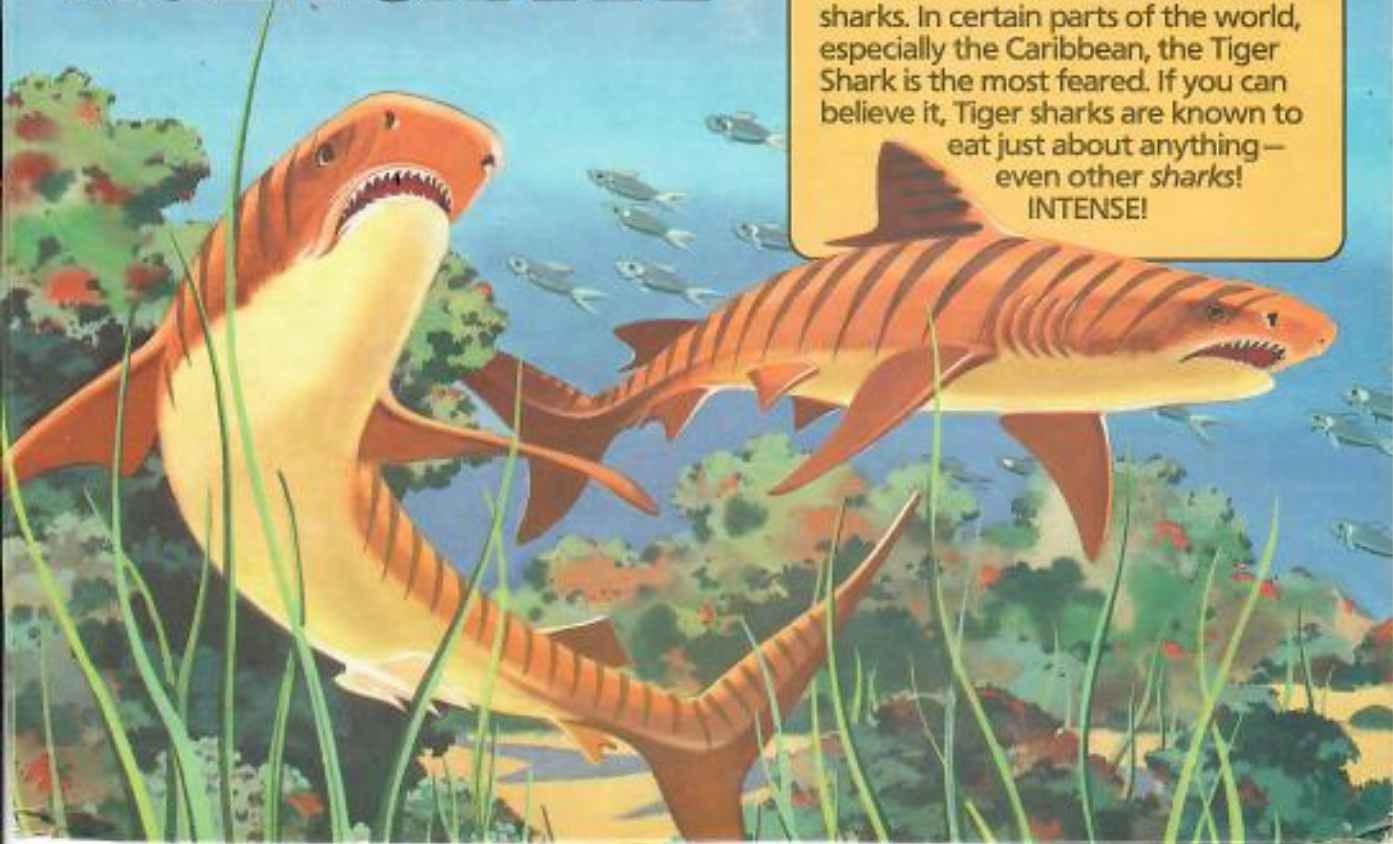


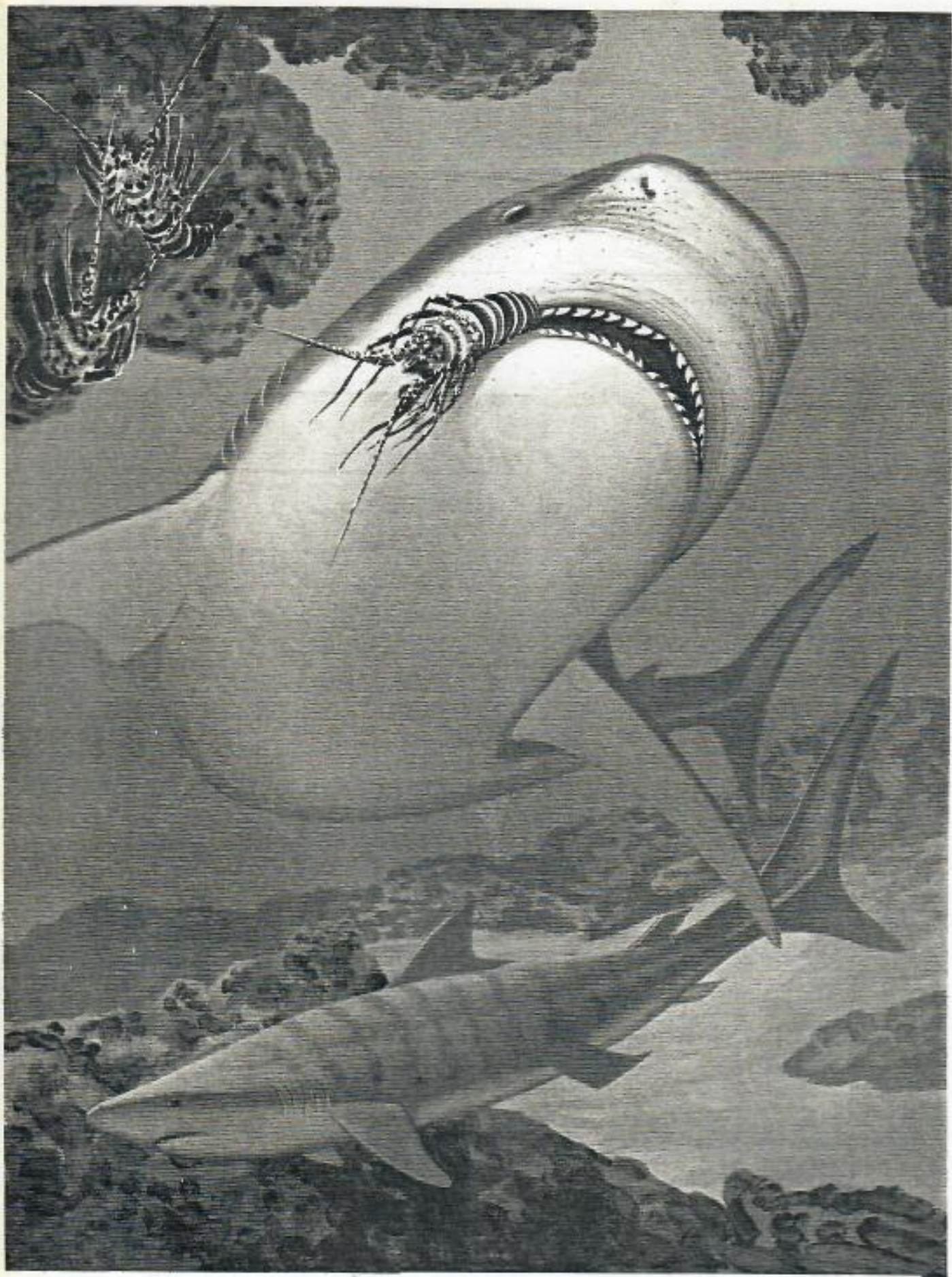
Carcharodon carcharias great white shark

THE FEARSOME TIGER SHARK!

You can see why this shark is called a TIGER SHARK when you notice his striped back and fins. The Tiger Shark is one of the most ferocious of all sharks. In certain parts of the world, especially the Caribbean, the Tiger Shark is the most feared. If you can believe it, Tiger sharks are known to eat just about anything — even other *sharks!*

INTENSE!





Galeocerdo cuvier tiger shark

see over

Weather details, A4



TODAY'S OUTLOOK:
Mostly cloudy with
occasional showers

NEWS SUMMARY
ON PAGE A2

Waiting for a missing son — Page A3

HAWAII:

Seniors not forgotten on Christmas — Page A4



SPORTS:

Illinois unlikely bowl foe — Page C1



SPORTS:

Knicks can't catch Bulls, fall 89-77 — Page C3



The Honolulu Advertiser

Aloha! Saturday, Dec. 26, 1992

Final Edition On Oahu 35¢

Shark hunters catch 12-footer off Haleiwa

by Greg Willes
Advertiser Staff Writer

Fishermen caught a 12-foot-long tiger shark off Haleiwa Boat Harbor yesterday — in a hunt launched after a shark attack at a North Shore surf spot Wednesday evening. Shark hunters set three lines but did not catch anything off Chum's reef, where the Wednesday attack occurred. They reset the lines last night.

And at least one other shark hunter, commercial fisherman and well-known surfer Perry Dane, is expected to set lines at the surf spot this week, as the concern mounts in the North Shore community about multiple attacks in recent months.

INSIDE:

■ One hunter believes rogue tiger shark on the prowl / PAGE A2

Meanwhile, Dentist Arthur Kamisugi, one of six fishermen who pulled in the shark yesterday, said he did not believe it to be the one involved in the attack at Chum's. It was caught about 3 miles from the Chum's Reef surf spot and had a normal dorsal fin. Kamisugi said the shark involved in the Chum's attack was described as having a damaged fin.

The shark that ripped a basketball-size chunk out of Gary M. Chum's surfboard was estimated at 10- to 12-foot long. Chum escaped with minor

cuts to his left hand but reportedly was shaken by the incident.

The shark caught yesterday was thought to weigh at least 1,500 pounds, have a girth of 80 inches and a jaw measuring 16 inches across.

"At this size it could be the culprit, but we don't know how far they (tiger sharks) travel," state Land Board Chairman William Paty said. "There's just one less large animal out there."

Kamisugi is not part of the state's Shark Task Force but fished with the state's blessings. Paty said the state footed the bill for the bait and that meat from the catch yesterday was used as bait for last night's effort.

The shark task force was established in the wake of a series of re-

cent shark attacks. The most serious incident occurred Nov. 5 when bodyboarder Aaron Romento died as the result of a massive wound inflicted at Keesau Beach Park near Makaha.

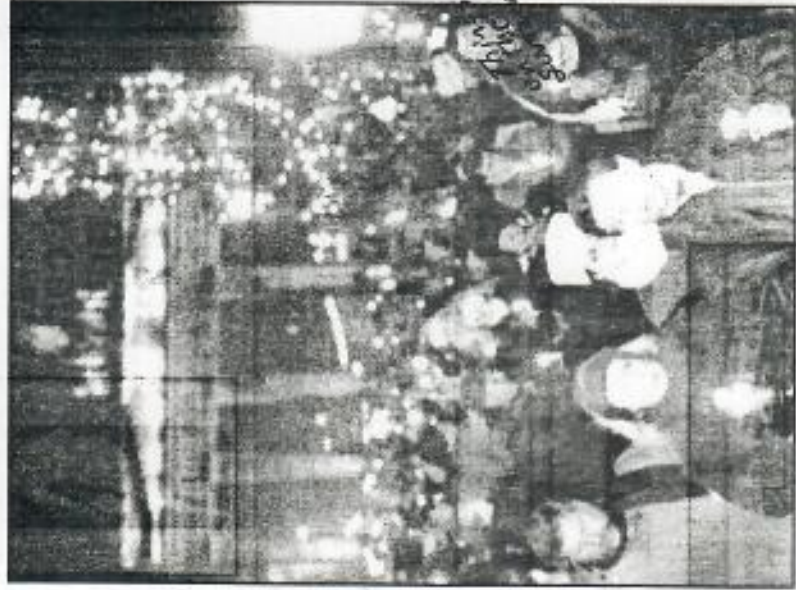
The disappearance of bodyboarder Bryan Adona on Feb. 19 is thought to be linked to a shark attack. Adona was surfing Leftovers, a reef less than 300 yards north of Chum's. On Oct. 23, surfer Rick Gruzinsky was attacked while he surfed Lanikaea, a spot within paddling distance of Chum's.

Gruzinsky's experience almost mirrored Chum's in that he escaped with minor injuries after a huge shark abruptly attacked and took a U-shaped mouthful out of his surfboard.



A LOOK AT THIS MORNING'S TOP STORIES

IN THE NEWS



AP photo

Berlin vigil

Marchers with candles pass through Berlin's Brandenburg Gate to protest racist violence in Germany. More than 150,000 people participated in the Christmas vigil.

CLINTON'S BIG DAY ■ RELIGION

Private financing for inaugural Sluggish giving worries church

The "most public and open inaugural in history" will be: More than 60 percent of Catholic households put an

'Rogue' tiger shark on the prowl?

Hunter believes one is responsible for recent attacks

By Greg Willes
Advertiser Staff Writer

A series of shark attacks has shaken the North Shore community, leading to an increase in shark hunting and prompting at least one surfer to believe there's a man-eating "rogue" on the loose in the water.

Commercial diver and well-known surfer Perry Dane has joined others in trying to rid the near-shore waters of menacing sharks, including one he believes has acquired a taste for humans.

"I think there's one territorial shark that knows people are food and keeps whacking them," Dane said yesterday. "It knows that a certain object is food and it's going to keep going after it."

Meanwhile, dentist Arthur Kamisugi and five others have

been setting strings of baited hooks for several weeks and yesterday brought up a 12-foot tiger shark from waters off Haleiwa.

Kamisugi, a neighbor of state Board of Land and Natural Resources chairman Bill Paty, said he started fishing for the sharks after growing concerned about the attacks. Many believe bodyboarder Bryan Adonai's disappearance in February was caused by a shark. Since October, there have been two other North Shore incidents in which a shark has attacked a surfer, taking a mouthful of surfboard in each instance.

In both attacks the surfers escaped with minor injuries.

Kamisugi said his efforts should not be construed as joy killings. Rather, he said, his group has considered the Hawaiian cultural views of sharks as *aumakua* or personal spirit-

al guardians and consulted a close Hawaiian associate who wholly supported their efforts.

On an environmental basis, he said he believes the shark population is in a state of imbalance, with too many sharks currently populating Hawaiian waters. Moreover, as a surfer, Kamisugi said, he believes there is an argument of protecting people.

"We're not trying to eradicate sharks, we're just taking care of our back yard," he said. "If our efforts keep one person out of harm's way, it's worth it."

Dane said the North Shore, particularly the area around Chun's Reef and the adjacent Joeko's surf spot, have been the scene of frequent shark sightings this year. He said he believes a tiger shark 12- to 14-foot long is responsible for most of the problems.

Dane said he will keep up his shark hunts until he catches two big sharks that he knows of between Haleiwa and Waimea Bay.

"I get a lot of people saying they get chased out of the water (by sharks)," Dane said, explaining he has seen a jump in the number of tiger sharks as he performs his commercial dive work.

"I don't know why the state doesn't do a small eradication project. There's so much tigers out there."

Dane said he has voluntarily been setting lines and will be doing so again tomorrow night. He said gas for his boat is running about \$175 a week and he hopes to receive more support for his efforts. So far, McWayne Marine Supply has donated hooks, and Dane has procured two surf shops for help.

Dane said he will keep up his shark hunts until he catches two big sharks that he knows of between Haleiwa and Waimea Bay.

Somalia: U.S. forces 'endure' Christmas

FROM PAGE ONE

In another incident, only the intervention of Marines prevented a group of Somali youths from overrunning a housing compound used here by foreign journalists. Soldiers were able to disperse the crowd without firing any shots. They later escorted the journalists to Bardera's airstrip.

The AP car was driven by non-Somali staffers into Bardera, after a Somali crowd declined to make the trip. After arriving, the staffers stopped at a shop to get two tires repaired.

There, they were approached by Bardera residents who refused to let them leave.



The Maui News

Founded in 1900

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NORA I. COOPER, Editor Emeritus

Knowledge of shark behavior is shallow

EDITORIAL

Considering the implications, it is surprising we don't know much about shark behavior. The increase in shark-human encounters proves something has changed, but we know so little about the "normal" situation that no one can say for sure what it is.

Thus the debate about whether to hunt sharks or not becomes a struggle based far more on prejudice than on knowledge. It would have been better to have started long ago, but intense study is a prime requirement now.

Probably sufficient knowledge will bring about consensus, but what to do in the meantime?

The argument that sharks should be left alone to bite swimmers because they are in their element is unpersuasive. Such thinking could be applied with equal logic to garden slugs, Mediterranean fruit flies, Serbian militiamen or the AIDS virus. No one wants them operating freely.

A snake hunter once remarked of very big snakes, "They are scarce because they have such a hard time making a living." The same is probably true about really big sharks.

Considering the chances, it is worth remembering that for some reason almost all sharks avoid people almost all the time. Humans are large, compared with most animals found in the water, and perhaps we are too large for most sharks.

Really big sharks, though, can handle us and also cannot afford to pass up feeding opportunities. This idea was reinforced recently when some very large tiger sharks encountered a 2,000-pound steer off Hana. (Why is another story.) Beef cannot often be on the shark menu, but they made short work of this unexpected find.

The state's policy of removing really big sharks has much to recommend it. It could also be true that removing too many big sharks will result in a population explosion of medium-size sharks that could be even more dangerous, although medium-size sharks have not been especially troublesome so far.

No doubt there is a happy medium and maybe someday we will learn enough about sharks to recognize what it is.

