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ESTABLISHMENT OF A NEW FORAGING SITE FOR NATIVE HAWAIIAN SEA TURTLES ON THE ISLAND OF MAUI

ms mod Dec 9 1996

R.G. Mahurin

Box 358

Lahaina, Maui, HI

96767

The study breaks down when more than five Turtles are present, but the information may be of use.

ABSTRACT

The following is a traditional study in Biology based upon observation of native Hawaiian turtles on the island of Maui at a new foraging site on the West Side. These data suggest native Hawaiian turtles are indeed a threatened species in need of protection, not only from man, but new environmental pressures. Greater efforts are needed to educate the public about sea turtles, whose natural feeding habits offer a ready opportunity for poaching, which is documented in these data. Some data suggest sea turtle feeding patterns change in response to temperatures, with nightly drops into the 60's prompting extended morning feedings. Whatever the cause, research at multiple sites in near shore waters documents the rapid occupation of certain feeding and resting sites with no historical record of such use.

This study was not planned, but its importance has become self-evident as the authors have spoken with various interests within the community, ranging form strict conservationists to disregard because of a supposed correlation between the presence of large sea turtles and shark attacks. The same correlation can be made between the number of surfers and shark attacks, or drug use among surfers and shark attacks.

Chance prompted this study, which accounts for the lack of data during the early phase of the work. All observations were made at two sites 300 meters apart just south of Launiupoko park on the southwest side of the island of Maui. The beach itself is unremarkable, with boulders of all sizes forming a steep shoreline and a finger of rock bisecting the two ends of the foraging site. There is a high bank that limits access to the beach and prevents automobile headlights from shining directly on the beach. Consequently, the beach is quite dark and sporadically used.

The author speculates the geographic composition of the Hawaiian islands and the interplay of wind and tide bring a constant supply of invertebrates to the area of Maui where these observations were made. Local spear fishermen

have stated the water is brackish, suggesting strong currents. Observations show the largest gatherings of turtles always occurred in moderate surf with clear skies. Otherwise, there are not any obvious factors that account for gatherings in this specific place, though the foraging site is removed from any harbors and corresponding boating activity.

Because the author often sleeps on the beach several days at a time and does not want to attract attention, he uses no lights or fires. This in itself may account for the arrival of Hawaiian sea turtles because the author's presence inhibits most fishermen.

The largest turtle to arrive and appear consistently was named Melrose. Melrose is female, this fact becoming known after four months of observation. Several weeks later, one of the smallest turtles to arrive and appear consistently was named Yentyl. By the second week of June a large group of turtles visited the site on a daily basis, usually appearing just before sunset. Without doubt the turtles were aware of the author's presence. In fact, on the fifteenth of July one author stepped into the water to cool off and was startled by Bebe and Bobo, two larger loggerhead adults who were always together. Bebe swam off immediately, but Bobo stayed within three meters for

almost a minute. Both turtles were observed foraging the following day.

By the end of August an entirely new group of turtles had arrived. They were generally smaller in size and in such number that it became impossible to specifically identify turtles. The authors are uncertain whether this is a natural progression, or the result of an intrusion by a group of Filipino fishermen with a 40 meter net. Bebe has not returned to the southern end of the foraging site since the intrusion, but Bobo occasionally strays south. Along with the new arrivals came different feeding patterns. It is significant that morning sightings only occurred after a steep drop in temperature, into the 60's F, and the intrusion of the Filipino fishermen with a net. More research is needed to clarify the issue.

During the first ten days of September two more intrusion, poaching, were observed, with a morning outing by Pacific Islanders definitely planned to capture turtles. In fact, turtles could be seen from the shore when the party placed a sixty meter net stretching off-shore. Since that time sightings as the southern end of the foraging site have been irregular. Further, the turtles appear more cautious, sticking their head out for a shorter time and surfacing behind waves so they would not be seen from shore.

Observations of native sea turtles on the island of Maui suggest a modest increase in number. This has been confirmed by the National Marine Fisheries Service on Oahu.[1] In their natural state sea turtles will gather at specific sites until forced to leave, either by a decrease in available food, or an increased human presence. The Launiupoko site had no turtles last year the author camped their regularly.

If native Hawaiian sea turtles do change feeding places periodically, establishing new foraging sites, and their number is increasing, a new beach management program or strategy is mandated. The author believes sections of beach must be closed entirely to humans, though this may not be practical. Currently there exists no mechanism to protect sea turtles from human interference, something which must be addressed if sea turtles are to thrive in Hawaii. The natural feeding patterns of native sea turtles makes poaching a serious threat. Unlike whales, which are here only part of the year, sea turtles are here throughout the year and can be hunted from the beach with relatively little effort. Further, sea turtles are facing

[1]National Marine Fisheries Service, Southwest Fisheries Science Center. Honolulu Laboratory, 2570 dole St. Honolulu Hawaii, 96822-2396

a new threat from cancer, a type of Fibropapillomatosis where more than 50% of certain populations are affected.[2]

[2] The cancer exists as fibroepithelial tumors which may be found at almost any location on sub adults and adults.

