

APPENDIX A
 ANNOTATED LIST OF SHARK ATTACKS
 IN THE HAWAIIAN ISLANDS, 1779-1993,
 BY GEORGE H. BALAZS

The following list provides a case-by-case factual synopsis of the 104 known shark attacks in the Hawaiian Islands, from the earliest recorded event in 1779 to the most recent one in June 1993. Available information is also summarized here in separate tables covering the activity of the victim, the month of the attack and the species of shark involved.

Prior to the publication of my first assembled shark attack list in 1981 (co-authored with Alan K.H. Kam), no consolidated historical information of this nature was available for Hawaii. Old cases of shark attack were located through comprehensive searches of books, newspaper files and other sources. This is an ongoing process. I am grateful to Gail Bartholomew, Leighton Taylor, John Naughton and others for their continuing assistance in uncovering valid cases from Hawaii's past that warrant addition to the list.

Since 1981 nearly all new cases have been readily identified at the time of their occurrence when they appeared in Hawaii's newspapers and television reports. In many instances I have been able to personally interview the victim, or the last person to see the victim alive, in order to record first-hand accurate information to the extent that it is known. Autopsy and police reports have also been used to contribute meaningful data. A list of the literature and other sources used to document each case, too long to include here, has been deposited in the Pacific Collection of Hamilton Library, University of Hawaii at Manoa.

Forty-four (42.3 percent) of the 104 cases on the following list are tabulated as having involved a fatality. However, nine (20.5 percent) of these forty-four fatalities are considered to have been "likely" due to drowning or other causes, which was then followed by

shark bite, dismemberment, and/or consumption. No cases have been included on this list in which a person was known with certainty to have been dead prior to being bitten by a shark. Cases involving fatality present special challenges to a compiler when there is no first-hand witness to the death, and medical evidence is inconclusive or nonexistent. In each such case I have used the best available information to render a professional judgment in assigning one of four footnoted categories to the fatality. It is recommended that the reader become familiar with these footnotes before studying the list. The inclusion on this list of cases where the cause of death is uncertain or unknown is both valid and consistent with the scientific protocol followed by several other registers of shark attacks compiled elsewhere worldwide, including Australia.

Sixty (57.7 percent) of the 104 cases involve persons who survived the shark attack. For cases occurring during recent years, these individuals have been available to describe the event in detail on a first-hand basis. The circumstances and documentation given by them provide valuable insight that can be used to surmise what may have transpired in fatal cases where no witness was present. For example, read and compare case number 75 with case number 95.

The criteria and style used to compile the list of shark attacks in Hawaii has been patterned after the International Shark Attack File (ISAF), which was first assembled in the late 1950s with funding from the Office of Naval Research. A tabular summary of the ISAF list was published in the 1963 classical reference book entitled *Sharks and Survival*, edited by Dr. Perry Gilbert. Later, in 1973, an analysis of data involving 1,165 cases in the ISAF was published by Dr. David Baldrige in his report "Shark Attack Against Man." The ISAF is currently maintained under the auspices of the American Elasmobranch Society at the Florida Museum of Natural History, with Dr. George H. Burgess as curator. Updated and revised versions of the shark attack list for Hawaii are regularly forwarded by

the compiler for inclusion and use by the ISAF.

Cases of shark attack shown in the following list involve some manner of physical injury to the person that resulted from a shark. Cases in which "only" the person's equipment was attacked (bitten), or aggression was displayed without harmful contact to a person, are not included. In this respect, the list for Hawaii is more conservative and differs from certain other lists compiled elsewhere (including the ISAF). On those registers, attacks solely on boats, surfboards and other items are included even though no injury to a human took place. Significant cases of this nature have indeed occurred in Hawaii. At a later date they will be catalogued into a separate list. An example of one such case is as follows. In October 1990 Greg Filtzer was lying on his nine-foot-long surfboard in Hanalei Bay on Kauai when a twelve-foot tiger shark bit the board and violently pulled it and Greg backwards underwater. In the process the shark ripped off a fourteen-inch-wide piece of the surfboard. Without so much as a scratch, Greg miraculously paddled to shore after the shark released the board. The entire event was witnessed by a companion on a surfboard next to him.

In Dr. Gilbert's book, *Sharks and Survival*, the following notable comment appears on page 466: "Although it is probable that most people would regard a statement of the rarity of attacks in the statistical sense as correct and reasonable, it appears that people in general are less willing to accept a risk involving sharks than greater risks of almost any other kind." This is not

surprising, considering that the two words most commonly used in relation to shark attack are "fear" and "apprehension." Most people gain no comfort from being told they are at greater risk from bee stings and car accidents than from shark attack. Statistics alone have a way of reducing people to simple numbers devoid of the personal tragedies and, in some cases, incredible courage associated with shark attack in Hawaii. The following list speaks for itself in that each case presented is an individual story, not simply a statistic.

In the state of Hawaii's 1972 report covering the last systematic shark control and research program conducted in Hawaiian waters, it is stated that "Sharks normally receive negligible fishing pressure and since they function as apex predators in the sea's food pyramid they can increase to maximum density. A dense shark population coupled with growing popularity of water sports activities increase the probability of shark encounters." Although shark attacks are statistically few in number, the validity of this statement now, twenty years later, appears to hold true. There is no question that sharks must be rationally conserved as a fishery resource and not "eradicated" as some have suggested. But at the same time the issue of public safety in Hawaiian waters, coupled with fear and apprehension among residents and tourists alike, must not be neglected.