At present the state's cautious approach is warranted. The probable costs of the do-nothing approach are too high to accept.

Learn behavior, nix the shark hunts

COMMENTARY · *Maiama* 12-20-72
By CHARLES KAULUWEHI MAXWELL

As a member of the state Shark Task Force, I would like to clear up misconceptions and misinformation in your editorial (Dec. 13), "Knowledge of shark behavior is shallow."

Under the direction of Bill Paty, chairman of the state Department of Land and Natural Resources, a task force was put together consisting of scientists, biologists, fishery experts, police, fire and rescue, lifeguards, water safety personnel, surfers, canoe paddlers and Native Hawaiian historians and cultural experts. Myself and Parley Kanakaole represent Hawaiian interests and the outside islands. Meeting over the past six months, we have come up with a very positive program in educating the public in water safety and instilling in water users some knowledge of shark behavior that would make them aware of the dangers in the ocean.

From these meetings we have learned that over the last several years, the shark attacks have not increased, but what has increased are the people that use the ocean. An estimated 20 million people go into Hawaiian waters every year throughout the Hawaiian Islands. Compare that with 2 or 3 shark attacks a year and the percentage would be miniscule at best. However, the sightings and encounters would increase because of the increased use of the ocean.

The statement whether to hunt sharks or not is based more on prejudice than knowledge, and saying that hunting for sharks should have started long ago is not accurate. The fact is that in the late '60s and throughout the '70s, the state had a boun-

ty on sharks and conducted an ongoing shark hunting program. The results were that it did not eliminate the shark attacks (one or two a year), and when there was an attack it would be smaller sharks with small bites.

The picture in a fishing newspaper of an estimated 20-foot shark consuming the 2,000-pound steer shows sharks doing exactly what they were created to do, clean up the ocean. It is well known to divers and fishermen to stay out of the water by the mouth of a stream that enters the ocean, because all kinds of animals are washed down from the mountains and sharks congregate in these areas.

The experts in the task force have scientific information that shows every shark attack is a matter of mistaken identity by the shark for its natural food of turtles and seals.

A surfer or boogie boarder from underwater looks exactly like a turtle, and a person's silhouette swimming with fins looks like a seal. On every attack there were sightings of turtles swimming in the area of the victim. The protective lids on its eyes close and it relies on electric impulse emitted by its victims. After making the first strike it releases its victim realizing that it's not prey. This accounts for the one-bite attack on its live victims.

Modern man is the most intelligent being of all the animals in the world and the most dangerous. With all his knowledge of modern technology and his supreme accomplishments in outer space, he cannot protect his own environment. He has created artificial chemicals to the extent of changing the weather patterns and endangering his own existence on this earth, and now he wants to eliminate the shark because he wants to swim "safely" in the ocean.

How do we find a happy medium? By educating everyone who uses the ocean on rules to follow; be aware that the ocean is not a bathtub, things that live in the ocean can harm you. Do not go into the ocean with an open cut or women in menstruation. Scientists have shown that the scent of blood can be detected by a shark in one part blood to a million parts of water. Never swim in the water when it is very rough because the water is not clear and fish are usually feeding during this time. Always swim with someone so you can look out for each other.

The Native Hawaiians feel that the months of Makahiki — September, November, December and January — are not the time to be in the ocean because the sharks are hunting close to shore as the ocean tides are not really low and the ocean is agitated by the winter storms. These conditions invite the presence of sharks. Tourists should inquire from local residents how safe are the waters they intend to swim in. Right now they just jump in the water without any care, an accident waiting to happen.

Finally, I must say that if Bill Paty, with all his sensitivity and respect to the Hawaiian culture had not pulled us together and personally participated with us, this task force would not have been successful. He truly understood the *aumakua* concept (sharks being ancestral deity) to some Native Hawaiians, and respected the fact that sharks are an important part of the ecosystem and should not be hunted like it was before.

Local radio personality Charles Kauluwehi Maxwell is a Pukalani resident, a member of the state Shark Task Force, and is active in issues regarding Native Hawaiians.

TRANSMITTAL SHEET



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

Commercial: (808) 943-1221
Telefax: (808) 943-1290

TELEFAX FOR: WAIKIKI AQUARIUM
DR. BRUCE CARLSON

DATE: WEDNESDAY 12/23/92

FROM: GEORGE BALAZS

TELEPHONE EXT: 943-1240

FAX 943-1290

NUMBER OF SHEETS TRANSMITTED (including this page) THREE 3

MESSAGE:

DEAR BRUCE: WE HAVEN'T SPOKEN SINCE YOU RETURNED FROM YOUR TRIP, SO I'M WONDERING IF MR. PATY EVER RESPONDED TO YOUR LETTER. AS YOU LIKELY KNOW, THE TOPICS YOU BROUGHT UP WERE NOT DISCUSSED AT THE LAST TASK FORCE MEETING.

I'M FAXING YOU THIS MORNING BECAUSE, JUST LAST NIGHT, I SAW THE ACCOMPANYING TWO ARTICLES FROM THE MAUI NEWS, DATED 12/13 AND (MAXWELL'S) DATED 12/20. NEEDLESS TO SAY, MY EYEBROWS WERE "RAISED" BY THE STATEMENT THAT "THE EXPERTS IN THE TASK FORCE HAVE SCIENTIFIC INFORMATION THAT SHOWS EVERY SHARK ATTACK IS A MATTER OF MISTAKEN IDENTITY BY THE SHARK FOR ITS NATURAL FOOD OF TURTLES AND SEALS." DOES MAXWELL MAKE THIS STUFF UP FOR HIS AUDIENCE (RADIO OR NEWSPAPER READER?), OR IS HE REALLY GETTING THIS "IMPRESSION" WHILE ATTENDING THE TASK FORCE MEETINGS??

I HOPE THAT SOMEONE ON THE TASK FORCE WILL HAVE THE COURAGE, AND SCIENTIFIC SOUNDNESS, TO PUBLICLY CORRECT THIS NONSENSE IN THE MAUI NEWS. MAXWELL'S "COMMENTARY" SERIOUSLY MISINFORMS MAUI RESIDENTS, AND IN A ROUNDABOUT WAY UNJUSTIFABLY DAMAGES CONSERVATION EFFORTS FOR SEA TURTLES.

A SMALL POINT, BUT ALSO I DIDN'T REALIZE MAXWELL REPRESENTED IN "INTERESTS" OF ALL "OUTSIDE ISLANDS" IN HIS POSITION ON THE TASK FORCE.

WHAT A MESS!

Happy Holidays, G



[sections] nuggets

NAKED LUNCH

Since Wendy Botha posed naked in the September 1992 issue of *Australian Playboy*, there's been all sorts of speculation about the effect the spread will have on the defending world champ's career and reputation. Recently the *Telegraph Mirror* newspaper in Sydney ran a piece alleging Wendy lost a "lucrative video deal" when sponsors backed out because of the *Playboy* spread.



Contacted in France, Botha denied that the nude photographs have hurt her financially: "All my current sponsors—Cheetah, Suzuki, etc.—are quite happy, and George Minnis, who is currently in control of my interests, has had nothing but positive reactions and more sponsorship offers." What do her peers think? "The girls on the tour were a little shocked," Wendy said. "Most of them have said it's great and others had no comment." And what about the men? "The guys, so far, all think it's unreal..." The commotion appears not to have affected Botha's surfing: Just as the magazine hit the stands, she got first at the Rip Curl Pro Landes in Hossegor, France.

RACK TRAGEDY

Losing a surfboard on the freeway is a nightmare most surfers share. When it happens, the result is usually only damage to the surfboard—anything from a cracked fin to complete destruction. On August 18, two Florida surfers lost their boards while driving on Interstate 95, seven miles north of West Palm Beach. Unfortunately, the worst happened. Stewart Rome, a high school economics teacher from Stuart, Florida, died after one of the boards knocked him from his motorcycle. "The surfers were charged with failure to secure a load, a non-criminal infraction," said a spokesman for the Florida Highway Patrol. "Their boards were only strapped to their van by bungee cords." A lesson for us all: Remember to check those racks and check them again—and not just for the sake of your board.

A SILVER BULLET?

The Surfrider Foundation has teamed up with Coors Beer, of all companies, to help finance its Blue Water Task Force. At a well-attended press conference in Hermosa Beach in September, Coors announced that it will help pay for the foundation's water-testing kits, starting out with a grant of about \$7,000. Seeking to correct its unfavorable environmental record back in Colorado, the brewery created the Coors Pure Water 2000 program three years ago, which gives direct financial assistance to a variety of groups. Under terms of its agreement with Surfrider, Coors has also pledged to help underwrite the cost of public service announcements on the Prime Ticket Network. "Our goal with the Blue Water Task Force is to quantify water-test results from all of our local chapters and publish the results this time next year," says Surfrider Executive Director Jake Grubb. "We feel everybody's got a right to know what's in the water." Grubb says he discussed the Coors alliance with local chapters as well as surf industry sponsors and "the consensus was that this would be a good faith support effort."

SIDESWIPE AT SURFSIDE

Out of the blue, officials at the Seal Beach Naval Weapons Station decided this summer that surfers should no longer be allowed to ride the waves that ricochet off the Surfside Jetty, at the far north end of Huntington Beach. Fortunately for surfers, the break is a favorite spot of Sean Collins, co-owner of the WaveTrak surf report and a fierce fighter when it comes to keeping his home break open. Without warning, Navy officials recently chased Collins and other surfers from the water over a 300-yard stretch between the jetty and the Surfside Colony, declaring the area permanently off-limits. Navy officials say the area was never open for public use. They said they decided to enforce the no-trespassing rule because of a recent rise in vandalism, and because they fear someone will get hurt surfing near the jetty. The matter is far from closed. Collins, who has surfed the break for 30 years, has taken his case to local news outlets, and has been joined by the Surfrider Foundation. They plan to meet with military officials this fall. If that doesn't work? "We'll go over their heads, no problem," Gordon

LaBedz of the Surfrider Foundation told the *Orange County Register*. "Congress pays their bills, don't they?"

THE HORROR. THE HORROR.

On Thursday, Oct. 1, an 18-foot white shark savaged and killed a Gold Coast surfer in a ghastly 20-minute attack off Moreton Island in Queensland, about 50 miles north of Brisbane.

Michael Docherty, 28, was surfing alone about a hundred yards offshore at a spot called North Point when a huge shark knocked him off his board and dragged him underwater. The shark would not release its grip on the surfer until two witnesses raced out in a small fishing boat. Amazingly, when the two pulled the board out of the water, the shark still had its jaws firmly clamped around Docherty's lifeless body.

Ironically, just before the attack, the Australian Surfrider Foundation had been actively campaigning for the removal of shark nets on the Gold Coast. The environmentalists claim that dolphins, sea turtles



PHOTO: JASON CHILDS

and other innocent sea creatures are being drowned in the nets, which are buoyed outside of popular surfing and swimming beaches to keep sharks away from humans. At Burleigh Head, Kirra and other surf spots, water safety officials have replaced the shark nets with "drum lines"—buoys rigged with large hooks and chunks of meat. They hope this method will be as effective as shark nets, without taking a toll on other sea life.

Surfers hope so, too.

[Compiled by Gary Dunne, Allston James, Ben Marcus, Derek Rielly and Amy Vansant]

THE BIKINI ISSUE page 58

BEST OF THE
BEST

SURFER POLL
WINNERS
PICK THEIR
OWN TOP 10

HURRICANE MADNESS

The West Coast Sizzles



U.S. \$3.95 CANADA \$4.50
FEB. '93 VOL 34 NO. 2



John Waihee
Governor

NEWS RELEASE

Department of Land and Natural Resources
Division of Aquatic Resources
Henry M. Sakuda - 587-0100

AR93-08

April 27, 1993

FIRST SHARK EDUCATIONAL MATERIALS AVAILABLE

The first set of educational materials produced by the State's Shark Task Force have been printed and are now available to the public.

Brochures providing general information on the most common inshore shark species may be obtained by sending a legal-sized self-addressed stamped envelope to:

Sharks
1151 Punchbowl St.
Honolulu, HI 96813

Brochures are also available at Division of Aquatic Resources offices statewide, as well as most surf shops, dive shops and fishing supply stores. Teachers may obtain brochures in quantity by contacting the Division of Aquatic Resources Education Program.

Posters depicting the diversity of sharks in Hawaiian waters are available to schools and ocean related businesses. Individuals may purchase posters for \$3.00 at Division of Aquatic Resources offices (limit one poster per person). Both the poster and brochure include safety tips on reducing the risk of shark attack.

Federal funds will cover three-fourths of the production costs of these materials. Much of the remaining costs are expected to be recovered through poster sales.

Two shark videos are also being produced, and should be completed this summer. One will be a general educational video for schools and the public. The other will be a training video for water safety professionals. Additional materials will be produced in the future to provide information obtained through the Task Force's research projects.

For further information, contact the Division of Aquatic Resources Education Program at 587-0111.

#

Tiger Shark Removals - Oahu

Through 2/28/93

Task Force

Laniakea		
10/23/92	3	10' F, 12' M, 14' F
12/14/92	1	12' F
Keaau		
11/6/92	2	10' M, 13' F; lost one (est 14')
Makaha		
11/29/92	1	10' F
Mali		
11/29/92	1	11' F; lost two (est 12'-14')
12/13/92	1	12' F; one 6' M tagged and released

Others known

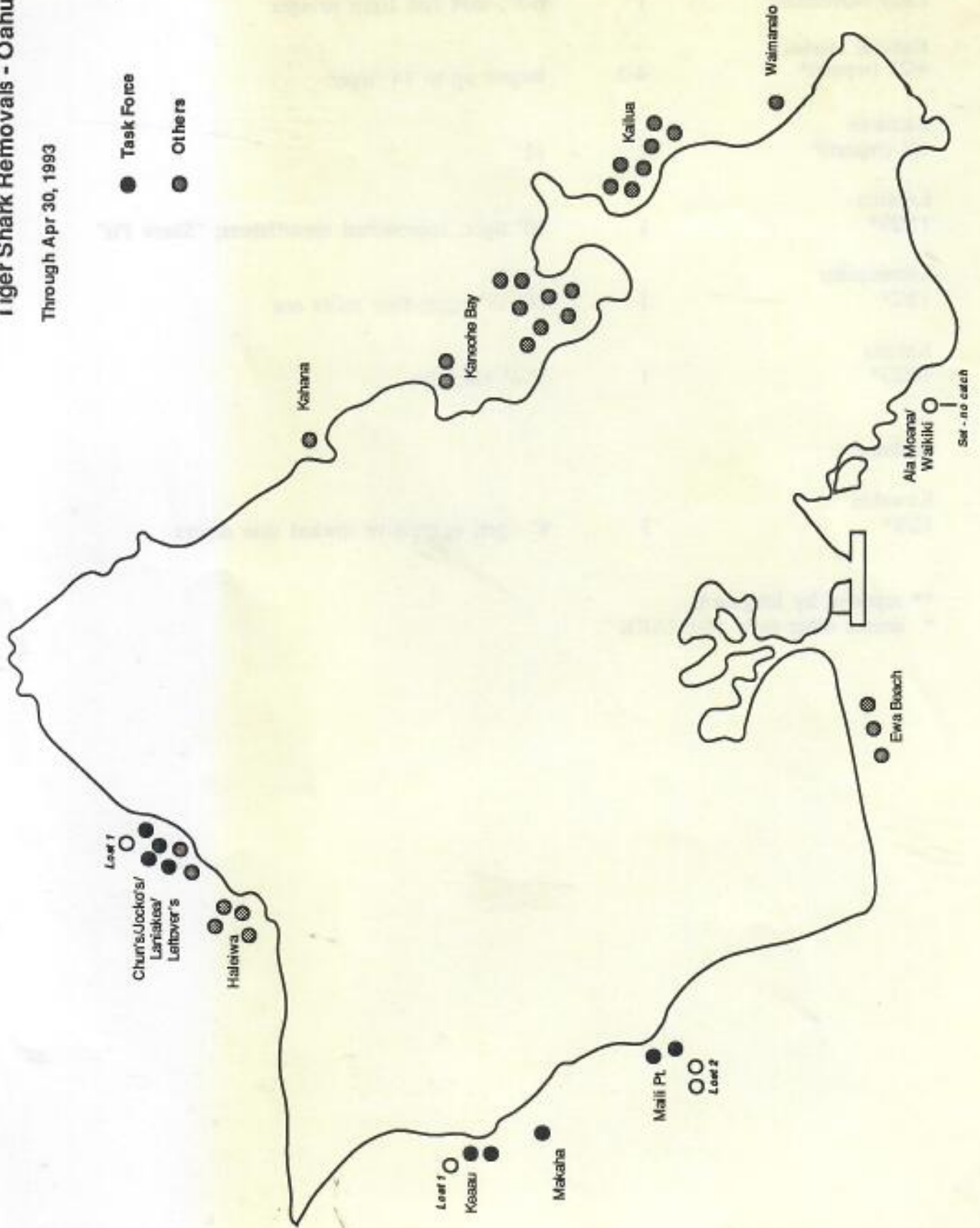
Leftovers		
1/22/93	2	6' M, 11' F
Haleiwa		
6/18/92	1	11'
12/25/92	1	12'
12/31/92	2	12', 15' F
Ewa Beach		
11/28/92	3	7' M, 8' M, 14' F
Waimanalo		
2/27/93	1	10' F
Kailua		
12/29/92	1	12' F
1/8/93	1	6' M
1/17/93	1	7' (Mokapu to Mokolua)
Jun-Dec 92	3	11', 11', 12'
4/23	1	14' F (Mokolua)
Kaneohe Bay		
1/27/93	1	10' (Moku Manu)
Jun-Dec 92	5	10'-13' (NOSC)
1/13/93	2	9' M, 11' M (Moku Manu)
March 93	2	10', 12' (Chinaman's Hat)
Kahana		
11/25/92	1	12' F