Turtle Sightings by Month

May 1996

South End

1
2
3
4
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6
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11
12
13 ----------
14 window of Melrose's arrival
15 ----------
16
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30

Turtle Sightings by Month

June 1996

South End

1
2
3
4 Yn
5
6
7
8
9
10 Mel, Be, Bo, Ta, Yn
11 Mel, Be, Bo, Ta, Yn, Xx , Tu
12 Mel, Be, Bo, Ta, Yn
13
14
15
16
17 Yn
18 Ta
19
20
21
22
23
24
25
26
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28
29
30

Turtle Sightings by Month

July 1996

	South End
1	
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4	
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7	
8	Yn 9
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11	
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15	Be, Bo
16	Be, Bo, Ta, Yn
17	Be, Bo, Ta , Yn
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25	
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Turtle Sightings by Month

August 1996

South End

1
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8
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12
13
14
15
16
17
18
19 Be, Bo, Ta, Yn
20 Ta, Yn
21 Ta, YN *Temperature drop to 60's*
22 TA, YN
24 BO, TA, YN, XN x 3
25 XN x 2
26 BO, TA x3, YN x 4
27 BO, Ta, Yn x 4
28 BO, TA, YN x 3
29 YN
30 TA, YN x 3
31 TA, YN x 3

Turtle Sightings by month

September

	South End		[North End
1	TA, YN x 4		
2	TA, YN x 2		
3	TA x 2, YN x 2		
4	XN, YN,	Ta x 2, Xx,	
5	TA, YN x 2		
6			
7	YN x 2, YN		
8	XN, YN		
9	XN		
10	XN x2, YN x2		
11	TA, XN, SM		
13	TA, XN x 3, YN, SM,		[BE, BO, TA, XN x 3]
14	TA, XN , SM		[TA x 2, XN]
15	TA, XN x 2, YN		[BO, SM x 7]
16			
17	Xn	Xn	[TA, XN x 3, YN, SM]
18	Xn x 2		
19	XN		[MEL,Be,Bo x 2 ,TA]
20	MEL, BE, BO, TA		[BO, TA x 2, YN]
21	Bo, Ta, Xn, Yn, Sm		
22	Xn x 2, Sm		[XN x 2, YN]
23	---		[TA, XN x 2]
24	Sm		
25	Xn		[TA, XN, YN]
26			
27	XN		[XN]
28			
29			[TA, XN x 2]
30			
31			

Ron G. Mahurin
Box 358 • Lahaina, Maui, Hi. 96767
808 669-1831

Objectives
Research/Project Development/Legal Analyst/International Relations

AREAS OF INTEREST

- Research
- Negotiating skills
- Client development
- Business Planning
- Property Management
- Grants/Proposals
- Customer Service
- Legal Analysis
- Quality Control/supervision
- Data Analysis
- Educator
- Written Communications

EDUCATION

William Howard Taft School of Law -- Currently pursuing law degree, third year.
Ludwig Maximilians, Munich W. Germany -- Ph.D. Biology
San Francisco State University - Master of Arts, Cell & Molecular Biology
San Francisco State University - Double Science Major Biochemistry/Biology

FUNCTIONAL SUMMARY

⇒ Contracted and built a laboratory, including instrumentation, to ensure quality control. Developed tracking procedures, trained and supervised 15 employees
⇒ Proficient in developing a client base. • Cold calling marketing techniques.
⇒ Series 6 and 63 Securities license for the state of California.
⇒ Involved in all aspects of a small business i.e., strategic planning, development, grant proposals, SBA interactions, project development, contract negotiations, tax planning, registrations, etc..
⇒ Property management; restored vintage 1860 home by hand, supervised four personnel.
⇒ Food preparation, storage; Cook II; Computer fluent. German.

PROFESSIONAL HISTORY

Pink Geisha, Lahaina, Maui, Hi. Owner, 1994- Present (Gardening)
Mango Cafe - 12/96 Pantry I
Chart House Enterprises, Lahaina, Maui. Kitchen Prep. 1993-Present
Niaad Services, Belmont, Ca. Owner, 1991-1992 (Gardening)
United States Army, Assigned to Field Station Berlin 1988-1990
First Investors, Wall Street, NY, Sales/Broker, 1987
Zimmer Paper Products, South San Francisco, Quality Control Director 1978-1980

willing to travel/relocate, references available upon request

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RON G. MAHURIN
Box 358 • Lahaina, Maui, HI 96767
(808) 661-0937

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To Mr. BALAZS	From Grace
Co. Nat'l Marine	Co. UH/ Biology
Dept. Fishery	Phone # 956-8303
Fax # 943-1290	Fax # 956-4745

Chair
Dept of Biology
University of Hawaii
2424 Maile Way
Honolulu, Hi
96822

1996
10 July

Dear Sir or Madame,

I am often thought of as a loony for I live on the beaches of Maui. It is a lifestyle that seems to suit me. About a month ago Chelonia came, Chelonia is a very large sea turtle, so large that two grown men would have trouble picking him up. Gradually other sea turtles have arrived. The group is now somewhere between seven and twelve, with the smallest having a head the size of my fist. I stand six feet tall. One of the newest arrivals has a large tumor on his head.