George H. Balazs
June 1993

SHARK ATTACK CASES IN THE
HAWAIIAN ISLANDS BY ACTIVITY

Activity	Fatal	Non-Fatal	Total
Swimming/snorkeling	8	15	23
Spearfishing while snorkeling	1	5	6
Scuba diving	3	1	4
Spearfishing while scuba diving	2	0	2
Hard hat diving	0	1	1
Surfboarding	2	15	17
Body (boogie) boarding	2	3	5
Sail boarding	0	1	1
Body surfing	1	2	3
Surfing on an air mattress	1	0	1
Floating on an inner tube (w/lobsters)	0	1	1
Wading	0	1	1
Fell into sea from shore or swept out to sea	16	0	16
Fell off boat or boat capsized	3	1	4
Net fishing	0	4	4
Crabbing	1	2	3
Removing shark from fishing line or gaff	0	3	3
Dynamite fishing	1	0	1
Fishing (type unknown)	2	1	3
Activity unknown	1	4	5
Total	44	60	104

SHARK ATTACK CASES
IN THE HAWAIIAN ISLANDS
BY SPECIES OF SHARK

Shark species	No. fatal	No. non-fatal	Total No. cases
Tiger shark	3	6	9
Great white	1	1	2
Hammerhead	0	2	2
Cookie Cutter	1	0	1
Subtotal	5	9	14
Unknown species, large	20	10	30
Unknown species, small	1	8	9
Unknown species, unknown size	18	33	51
Subtotal	39	51	90
Total	44	60	104

**SHARK ATTACK CASES IN THE
HAWAIIAN ISLANDS
BY MONTH FOR THE YEARS 1779-1993**

Month	Fatal	Non-Fatal	Total
January	3	2	5
February	2	5	7
March	2	5	7
April	7	9	16
May	2	1	3
June	3	7	10
July	4	2	6
August	4	3	7
September	2	5	7
October	1	6	7
November	4	4	8
December	3	6	9

Note: For 92 cases in which the month of attack is known. Cases occurred during the month of April every year for the 6-year period, 1986-1991.

**GENERAL OUTCOME OF SHARK
ATTACK CASES IN THE HAWAIIAN
ISLANDS, 1779-1993**

Compiled by George H. Balazs
(Following categories established by H. D. Baldrige, 1973 in "Shark Attack Against Man")

	No. of cases	%
Non-fatal.	60	57.7
Fatal, body or parts thereof recovered, death considered direct result of shark-inflicted wounds.	10	9.6
Fatal, no details reported.	2	1.9
Assumed fatal, body not recovered, no personal gear recovered.	3	3.0
Fatal, body or parts thereof recovered, not known if death was direct result of shark-inflicted wounds.	17	16.3
Fatal, body or parts thereof recovered, death not considered direct result of shark-inflicted wounds.	9	8.6
Assumed fatal, body not recovered, personal gear was recovered.	3	2.9
Total	104	100.0

SHARK ATTACK CASES
IN THE HAWAIIAN ISLANDS INVOLVING FATALITIES

Years	Direct fatality (a)	Likely direct fatality (b)	Other causes (c)	Cause of fatality Unknown (d)	Overall		Total no. cases
					No. fatal	No. non-fatal	
1990-present	2	3	2		7	10	17
1980-89		2	3	4	9	15	24
1970-79			1	2	4	8	12
1960-69			1	3	3	5	8
1950-59	3		1	3	7	7	14
1940-49				1	1	5	6
1930-39				1	1	5	6
1920-29	1				1	2	3
1910-19		1		1	2	1	3
1900-09	2		1	3	6	2	8
1779-1899	2			1	3	0	3
Total	10 22.7%	6 13.6%	9 20.5%	19 43.2%	44	60	104

a = Death directly due to shark attack.

b = Death likely due to shark attack.

c = Death likely due to drowning or other trauma followed by shark attack.

d = Insufficient information upon which to base an opinion as to cause of death.

ANNOTATED LIST OF SHARK ATTACK CASES
IN THE HAWAIIAN ISLANDS 1779 - 1993

(* = FATALITY INVOLVED)

COMPILED BY GEORGE H. BALAZS

HONOLULU LABORATORY, SOUTHWEST FISHERIES SCIENCE CENTER

NATIONAL MARINE FISHERIES SERVICE, NOAA

Case no.	Date	Location	Victim	Circumstances
1 ^{*a}	1779	Maliu, Hawaii	Nu'u-anu-pa'ahu	Young male gashed on one side of buttocks after being pursued while surf boarding. Subsequently suffered "great pain" and died at Pololu.
2 ^{*a}	1828	Lahaina, Maui	Male	"A man out riding surf at 'Uo was killed by a shark which bit off his limbs and left his body floating." Attack witnessed by a number of Hawaiian chiefs.
3 ^{*d}	2 June 1886	Hamakua, Hawaii	Two females	Washed into the sea while fishing from shore; one woman found bitten (fatal), the other woman disappeared.

COMPILER'S OPINION AS TO CAUSE OF FATALITY

^aFatality *directly* attributed to shark attack.

^bFatality *likely* attributed to shark attack.

^cFatality *likely* attributed to another cause (drowning, etc.) besides shark attack which was followed by mutilation or dismemberment by shark or sharks.

^d*Insufficient information upon which to base an opinion as to cause of death, although mutilation and/or dismemberment by sharks had occurred. Fatality may have been directly attributed to shark attack, or may have resulted from another cause. This category also includes an absence of any witnesses or the absence of sufficient body remains to determine cause of death by medical autopsy.*

Case No.	Date	Location	Victim	Circumstances
4 ^{*c}	14 July 1900	Makapuu Point, Oahu	Emil Uhlbrecht and an unidentified person	Believed to have drowned when carried out to sea while hunting sea shells with companions. "A thorough search was made for the body for several days." Victim's foot with skin and flesh intact "in a fair state of preservation" was found in the stomach of an 11-ft 9-in shark hooked on the night of 8/17/00 off Kakaako, Honolulu, by John Kinipeki. Positive identification of victim made by Mrs. Uhlbrecht, based on an ingrown toe nail. Human pelvis and femur, blackened and totally denuded of flesh, were also recovered from the shark's stomach. These bones were thought to be from a different person, probably one of several Chinese fishermen lost over board in the harbor during past months.
5	Early 1900's	Inter-Island Dry Dock at Kakaako St. Honolulu	Emil A. Berndt	Young boy severely chafed when a large shark swam between his legs.
6 ^{*a}	8 Aug. 1902	Kalihi, Oahu	Young male	Pulled under while crabbing; both arms amputated.
7 ^{*d}	1904	Honolulu, Oahu	Male	Partial remains of swimmer who had disappeared two days earlier off Diamond Head found in the stomach of a "monstrous shark." Body was complete from the waist down with the exception of one leg. Shark also contained ducks, tin cans, and wood.
8 ^{*d}	1907	Pepeekeo, Honomu, Hawaii	Male	Bitten while fishing.
9	8 Oct. 1907	Kalepolepo, Kihei, Maui	Male	Arm amputated at the elbow while retrieving fish caught in net.
10 ^{*a}	17 Jan. 1908	Mana, Kauai	Male	Pulled under while gathering fish stunned by dynamite.
11 ^{*d}	10 Apr. 1909	Pauwela, Maui	Mrs. Ah Kim Chong	Nineteen-year old woman reported to have been swept away by waves while gathering opihi along the rocky shore line. Search party saw a large shark