Tiger Shark Removals - Oahu

Through Apr 30, 1993

● Task Force

○ Others



Kanaha			
Early November*	1	6-8';	took fish from stringer
Kahului Harbor			
4/22 (report)*	4-5	largest up to 14'	tiger
Kamaole			
2/3 (report)*	1	12'	
Lahaina			
11/29*	1	10' tiger;	approached spearfishers; "Shark Pit"
Launiupoko			
12/2*	1	16'-18' tiger;	four miles out
Kahana			
10/23*	1	5'-6' blacktip	
Molokai			
Kawakiu			
12/8*	3	8' tiger;	aggressive toward skin divers

** reported by lifeguards

* source other than 58-SHARK

South Shore

Ewa Beach

11/11	1	>20' tiger swam along boat
11/14	1	10' tiger; chased spear fishers

Sand Island

All summer	many	9-10' tigers and hammerheads
------------	------	------------------------------

Kakaako

11/27 (report)	1	10'; off waterfront park
----------------	---	--------------------------

Waikiki/Ala Moana

5/29*	1	8-10'; Ala Moana Bowls; seen in area since 5/27
6/14*	1	8-10'; off Ala Wai; hanging around for 2 weeks
9/23*	1	12'; off Ilikai
11/23	1	10' off Ilikai
continuous*	many	5-12' at Ala Moana Courts

Wailupe/Kuliouou/Niu

Last 3 months	2	8' tiger
11/30 (report)	3	8'
early fall	>1	>8'; near Toe's and Secret's
early fall	sev.	up to 12'; Paiko Drive to Aina Haina

Hanauma Bay

early November	1	7'; outside reef
----------------	---	------------------

Sandy Beach

mid November	1	7' galapagos; by Irma's in 75-130' water
late November	1	10' tiger; also several 6-8' whitetips
continuous	1	large tiger between Sandy's and Hanauma Bay
12/4 (report)	1	9' gray reef; followed divers, ate their fish

Allen Davis

11/18	1	7-8' reef; dead
11/2	1	10' tiger followed divers into shore

Maui

Paia Bay

11/6*	1	6'; off Baby Beach
11/19 (report)	1	12' tiger

Hookipa

11/21	1	friend almost attacked
12/14*	1	12' tiger; second-hand reports of others in area

Jocko's			
12/1	1		8-10'; chasing surfers
Chun's			
11/24	2		4', 6-8' between Chun's and Jocko's
12/3	1		10'; called in by HPD
12/3	1		10-12'; may be same as above; in lineup
12/15	1		est. 12'; in front of WWP's house
12/16	1		10' tiger
Leftovers			
11/21	1		7-8' 200 yards offshore
11/25	1		12' tiger; chased surfers out of water
12/7	1		large (saw fin only) at Alligator's
Sunset Beach			
Off and on	1		14'
Velzeyland			
late November	1		medium size; in channel in front of river mouth
November	>5		outer reef
12/12 (report)	lots		
<u>Waianae</u>			
Makua Reservation			
11/24 (report)	4-7		10-12'
12/12	1		6'-8' tiger; followed divers to shore
Keaau Beach			
late November	1		18' tiger, seen daily
Makaha			
10/21**	1		>6'
11/6**	1		6'; Makaha Channel
11/8**	1		4-6'; Makaha Channel
11/22	1		10'; Kabata's (Cabana's?)
Maili Pt.			
11/25 (report)	1		12'
Campbell			
11/14*	1		8' tiger; chased divers out of water
12/1 (report)	3		>10'; outside lighthouse
Barbers Point			
10/3**	3		5'-7'; diver attacked, no injury
10/10**	2		6-7'
12/13	1		8'-10' tiger

58-SHARK Reports

Nov 20 through Dec 16, 1992

Oahu

Windward

Malaekahana		
11/26 (report)	1	>10' tiger, half way to Goat Island
11/30 (report)	1	10'; close to shore

Kaneohe Bay		
Continuous	2	15' tigers
Past 8 months	many	<8' tigers and hammerheads
Summer	3	12' tigers near sandbar

KMCAS/Pyramid Rock/North Beach/Mokapu		
12/2	3	6' tigers; harrassing people
12/2	1	8'
12/3	1	>8'; chasing people
12/16	1	very large; repeated sightings

Zombies/Castle Point		
11/29	1	10'; Zombie's (Waimanalo side of KMCAS)
continuous	lots	various; Zombie's
11/29	1	10'-12'; charged kids

Kailua Beach Park		
11/18	1	12-14' tiger

Makapuu		
11/30 (report)	1	12'; halfway to Rabbit Island

North Shore

Mokuleia		
12/1	2	6'; in shallow water
12/1	1	8-12'; in lineup
12/5	2	8'-10' tigers
12/6	2	10'
12/8 (report)	1	8'-12' tiger; repeated sightings

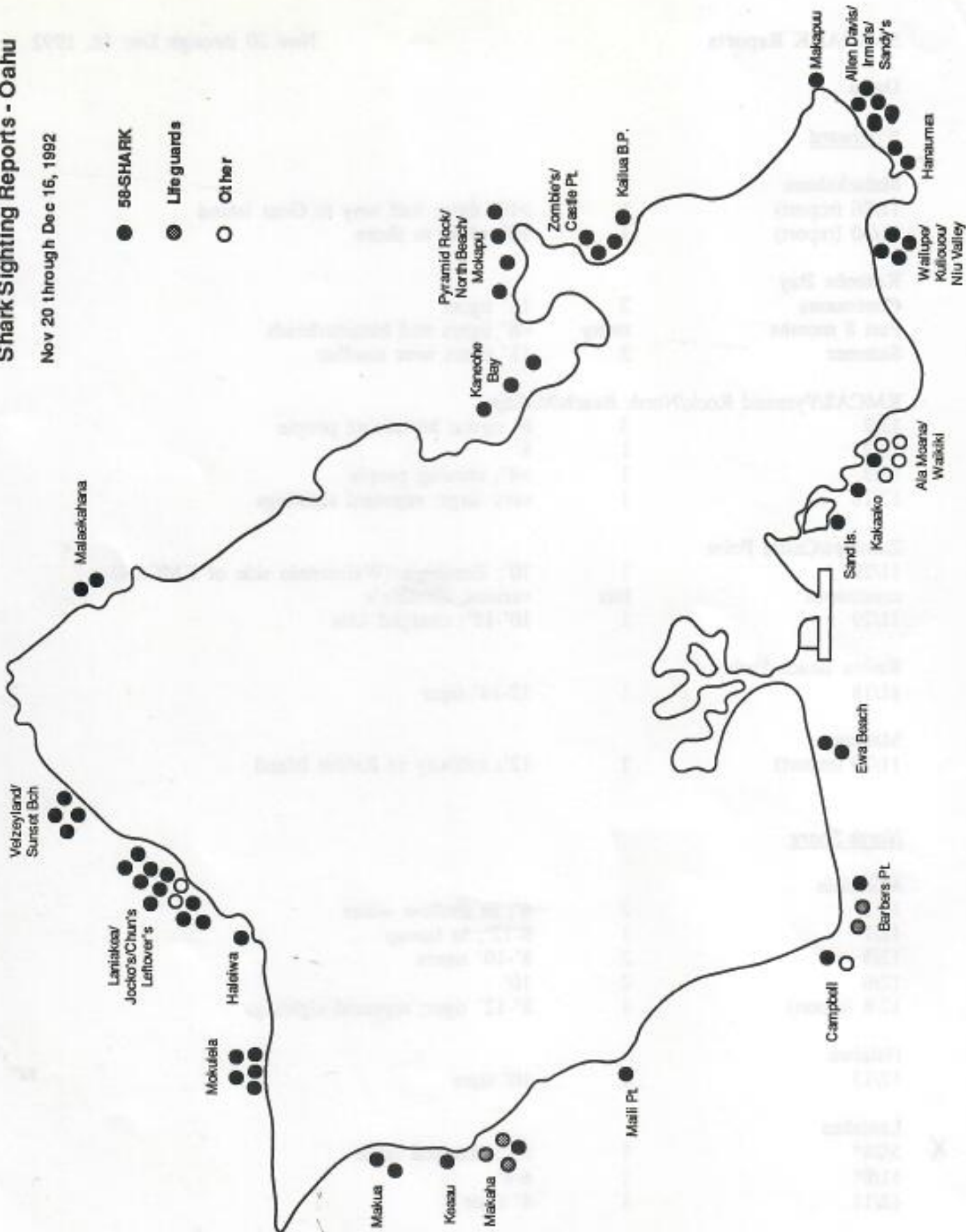
Haleiwa		
12/13	1	10' tiger

X Laniakea		
5/24*	1	>8'; attacked turtle
11/8*	1	6-8'
12/11	1	8' tiger

Shark Sighting Reports - Oahu

Nov 20 through Dec 16, 1992

- 58-SHARK
- ⊗ Life guards
- Other



Waianae

Makua Reservation 12/29 (report)	1	14'-16'; outside Makua cave
Keaau Beach 12/18	1	12'; "attacked" boat while akule fishing
Pokai Bay 12/26	2	7'-8'

South Shore

Ewa Beach 12/31	1	6'-8'; headed for surfers
Waikiki/Ala Moana 12/24	1	6'; Hilton Haw'n Village (4 reports)

Maui

Kanaha 12/17*	1	12' tiger; seen repeatedly over 2 months
12/29*	1	8' female tiger; caught in net; terminated
Spreckelsville 12/25*	1	10' tiger; took fish from stringer
Olowalu 12/22*	1	12' tiger; swam within 20 feet of divers

Kauai

Hanalei 12/10	1	10'-12', brushed surfer; lots in last 2 wks
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*source other than 58-SHARK

58-SHARK Reports

Dec 17 through Dec 31, 1992

Oahu

Windward

Laie 12/24	1	no size given; HPD report
Kaneohe Bay 12/30	2	>10' tigers; circling tour boats (Marine Patrol)
Kailua Beach Park 12/24 (report)	1	12'
Lanikai 12/27	1	8'; by Mokulua islands

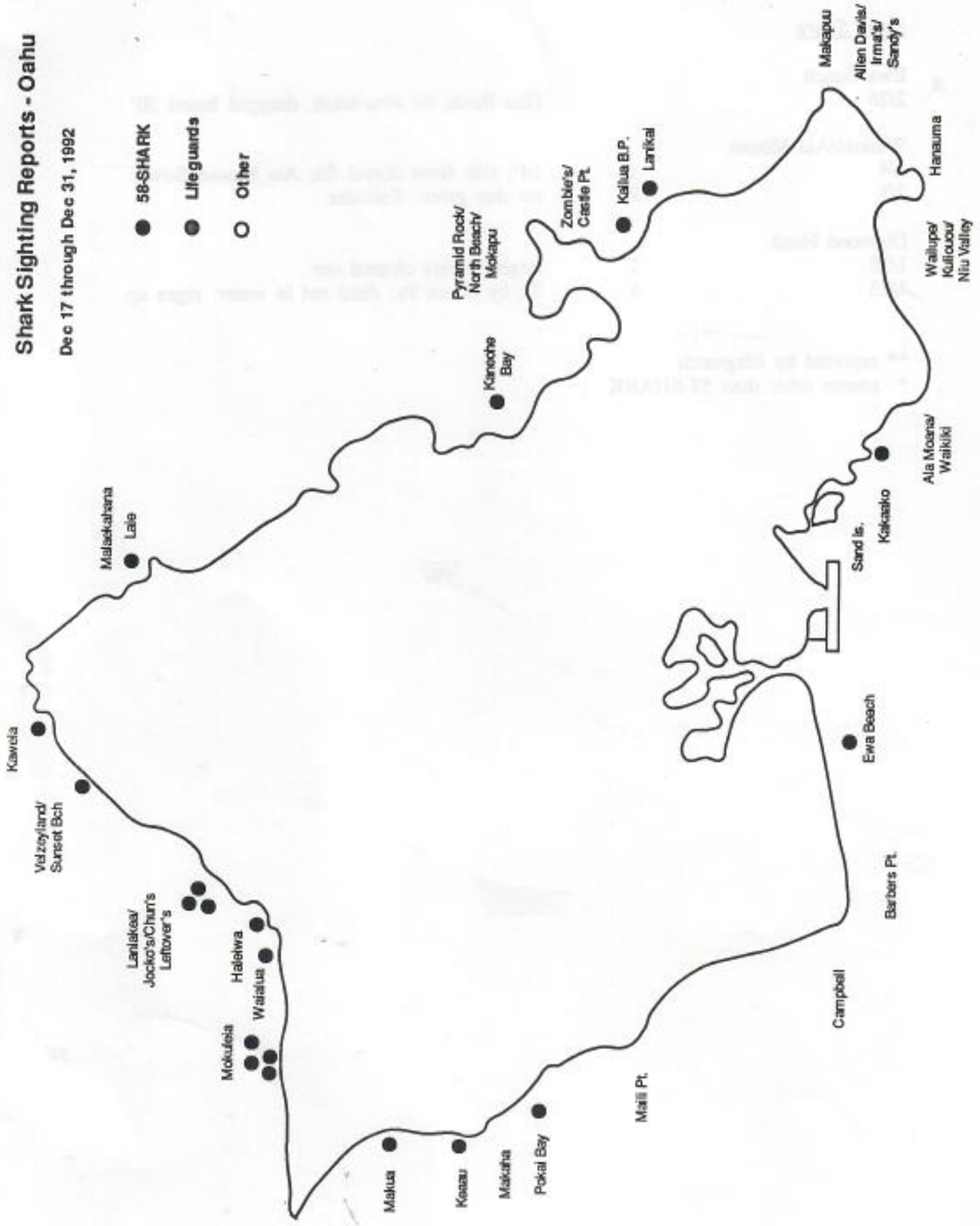
North Shore

Mokuleia 12/18	1	12'-15' tiger; inside reef at army beach
12/22	1	>7'; in shorebreak (2 reports)
12/23	1	7'-8'
12/27	1	8'; in 3' of water
Waiialua 12/27	1	8' tiger; middle of day
Haleiwa 12/29	1	12'
Chun's 12/23	1	Attack ; surfboard chomped
Laniakea 12/23	1	8' whitetip
12/29	1	1' fin; scared surfers out of water; made news
Velzeyland 12/26	1	small tiger; 10' off shore
Kawela Bay 12/18 (report)	1	10'-12' tiger; every 2 weeks; doesn't bother anyone

Shark Sighting Reports - Oahu

Dec 17 through Dec 31, 1992

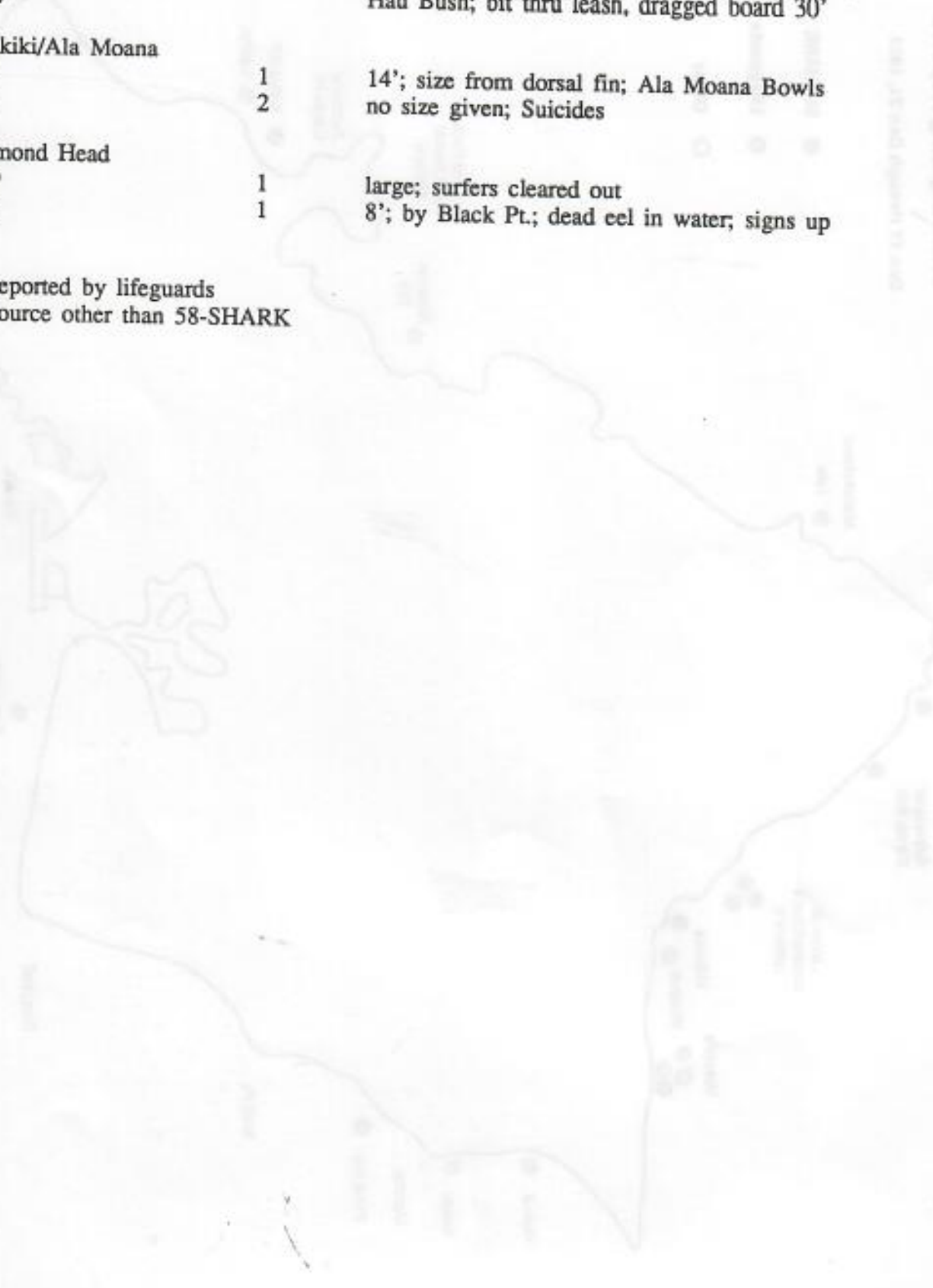
- 58-SHARIK
- Lifeguards
- Other



South Shore

x Ewa Beach			
2/26			Hau Bush; bit thru leash, dragged board 30'
Waikiki/Ala Moana			
1/4	1		14'; size from dorsal fin; Ala Moana Bowls
2/3	2		no size given; Suicides
Diamond Head			
1/20	1		large; surfers cleared out
1/23	1		8'; by Black Pt.; dead eel in water; signs up