If I stay in the lagoon, they do not come near shore. However, if I sit on the beach and watch the sunset, they will play in the surf in front of me. Though I would have to lose my "home" I am concerned for the turtles and wonder if you might want to "tag" a few. I will be leaving for the mainland shortly, 20th of July and hope to find employment there, so you will have to be quick if you want to do something. I doubt if anyone besides myself is aware of this "gathering."

Maui

Sincerely yours
Ron G Mahurin

MAUI FILE

RON G. MAHURIN
Box 358 • Lahaina, Maui, HI 96767
(808) 661-0937

GIBBACKS
Dept of Commerce

6 August 96

Unfortunately I had to make a copy from a street map because I gave my large topological map from the US Geological survey away. I thought I was leaving Maui, but my interviews did not go as well as planned.

Yesterday I saw five turtles, with several smaller ones included. Melissa came by early. In fact, the turtles appeared earlier than usual. The general pattern is they patrol to the surf to about Launipoko point, then turn around and go south until they meet up with another turtle. All the circled blue Xs are where I have camped extensively over the past two years. I have never seen any turtles south of the Puu Pahaaaluani Ridge, which forms a cliff at the beach, a distinctive land mark, nor north of Launipoko point. The shaded area seems to be the only place the turtles I see aggregate. They usually arive when the sun reaches the top of Lanai. My guess is about 20° off the horizon.

Hope this helps you.

Most definitely the "last" turtle to Arive had Fibropapillomatosis. However I have seen this turtle only once.

Sincerely
R G Mahurin

RON G. MAHURIN
Box 358 • Lahaina, Maui, HI 96767
(808) 661-0937

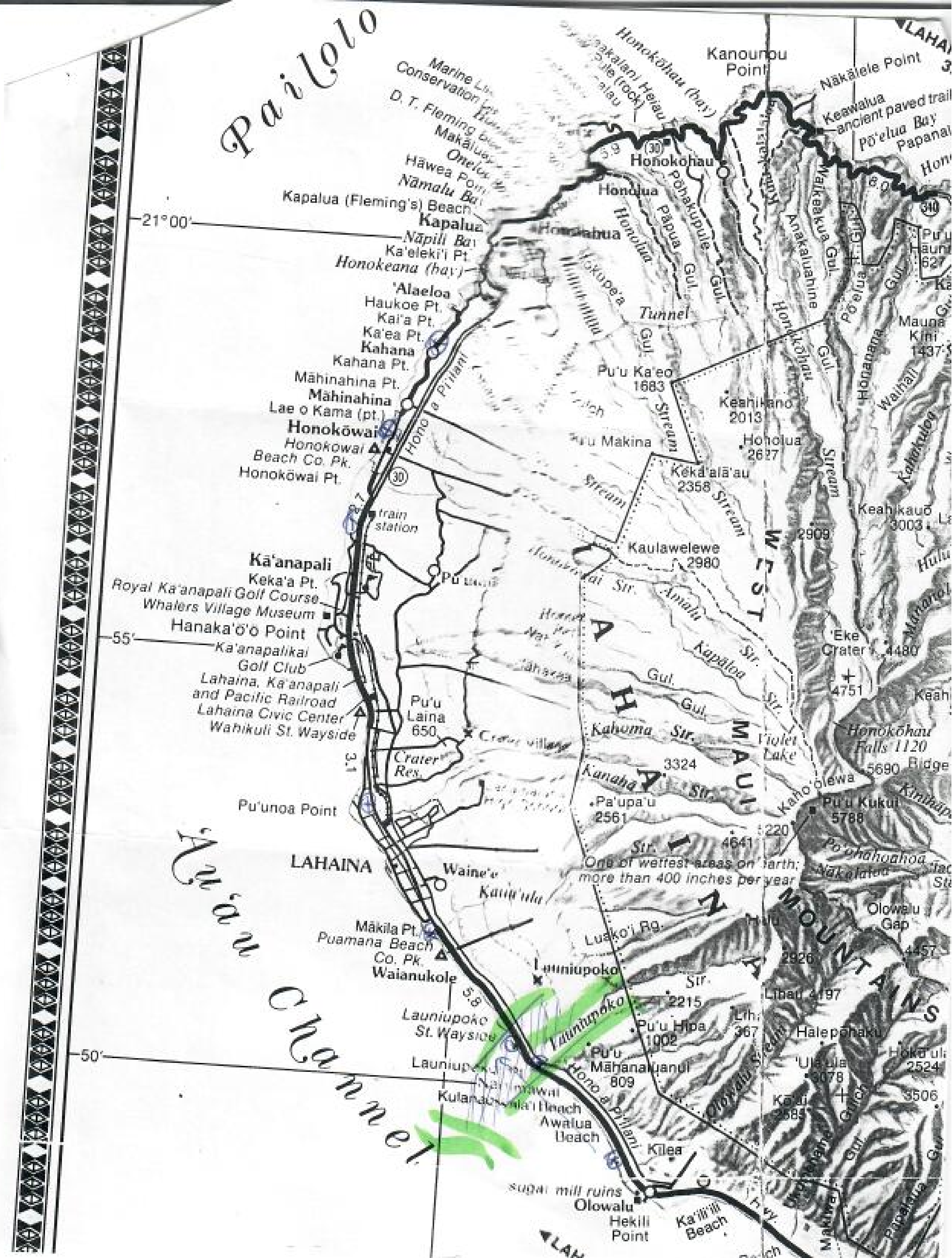
NMFS LAB
2570 Dole St.
Honolulu, Hi
96822-2396