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Case no.	Date	Location	Victim	Circumstances
				devour what appeared to be part of the missing woman's body.
12	Apr. 1910	Pearl Harbor, Oahu	Martin Lund	Unprovoked attack on a hard hat diver. Authenticity questioned.
13 ^{*d}	1910	Hilo, Hawaii	Male	Bitten while fishing.
14 ^{*b}	3 Mar. 1914	Honomu, Hawaii	Okomoto	Washed into the sea while picking opihi and attacked by two large sharks.
15	28 Sept. 1922	Keawanui, Kamalo, Molokai	Male	Bitten while inspecting wharf.
16	7 Apr. 1926	Hilo Bay, Hawaii	Mrs. Leonard Carlsmith	Severely bitten while swimming 25 yards from shore near the Hilo Yacht Club at 5:30 p.m. "The shark with one bite terribly lacerated her right leg from the heel to the thigh. The calf of her leg was torn nearly to shreds, and the part of her limb above the knee was laid open to the bone." A long necktie was applied as a tourniquet to her leg as soon as she was brought to shore. "Anesthetics" were required twice at the hospital in order to treat the wounds. According to the victim, the shark that bit her "had a mouth about three feet wide".
17 ^{*a}	18 May 1926	Haleiwa, Oahu	William J. Goins	Gave a sudden shriek then disappeared while swimming at Haleiwa; remains of body found in 12.5-ft great white shark caught off Kahuku.
18	13 June 1931	Pearl Harbor, Oahu	Lieutenant Williamson	End of one of the victim's fingers amputated while using a gaff to bring a 10-ft tiger shark aboard a boat after harpooning it. Shark also bit in half the 2-in oak pole of the gaff. The following items were found in the shark's stomach: hind leg of a mule, two bathing suits nearly digested, soldier's belt buckle, a pint of button's, two horse shoes, corner of a wooden soapbox, anchor chain, two small anchors, and assorted bolts, nails, and copper fittings.

Case no.	Date	Location	Victim	Circumstances
19* ^d	2 Sept. 1931	Kahala, Oahu	George Gaspar	Swept out to sea by strong currents while fishing; remains of body found in 18-ft shark caught off Barbers Point.
20	16 Feb. 1932	Lahaina, Maui	Male	Sailor from U.S. Navy vessel <i>Saratoga</i> bitten while swimming about 1 mile off Mala Wharf. Two wounds each 6-inches long were inflicted.
21	4(?) Sept. 1936	Lahaina, Maui	young male	Leg "badly cut" requiring 19 stitches at the Lahaina Hospital. Swimming with several other children near the "old wharf" when a shark was sighted. Victim disappeared underwater for a few seconds then came to the surface and "made a frantic effort for land". "A large shark was seen again the following morning".
22	30 Dec. 1936	Honokohau, Maui	John Kekuhi	Bitten on the thigh while diving under water trying to retrieve the body of a drowning victim wedged between two rocks. Three deep gashes sustained which required hospitalization. Shark reported to be 20-ft.
23	4 Oct. 1939	Kaneohe Bay, Mokapu, Oahu	James Akina	Bitten on hand by 5-ft shark while spear fishing in shallow water.
24	1 July 1941	Nanakuli, Oahu	Hisao Shimoto	Bitten on arm while removing 100-lb shark from fishing line.
25* ^d	5 Apr. 1943	McGregor Point, Maui	Leonard Gant	Disappeared while swimming with three companions after the small boat they were canoeing swamped in high seas. Swamping occurred three miles from shore. Victim vanished shortly before reaching land after he fell behind the other swimmers. On 4/29/43, the "decomposed remains" of the victim's "right forearm" and "brightly colored swimming trunks" were "found in the stomach of a 16-ft shark" caught in turtle nets set out at night "near the Koa house" by Kihei fisherman Alex Akina. Shark's stomach also contained a piece of newspaper dated 3/25/43.

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Case no.	Date	Location	Victim	Circumstances
26	1943	Midway, Northwestern Hawaiian Islands	Male	Unprovoked attack, but unable to determine circumstances.
27	1943	Midway, Northwestern Hawaiian Islands	Male	Unprovoked attack, but unable to determine circumstances.
28	27 June 1947	Makaha, Oahu	Valentine Limatoc	Bitten while spearfishing with six other men.
29	19 Sept. 1948	Makapuu, Oahu	Noah Kalama	Bitten on leg while swimming.
30 ^{*c}	16 Jan. 1950	Kahakuloa, Maui	Gilbert S. Hotta	Swept into the sea with two companions by a large sudden wave while fishing at night from the rocky base of an overhanging cliff. Another companion (Wayman Fujimoto) managed to cling to the rocks when the wave hit. The partial remains of Gilbert Hotta were recovered from a "huge shark" caught on the morning of 1/19/50 by rescue workers searching the immediate area. The "badly battered remains" of one of the other missing fishermen (Harold Fujimoto) was also recovered floating nearby. The body of the third fisherman (Hideo Tamura) was never found.
31 ^{*d}	25 June 1951	Kapehu Beach, Laupahoehoe, Hawaii	Alejandro Nodura	Swept out to sea while fishing from shore. Victim seen in shark's mouth.
32 ^{*d}	3 Aug. 1952	Ala Moana, Oahu	Shigeichi Kawamura	Missing while swimming; shark bite found on right side of body.
33 ^{*a}	3 Dec. 1952	Maile, Oahu	Gerbacio Solano	Bitten on arm while swimming from fishing boat; shark reported to be in excess of 22 ft.
34	18 Feb. 1953	Barbers Point, Oahu	James S. Takeuchi	Bitten on hand while removing shark from net.
35	4 July 1953	Kaula Rock	David Crick	Fell off boat while fishing; bitten on leg.
36 ^{*a}	26 July 1953	Maile, Oahu	Harold Souza	Bitten on thigh while spearfishing close to shore; 10-ft shark observed.