** reported by lifeguards
* source other than 58-SHARK



58-SHARK Reports - Oahu

Jan 1 through Feb 28, 1993

Windward

Malaekahana 1/12	2	big; outside Goat Is.
Laie 1/7	1	>10' tiger; Hukilau Beach, late afternoon
Kaneohe Bay 1/6	1	"big fin"; by Coconut Is. pier; several days
Zombies/Castle Point 1/2	1	8'-10'; other sightings that day

North Shore

Mokuleia 2/10	10-15	>5-10'; Air One spotted (2 reports)
2/25	1	10'-12'; outside Beach Park in lineup
Chun's 1/19**	2	6', 12' (separate incidents)

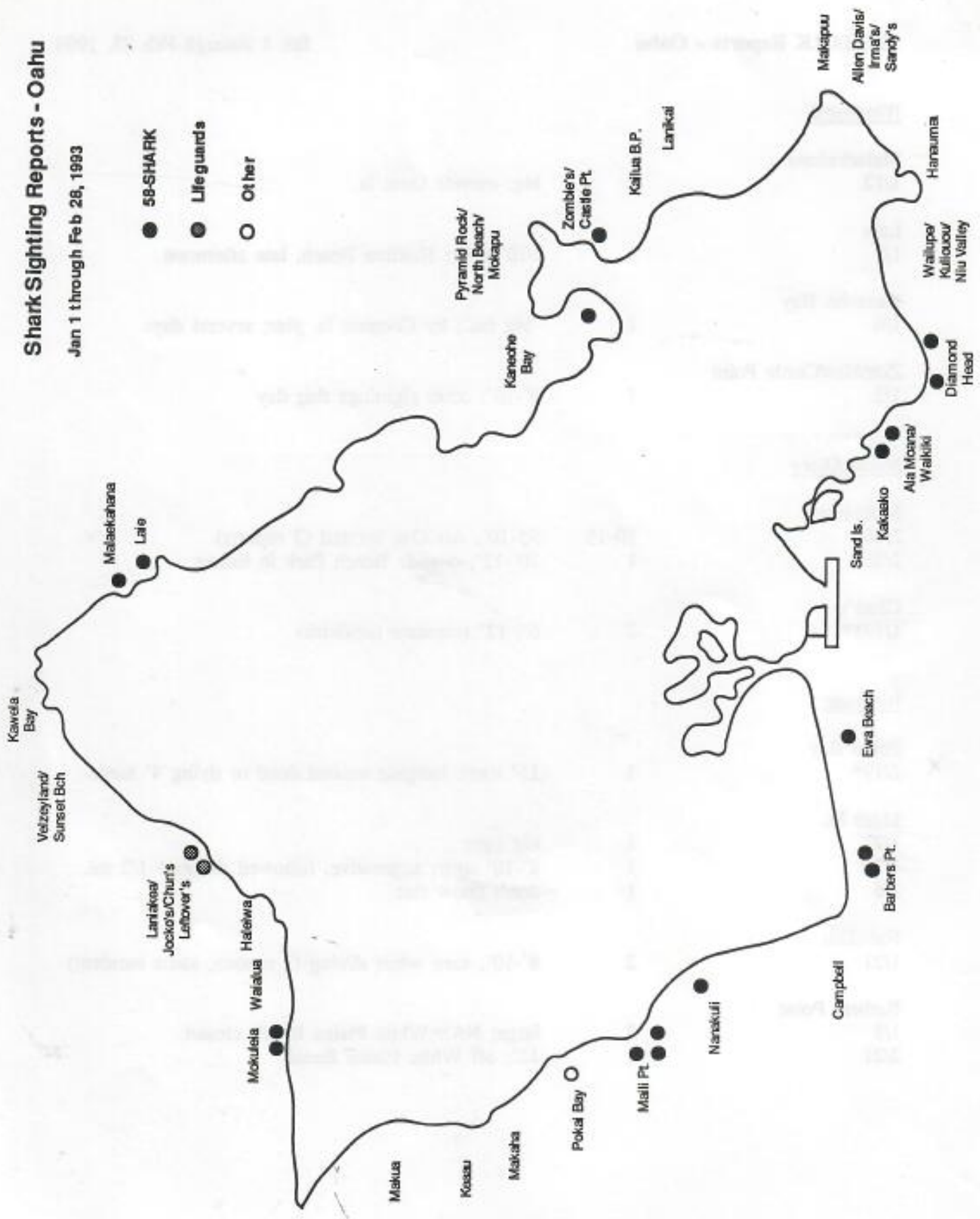
Waianae

X Pokai Bay 2/19*	1	15' tiger; hanging around dead or dying 4' turtle
Mailli Pt. 1/27	1	big tiger
1/29	1	8'-10' tiger; aggressive, followed divers 1-1/2 mi.
2/6	1	don't know size
Nanakuli 1/21	2	8'-10'; seen while diving (2 reports, same incident)
Barbers Point 1/8	2	large; NAS White Plains Beach closed
2/21	1	12'; off White Plains Beach

Shark Sighting Reports - Oahu

Jan 1 through Feb 28, 1993

- 58-SHARIK
- Lifeguards
- Other



Sand Island/Honolulu Harbor

3/20	1	8'-12'; 75 yards from shore
4/29	num.	12'-14' tigers; by Piers 19-20

Waikiki/Ala Moana

3/19	1	10'-12'; Ala Moana swimming toward Hon. Harbor
4/12	1	8'; Ala Moana

Maui

Wailua

3/14*	1	Attack; est. 14' tiger
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Lahaina

4/11	1	4'; caught inside reef at low tide
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Kauai

Anini Beach

3/18	1	7'; in one foot of water
4/12	1	8'; three feet from beach; seen over last 2 wks.

** reported by lifeguards

* source other than 58-SHARK

58-SHARK Reports

Mar 1 through Apr 30, 1993

Oahu

Windward

KMCAS/Pyramid Rock/North Beach/Mokapu

3/15 1 6'-8'; Pyramid Beach; seen a lot lately

Lanikai

4/10 1 7'-8'; between Mokulua islands

Bellows

3/22 1 no size given; 20-30 yds. offshore; beaches closed

North Shore

Laniakea

3/23 1 5'; by shore

Chun's

3/31 2 14' tigers

4/21 1 6'-8'; in surf

4/22 1 7'

Leftovers

3/20 1 6'-8'; 100 yds. from beach; aggressive

Waianae

Keaau

3/5 2 unknown size, only saw fins

Makaha

4/7 10 good size; [believed to be dolphins from follow-up]

Maili Pt.

3/7** 1 10'-12' tiger

4/11** 1 8'

South Shore

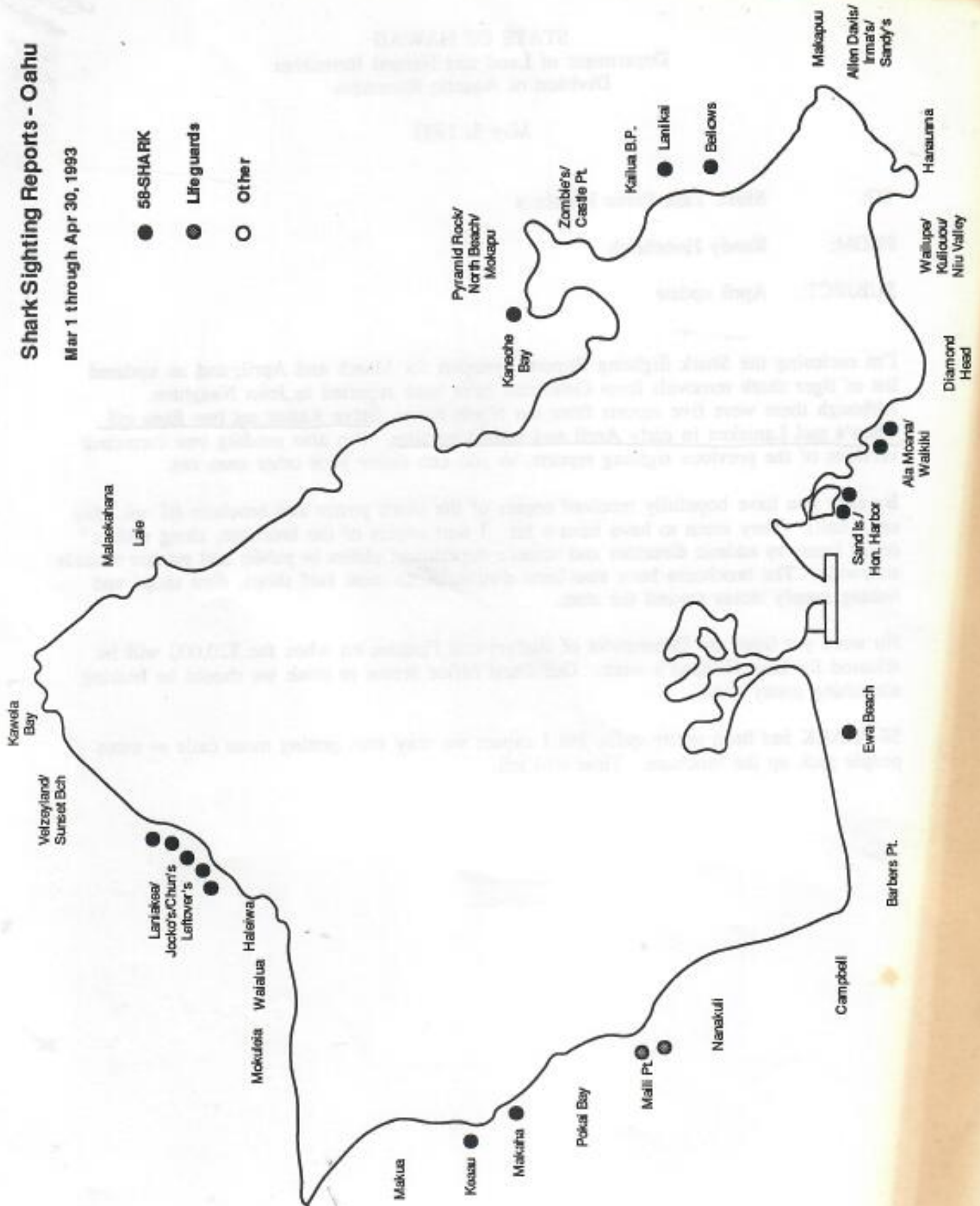
Ewa Beach

3/18 1 15' tiger

Shark Sighting Reports - Oahu

Mar 1 through Apr 30, 1993

- 58-SHARK
- Life guards
- Other



STATE OF HAWAII
Department of Land and Natural Resources
Division of Aquatic Resources

May 3, 1993

MAY 07 1993

GHD
WEG

AW

D.O.

TO: Shark Task Force Members
FROM: Randy Honebrink
SUBJECT: April update

I'm enclosing the Shark Sighting Reports synopsis for March and April, and an updated list of tiger shark removals from Oahu that have been reported to John Naughton. Although there were five reports from the North Shore, Steve Kaiser set two lines off Chun's and Laniakea in early April and caught nothing. I'm also sending you corrected versions of the previous sighting reports, so you can throw your other ones out.

By now you have hopefully received copies of the shark poster and brochure (if not, give me a call). They seem to have been a hit. I sent copies of the brochure, along with a cover letter, to athletic directors and science department chairs in public and private schools statewide. The brochures have also been distributed to most surf shops, dive shops and fishing supply stores around the state.

No word yet from the Department of Budget and Finance on when the \$20,000 will be released for Kim Holland's work. Our fiscal office seems to think we should be hearing something pretty soon.

58-SHARK has been pretty quiet, but I expect we may start getting more calls as more people pick up the brochure. Time will tell.

12-6-92

Divers dispute claim that feeding attracts sharks

By TIMOTHY HURLEY
Staff Writer

LAHAINA — Several Maui dive operators say they agree with state Land Board Chairman William Patey that the practice of feeding fish to attract them for viewing should be curtailed.

But not for fear of attracting sharks, as Patey suggested last week when he publicly called on operators to stop the feeding of fish.

A number of Maui dive professionals said that if the practice is stopped, it should be to protect the ecosystem and health of reef fish, not because it attracts sharks.

"That's pretty silly," said scuba instructor Tonia Dratzkowski of Patey's reasoning. "That's not even plausible in my mind."

Patey issued the request last week, voicing a concern that placing food into the water attracts sharks, either because the sharks are drawn to the food itself or to the fish that hang out in feeding areas.

The state Department of Land and Natural Resources has sent two letters to Atlantis Submarines asking it to discontinue feeding fish dried dog food during its tours at an artificial reef about a mile off Waikiki.

DLNR spokeswoman Linda McCrery said Thursday that dive tour operators across the state are being asked to voluntarily refrain from feeding fish.

"As long as there is a shark problem, we are asking them for some kokua. Even if (feeding fish) isn't the

'The reef fish are not what the sharks eat. A shark would starve to death on a half- to quarter-pound fish.'

— Joe Stebbins
Fantasy Dives owner

culprit, we would rather err on the side of the conservative. It's just a common sense thing," McCrery said.

An official with Atlantis Submarines' Lahaina operation said underwater feeding isn't done on Maui because the submarine here dives too deeply for scuba divers to feed, about 150 feet.

Greg Birmingham, a diver with Hawaiian Reef Divers in Lahaina, said his company this year tapered off the practice of feeding fish. But not for fear of attracting sharks. Rather, he said, it was because of a growing awareness that the practice alters the natural behavior of fish.

"With any wild animal, when you leave them to their own devices, it's got to be better for them," he said.

The notion that feeding fish attracts sharks is ludicrous, said Joe Stebbins, owner of Fantasy Dives, noting that his company doesn't "make a habit of it."

"The reef fish are not what the

Continued from Page A1

books and equipment, she said. Several thousand dollars remain in the task force bank account, McCrery said, but more cash likely is needed to keep the program going for any extended length of time.

State Land Board Chairman William Patey is expected to push lawmakers hard this legislative session for more funding.

Naughton said the task force's shark-control program of fishing in areas frequented by large sharks and following attacks on people makes sense. The level of fishing is enough to reduce a potential problem without making a significant impact on the marine ecosystem, he said.

"We know so little about these critters, but we've got to go with what little information we've got available. There are colleagues who disagree with me, who say we need more scientific data, but I believe we have to do some control fishing. The point is we've got to apply some remedy to the problem now."

sharks eat," he said. "A shark would starve to death on a half- to quarter-pound fish. What they're after is something much larger, like turtles."

Stebbins said an increasing number of dive tour operators on Maui are discontinuing fish feeding because scientists are saying it disrupts the ecosystem and the natural order of things. It makes the fish too dependent on an artificial source.

"But no one is not doing it because of the sharks," he said.

State Shark Task Force considers conducting Neighbor Island hunts

SHARK HOT LINE

To report shark sightings, call 1-58-SHARK. To call toll-free, dial (800) 468-4644. When you hear the recorded message, dial SHARK.

"The program will air in Central Maui, Molokai and Lanai on cable Channel 8, and in West Maui on cable Channel 38.

During the program, public school students will have an opportunity to ask questions of task force members via telephones. Members include John Naughton of the National Maritime Fisheries Service, Randy Honebrink of the state's Division of Aquatic Resources, marine biologist Chris Lowe, water safety captain Jim Howe and Ralph Goto, water safety administrator for the County of Hawaii.

Dratzkowski added that the state should spend more time looking at other possible causes of the shark problem, such as drift net fishing, which depletes fish stocks, and perhaps forces predators closer to shore to look for food.

Students to call in questions

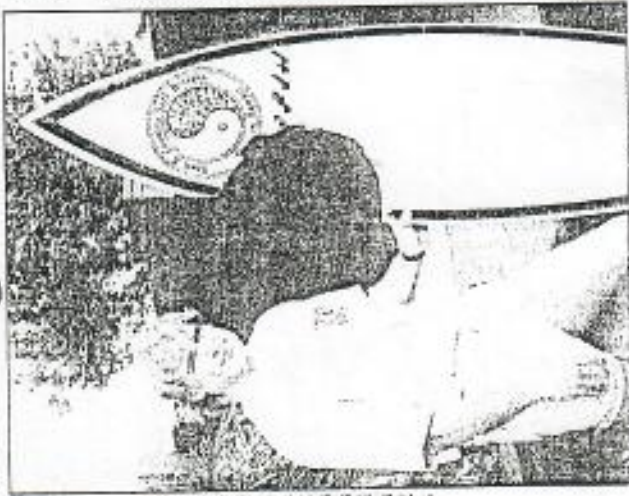
HONOLULU — Members of the state Shark Task Force will present a television special on shark behavior, shark identification and shark water safety Wednesday from 9 to 10:30 a.m.

