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1*	53.0(50.5)	48.0(42.0)	6698	6699
2**	47.0(44.0)	40.5(35.0)	8604	8605
3	45.0(42.5)	38.5(33.5)	8606	8607
4	71.0(66.0)	62.0(52.0)	8608	8609

6/3/87 Palaau TMRS

8699?

*Recapture from 4-25-84. Initially caught and tagged and released at Palaau. This recovery indicates:

(1) an increase in curved length of 2.0 cm;
(2) an increase in curved width of 3.0 cm;
(3) an increase in straight length of 2.5 cm;
(4) an increase in straight width of 2.0 cm;
(5) a eastward movement of approximately 7 miles.

**See attached sheet #1 for shell deformity.

Remarks: All turtles released at Kawela. 255 turtles tagged to date with 22 recoveries.

Date Tagged: May 20, 1985

Location Caught: ~~Kawela~~ BIOMASS PACAAU = PALAAU "M"

Method of Capture: Fisherman's nets (Hocajo)

Number	Curved Length (cm)	Curved Width (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	42.5(40.0)	37.5(33.0)	8610	8611

Remarks: Turtle released at Kawela. 256 turtles tagged to date with 22 recoveries.

Date Tagged: 6-14-85

Location Caught: Kawela

Method of Capture: Fisherman's nets (Hocajo)

Number	Curved Length (cm)	Curved Width (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	45.5(42.5)	40.5(35.0)	8612	8613
2	47.5(44.5)	42.0(36.5)	8614	8615

Remarks: All turtles released at site of capture. 262 turtles tagged to date with 22 recoveries.

Date Tagged: 6-15-85

Location Caught: Kawela

Method of Capture: Fisherman's nets (Hocajo)

Number	Curved Length (cm)	Curved Width (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	42.0(39.0)	38.5(33.0)	8616	8617
	RECOVERY	RECOVERY***	RECOVERY***	
2	48.5(45.0)	42.5(36.0)	6573 & 6571	6572

Turtle #2 was originally tagged in the same area 2 years and 5 months ago. Since then it has increased its curved length by 8.5 cm and its curved width by 7.0 cm.

Both animals released at site of capture.

Remarks: 263 turtles tagged to date with 23 recoveries.

Date Tagged: 6-17-85

Location Caught: Kawela

Method of Capture: Fisherman's nets (Hocajo)

Number	Curved Length (cm)	Curved Width (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	52.0(49.0)	44.0(37.5)	8618	8619

Remarks: Turtle released at site of capture. 264 turtles tagged to date with 23 recoveries.

Date Tagged: 6-28-85

Location Caught: Kawela

Method of Capture: Fisherman's nets (Hocajo)

Number	Curved Length(cm)	Curved Width ~~Length~~ (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	72.5(68.0)	65.0(52.5)	6820 8620	8621

Note: Left front flipper cut off at spur. See attached sheet.

Remarks: Turtle released at site of capture. 265 turtles tagged to date with 23 recoveries.

Date Tagged: 6-29-85

Location Caught: Kawela

Method of Capture: Fisherman's nets (Hocajo)

Number	Curved Length (cm)	Curved Width (cm)	Tag Number On Left Front Flipper	Tag Number On Right Front Flipper
1	45.0(42.5)	39.5(33.5)	8622	8623
2	74.0(68.0)	67.5(54.5)	8624	8625
3	67.0(62.0)	60.0(50.5)	8626	8627
4	45.5(43.0)	39.5(34.0)	8628	8629
	RECOVERYRECOVERY***RECOVERY***			
	4/24: 62.0 (57.8)	52.5 (45.1)		
5	63.0(58.0)	52.5(45.5)	8634	8635
	This turtle was initially tagged two months ago, approximately 13 miles west of todays capture, at Palaau. All of the above turtles were tagged and released at site of capture.			

Remarks: 269 turtles tagged to date with 24 recoveries.

~~Local Palaau~~ ~~8627~~ ~~8628~~

6/10/89 Dead Kawela shoreline TUMORS (see p66 B4)

8626 → 8626 8627 8627

8628 8628 8629 8629

4/24/85 Palaau See p. 64

4/25/85 GB & Robt - worked-up at House

1st recording
of eastward
movement
by Palaau
turtle!

JOHN WAIHEE
GOVERNOR OF HAWAII

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

LIBERT K. LANDGRAF
DEPUTY

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
P. O. BOX 248
KUALAPUU, MOLOKAI, HAWAII 96757

Sept. 25, 1990

George,

The mystery has been solved! The first recovery of turtle #6698/6699 was indeed at Palaau and not at Kawela as reported. It was however delivered to my house at Kawela, measured, tagged, and released there. Here's the story....

Checking over my field notes, I found them consistent with what had been reported. However, I also noticed that Mickey had entered the figures in my book which immediately suggested that the animals could have been worked on elesewhere other then on Hocajo's boat as customarily done. I then remembered coming home one day to find 4 turtles in the outside shower left there by Hocajo. They were tagged and released right on the beach fronting the house. I mistakenly assumed they were captured at Kawela becuase that's always been Hocajo's fishing grounds. This morning I managed to chase down Hocajo and after questioning him, he remembered the circumstance of the incident clearly and without doubt. It turns out that his younger son was back from the mainland at that time and took the gear to the Palaau area to try his luck (something that the old man would never do). Anyway, they transported four turtles back with them to Kawela and deposited them at my house while I was at the office. The follwoing day under the same circumstances, another turtle (#8610/8611) was also measured, tagged, and released at Kawela.