Case no.	Date	Location	Victim	Circumstances
37	2 Sept. 1953	Waiau, Pearl Harbor, Oahu	Daniel Gonsalves	Bitten on leg and foot by 5-ft hammer head shark while crabbing.
38 ^{*d}	8 Apr. 1954	Wailupe, Oahu	Gordon S. Chun	Missing while fishing from shore; body recovered in mutilated condition.
39	1954	Molokai	Severino	Unprovoked attack, but unable to determine circumstances.
40	Apr. 1955	Hilo, Hawaii	Kanematsu Oshiro	Bitten on hand while fishing from boat.
41	20 Sept. 1955	East Molokai	Phillip C. Diez	Bitten on arm while swimming.
42 ^{*a}	13 Dec. 1958	Lanikai, Oahu	William S. Weaver	Leg amputated while surfing on an air mattress near Twin Islands; 15- to 25-ft shark (believed to be tiger shark) observed near body when fire-rescue personnel recovered it 2 hours later. No additional bite marks present on the body.
43	1950's	Waikiki, Oahu	David Lloyd	Provoked attack, but unable to determine circumstances.
44	27 Feb. 1960	Makena, Maui	John Benjamin	Severe lacerations obtained while spearfishing.
45 ^{*d}	27 Dec. 1960	Maile Point, Oahu	Harold Riley	Swept out to sea while net fishing; 20-ft shark observed attacking victim; body recovered off Nanakuli.
46	2 Aug. 1961	Pearl Harbor, Oahu	Kazuhiko Kato	Bitten on hand by 8-ft shark while net fishing.
47 ^{*d}	8 Apr. 1963	Hapuna Beach, Hawaii	Roy C. Kametani	Washed into the sea while picking opihi; parts of body recovered.
48	12 Apr. 1963	Awili, South Kona, Hawaii	Aiona Aka	Bitten on leg and foot while surfing; 12- to 15-ft shark observed.
49 ^{*d}	20 Sept. 1967	Kailua Bay, Oahu	Male	Victim lost at sea when boat capsized between Oahu and Molokai; remains of body found in 11-ft tiger shark.
50	9 Mar. 1969	Makaha, Oahu	Licius Lee	Bitten on leg while surfing; identified as great white shark based on teeth marks in surfboard; dead whale recently removed from the area.

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Case no.	Date	Location	Victim	Circumstances
51	11 Nov. 1969	Barbers Point, Oahu	D. R. McGinnis	Bitten on tank while scuba diving for lobsters; abrasions on arms and legs and cut on ankle resulting from contact with shark.
52 ^{cc}	31 Mar. 1970	Waimea Bay, Oahu	Ernie Reathaford	Swept out to sea while body surfing; 15- to 18-ft shark observed.
53	24 Oct 1970	Brennecke Beach, Poipu, Kauai	James C. Mattan	Bitten on shoulder and arm while body surfing.
54	16 Mar. 1972	Waihee, Wailuku, Maui	Adam Gomes, Jr.	Bitten on leg while spearfishing.
55	17 Aug. 1972	Waimanu, Honokaa, Hawaii	Eric Fotherby	Bitten on arm by 8-ft shark while spearfishing.
56	9 Jan. 1973	Hookipa Beach, Paia, Maui	Robert Sterling	Bitten on leg while surfboarding close to shore; 4 to 6-ft shark observed in area: wound required 100 stitches.
57	18 Dec. 1973	Kalama Beach, Kihei, Maui	Gary W. Floyd	Bitten on leg while swimming close to shore.
58	10 June 1976	Kamaole Beach, Park No. 1, Kihei, Maui	Donald Gard	Bitten on foot and leg by 3- to 5-ft shark while swimming.
59 ^{ad}	16 July 1976	Mahaulepu, Koloa, Kauai	Stephen C. Powell	Missing while scuba diving; lower remains of body recovered.
60 ^{cc}	1976	Off Lahaina, Maui	Danson Nakaima	Apparently passed out while scuba diving for black coral at a depth of 180 ft. About 30 large sharks seen near partially devoured remains of the body.
61	21 Apr. 1977	Kaanapali, Maui	Ruskin Vest	Bitten on arm by 4-ft. shark while swimming close to shore.
62	27 Nov. 1978	Ewa, Oahu	Wendell Cabunoc	Severely bitten on arm while surfboarding; 8-ft shark observed.
63 ^{ad}	1979(?)	South Kohala, Hawaii	Elderly male	Disappeared while fishing from shore. Fire Department divers only found a hand and a flashlight. Note: No known literature documentation.

Case no.	Date	Location	Victim	Circumstances
64	4 Aug. 1980	Puamana, Lahaina, Maui	Mark Skidgel	Bitten on left side of body while resting on a body board 40 ft from shore; identified as 14-ft tiger shark; wound required 52 stitches.
65 ^{*d}	24 May 1981	Haena Beach Park, Kauai	Roger B. Garletts	Missing while scuba diving at a depth of 60- to 80-ft; only diving equipment recovered, including shredded wet suit bearing numerous tooth marks. Victim reportedly spearfishing in murky, choppy water.
66 ^{*c}	12 June 1981	Honolii Pali, Hilo Bay, (Alae Point), Hawaii	Preston D. Soley	Retrieval of floating body hindered by 4-ft shark. Autopsy showed that death was probably from drowning. One-third of body missing due to bites by at least four sharks.
67 ^{*d}	24 Aug. 1981	Keaukaha, Hilo, Hawaii	Ernest Watson	Disappeared while fishing from shore. Leg found 7 days later wedged in rocks 150 yd offshore.
68	9 Nov. 1981	Laau Point, Molokai	Leo A. Ohai	Bitten on hand while untangling crab-trap line from propellor. Seven-foot shark had followed the boat for 3 days and reportedly was very unusual looking with a "flat head".
69	13 Dec. 1981	Nimitz Beach, Barbers Point, Oahu	Melvin T. Toma	Severely bitten on right leg by 12-ft tiger shark while swimming at the surface shortly after entering water; site located 300-400 yd from shore over a depth of 20 ft. Looking for fish, but none had been speared when attack occurred; wound required 200 stitches.
70	14 Feb. 1982	White Plains Beach, Barbers Point, Oahu	Lisa Miller	Bitten on left leg while wading in 3 to 4-ft of water; 17 stitches required.
71	14 Feb. 1982	White Plains Beach, Barbers Point, Oahu	Female	Bitten on right foot while swimming in shallow water.