The program will air in Central Maui, Molokai and Lanai on cable Channel 8, and in West Maui on cable Channel 38.

During the program, public school students will have an opportunity to ask questions of task force members via telephones. Members include John Naughton of the National Maritime Fisheries Service, Randy Honebrink of the state's Division of Aquatic Resources, marine biologist Chris Lowe, water safety captain Jim Howe and Ralph Goto, water safety administrator for the County of Hawaii.

Sharks taking a bite out of Hawaiian water sports, stirring controversy

By Ann LoLordo
Staff Writer



Rick Grusinaky, a 26-year-old carpenter in Honolulu, lived to tell the story of his tug-of-war with a shark that tore a 16-inch chunk from his fiberglass surfboard during an outing last month.

And native Hawaiians, whose cultural and religious heritage embody the flora and fauna of the Pacific island chain, renewed their concerns about the potential wholesale slaughter of sharks, an animal revered by some members of the indigenous population as a "guardian spirit."

Be it owl, eel or shark, "that animal guards the person's family for as long as two or three generations. They become an 'aumakua,' a guardian for the family," said Purley Kanakole, a Hawaiian community leader on the neighboring island of Maui.

When a Maui woman was killed by a tiger shark last November while swimming within 100 yards of her waterfront home, men espousing the Hawaiian belief of "aumakua" threatened the fishermen who were hired to hunt the attacker.

Since then, state officials have called the support of Hawaiian leaders in their quest to strike a balance between water sports enthusiasts, who support an eradication program like the one implemented in the late 1970s that fished thousands

of tiger sharks from island waters, and the naturalists who liken man's presence in the water to an invasion of the shark's domain.

Sharks are plentiful

A shark telephone hot line, aerial surveys, sonic tagging of the sleek, yellow-striped scavengers — each has been discussed by a special state task force on sharks whose membership includes lifeguards, biologists and Hawaiian community leaders.

"Everybody has an opinion on sharks," says Linda McCreery, a spokeswoman for the state Department of Land and Natural Resources, "every surfer, every oceanographer, every swimmer."

And everyone has their own theory for the apparent increase in shark attacks — seven have been reported on Oahu, Hawaii's most populous island, and its sister Isle, Maui, since the spring of 1991.

There's the notion that a preponderance of sea turtles in shallow waters off Oahu (a protected species on which sharks feed) have lured sharks closer to shore.

There are those who believe that

the sharks have mistaken body boarders — whose arms and legs flap over the edge of their brightly colored boards — for the reptiles.

Unlike Florida, where commercial and recreational fishing have so depleted the shark population that federal officials are trying to protect 39 species, marine biologists here estimate that there are 1.8 tiger sharks for every mile of shoreline.

And in Hawaii, where surfing is a rite of passage for most young men and where children learn to swim as soon as or before they walk, shark attacks are front-page news.

Are the hunts effective?

Rick Grusinaky, a 26-year-old carpenter, lived to tell the story of his tug-of-war with a shark that tore a chunk from his fiberglass surfboard on a blue-sky morning last month.

Aaron Roemer, however, wasn't as lucky. Although the 18-year-old managed to paddle to shore on his body board after the Nov. 5 attack, he bled to death from a deep gash on his leg.

— See SHARK, 15g. C-1

AP/WIDE WORLD PHOTO BY AP/WIDE WORLD

11/24/92

THE SUN

Sharks take a bite out of Hawaiian water sports

SHARK, from 1G

As in the past, state officials hunted the offshore waters for the attacker.

"Once you have an attack or an incident, a number of us feel the best thing to do is to fish that area immediately," says John J. Naughton, a biologist with the National Marine Fisheries Service in Honolulu. "As with any large predator, if they have fed successfully in an area, there's a chance they would return to feed again."

A line with a dozen hooks, each baited with slabs of "ahi" or tuna, was set at dusk. At dawn, the haul was reeled in. About a half-dozen tiger sharks were caught — including a 14-footer. Autopsies later revealed nothing to link the sharks to the attacks.

But several marine researchers familiar with the hunts questioned their effect.

"You could set a hundred hooks for a hundred nights and never catch a shark. And the next day you could have a shark attack," says Steve Kaiser, a marine curator at Honolulu's Sea Life Park who supports additional research into shark behavior. "It's a very fragile type of balance. . . . If you are totally terrified of sharks, stay in a swimming pool."

Part of the food chain

When Mark Dale rides the tube of a wave, his body board streaking through the surf, sharks are the farthest thing from his mind.

"It's like time standing still. It's kind of like being stuck in a day-dream," says the 22-year-old Hawaii native who works in a surfboard factory.

In the days after body boarder Aaron Romeno was killed in a shark attack on Oahu's leeward coast, dozens of body boarders bobbed in the 5-foot swells of the famed Bonzat Pipeline on the other side of the island.

"In the back of your mind, you know you're entering the food chain," says Mr. Dale. "It's that risk you have to take."

But to his way of thinking, chances of getting attacked by a shark are like "the chances of getting hit by lightning," says the trim, tanned young man.

Born and raised on the island, Mr. Dale says he respects the native Hawaiians' concern for the sharks: "I

would say leave them alone. But when do you draw the line?"

Even ancient Hawaiians drew a line. And their descendants point that out today when discussing the beliefs surrounding "aumakua."

Animals that became guardian spirits for a particular family did so after embodying the spirit of a dead relative who had entered into a special relationship with the animal.

Among fishermen, a shark "aumakua" was perhaps the most popular. This guardian spirit would ward off danger, help lure food to an empty net, lead a canoe to safe shores. Not all sharks, however, represented family or personal gods. Hawaiians did hunt and kill "stranger" sharks who were "lusting after human flesh," legends say.

But at a time when a group of native Hawaiians — about 16 percent of the state's 1.2 million people — are pushing for sovereignty, legends are crucial links to the past.

"There [are] people in Hawaii who still believe in their ancestral ties," says Charles Kauluwehi Maxwell, a Maui radio talk-show host who first raised the issue of the shark's status in Hawaiian culture following a fatal attack there last year. "The ocean is the shark's element. We should study why they are coming in. Gotta be something causing this."

The state, Mr. Maxwell maintains, is "afraid to make an all-out education program because it will scare the tourists away — the 'Jaws' syndrome. If there is a shark attack, then go out and get him, but don't wipe out the sharks."

"I knew it was a shark"

Surfer Rick Gruzinsky has a new appreciation for the ocean since he stared eye-to-eye with a tiger shark one morning last month.

"I have a greater respect for what I share the ocean with," says the blond, blue-eyed carpenter. "I don't fear being attacked again. I fear someone else being attacked."

When the shark struck, the surfer was floating on his board about 150 yards off shore, waiting for a wave. "As soon as I started getting lifted, I knew it was a shark," says Mr. Gruzinsky, who grew up in a small mining town in Pennsylvania and moved to Hawaii as a teen-ager. "He lifted the board and flipped it and latched onto the rail almost in one motion."

The surfer slipped into the water and grabbed the back of the over-

turned board.

"I was able to see the large blunt snout, the eye just below the water. I saw him adjusting his bite. I heard the fiberglass cracking. The piece broke away," Mr. Gruzinsky says. "The last I saw the shark was sinking with the piece."

He escaped with scrapes to his stomach from a broken board fin. Before that morning, Rick Gruzinsky didn't think there was a shark problem.

"After almost becoming a statistic, you take the time to learn," he says.

Recently, Hawaii's task force on sharks weighed in with its solution: Aggressively hunt large tiger sharks at six sites on Oahu, including the

relatively placid waters off Waikiki and the famous surfing pipeline along the island's North Shore.

"We are expanding our shark hunt guidelines from 'large sharks bite' to 'large sharks before 11 a.m.," announced William Paly, task force chairman.

A special hot line will be established, and military helicopters will scour the shoreline for possible suspects. Mr. Paly pledged to "remains sensitive" to native Hawaiian beliefs regarding sharks. Hawaiian elders will continue to be consulted during shark hunts.

But he said "we cannot sit around and twiddle our thumbs, because the evidence is clear we have a public safety problem."

THE 12/6/92 \$1.00

MAUI NEWS

Maui data sought by shark hunters

By TIMOTHY HURLEY
Staff Writer

WAILUKU — The state's Shark Task Force is seriously considering fishing for sharks in Maui County waters but probably won't make that decision until after the new year.

Linda McCrerey, state Department of Land and Natural Resources spokesperson, said the task force has received several inquiries about fishing off the Neighbor Islands, but for now it will continue to operate in Oahu waters.

"They haven't had a chance to meet lately and discuss where to go next," she said.

The task force fishing crew has hunted for tiger sharks in three Leeward Oahu locations and is expected to hunt unannounced in three more Oahu areas before the end of the year.

The fishing program was set up in response to a recent rise in shark encounters on Oahu, the latest being the fatal attack on a Pearl City bodyboarder last month.

McCrerey said the task force plans to regroup after the holidays and make a decision on the direction of its effort.

"Right now we don't have a lot of data on the Neighbor Islands, and the task force will have to evaluate the situation," she said. "For now, our hands are full right here. We don't have any extra personnel."

The task force on Nov. 20 set up a telephone hot line asking residents to report sightings of large sharks. The hot line has received 75 calls since it was established, with only a handful coming from Maui where it is a toll call, said Randy Honebrink, education coordinator of the DLNR's Division of Aquatic Resources.

Honebrink, a Shark Task Force member, said the telephone number hasn't been publicized much outside of Oahu, but Neighbor Islanders are being encouraged to call the hot line via the state's toll-free number.

"It is important to us to learn exactly where the sharks are, but if nobody calls, we won't know where to remove them," he said.

Honebrink said there has been a lot of interest in shark fishing off Maui since last year's fatal attack on an Olowalu woman. He said he supports fishing off Maui.

Another task force member, biologist John Naughton of the National Marine Fisheries Service, said fishing for sharks in Maui County waters probably will occur; it's just a matter of when.

Part of the problem is funding. While the state Legislature allocated \$150,000 for the program last year, the governor's budget cuts reduced the amount to \$50,000.

Of that total, \$20,000 is committed to a sonar/tagging research project by the University of Hawaii's Hawaii Institute of Marine Biology. And \$12,000 was added to \$36,000 in federal funds to create materials designed to educate the public about sharks. Those products include brochures, posters and videos on water safety and shark identification.

The task force also is working with the City and County of Honolulu Water Safety Division to create shark warning signs for posting at beaches.

So far, the shark fishing crew has donated its time at a considerable cost savings to the state, with task force funds providing only bait and gasoline, McCrerey said. But during the last outing, some of the fishing gear was busted by sharks that got away, so the task force is springing for more cables,

See STATE SHARK
on Page A4

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

JAN 13 1992

Let's control sharks

I want to register my personal disagreement with the view given in your editorial, "Shark attack: targeted hunt is right response" (12/11). You stated that it seems proper "To respond to attacks on humans with a well-targeted hunt in the area where the attack occurred."

But why wait for a tragedy to strike again, before doing something? Why not do some controlled remedial fishing now, at selected sites, like those heavily used for snorkeling, swimming and tourism, such as Olowalu? Why not take reasonable and prudent steps beforehand to lessen the risk? The key word here is "control," not eradication.

The last shark control program in Hawaii was conducted during the mid-'70s, about 15 years ago. According to a study done at the University of Hawaii, it takes approximately 15 years for a tiger shark to grow to 10 feet in length and weigh 1,000 lbs. At that size they have no natural enemies, except other, larger sharks.

The late Dr. Albert Tester of the University of Hawaii conducted a successful two-year shark research and control program in our coastal waters from 1967-69. At the completion of this program, Dr. Tester stressed that if fishing was not continued, the shark concentration would automatically rise again. I'm afraid we're seeing that happen right now.

GEORGE H. BALAZS
Hawaii Kai



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

November 8, 1992

F/SWC2:GHB:
SHARK-9L.GHB

Mr. William Paty
Department of Land
and Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813

Dear *Bill:*
Mr. Paty:

Shark incidents in the Hawaiian islands involving physical injury to humans are always of great interest to the public and news media, especially right after a new case occurs. Unfortunately, inaccurate information is sometimes disseminated because of an absence of readily available and factual background material. In order to correct this problem, a formal and historical list of shark attacks in Hawaii is maintained at the Honolulu Laboratory of the National Marine Fisheries Service. The list is an expansion of ones I previously published in 'Elepaio (April 1981), Honolulu Magazine (April 1983), and Hawaii Fishing News (September 1987 and January 1992). A copy of the current list has been enclosed as the result of your inquiry.

Suggestions for additions to the list of previously overlooked or new cases of shark attack will be appreciated.

Sincerely,

George H. Balazs
Zoologist

Enclosure

11/8 Mr. Paty: As you know, I have forwarded to you copies of the attached list on several occasions over the past 3 years. The Saturday morning Advertiser (11/7/92) quotes you as saying .."after the shark eradication campaign in 1967, there was no reduction in the number of incidents and attacks". I don't know if you were quoted correctly, but in my view such a statement is not congruent with the available information on my list. The number of cases during the 1970's was at least held in-check, in spite of a tremendously growing resident and tourist population (and concomitant water use). Equally important, cases during the 1980's shot up after fishing was stopped in the late 1970's. An even higher rate continues during the early 1990's. Surely this would suggest that fishing pressures (or the lack thereof) have had an effect.

I would also like to point out that the shark fishing funded by the State during the 1960's and 70's was not at the time billed as a "shark eradication campaign". It was considered to be shark control and research. The word "eradication" was never used.



Prepared by the staff of The Honolulu Advertiser

State suspends shark hunt off Waianae Coast

By Kris M. Tanshara
Advertiser Staff Writer

In the wake of Thursday's fatal shark attack on a body-boarder, debate is escalating over what to do to rid Hawaii's waters of sharks.

The state Shark Task Force yesterday suspended its shark hunt on the Waianae Coast and will begin an aerial search of the area this week to find shark locations.

But some say more drastic measures — like reinstating a shark eradication program — are the only way to keep the ocean safe.

"People are in danger," said Richard Grigg, a University of Hawaii ocean-

ography professor.

Grigg said rough estimates suggest that in the last 20 years, the number of people using island waters for recreation has doubled, while the shark population has quadrupled.

Shark-control programs mounted by the state in the 1960s and '70s significantly reduced the number of sharks in Hawaii waters and should be reinstated, he said.

"We can't really wait until we have a statistically significant number of deaths to respond..." Grigg said.

This week's shark hunt was launched following the attack Thursday on 18-year-old Aaron Romento, who was body-boarding with friends

off Keanu Beach Park, about 10 yards from shore, in no more than 5 feet of water.

The Shark Task Force set hooks out that night and pulled in a 10-foot and a 13-foot tiger shark Friday. An even bigger shark — roughly 18 feet long — was seen circling the task force fishing boat.

Twelve baited hooks were laid out Friday night, but were retrieved yesterday without catching anything.

"We are satisfied that the shark spotted (Friday) is gone from the area," said William Paty, state director of Land and Natural Resources. "If it had been there, we would have booked it."

The hunt was suspended, and Paty said it is now up to the Waianae community to decide if further action is warranted.

He said the task force will meet this week to evaluate the situation and discuss courses of action, including a shark control program.

"It'll be an option, but at this point I still don't favor a massive eradication," Paty said. "We're trying to walk a fine line that will afford the protection we feel is adequate and not take down the predatory food chain that keeps the ocean in balance."

He also cited concerns among some native Hawaiians who hold sharks to be sacred.

Another option that will be considered is beefing up selective shark fishing in areas not only where at tacks have occurred, but also where there are confirmed sightings, said task force member John Naughton, federal marine biologist.

Meanwhile, beaches along the Waianae Coast were reopened "with caution" yesterday after a two-day closure.

At Makaha Beach, usually overflowing with beachgoers, only about 20 surfers and body-boarders took or near-perfect 6- to 8-foot swells.

At nearby Keanu body-boarders and surfers were in the water at mid morning.

State launches hunt for large tiger sharks

□ Focus shifts from sharks that bite to sharks that might

By Bruce Dunford

Associated Press

HONOLULU — The state is launching a hunt to kill large tiger sharks that have been lurking around several sites on Oahu and are considered a threat to public safety, officials said.

That decision yesterday by the state's Shark Task Force follows an increasing number of tiger shark attacks, including a fatal one earlier this month on Oahu.

Plans call for setting out hooks in the Maui, Makaha, North Shore, Windward, Wai-

kiki and Kewalo areas of Oahu, said Department of Land and Natural Resources Chairman William Paty.

Large sharks have been reported at these areas, moving in close to surfers and swimmers, Paty said.

"We cannot justify limiting our actions to an after-the-fact approach given the recent attacks and the strong public concern about safety," said Paty.

"We are expanding our shark hunt guidelines from large sharks that bite to large sharks before they bite," he said, referring to past shark hunts in areas immediately after an attack occurred.

The department has received hundreds of telephone calls and many letters urging that aggres-

sive action be taken to cull large tiger sharks from nearshore waters, Paty said.

"I want to emphasize that this is not a large scale eradication program," Paty said. "This is a culling operation."

Tiger sharks of eight feet long and longer will be targeted at locations where people have reported seeing them at close range, he said.

To get more information on shark sightings, the department has set up a special telephone hotline — 58-SHARK.

The state will remain sensitive to the concerns of the Hawaiian community regarding aumakua beliefs, Paty said, but there has been strong support to take preventive action.