Thank you again for all the material you sent. I have been faithfully Recording my turtle sightings and writing down as much as I can about the weather and such. It pains me to think that Melrose may have been the turtle that was hit by a car. Melrose has not been here for a while. In fact, the bigger Turtles have been Replaced by smaller ones, with a corresponding increase in numbe. After the first cold night, Temperatures fell into the 60's, I noted morning sightings, which are common now but never occurred before. The little turtles are fun to watch, but not so moving as the big ones.

I Tried to take some pictures with a disposable camera from Longs. I cannot see anything in the evening pictures and the morning pictures were so dark they would not develop. Looking through that small camera Pons waiting for a turtle to pop its head out of the water was work, and unfortunately fruitless.

Please send me any additional information.

Sincerely
Ron



Pailolo
ʻAuʻau Channel
Kanounou Point
Nākālele Point
Keawalua ancient paved trail
Pōʻelua Bay
Honokōhau (bay)
Marine Life Conservation District
D. T. Fleming Beach
Hāwea Point
Nāmalu Bay
Kapalua (Fleming's) Beach
Kapalua
21°00′
Nāpili Bay
Ka'eleki'i Pt.
Honokeana (bay)
'Alaeloa
Haukoe Pt.
Kai'a Pt.
Ka'ea Pt.
Kahana
Kahana Pt.
Māhinahina Pt.
Māhinahina
Lae o Kama (pt.)
Honokōwai
Honokowai Beach Co. Pk.
Honokōwai Pt.
Honokōhau
Honolua
Pōhakupule Gul.
Pāpua Gul.
Anakaluahine Gul.
Honokōhau Stream
Honolua Stream
Tunnel Gul.
Pu'u Ka'eo 1683
Keahikano 2013
Honolua 2627
Keka'alā'au 2358
Pu'u Makina
Keahikauō 3003
Mauna Kini 1437
Hono a Pi'ilani
train station
Kaulawelewe 2980
Kā'anapali
Keka'a Pt.
Royal Ka'anapali Golf Course
Whalers Village Museum
Hanaka'ō'ō Point
55′
Ka'anapalikai Golf Club
Lahaina, Ka'anapali and Pacific Railroad
Lahaina Civic Center
Wahikuli St. Wayside
Pu'u Laina 650
Crater Res.
Kapāloa Str.
Amalu Str.
Kahoma Str.
Kanaha Str.
3324
Pa'upa'u 2561
4641
'Eke Crater 4480
4751
Violet Lake
Honokōhau Falls 1120
5690
Kaho'olewa
Pu'u Kukui 5788
WEST MAUI MOUNTAINS
LAHAINALUNA
Pu'unoa Point
LAHAINA
Waine'e
Kaua'ula
One of wettest areas on earth; more than 400 inches per year
Olowalu Gap
4457
Mākila Pt.
Puamana Beach Co. Pk.
Waianukole
Luakoʻi Rg.
Launiupoko
2926
2215
Launiupoko St. Wayside
Pu'u Hipa 1002
Pu'u Māhanaluanui 809
Halepōhaku
'Ula'ula 3078
Hoku'ula 2524
3506
Kāʻui 2585
50′
Kulanaokala'i Beach
Awalua Beach
Kīlea
Olowalu Stream
sugar mill ruins
Olowalu
Hekili Point
Ka'ili'ili Beach
3.1
5.8