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Case no.	Date	Location	Victim	Circumstances
72	13 June 1982	Hookipa Beach, Paia, Maui	Scott Shoemaker	Severely bitten three times on the thigh after falling into water while sailboarding 100 yd outside the breakers. Wounds required 120 stitches.
73	3 June 1984	Kaneohe Bay, Oahu	Susan Buecher	Bitten on the foot while towing her sister on a plastic ski board. Incident happened at 5 p.m. in water 5-ft deep, about 400 yd from shore. Surgery and lower leg cast required to repair damaged tendons. 4-5 ft hammerhead shark believed to have been responsible.
74	12 Oct. 1985	Barbers Point, Oahu	Dominic Dela Cruz	Severe gashes to left arm requiring surgery. Attack occurred off Barbers Point Lighthouse while floating on an inner tube after diving for lobster.
75	18 Oct. 1985	Princeville, Kauai	Joe Thompson	Right hand and portion of forearm amputated by a large shark (likely a tiger shark) while body-boarding. Gash sustained to left hand. Right anterior side of board also cut away during same bite by shark.
76 ^{*c}	20 Apr. 1986	Kalihiwai, Kauai	Levi Chandler	Fell from rocks and disappeared while fishing at Kalihiwai Point. Pieces of clothing and human flesh were recovered by Fire Department divers who encountered a large shark.
77 ^{*b}	15 Apr. 1987	Kailua-Kona, Hawaii	Daniel Kennedy	Last seen swimming from shore out to an anchored sailboat. Swimming trunks found bitten in half on the bottom.
78	25 Mar. 1988	Running Waters Beach, Ninini Point, Kauai	Aaron Kawado	Bitten on the ankle while body surfing in waist-deep water. Surgery required to repair severed vein.
79 ^{*d}	15 Apr. 1988	Waihee, Maui	Avery Goo	Lost at sea when the 21-ft powerboat he was on capsized in rough seas. Pieces of human stomach, intestines, and pancreas believed to be from victim found several days later washed ashore along the Waihee shoreline.

Case no.	Date	Location	Victim	Circumstances
80 ^d	8 Jan. 1989	Wailua, Kauai	Ken Ahlstrand	Disappeared while swimming in strong current with three other people. A 2-day search by helicopters, Civil Air Patrol, and firemen failed to find any trace of the missing man. Lower part of body found 6 days later on 1/14/89 near seawall by the Wailua Golf Course. X-rays of remains revealed teeth marks in femur and tibia.
81	20 Jan. 1989	Waialua Beach, Molokai	Earl Dunnam	Ten-year-old boy bitten on the foot by a 6-8 ft hammerhead shark while riding a body board 200 ft from shore. Wound required 8 stitches. Bite occurred to a naked foot, and not to the foot wearing a swim fin. Note: No known literature documentation.
82	3 Apr. 1989	Hookipa Beach, Paia, Maui	Sam McLain	Sustained a 4-in long crescent-shaped wound on the calf while paddling on a surfboard in whitewater near rocks 50 yards from shore. A sharp "tug" was felt at the time of injury. 13 stitches were used to close the wound.
83	Apr. 1989	Kekaha Beach, Kauai	William P. Allen	"Tremendous impact" felt on left leg while paddling on a surfboard in glassy water just beyond swells. Impact lifted board and surfer 2-3 ft out of the water. Left thigh raked with a series of scratches believed to have been caused by teeth. Skegs on the board were knocked loose, and a strip of fiberglass 8-in wide by 5-ft long was torn off. Victim convinced he was attacked by a "huge shark".
84	29 June 1989	Anahola, Kauai	Anthony Paden	Severely bitten on the foot after falling off a surfboard about 20 ft from shore. A "big chunk" taken out of victim's ankle, and "bite marks" inflicted all around the foot. Achilles tendon was half-severed, requiring surgery and a cast.
85 ^b	14 Oct. 1989	Kahe Point, Oahu	Ray Mehl, Jr.	Abruptly disappeared while scuba diving as a novice with his partner at a

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Case no.	Date	Location	Victim	Circumstances
				depth of 27 ft, 750 ft from shore near the cooling water discharge pipe of the Kahe Point Power Plant. Unusual behavior exhibited by parrotfish just prior to disappearance. Victim was 10-15 min into the dive with nearly a full tank of air. Dive partner conducted a circle search, but could not locate victim. Time of event was 4:30 p.m., visibility 25-30 ft. Decapitated body with amputated left arm found 200 ft to the west by fire rescue divers the following morning. Large tiger shark suddenly appeared and proceeded to consume rest of body before rescue divers could retrieve it. Small piece of flesh and some dive equipment later recovered.
86 ^{*c}	12 Nov. 1989	Ehukai Beach Park, Sunset Beach, Oahu	Edward Malek	Knocked down and swept away by large waves while wading close to shore at 6 p.m. Lower portion of body, sheared at waistline, recovered by fire rescue personnel on the morning of 11/15/89, 1.5 miles to the southwest. Note: The rare sighting of a shark was made at Ehukai Beach Park on 11/5/89, at which time all swimmers were cleared from the ocean for an hour.
87	19 Dec. 1989	90 miles east of Hilo, Hawaii	George Sohswel	Crew member of the 51-foot fishing vessel <u>One Ki</u> sustained a 23-cm long bite on his left leg and four 7-cm lacerations to left foot. 3 days hospitalization required. Victim transported to Hilo by Coast Guard helicopter. Wound was inflicted by a shark brought aboard the vessel.
88 ^{*b}	17 Feb. 1990	Mokapu, Kaneohe Marine Corps Air Station, Oahu	Roy T. Tanaka	Failed to return with his partner (Jake Hernandez) while scuba diving and spearing parrotfish in water 40-ft deep, 200 yards from shore (near firing range) at 9:30 p.m. 22-ft boat nearby had overturned a short time earlier after being hit broadside by a wave. Victim's tank, backpack, dive light, and mask were found on the bottom but not