Hawaiian activist Charles Maxwell, a member of the Shark Task Force, said as a native Hawaiian the decision was difficult for him. Some Hawaiians hold particular sharks to be their aumakua, or personal god or family member.

"I think we have got to realize that life is the most important thing — human life," he said.

Some people "believe that the ocean is the sharks' territory and that humans are the intruders who must beware and assume the risk of shark attacks," Paty said. "We appreciate that viewpoint, but we cannot sit around and twiddle our thumbs, because the evidence is clear that we have a public safety

problem." Paty would not say just when and where the shark hunts would begin.

On Nov. 5, Aaron Romeno, 18, of Pearl City, bled to death after he was attacked while he was boogie-boarding about 10 yard off Keena Beach Park on the Waianae Coast.

Several tiger sharks, including one 14 feet long, were caught in the area the next day, but it could not be determined if any were responsible for the attack.

In October, surfer Rick Gruzinsky, 26, was attacked on the North Shore. A shark took a big bite out of his surfboard, but Gruzinsky escaped unharmed. The bite of a 13-foot tiger shark caught the next day matched the

chunk taken out of Gruzinsky's board.

That attack was less than a mile from where body-boarder Bryan Adona disappeared Feb. 19 and his board later washed ashore with a shark bite in it.

In March, Judy Chamberlain escaped with minor injuries after a shark attacked her while she was surfing off Kauai's North Shore.

On Maui, Martha Morrell was killed by a shark last November, the first confirmed fatal shark attack in Hawaii since the 1950s.

Experts say it is possible the tiger sharks are mistaking surfers and body boarders for sea turtles, their favorite food.

February 3, 1992

Representative David D. Stegmaier
Chairman
Committee on Ocean and Marine Resources
House of Representatives
State Capitol
Honolulu, HI 96813

Dear Representative Stegmaier:

Subject: Testimony on HB 2878: Making An Appropriation
For Shark Hunting.

It is my understanding that a bill is before the House to make an appropriation "to establish a tiger shark eradication program" in the State of Hawaii (HB 2878). I am a professional fishery biologist based in Hawaii. Although at present I do not actively work on sharks, I have done so in the past. This included working as a graduate student on the 1967-69 Cooperative Shark Research and Control Program at the University of Hawaii where I conducted directed research on the tiger shark. Based on my expertise on the subject I wish to offer the following recommendations to the Committee.

The population of large inshore sharks in the Hawaiian Islands is probably close to the maximum sustainable levels at this time. This is because there has not been an active shark fishing program in nearshore waters of the State since 1977. This has also been confirmed by the numerous sightings of large tiger sharks which I have received in the past year or so. The recent fatal attack and several other incidents involving tiger sharks are further evidence of this increase.

Despite these increases in sightings and incidents I strongly recommend against a large scale eradication program. These sharks are very easily fished out of an area with negative impacts on the ecosystem. As an example, during the 1967-69 control program we actually saw an increase in the smaller species of nearshore sharks at the end of the program. There was a strong indication that we were fishing out the large sharks such as tigers which normally feed on the smaller sharks, thereby causing an increase in the smaller species which are the main culprits in damaging fishermen's gear and catches. Another example is the fact that the Federal Government found it necessary this year to put into effect a Fishery Management Plan to curtail fishing for large inshore sharks in the Atlantic because of a drastic reduction in the population.

I would suggest instead a very limited site specific fishing program using gear and bait specifically designed for tiger sharks. Selection of fishing areas, gear, bait, time, etc. would best be done by a small group of locally-based experts to act as an advisory panel to the State.

We know from past research efforts involving tagging of tiger sharks in Hawaii that some large tiger sharks appear to be highly territorial. This makes sense when you consider any large predator, whether on land or in the sea.

Consequently, some immediate recommendations are to:

1. Selectively fish an area immediately after an attack on a living or dead human.
2. Selectively fish an area where a tiger shark or sharks have been sighted consistently over a time period, particularly if these sightings occur during daylight hours.
3. Selectively fish nearshore waters of heavy recreational use such as Waikiki, Sandy Beach, Makapuu, Kaneohe Bay, and Pokai Bay on Oahu. Similar beaches could easily be selected on the other main islands.

In summary, I again strongly recommend against a large scale shark eradication program. I suggest conducting a limited, site specific program specifically targeting tiger sharks and designed to fully utilize the catch, as well as obtain maximum scientific information from all sharks taken. A small advisory group should be established to advise the State on conducting the program.

Respectively submitted,


John J. Naughton

11/20/92

George:

Re your E-mail to me:

As you can see what the task force is doing is EXACTLY what my position has also been (see attached). I've always advocated limited tiger shark control fishing in selected areas. What I have been against, and am still against, is a large scale control program such as the one I worked on in the late 60's.

John

Hunt for sharks ^{11/19/92} _{THA} starts next week ^{A3}

Six areas will be covered

By **Andy Yamaguchi**
Advertiser Capitol Bureau

The first of six scheduled shark hunts around Oahu will probably begin within a week, the state said yesterday.

The state Shark Task Force Tuesday announced it will go after tiger sharks 8 feet or longer for the purpose of reducing the chances of shark attacks on humans.

Linda McCreery, spokeswoman for the state Department of Land and Natural Resources, said six areas will be scoured where the most frequent shark sightings have occurred: Maili, Makaha, Windward and North Shore areas, Kewalo and Waikiki.

"Within a week we hope to have done one operation," McCreery said. Each area will be fished once. "We have good reason to believe we can get good results with one set" of 12 baited hooks.

People can notify the task force of shark sightings by calling 58-SHARK (587-4275). The line originally was supposed to begin operation tomorrow, but some people were calling in out of his surfboard.

sightings yesterday, McCreery said.

"We had two calls on it before we even had the message recorded," she said.

McCreery said the state will announce the results of the hunts but will now dispose of the shark carcasses at sea instead of bringing them to shore, as it had in the past.

"The sight of dead animals was offensive to some people," McCreery said. "Some animal-rights people and Hawaiians thought it showed a lack of respect."

McCreery said helicopter spotting of sharks will be discontinued for now because the state knows where it wants to hunt.

The hunting program expands on two shark hunts conducted in recent weeks following attacks on surfers off Oahu.

An 18-year-old Pearl City man was fatally attacked Nov. 5 while body-boarding off Keauau Beach Park.

On Oct. 22, a Hawaii Kai man escaped injury while surfing off Laniakea on the North Shore, where a tiger shark bit a chunk

Our shark hunt

^{11/19/92} ^{EDMERIC} ^{A22} ^{THA}
A response to public concerns

The state Shark Task Force's decision to launch hunts for big tiger sharks at six sites around Oahu is a compromise response to public pressure.

It should be popular. Time will tell whether it makes scientific sense and achieves practical results in reducing the shark menace.

The new campaign is a step up from the recently instituted policy of selective fishing in an area right after a shark attack. But it is short of the wholesale shark eradication operations of the past; experts stress those could upset the marine environment.

Scientists and others have been divided about how best to deal with the shark problem, dramatized by recent attacks, and the death of an 18-year-old surfer off the Waianae Coast Nov. 5. Task force documents indicate mixed feelings persist.

Still, chairman Bill Paty, who is also director of the state Department of Land and

Natural Resources, has taken the prudent course in insisting on this limited hunting program for large tiger sharks before they bite someone. It's to be done with minimum publicity but with announcements when sharks are caught on the baited lines.

All this must be done with concern for Hawaiian religious beliefs (apparently not an extensive problem if certain rituals are followed), animal rights activists who don't want so much blood and gore shown on TV, tourism backers who want results, and those who feel sharks have rights in their ocean domain.

Concerns for public opinion and safety may dictate the new hunting program and shark-sighting hotline. But we hope it will also be done in ways that help us learn more about sharks and how they fit in a marine environment altered by the activities of humans.

12-foot shark bites Hanalei surfer's board

LIHUE, Kauai — Surfers might think twice about catching waves in Hanalei Bay for a few days. A large shark has taken a chunk out of one surfer's board and a shark harassed one and perhaps two other wave-riders during the past week.

Don Heacock, aquatic biologist with the state Division of Aquatic Resources, said the shark in two of the incidents

was described as about 12 feet long. He said it is most likely a tiger shark.

"Tigers are very common in Hawaiian waters" and can be even larger than 12 feet, he said. A shark that size could also have been a great white, but those are rare in Hawaii, he said.

"I don't want to create a panic, but we have enough information to know there's a big

animal in that area and that it's been aggressive toward two people. If I were a surfer, I certainly would be careful," Heacock said.

In the most recent encounter, on Sunday afternoon, a big shark took hold of the back of Greg Filtzer's board in the main Hanalei break near Puu Poa. Heacock said the shark pulled the board, with Filtzer hanging on, under water and

ripped off a large chunk before letting go. Four days earlier and about a half-mile away, Rob Thompson was surfing at sunset when a large shark made several fast approaches and then circled his board as Thompson crouched on top, keeping his hands and feet out of the water.

The shark finally left, and Thompson caught the next wave for shore, Heacock said.

Shark shakes up Hanalei surfer but gets only a bite of his board

Star-Bulletin staff

HANAIEI, Kauai — Greg Filtzer, 43, of Hanalei said he survived a surfer's worst nightmare Sunday — a shark attack.

Filtzer and his brother-in-law, Robert Duhe, 40, of California, were paddling about 250 yards off Summer's surf break in Hanalei Bay around 3:15 p.m. when a shark bumped Filtzer's board.

Moments later, the shark bit into his 9-foot board and began pulling him and the board under the water. Filtzer said he decided to hang onto the board for his safety.

"It pulled me backward in a circle and then shook me," he said. "It was very intense. There is nothing as terrifying as something that huge that cannot be seen trying to pull you down. I thought I was going to be eaten."

The shark eventually chewed off the back portion of the board, roughly 1 foot by 6 inches, and left the area.

Both surfers immediately pad-

dled to the beach, which police closed for the day.

Filtzer, a builder, praised his brother-in-law for "not splitting" during the shark attack.

"I mean, most surfers would have tried to save their own skins, but he didn't," Filtzer said. "He stayed, and I'm sure he would have done what he could to help out in a bad situation."

Don Heacock, a fisheries biologist with the state Department of Land and Natural Resources, said that, judging from the size of the bite and the description that the surfer gave, the attacker might have been a 12-foot tiger shark.

Filtzer, a surfer for 33 years, said the experience will not stop him from surfing.

"I'm going to surf there again," he said, adding:

"I am just going to have to be more careful about surfing around point breaks (promontories) and river mouths during high tides (when sharks come to shore)."

FILE 10/19/90 Han Star-Bull

Lucky to be alive

Shark attacks surfer's board

By NICK ABRAMO
Staff Writer

HANAIEI—Vivid — defined in Webster's Universities Unabridged Dictionary as bright, strong, and intense — is how Greg Filtzer remembers seeing a shark take a man's arm off many years ago in Mexico.

Vivid is also likely to be how he'll remember his own brush with death last Sunday.

Filtzer's vivid, yet horrific experience with a "large" shark near Hanalei Bay turned out okay. He wasn't hurt; luckily, his 9-foot surfboard took the impact instead. The shark did, however, cleanly remove a 13.5-inch x 7.25-inch chunk of glass, plastic and foam from near the tail.

Filtzer, 43, of Hanalei was surfing with his brother-in-law Robert Duhe, 40, of California at about 3:15 p.m. on Sunday at Summer's surf break, also known as Backdoor Hanalei.

"We entered the water at about 2:55 p.m., and were about 200 to 250 yards off the beach," Filtzer said. "There were a few little waves, and we chose the spot because nothing else in the area was breaking. About 15 to 20 minutes later, while lying down on the board, paddling to keep my position in the current, with one foot in the air, and waiting for a set, I felt this really, really strong bump. It (the shark) hit me really hard, and as soon as it hit me, I knew

it was a shark. I yelled for Bob, and no sooner could I get his name out than the shark hit my board again at the tail section and he started taking me down, turning me in a circle. The nose of my board was soon at my chin, and it was then I realized I wasn't going to let go of my board. I really made an effort to keep a death grip on the nose. I didn't want to go in the water with the shark. Right at that instant, the shark started to turn away and he let me go. I looked over my shoulder and all I saw was a dorsal fin, which was very proportionate — about 30 inches long at the base and equally that high."

According to Don Heacock, the state Department of Land and Natural Resources district fisheries biologist for Kaua'i, the board will be x-rayed to find any teeth or tooth fragments. Any part of a tooth will reveal the age and size of the shark.

Heacock said evidence suggests the shark is a 12-foot tiger shark, give or take two feet. He also said the possibility exists the shark that attacked Filtzer is the same shark that attacked and injured Joe Thompson off the waters of Princeville in October of 1985.

"These animals are very territorial and they live a long time," Heacock said. "They're not very smart, with a brain about the size of a golf ball, but they're big and they require a lot



of food. If it's the same shark that attacked Joe Thompson and if more of these incidences occur, there may be a need that this shark be caught."

As soon as the shark let go, Filtzer and Duhe headed for shallow water, and told some couples who were snorkeling about the incident. On their way home, they stopped at the Hanalei Police Department to report the incident, and the police immediately closed the beach.

"Bob saw the entire thing. He saw the entire top of the fish, and said it was longer than my board," said Filtzer. "He didn't turn and split on me, and stayed there waiting to help. That was really important and it helped me out, because what I was going through was very, very intense. I thought I was going to get eaten. It (the shark) was turning and thrashing, shaking me and pulling me."

Filtzer said he and his brother-in-law embraced, glad to be alive, when they reached the shore.



MICHAEL

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at 1-52:

Lihu'e church marks 150th anniversary

The Lihu'e First Church will begin its 150th Anniversary program Friday Oct. 19, at 7 p.m. in the Church Sanctuary. Special music will be presented under the direction of Molly L. Williams, Music Director and Organist.

will begin at 9 a.m. with prayer and testimonies. At 9:30 a.m., morning worship begins. Following the worship service, lunch will be served in the Church Hall.

This weekend program is the

alive 's board

shark. I yelled for Bob, sooner could I get his than the shark hit my again at the tail section started taking me down, me in a circle. The nose board was soon at my and it was then I realized I going to let go of my I really made an effort to death grip on the nose. I want to go in the water he shark. Right at that the shark started to turn and he let me go. I looked my shoulder and all I saw dorsal fin, which was very tionate - about 30 inches t the base and equally that



Greg Filtzor is lucky to be alive after a very close brush with a "large" shark last weekend at Hanalei. The shark took a large chunk out of his board but he managed to escape. (Photo by Dennis Fujimoto)

of food. If it's the same shark that attacked Joe Thompson and if more of these incidences occur, there may be a need that this shark be caught."

As soon as the shark let go, Filtzor and Dube headed for shallow water, and told some couples who were snoozeling about the incident. On their way home, they stopped at the Hanalei Police Department to report the incident, and the police immediately closed the beach.

"Bob saw the entire thing. He saw the entire top of the fish,



MICHAEL K. ABE

ESTATE PLANNING FOR THE 1990s A Seminar by Michael K. Abe, Attorney at Law

Michael Abe has been practicing law since 1979. He has a Masters Degree in Tax Law from Georgetown University in Washington, D.C. and does extensive work in estates, wills and trusts, and real estate.

HIGHLIGHTS OF THE SEMINAR:

- Why you need a will

ording to Don Heacock, ate Department of Land Natural Resources district es biologist for Kaua'i, the will be x-rayed to find any or tooth fragments. Any of a tooth will reveal the nd size of the shark. eacock said evidence suggests ark is a 12-foot tiger shark, or take two feet. He also the possibility exists the that attacked Filtzor is the shark that attacked and d Joe Thompson off the s of Princeville in October 85.

These animals are very

Increase in shark sightings, attacks, calls for new control program

How many more shark attacks in Hawaii must occur before a shark control program is reinstated? In 1958, Billy Weaver was killed and the state launched a successful shark control program. In about 18 months of fishing, the catch of larger tiger sharks dropped by about 90 percent.

Ten years later, an increase in shark sightings triggered another shark control program. In 1971 and again in 1976, two more shark control programs were sponsored by the state.

None of these programs "upset" the ecology of the reef. The fact that sharks have once again recovered is evidence of that. It has been 16 years since the last shark control program and increases in sightings sug-

gest that populations are once again nearing maximum levels.

Steve Kaiser caught six sharks with only 11 baited hooks off Lanikaea after the last "attack." How many more are still out there? John Naughton of the National Marine Fisheries Service tells me there is one very large tiger shark off Mailli Beach that has been sighted so many times by the surfers and fishermen in that area that they have given it a name, "The Mailli Tiger."

Four attacks have occurred in the last year alone and two people have died (one person was not recovered).

More and more people are recreating in the ocean each year. A review of the record of shark attacks compiled by George Balazs

for each decade in Hawaii since 1900 shows that attacks have increased significantly in the last 20 years.

I believe that people are more important than sharks — even *ʻaumakua* sharks, for those who truly believe that they might be some sort of family gods.

Or will it take a tourist swimming off Waikiki to be eaten before public opinion on this issue swings back to common sense?

RICHARD W. GRIGG
Professor of oceanography
University of Hawaii at Manoa

Editor's note: Grigg's letter was written before the shark attack that on Thursday took the life of Aaron Romento.



WHATEVER HAPPENED TO? . . .

An update on stories
no longer in the news

11-11-92

HSB A3

Experts study caught sharks

QUESTION: What happens to the sharks that have been caught recently because of attacks off coastal waters of Oahu?

ANSWER: "We get as much information from them as we can," said John Naughton, a biologist with the National Marine Fisheries Service. There have been five sharks caught in the past two weeks.