In sum, the four turtles reported on 5-19-85 and the one turtle reported on 5-2-85 were all caught in front of the biomass plant at Palaau, transported to my residence at Kawela, and after working on them were released at the same. Therefore, turtle #6698/6699 did not make an natural eastward migration as reported.

In regards to the straight length growth vs. the curved length growth, all I can say is that while it may be unusual for the straight to outdistance the curved, it is consistent (at least in this animnal) with the growth rates reported after the second recovery as well, i.e. straight length growth = 4.1 cm vs. curved length growth = 3.5 cm over the total history of this particular animal as we know.

I hope this helps to resolve some of our concerns. I'm sure we'll bump into others as we continue to scrutinize our data. Let's hope the others are as easy to solve as this one was.

Bill

MOLOKAI EXPENSES
(3 NIGHTS - 4 DAYS)
21-24 MAY 85

(NOT ON CHARGE CARDS)

Wed. 5/22 #2.50 BREAKFEAST
#4.50 GROCERY
#15.00 SCUBA FILL (5)

Thurs. 5/23 #3.00 Breakfeast
#11.00 DINNER HOTEL Molokai
6.00 Scuba

Friday 5/24 #3.50 gasoline
#4.00 Breakfeast
#2. SNACK at AIRPORT

SAT. MIDNIGHT Breakfeast - #4
6/1/85 MOLOKAI DRUGS - #6
DINNER - MIDNITE - #6
SUN. MILK & SODA - #3
6/2/85 LUNCH (DRIVE INN) #3
6/3 Breakfast #2
MONDAY

	5/21-5/24		6 NIGHTS 7 DAYS 5/28-6/3/85		TOTAL FOR MOLOKAI
TOTALS - BOAT GAS & oil =	# 19.45	+	2.98	=	22.43
Scuba Air =	21.00		12.00		33.00
HOTEL ROOM = Charge	45.50		78.00		123.50
FOOD = #20 charge	46.58		85.17		131.75
AIR FARE - + prev. Ticket #15 charge	30.00		30.00		60.00
	# 162.53	+	# 208.15		# 370.68

5/28/85 TUESDAY FOODLAND Supermarket #8
MOLOKAI Supermarket 3.50
5/29 wed. Mid-Nite breakfast 2.00
3 Scuba tanks 12.00
COFFEE Breakfast 1.00
5/30 Thurs.
DINNER MIDNITE - #7.00
BREAKFEAST #4.
5/31 FRIDAY
DINNER #3.25
DRIVE IN 2.25 CINNAMON Rolls

GEORGE H. BALAZS
ZOOLOGIST
MARINE MAMMALS AND
ENDANGERED SPECIES PROGRAM

MEMBER, IUCN MARINE TURTLE SPECIALIST GROUP

NATIONAL MARINE FISHERIES SERVICE
P.O. BOX 3830 • 2570 DOLE ST.
HONOLULU, HAWAII 96812

TELEPHONE
(808) 943-1221
(808) 395-6409

METRIC SYSTEM WITH U.S. EQUIVALENTS

METRIC UNIT (1)		U.S. EQUIVALENT
LENGTH		
millimeter	(mm)	0.04 inches
centimeter	(cm)	0.39 inches
decimeter	(dm)	3.94 inches
meter	(m)	39.37 inches
decameter	(Dm)	32.81 feet
hectometer	(hm)	109.36 yards
kilometer	(km)	0.62 miles
myriameter		6.2 miles
AREA		
square centimeter	(cm^2)	0.155 sq. inches
square meter	(m^2)	1.196 sq. yards
are	(a)	119.60 sq. yards
hectare	(ha)	2.47 acres
sq. kilometer	(km^2)	0.3861 sq. miles
WEIGHT		
milligram	(mg)	0.015 grains
centigram	(cg)	0.154 grains
decigram	(dg)	1.1543 grains
gram	(g)	0.035 ounces
decagram	(Dg)	0.353 ounces
hectogram	(hg)	3.527 ounces
kilogram	(kg)	2.2046 pounds
quintal		220.46 pounds
metric ton		1.1 tons

METRIC UNIT (1)		U.S. EQUIVALENT
VOLUME		
cubic centimeter	(cm^3)	0.061 cubic inches
cubic decimeter	(dm^3)	0.0353 cubic feet
cubic meter	(m^3)	1.31 cubic yards
cubic decameter	(Dm^3)	13.10 cubic yards
CAPACITY, CUBIC		
milliliter	(ml)	0.06 cubic inches
centiliter	(cl)	0.6 cubic inches
deciliter	(dl)	6.1 cubic inches
liter	(l)	61.02 cubic inches
decaliter	(Dl)	0.35 cubic feet
hectoliter	(hl)	3.53 cubic feet
kiloliter		1.31 cubic yards
CAPACITY, DRY		
deciliter	(dl)	0.18 pints
liter	(l)	0.908 quarts
decaliter	(Dl)	1.14 pecks
hectoliter	(h)	2.84 bushels
CAPACITY, LIQUID		
milliliter		0.27 fluidrams
centiliter		0.338 fluidounces
deciliter		0.21 pints
liter		1.057 quarts
decaliter		2.64 gallons