Case no.	Date	Location	Victim	Circumstances
				retrieved. Body with amputated right arm sighted from helicopter at 3 p.m. 2/18/90 between Makai Pier and Rabbit Island. Two sharks (8 and 14 ft) seen nearby. Larger shark, apparently reacting to the presence of the helicopter, proceeded to consume all but torso and legs before retrieval.
89	1 Apr. 1990	Silver (Silva) Channels, Waialua Oahu	Everett Peacock	Deep abrasion causing profuse bleeding inflicted to 10-in area on lower left leg while sitting on a surfboard. Also sustained two deep 3-in long gashes above left ankle. Event occurred before 7:30 a.m. in murky water 150 yds from shore.
90	3 Apr. 1991	Oneula Beach Park, Ewa Beach, Oahu	Todd R. Wenke	Bitten on the left leg and foot while sitting on a surfboard 350 yards from shore at 5:30 p.m. at a site known as "Shark Country" 1/4-mile east of Oneula Beach Park. Attack resulted in a 5-in long bone-deep wound on each side of the foot, and a 9-in long bone-deep wound on the calf. 30 stitches, tendon surgery, and a cast required. Only about 18 inches of the shark's head was seen and no positive identification was possible. Shark had "a very large girth."
91	26 May 1991	Maili Beach, Oahu	Frank (Scott) Betz	Bitten on the right calf while sitting on a surfboard 100 yards from shore at 4:45 p.m. Attack resulted in 4-in and a 7-in long wound requiring stitches. Shark estimated to be 8-ft long. Event occurred in murky water.
92* ^b	19 Nov. 1991	Maliko Point, Maui	Suk Kyu (Steve) Park	Swept into the sea by a large wave while fishing from the rocky coastline at 4:30 p.m. Victim's son went for help shortly thereafter when it became apparent that surf conditions were too rough for his father to swim ashore. When last seen victim was treading water signaling the son to go for assistance. Help arrived about 30 min later, but no sign of the victim could be found. Victim's shorts

HAWAII'S DEADLY SHARKS

Case no.	Date	Location	Victim	Circumstances
				and shirt were recovered from the ocean bottom the following morning by fire rescue divers. Both garments had large portions missing on the left side. Bite marks present were consistent with attack by a 12-ft tiger shark. Note: Victim was reported to be a strong swimmer in good physical condition.
93 ^a	26 Nov. 1991	Olowalu, Maui	Martha J. Morrell	Snorkeling with a female companion at 9 a.m. near reef edge in partly cloudy water 10-15 ft deep about 100 yards from shore, and 50 yards from the end of an old pier next to the victim's beachfront home. An 8- to 11-ft shark passed by the companion and proceeded to attack the victim, initially on the right arm. A small boat was used to recover the body a short time later. Amputations included the victim's right leg at the hip joint, the left leg sheared through the femoral neck, the right forearm, as well as numerous bites and tissue loss elsewhere.
94	26 Nov. 1991	Olowalu, Maui	Louise Sourisseau	Snorkeling companion to Martha J. Morrell (see Case No. 93). Abrasion to right calf when large shark rubbed against her in association with fatal attack on Mrs. Morrell. Following the initial attack on Mrs. Morrell the shark estimated to be 8-11 ft, swam slowly under Louise Sourisseau who assumed a motionless position floating on her back. When first seen prior to the attack, the shark was coming from a seaward direction. No other significant marine life was observed in the vicinity prior to or after the attack.
95 ^b	19 Feb. 1992	Leftovers, near Waimea Bay, Oahu	Bryan Adona	Disappeared while body-boarding late in the afternoon at a surfing site about 1.2 mile southwest of Waimea Bay (near 61-350 Kam Highway). The following morning, 2/20/92, his board was found washed ashore at Waimea Bay with a 16-in crescent-shaped piece missing from