"They're dissected. We look at their stomach content. We're interested in seeing what they eat in general, besides people," he said. "Then we look at their reproductive conditions, we look to see if they're sexually mature and how many pups they've had, if they're female. If they're male, we look at their testes. Then we look at the general condition, if there's any scarring, etc.," he said.

"Then we collect tissue for the aquarium. They do tissue analysis, because they're interested in reproductive studies of the sharks," he said. "Then we take the whole belly sections and turn them over to a number of hula halau. The dance troupes want the skins to use for their drums.

"We take the heads to extract teeth, and a number of groups want that for decoration purposes, but I think these five sharks' teeth were turned over for educational purposes," he said. "I know one teacher who asked for some teeth to show her class."

The rest of the carcass is taken out five miles out to sea and dumped.

"We really hate to see that," Naughton said. "But there's really not a market for sharks as food in Hawaii. It hasn't proven economically feasible for our fishermen. In Australia, if you have fish and chips, the fish is usually all shark meat, and in England, too."

Calling "shark fin soup" and other shark delicacies "yuppie food" in the rest of the world, Naughton said shark meat and parts from such areas as the Gulf of Mexico and East Coast of the mainland are generally exported to Asia.

Ever wonder what happened to a person, event or issue that has been in the news? We'll find out for you if you call the City Desk at 525-8640 or write us at P.O. Box 3080, Honolulu 96802. Whatever happened to? . . . runs Wednesdays.

COPY 11/6/92
TO
BRUCE CARLSON

7 pages

29 OCT 92

TO: MALIA MATTOCH
HAWAII PUBLIC RADIO

FROM: GEORGE BALAZS

THE ATTACHED PERSONAL TESTIMONY
FROM LAST FEBRUARY SHOULD GIVE
YOU A GOOD IDEA OF MY VIEWPOINT.
HOPE THIS HELPS ANSWER THE
QUESTIONS YOU FAXED ME.

THERE IS NO SCIENTIFIC PROOF WHATSOEVER
THAT OUR SLOWLY INCREASING TURTLE
POPULATION IS "RESPONSIBLE" FOR MORE
SHARKS, OR MORE SHARK ATTACKS. THE
SHARK CAUGHT OFF MAUI LAST NOV. HAD
LOBSTER IN ITS STOMACH. IS AN INCREASING
LOBSTER POPULATION RESPONSIBLE FOR THE MAUI
ATTACK? THE LARGEST SHARK JUST CAUGHT
OFF THE N. SHORE OF OAHU HAD 60 LBS OF
WHALE IN ITS STOMACH. IS THE INCREASING
HUMPBACK WHALE POPULATION RESPONSIBLE?

THE SURFER ON THE N. SHORE SAW 3 TURTLES
NEAR HIM JUST BEFORE THE ATTACK. WHY DIDN'T
THE SHARK SELECT ONE OF THE TURTLES, INSTEAD
OF ATTACKING THE SURFER? ANSWER: BECAUSE
HUMANS, AND NEARLY EVERYTHING ELSE FLOATING AT
THE OCEAN SURFACE, ARE ACCEPTABLE PREY
TO TIGER SHARKS. THAT'S ONE OF THEIR
FEEDING STRATEGIES TO "MAKE A LIVING".

ESPECIALLY

TURTLES IN HAWAII CONTINUE TO SUFFER FROM SEVERAL CONTINUING THREATS, INCLUDING A TUMOR DISEASE, BOAT STRIKES, AND ENTANGLEMENT IN GILL NETS.

SOME PEOPLE INTERESTED IN A QUICK RESUMPTION OF HUNTING AND EATING TURTLES ARE FINDING THE SHARK-ISSUE CONJECTURE TO BE A CONVENIENT "BANDWAGON". THERE ARE ALSO A FEW OTHERS, FORMER COMMERCIAL TURTLE FISHERMEN, THAT CONTINUE TO BE UPSET THAT THEY WERE PUT OUT OF BUSINESS.

Best regards,



I'll BE IN KONA ALL DAY 10/30.

Shark Awareness Project

Proposed Budget
November 2, 1992

I.	Brochure - "Sharks in Hawaii"	
	- nearshore shark identification, safety considerations	
	- 4" x 9", 6 to 8 pages	
	- available to schools, dive shops, fishing supply stores, general public	
	- 100,000 copies	
	Design and layout	3,000
	Prepress production and printing	<u>7,000</u>
	TOTAL	10,000
II.	Poster - "Sharks of Hawaii"	
	- color illustrations of all species in Hawaiian waters	
	- indications of species known to be dangerous	
	- brief description of each species regarding habitat	
	- available to schools, businesses and organizations	
	- 10,000 copies	
	Design and layout	8,000
	Prepress production and printing	<u>8,000</u>
	TOTAL	16,000
III.	Video - "Hawaiian Sharks"	
	- 10 to 15 minutes, junior high level	
	- covers Hawaiian cultural importance, biology, behavior, human impact, conservation and safety	
	- produced in cooperation with KHET and Waikiki Aquarium	
	- available to DOE for dubbing, private schools on request	
	- may be shown at Aquarium near shark exhibit, KHET	
	Production total	17,000
	TOTAL this page	43,000
	Federal Share (75%)	32,250
	State Share (25%)	10,750

IV. Signage

- similar to Australian design
- printed on heavy laminated cardboard
- reusable with limited lifespan
- 100 signs (20 per island)

Design and printing 2,000

V. Training video

- covers identification of nearshore species and size estimation
- aimed primarily at lifeguards

Production total 3,000

TOTAL this page 5,000
Federal Share 3,750
State Share 1,250

Project TOTAL 48,000
Federal Share 36,000
State Share 12,000

Nov 4

George:

She is correct in her statement that nearly everyone perceives the green turtle as a possible cause of increased shark incidents. I've gotten the same response from most people I talk to.

However, when I talked to her I stated that turtles are only one of the "normal" prey items of tiger sharks - that they would be feeding in our nearshore waters (whether turtles were abundant or not). I think it is important that this point be made or the situation could get crazy - fourth fishing to control sharks (as an example)!!

Suggest you call her and give her various frequencies of sea turtles found in tiger shark stomachs from fisheries around the world. Range from 4.5% occurrence in SE Australia to 59% in Philippines and 67% in Malaysia. Strongly suggests tiger sharks very opportunistic - feed on whatever is available. Call me for more details if desired.

John

Honolulu Star-Bulletin

Published by Gannett Pacific Corporation

Stuart T. K. Ho, Chairman

Alexander Atherton, Vice Chairman

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Sharks and people

THE big front page picture in yesterday's Star-Bulletin of three dead tiger sharks was a chilling alert to those who were considering a leisurely swim along the North Shore.

But it also was a reminder of last November's cultural controversy over the degree to which public safety requires the hunting and killing of sharks. In that case the death of a woman swimming off Olowalu, Maui, led to a pursuit of culprit sharks in the area. Some native Hawaiian activists took exception to the prospect of indiscriminate killings of creatures for which many shared kindred spiritual feelings.

Sensitive handling by state officials avoided deeper conflict in that situation, catching one 13-foot tiger shark in the area, and curtailing any chance of a shark-eradication spree.

Oahu's prevailing view of sharks may differ from those of the neighbor islands, especially with the disappearance of a surfer last February and an attack on another Thursday at Laniakea, near Haleiwa, in which a 16-inch wide chunk was bitten from a fiberglass surfboard. Baited hooks set off Laniakea overnight caught the sharks that were photographed at the Haleiwa Harbor boat ramp yesterday and three smaller ones.

Many who have spent their lives in Hawaii's waters would rather coexist with sharks than kill them as predators. Disagreement continues over the dangers of sharks and also whether they are sacred creatures in all instances. Still, tiger sharks are showing up in greater numbers and doing violence to more humans. Fishermen are not killing as many of them as they used to. Another theory suggests the return of the once-scarce monk seals is luring more sharks here.

If the threat is increasing, action by the state Department of Land and Natural Resources and other agencies is necessary to protect the public. Selective shark-trapping and more warning signs on beaches are in order. It seems like a good time to upgrade public education on shark behavior. If sharks are finding Hawaii more to their liking because of what else is in the water here, we ought to have a better idea of what it is.



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. BOX 621
HONOLULU, HAWAII 96809

10/29/92
WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

JOHN P. KEPPEL, II
DORA L. HAMAKE

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

OCT 27 1992

Dr. Gary Matlock
Regional Director
Southwest Region
National Marine Fisheries Service
501 W. Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

Dear Dr. Matlock:

I am writing to commend one of your employees, John Naughton, environmental coordinator at the Pacific Area Office, for his outstanding contributions to our Shark Task Force. He is a key expert whom we frequently consult regarding our increasing number of shark sightings and attacks.

Mr. Naughton played a major role in responding to the most recent incident. Last Thursday a large tiger shark attacked a surfer, who survived. Based on the advice of Mr. Naughton and other members of the Shark Task Force, we immediately hired a fisherman to catch the predator. Our efforts were successful. Friday morning we hauled in three large tiger sharks from the site of the attack, including a 14-footer which we believe was the culprit.

Besides advising us correctly, Mr. Naughton provides another valuable service: public education. He is accessible to the media and answers their questions about the shark population situation, shark attack patterns, fishing techniques and safety tips. We appreciate a scientist who can explain complex environmental issues in simple terms the public can understand.

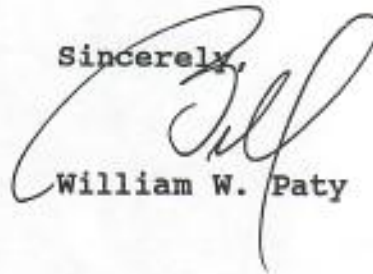
Because of Mr. Naughton's willingness to talk to the media, we are seeing a shift in public opinion about shark concerns. Public response is mostly positive and supportive of our actions. Best of all, people are now realizing they must take responsibility for their own safety. Swimmers and surfers are getting the message that risk of shark attack is higher at dawn, dusk and dark, if they go in the water alone, or in the presence of wounded, bleeding fish or other "bait." They are starting to realize that it would be

unwise for the State to eradicate all large tiger sharks, that the State must take a more balanced and reasonable approach.

Also based on Mr. Naughton's recommendation, the Shark Task Force is supporting additional research to define the home range of large coastal sharks.

Mr. Naughton's excellent cooperation is building increased public trust in government. We would like to continue calling upon him when needed. The Shark Task Force demonstrates the cooperative efforts of federal and state resource agencies. By working together we are making the waters safer while protecting the resource.

Sincerely,



William W. Paty

cc: Dr. George Boehlert
John Naughton

Honolulu Star-Bulletin

Published by Gannett Pacific Corporation

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If shark threat's growing here, let's find out why

THE subject of sharks can provoke wide disagreement on scientific and spiritual points, but there's little arguing about the rising frequency of their attacks in Hawaii.

Some familiar with the ways of the sea dispute that tiger sharks are increasing here or that they intentionally seek human prey, insisting that occasional savagery is an aberration. Others say sharks seem more numerous because local fishermen aren't routinely killing them as they have in the past.

Shark theology and demographics may be in dispute, but the facts of recent shark violence are not. After years of relatively peaceful coexistence, sharks are killing people.

The death Thursday of an 18-year old Pearl City body surfer close to shore at Keaau Beach Park on Oahu's Leeward Coast is the latest and boldest attack. It follows by two weeks an incident in which a surfer escaped serious injury in an attack at Laniakea on the North Shore in which a shark bit a chunk from his fiberglass board. A North Shore surfer disappeared in February, his body board turning up with shark bite marks on it. Last November, an Olowalu, Maui, woman became a shark victim while swimming near her oceanfront home.

Shark hunts two weeks ago and this week caught at least seven big suspects, and the search for another 13-foot tiger shark continues. While this is not shark eradication, neither is it a precise form of retribution. The Department of Land and Natural Resources, and other agencies — state, federal, academic and cultural — are working together in response to these incidents on a case-by-case basis. But though cooperation has been good, and shark-hunting successful in taking out some large predators, the shark problem seems more of a community threat than it used to be.

Members of the Hawaiian community have been helpful in guiding the pursuit of suspected killer sharks, animals with whom many share a kindred identity. Experts in other fields say there is no evidence to suggest a pattern of increased attacks or the presence here of a serial-killing rogue shark.

Respecting the divergent views on sharks is fair, but greater knowledge is needed to determine if tiger sharks, or other varieties, are growing in numbers, changing locations; or likely to become more of a threat to water recreation.

Selective culprit harvesting after each attack is still a passive way of dealing with the problem. A search-and-destroy bounty hunt isn't a good idea either. Hawaii must first arm itself with more information on whether the shark threat is real, different from before, and if so, why is it happening now?



Handwritten notes:
E. J. ...
G. ...
info ...
DD

University of Hawaii at Manoa

Hawaii Institute of Marine Biology
P.O. Box 1346 • Coconut Island • Kaneohe, Hawaii 96744-1346
Cable Address: UNIHAW

Dr. Jack Davidson,
Director, Sea Grant College
University of Hawaii

October 6, 1992

Dear Dr. Davidson,

Thank you for the opportunity to address the comments raised by the reviewers of our proposal "Short and Medium Term Movements of Tiger Sharks Around Densely Populated Shorelines." We are, of course, very pleased by the strength of the reviews. Many of the comments that were made have been included in the revised proposal, and I will explain why we did not use others.

First, however, I would like to be sure that the next round of reviewers (who, I believe, will see this letter) are apprised of the fact that, since the original proposal was submitted, the Division of Aquatic Resources, State of Hawaii, has released \$20,000.00 specifically to help underwrite this research. Having dealt with our inscrutable state government for over ten years, I see this money as an unparalleled expression of the importance that the local community attaches to this project. I hope that this interest, combined with the intrinsic scientific value of this research, will allow Sea Grant to proceed with additional funding. Incorporating the state's \$20,000 brings the annual average amount we are requesting from Sea Grant below the figure that you suggested in your last letter.

One reviewer points to the seeming disparity between, on the one hand, the public's desire to do something about shark attacks and, on the other, to kill as few sharks as possible. This dilemma is precisely the point. When the public and government officials look to the scientific community for guidance, we have none to offer because there are simply no data upon which to base a rational response. The function of the proposed research is to start to acquire a basic knowledge of the biology of these animals.

The same reviewer points, correctly, to the absence of scientific data to support the public's perception that there is an actual increase in the number of large sharks. However, one (possibly two) fatal attack resulted in a demonstrable rise in public concern (as expressed in public meetings and in the media), and is a more than adequate impetus for research in a state as heavily dependent on tourism as is Hawaii (and many other parts of the world). Again, the fact that the state is putting money into this proposal is a tangible expression of the public and the tourist industry's desire for more information.

Speaking of money, there are two reviewers' suggestions that we cannot accommodate at current funding levels:

* First, there is the suggestion that we should use remote "listening posts" to monitor the longer-term movements of these animals. Unfortunately, these devices do not tell you where the fish is when it is not within range. I am aware of one project where these devices were productive (the work of Klimley and his associates with hammerheads around a Mexican sea mount), and I am also aware of situations where they have proved to be very unreliable. They are costly and can be the target of theft and/or vandalism. However, as was pointed out in the original proposal, if the initial data indicate high site-fidelity in Hawaiian sharks, listening posts might be an element in subsequent research.

* Second, there was the suggestion that we should use swimming-speed transmitters to get a better understanding of the energetics budget of these animals. This is a very worthwhile suggestion but again, the cost increases and the data would be somewhat tangential to the thrust of this proposal, which is to document the diel behavioral patterns of these sharks, to establish if they have a stable home range and, if so, to determine its size. As with the first suggestion, swimming speeds and energetics would be great topics for the next generation of this research. Currently, however, they simply add more cost and complexity.

The following reviewers' suggestions were included in the second draft:

* There is a fuller explanation of the transmitter specifications and the way we will relocate the animals over prolonged periods. Basically, we will be able to use two vessels to search about 12 miles of coastline per hour. Most preliminary indicators (e.g., tag returns and anecdotal observations) suggest that tiger sharks are coastal and do not travel great distances over short periods (months) of time. Also, despite the impressions of one of the reviewers, most fish species that have been tracked (even pelagic species) do show persistent diel patterns which allow researchers to better relocate them following a break in the track. These factors give us confidence that we will be able to relocate sharks with the search strategy described in the proposal.

* We have condensed our sampling sites from three to two to expedite more replicate tracks from each area and thereby improve our confidence in interpreting what is "typical" behavior.

* We have more fully referenced the text.

We feel that this research represents a chance for the University of Hawaii and Sea Grant to be in the vanguard of shark research while at the same time addressing the pressing needs of both Hawaii and other locations where these sharks exist.

Sincerely,



Kim Holland
Associate Researcher, HIMS



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

14 November 1992

MR. JOHN FLANAGAN
EXECUTIVE EDITOR
HONOLULU STAR-BULLETIN

DEAR MR. FLANAGAN:

BOTH OF HONOLULU'S DAILY NEWSPAPERS HAVE MADE THE SAME OMISSION WHEN RECENTLY REPORTING CASES OF SHARK ATTACKS SINCE 1991. I AM THEREFORE WRITING TO YOU TO CORRECT THIS PROBLEM. A SIMILAR LETTER HAS BEEN SENT TO THE HONOLULU ADVERTISER.

IN THE ATTACHED FRONT PAGE ARTICLE OF 11/6/92 SEVEN CASES ARE LISTED BETWEEN 4/3/91 AND 11/5/92. THERE ARE, IN FACT, EIGHT SIGNIFICANT CASES THAT SHOULD BE LISTED. THE CASE OF SUK KYU (STEVE) PARK, 11/19/91, AT MALIKO, MAUI, WAS NOT ON YOUR LIST. THE CASE CAN BE FOUND ON MY LIST AS NO. 92.