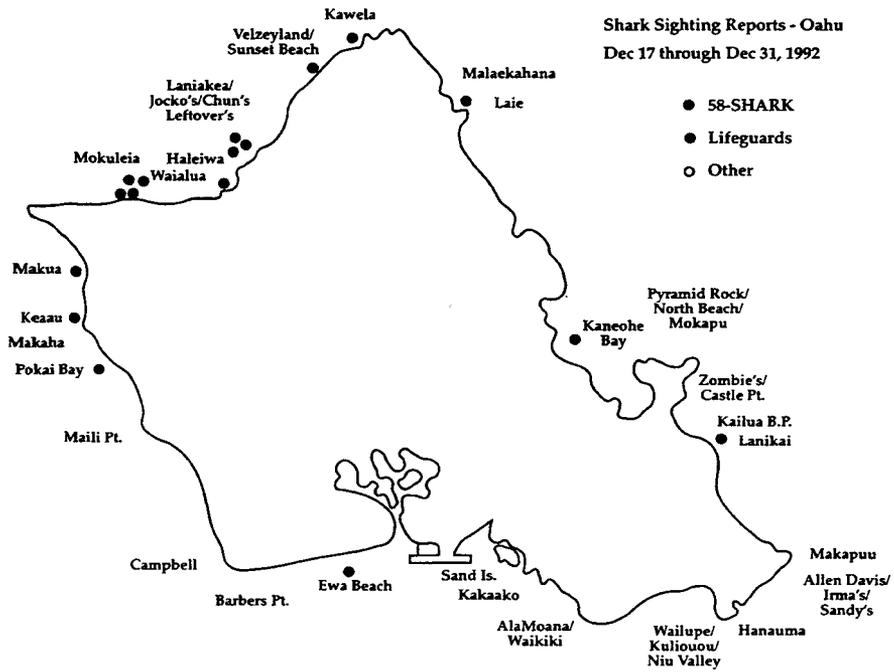
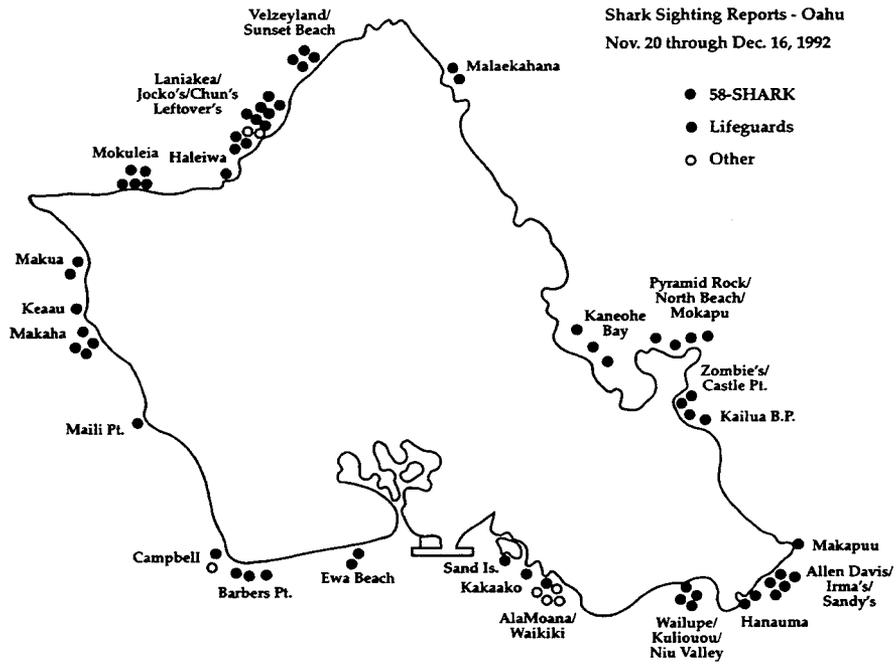
Case no.	Date	Location	Victim	Circumstances
				the anterior left side. Distinct serrations of shark bite were present in board and severed segments of rubber leash still attached to board. Danny Titilah, the last person to see Bryan Adona alive, saw a large shark shortly after he and Adona paddled out toward separate breaks at Leftovers. Others on shore also reported seeing a large shark in the vicinity. Left swim fin, identified as Bryan Adona's, was subsequently found during an extensive search. Strap of fin was severed, but without serrations.
96	28 Mar. 1992	Cannons, Haena, Kauai	Jude Chamberlain	Scratches and small puncture inflicted to foot when a large shark bit her surf board while paddling seaward 10 ft from reef edge (and 85 ft from shore) in clean water about 10 ft deep. 12-14 in. crescent bite marks made in both sides of board. Shark shook board three times then pulled it completely under water and dragged victim by leash for 20 ft before leash severed and shark released surf board. Attack occurred at about 6:45 a.m. after victim had been surfing there for a short time with a friend (Mike Cox), who witnessed the attack at close range.
97 ^{*c}	23 July 1992	Waianae, Oahu	Zosimo Popa	Victim and his son (Jeffrey Popa) failed to return from an overnight fishing trip in a 14 ft. boat. Body was found 7/23/92 tied to an ice chest floating 15 miles off the Waianae coast. Victim had sustained two cookie cutter shark bites to the lower back. Wounds were 2 inches in diameter by 1.5 inches deep and were "probably post mortem." Cause of death was "asphyxia by drowning." Life jackets and debris were recovered in the vicinity, but victim's son and the boat were never found.

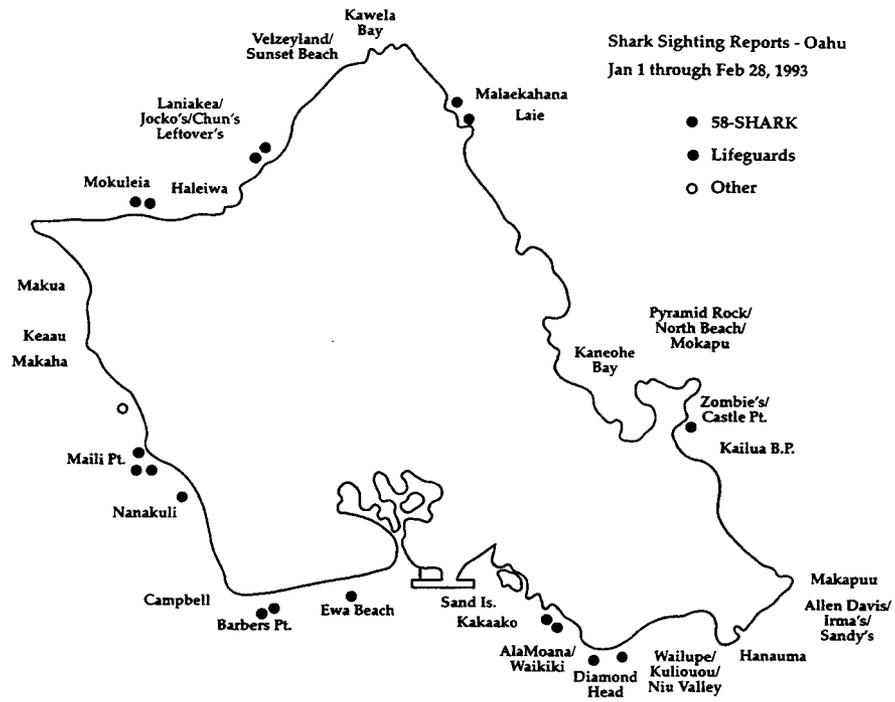
HAWAII'S DEADLY SHARKS

Case no.	Date	Location	Victim	Circumstances
98* ^c	21 Aug. 1992	Twin Arches, Hana Ranch, Maui	Chester N. Shishido	Fell from a cliff while fishing and disappeared in strong current. Rescue efforts were immediately made by the victim's brother and, 30 min. later at 2:30 p.m., by helicopter and a fire rescue unit. No trace of victim was seen and the search was stopped at 5:30 p.m. Body was recovered the following morning (8/22) 200 yards from shore at a depth of 65 ft. Amputations included the left arm, right hand fractured at the wrist, as well as other numerous lacerations and tissue loss consistent with shark bites that "appeared to be post mortem."
99	22 Oct. 1992	Laniakea, Oahu	Eric Gruzinsky	Bruises and scratches to underarm and chest resulting from a 10-12 ft. shark biting a crescent-shaped piece from victim's 6 ft. 4 in. surfboard. Attack occurred at 7:50 a.m. in clear water 15 ft. deep 150 yards from shore.
100* ^a	5 Nov. 1992	Keaau Beach Park, Oahu	Aaron A. Romento	Severely bitten in three places on the right leg by a 10-12 ft. shark. Victim was body-boarding at 9:45 a.m. in clear shallow water 30 yards from shore. Death resulted from blood loss and shock a short time after the victim paddled ashore. Wounds did not involve the removal of tissue.
101	23 Dec. 1992	Chun's Reef, Oahu	Gary M. Chun	Cuts to left hand resulting from 10-12 ft. shark biting a 15 in. crescent-shaped piece from victim's surfboard. Attack occurred at 5:30 p.m. while lying on surfboard 100 yards from shore in the presence of 20 or more other surfers. Victim was surfing "near a channel where the current flows like a river through a break in the reef."
102	28 Dec. 1992	Honomuni, Molokai	Pahu Tanaka	Abrasion and bruise to right leg of 10-year old boy inflicted by 8-ft tiger shark. Victim was standing 50 yards from shore in waist-deep water in the morning helping his father tend a gill net containing dead fish.

Case no.	Date	Location	Victim	Circumstances
103	14 Mar. 1993	Wailuaiki Bay, Maui	Roddy P. Lewis	Severely bitten on the legs by a 12-14 ft. shark while paddling on a 7 ft. 4 in. surfboard at 3:45 p.m. about 100 feet from shore near a river mouth. Shark shook victim but let him go after he punched it on the side of the head. Victim's lower right leg sustained a 14.5 in. gaping cut on the inside, and a 13 in. one on the outside, requiring 145 staples and an unknown number of internal sutures. Left leg sustained a 4 in. cut needing 7 staples. Five separate surgeries were needed to repair tissue damage. Fragment of tiger shark tooth removed from victim's leg bone. Only two other surfers were in the vicinity when the attack occurred. Water visibility estimated to be 5 feet.
104	10 June 1993	Malaekahana State Recreation Area, Laie, Oahu	Jonathan Mozo	Bitten on the feet while paddling on a 6 ft. surfboard in shallow water at 7:10 a.m. 100 yards from Goat Island (Mokuauia). When attack occurred, victim looked back and saw a large shark with its mouth wide open. Victim raised up his legs and paddled to shore as fast as possible. Numerous lacerations sustained requiring 30 stitches to each foot. Victim's companion (Ryan Bell) was on a body board nearby and felt something bump him shortly before the attack. Victim and companion were the only people in the water at the time.

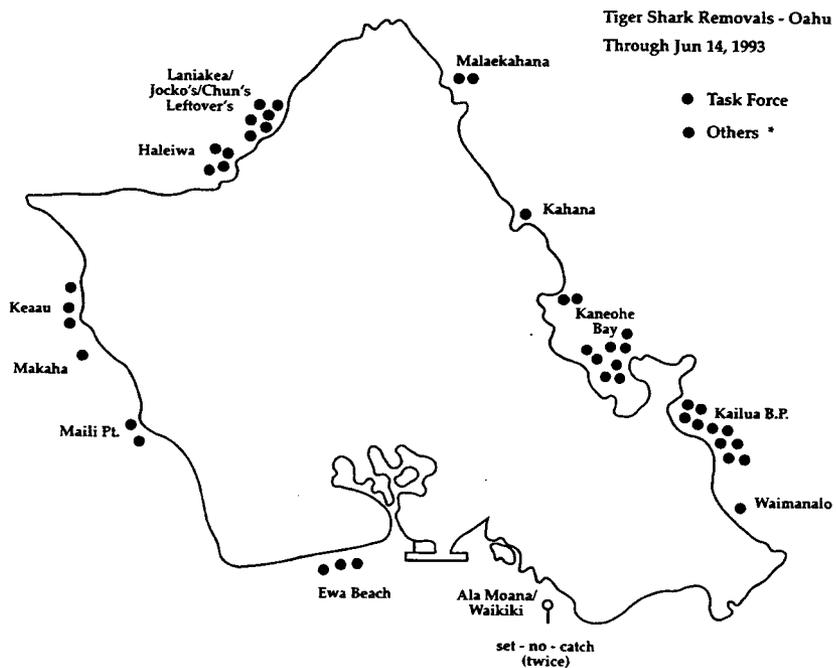
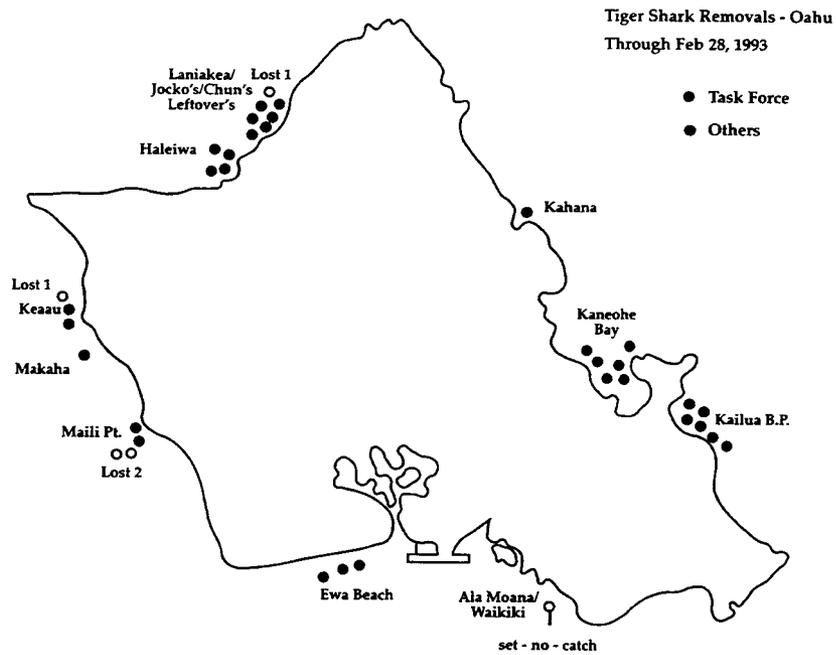
APPENDIX B
MAPS OF SHARK SIGHTINGS AND TIGER SHARK REMOVALS





Source: Department of Land and Natural Resources

SHARK REMOVAL AREAS



* Waikiki catches by Kamisugi not included