A FATALITY WAS INVOLVED THAT VERY LIKELY OCCURRED FROM DIRECT SHARK ATTACK (NOT DROWNING FIRST). MY NARRATIVE IN THE ENCLOSED LIST SUMMARIZES THE FACTUAL DETAILS. I PERSONALLY EXAMINED THE VICTIM'S SHIRT AND SHORTS. THE BITE MARKS THEREIN COULD NOT HAVE BEEN MADE UNLESS THEY WERE BEING WORN BY A PERSON. THE EVIDENCE IN THE CASE OF MR. PARK IS AS PERSUASIVE AS THE BRYAN ADONA CASE (NO. 4 ON YOUR LIST, NO. 95 ON MINE).

THANK YOU FOR YOUR ATTENTION.

Sincerely,
GEORGE BALAZS
ZOOLOGIST



Shark Attack:

11-8-72
THE
MAUI
NEWS
A1

Ocean users split on whether population is increasing

By TIMOTHY HURLEY
Staff Writer

The death of a Pearl City body-boarder and a series of recent shark encounters on Oahu have left some ocean users a little nervous as they play in the surf around Maui's shores.

With memories of a fatal shark attack at Olowalu nearly one year ago, many swear that shark activity in waters off Maui is on the rise, and they recount stories of recent encounters and sightings they say point to that conclusion.

But others say the contrary, insisting that nothing they've seen convinces them that sharks are increasing in presence.

Don't tell that to John Bendon. The 14-year-old Seabury Hall student is convinced something's wrong after a shark — the first one he's ever seen — circled him on Friday as he and a friend were surfing off Pahele Point near Baby Beach.

"At first I thought it was a mania ray. But then a dorsal fin came up and I knew it was a shark. It was three feet away, had a brown fin and body and was about 6 feet long," Bendon said.

Stanley Inouye is another who believes something fishy is going on. It was nearly a month ago when he tangled with a shark while diving for octopus off Kaunaha Beach in Kahului.

Diving in daylight hours several hundred feet from shore, something struck his fins. Then seconds later, a shark swam past him. Next, the shark grabbed his stick holding the octopuses. Inouye said he dropped everything and swam to shore.

The retiree said he's been diving in Maui waters for years — in the day and at

See SHARK ATTACK
on Page A5

Scientists favor controls

By TIMOTHY HURLEY
Staff Writer

WAILUKU — A pair of Oahu marine scientists say there is no doubt shark activity has increased in Hawaiian waters and something must be done to protect the ocean-going public.

Jack Randall, senior ichthyologist at the Bishop Museum, and John Naughton, National Marine Fisheries Service biologist, advocate some kind of state-sponsored program to address what they perceive as a growing number of sharks in Hawaiian waters.

And while Oahu, not Maui, has been the locale of recent shark incidents, that may be due only to the fact that many more people play in the water off Hawaii's most populated island, they said.

Both of the scientists are members of the state's Shark Task Force, formed as a result of recent state legislation to address the shark problem, implement research activities and examine control measures.

Randall pointed out that no shark-related fatalities were reported between 1958 and 1987, following fishing programs that eliminated many of the larger sharks. Since 1987, however, seven fatalities have been blamed on sharks.

"The statistics are small and it could still be just a chance thing, but it does look like something is happening," he said.

Randall said the aggressive tiger

ALSO SEE . . .

■ Do you think the state should institute shark control measures? See what six Mauians had to say.

... ON PAGE A5

sharks appear to be roaming the Hawaii ocean at peak numbers, and it seems to be the larger predators that are throwing off the ecological balance.

For example, he said, it appears the bigger tiger sharks are feeding on the smaller sand bar sharks, a species that doesn't seem to be as common here as it used to.

"When you take away the sand bars, maybe what's next are the Homo sapiens," he said.

Naughton said part of the problem is that there's much more water recreation today than even 10 years ago. On Oahu, for instance, almost every break is surfed, even the ones considered not worth going to several years ago, he said.

Combine that with the fact there has been no active shark fishing program in Hawaiian waters since the early '60s and it might explain what's going on now, the scientist said.

While Randall supports a regular fishing program to remove the larger

See MARINE SCIENTISTS
on Page A5

Officials believe killer shark left area

HONOLULU (AP) — The state suspended its search Saturday for a large tiger shark suspected in the fatal shark attack on a Pearl City man.

The Shark Task Force snared two large fish Friday. A large tiger shark had circled the hunters' boat Friday but did not bite on a 12-hook line Friday night. The hunt was suspended Saturday.

"No animals were on the lines and bait was left untouched," William Paty, chairman of the state Department of Land and Natural Resources, said in a statement Saturday.

"We are satisfied that the shark spotted yesterday is gone from the area," he said.

Aaron Romento, 18, died after a shark bit his leg just below the knee as he was body-boarding with friends Thursday. Romento suffered massive bleeding and went into shock, then died, authorities said.

Romento was attacked in 5 feet of water about 10 yards offshore of Keeau Beach Park, on the Waianae Coast.

Gov. John Waihee is joining tourism industry officials in trying to downplay the potential damper of a fatal shark attack on visitor numbers.

"I think we are concerned about the way we handle the problem in terms of the visitor community, but more important is that we're just generally concerned about the health and safety of our people," Waihee said Friday.

Stanley Hong, president of the Hawaii Visitors Bureau, said the same.

"I don't view this as a tourism problem at all," Hong said. "It's more of a community problem."

The Shark Task Force will start helicopter observations to map shark locations this week, Paty said.

Shark attack: Ocean users split on population increase

Continued from Page A1

night — and it was the first time a shark had come so close.

"I think they should at least put warning signs up and hunt for these sharks. But I don't think they'll do that until someone is eaten by one," he said.

Tim Putnam, a charter fishing boat captain and owner of the *Islander II* out of Lahaina Harbor, said he hasn't seen any evidence that shark activity is on the rise here.

"I go swimming off my boat all the time. I'll stop my boat about halfway to Lanai and take a swim — even in the middle of the night. It makes it more exciting that way," Putnam.

But Fred Issa, a surfer from Paia, said he was able to avoid a shark just three days ago while surfing at Lahaina and has seen sharks on at least three different occasions in the last year and a half.

Issa said sharks are a growing concern among the surfing community.

"A month ago a friend of a friend paddled out at Hookipa and something pulled on his leash and knocked him off his board. He thought he was stuck on a rock, but he turned around and there was a shark," he said.

"At the rate we're spotting them, it's amazing we're not getting hit," Issa added.

Dennis O'Donnell, a veteran windsurfer, saw his first shark on Maui just last month while sailing a mile and a half off Kanaha Beach. He estimated the size at 8 feet.

'It's a lot more dangerous crossing the street in front of my shop here than it is to go play in the water here for an hour.'

— Hugh England
Owner of Maui Windsurf Co.
in Kahului

While admitting the encounter was a little disconcerting, he said he's still not convinced there's a problem in Maui waters.

"Considering the thousands of people who come here to play safely in our ocean, it's not that big of a deal. Australians and Northern Californians come here, and they aren't even fazed by it," O'Donnell said.

A number of ocean-goers offered these theories for the apparent upturn in shark incidents: Long-line fishermen are depleting food sources in deeper waters, forcing sharks to feed closer to shore. And, the sharks are more frequently going after sea turtles, which inhabit inshore areas and have been allowed to proliferate under government protection.

Brad Dugan, a surfer from Upcountry, said body-boarders seem to be at greater risk than anybody else.

"They look like turtles and they hang out where the turtles hang out, just outside the surfline," Dugan said.

Hugh England, a surfer, windsurfer and boogie-boarder who owns the Maui Windsurf Co. on Airport Road in Kahului, said there seems to be more sightings off the south and west shores of Maui.

But England said he still thinks the problem, if there is one, is being blown out of proportion.

"It's a lot more dangerous crossing the street in front of my shop here than it is to go play in the water here for an hour," he said.

Eric Stein of Extended Horizons Diving School has been diving in waters around Maui for 11 years and he's never seen any tiger sharks.

"I've done over 4,000 dives and I don't see anything different in terms of shark behavior," he said.

Stein said the eagle rays come close to shore this time of year to mate, and to the untrained eye, their curled wing tip could be mistaken for a shark fin.

Several other divers and dive tour operators said they haven't seen anything out of the ordinary.

"I've been diving here for six years, and I've never even seen a tiger shark. And I would like to," said dive master Pauline Fiene-Severns of Mike Severns Diving in Lahaina.

Skippy Hau, Maui aquatic biologist with the Department of Land and Natural Resources, said his office has recorded no increase in shark activity in Maui waters.

Marine scientists favor some sort of control program

Continued from Page A1

tiger sharks, Naughton wants fishing only after an incident occurs.

Naughton said the task force is looking at setting up a central call-in phone number so that shark sightings can be reported. The task force, he said, could look at a printout each month to see where the sharks are active.

If the task force members determine that, say, surfers are getting harassed in a certain area, he said, the state could respond with a fishing effort.

"It's like in Alaska, when a grizzly mauls and kills someone, they selectively remove the bear that did it. Unfortunately, we can't tell as easily who the guilty person is in our

ocean. But if we respond immediately, I feel we can at least try to get the guilty shark while it's still in the area," he said.

Naughton and Randall said much more research is needed to understand shark behavior, and the task force has already approved a \$20,000 grant for a sonar tracking research study.

Squid cholesterol, shark force details corrected

SINCE this is our official national week of thanksgiving, it seems like a good time to thank you, readers, for, well, for reading. I also appreciate those of you who take time to write or call with comments or corrections. Without that special effort, I would never know when my facts are wrong or when I make mistakes in my reasoning.

One such recent caller was Dr. John Arnold, a University of Hawaii researcher who has studied squid for more than 30 years.

Arnold called in response to my column about cholesterol levels in seafoods and meats.

According to Arnold, the cholesterol numbers for squid that are listed in most nutrition books are way too high. This is because cholesterol testers grind up the entire squid, including the internal organs, when checking cholesterol levels. Since squid livers are extremely high in cholesterol, the technique gives the creature's meat a false high number.

Squid meat is actually "incredibly low" in cholesterol, said Arnold. "It's almost immeasurable." And because squid lovers almost never eat the bitter-tasting liver, this makes squid good food for people on low-cholesterol diets.

Other readers had comments about my recent column on sharks and the various options that task force members have in response to recent attacks on humans.

Oliver from Kauai (who left no last name) left a message on my answering machine saying that he thought the article was informative, balanced and made good sense.

About the same column, biologist George Balazs, from the National Marine Fisheries Service, wrote to correct my use of the word eradicate in my explanation of a past shark control program.

"It is wrong to say that any of the shark control programs in the '60s and '70s ever tried to eradicate sharks.

"A synonym of eradicate is exterminate. The (late) Dr. Tester, reknown shark researcher at the UH, would roll over in his grave ... if he knew people were saying his research and control program was an attempt to eradicate sharks in Hawaii."

I stand corrected. In that column, I wrote that one extreme response to the recent shark attacks in Hawaii would be to try to eradicate tiger sharks from Hawaii, as suggested by some people as the best solution.

Eradication, however, was not the goal of the '60s program, as I wrote in the column. Rather, the



OCEAN WATCH

By Susan Scott

11-23-92

aim was to reduce the number of tiger sharks around the main islands and study the results. The name of the group states that goal: UH Cooperative Shark Research and Control Program.

Those researchers learned that it is possible to greatly reduce the number of tiger sharks in Hawaiian waters, but that this caused an increase in the populations of other kinds of sharks.

On a happier subject: Several weeks ago, Reyn Kauhane, a sixth-grader at Waimalu Elementary School, read my column about starving monk seals and invited me to his class, which is studying Hawaiian endangered species.

I went to the class and showed the students slides of biologists at work in the French Frigate Shoals, one of Hawaii's protected atolls where monk seals, sea turtles and seabirds reproduce.

Soon after, I received a packet of thoughtful and well-written letters that made my day. One from Leslie Yap said: "I really appreciate you coming out of your way so early in the morning to help us understand about the Hawaiian monk seal. I thought it would be boring but it turned out to be very interesting. You have inspired me to become a marine biologist."

And Jennifer Soo wrote: "I loved reading the newspaper article. You should become an author. I liked the picture of two seals cuddling next to each other. You should become a photographer."

Thanks, everyone, for reading, writing and calling.

Susan Scott is a marine science writer and author of three books about Hawaii's environment. Her Ocean Watch column appears Monday in the Star-Bulletin.

21 NOV 92


RICK-

THE ENCLOSED "MEMO" WAS DISTRIBUTED BY MR. PATY AT THE LAST SHARK TASK FORCE MEETING (ON 11/17). IT WAS APPROVED BY THE "MEMBERS". I WAS ON THE BIG IS. JEFF POLOVINA REPRESENTED OUR LAB DIRECTOR (AS AN OBSERVER).

I'D BE INTERESTED TO LEARN TO WHAT EXTENT, IF ANY, YOU ARE PURSUING ESTIMATING POPULATION NUMBERS OF TIGER SHARKS AROUND OAHU. DID YOU LOOK UP THAT THESIS REFERENCE I SENT YOU? WORTHWHILE DATA? ECOPATH MODEL PROJECTIONS?

RECENT NEWSPAPER ARTICLES, AS WELL AS THE ENCLOSED MEMO, SAY THAT TIGER SHARKS WILL ~~BE~~ SELECTIVELY FISHED AND REMOVED FROM CERTAIN AREAS AROUND OAHU (6 AREAS, ACCORDING TO MEMO). ON THE SURFACE, THIS SOUNDS PRUDENT.

(OVER)

BUT WHEN ONE DIGS A LITTLE DEEPER,
ONE MIGHT SUSPECT A VENEER EFFORT
AIMED MORE AT PUBLIC RELATIONS. FOR
EXAMPLE, THE CULLING IS TO CONSIST OF
ONLY ONE SET AT EACH SITE. SET OF
WHAT? A 12-HOOK LINE. ONLY. THE
PREVIOUS CONTROL PROGRAMS (TESTER, ETC.)
USED A STANDARDIZED 72-HOOK LINE.
CONSEQUENTLY, 12-HOOK LINE FISHING WILL
NOT YIELD MEANINGFUL CPU TO ESTIMATE
RELATIVE SIZE OF TIGER POPULATION (THEN VERSUS
NOW). FURTHERMORE, SECOND-HAND INFO
I'VE HEARD INDICATES THAT "TASK FORCE"
WILL BE SATISFIED WITH (AND LIMIT FISHING
TO) 2-3 TIGERS \geq 8-ft PER SITE. THAT
MEANS REMOVAL OF 12 TO 18 TIGER TOTAL.
28ft TIGERS WILL BE TAGGED AND RELEASED.
IF POPULATION AROUND OAHU IS 100 TO
200, I FAIL TO SEE HOW KILLING ONLY
12-18 WILL DO ANYTHING TO AID PUBLIC
SAFETY. WHAT DO YOU THINK?
CALL ME WHEN YOU HAVE A CHANCE.
ALOHA,  943-1240

L. GHB info
2. I.D. - shark file

SHARK TASK FORCE MEETING

Tuesday, November 17, 1992
1:30 - 3:30 p.m.
Kalanimoku Building
Board Room #132

PATY FAX
587-
0390

Bill Paty, Chairperson

I. Keauau Beach Park Attack

Evaluation of Operation

Ralph Goto
Brian Keaulana
& Others
Henry Sakuda

Cost, Results

Everyone thought
it went well

II. News and Public Relations

Public Opinion: Calls & Letters
Tips for Media Management

Linda McCreery

Tell media to
ask John

Public opinion sampling? Do letters
say it?

III. Shark Reporting Protocol

Reporting Sightings
Reporting Attacks

Linda McCreery

Ralph Goto
would be happy
for assistance with
signature

raise FRP
ideas?
Develop index of abundance

IV. Re-examination of Criteria for Shark Hunt

Recommendations in Memo

Bill Paty

Memo approval
but selective fishing

V. Aerial Surveys

Effectiveness in Sighting Sharks
Plans for Aerial Surveillance
Military Contacts
Reporting Aerial Sightings

Brian Keaulana
Bill Paty
Ralph Goto
"

use helicopters at opportunity (how) as
necessary

VI. Feeding Fish in Waikiki and Other Places

What is STF Role in this issue?

Bill Paty

to be discouraged

Carlson letter.

VII. Education Program: Status Report

Randy Honebrink

VIII. Other Shark Task Force Business

STF membership
General guidelines for shark hunts
Future meetings

Bill Paty

Not
discussed

Not
discussed

raise some of reference questions.

IX. Adjourn

Approved by Task Force

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. BOX 621
HONOLULU, HAWAII 96809

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

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LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

November 17, 1992

TO: SHARK TASK FORCE MEMBERS

FROM: WILLIAM PATY, CHAIRPERSON *WP*

SUBJECT: SHARK CONTROL MEASURES

The two back-to-back shark attacks in recent weeks have resulted in strong public call for a preemptive control program. The death of Aaron Romento in nearshore shallow water has created real concerns about the safety of our nearshore waters from shark attacks. The calls received by our office have been overwhelmingly in favor of an extended effort of shark control.

The surfing community has been especially supportive of further control measures. It is likely that most of the task force members have received a similar reaction.

There continue to be calls on shark sightings from various locations around the island. To date, almost all calls are on Oahu, although the shark sighting report system is tighter here on Oahu.

Our response to a shark attack has been a selective one to eliminate if possible the animal involved as soon as practical following the attack. This approach has been predicated on the assumptions that: 1) shark attacks are rare; 2) sharks tend to be territorial by habit, and eliminating a large shark from that area should substantially relieve its large predator threat; 3) this selective effort minimizes the possible adverse impact on the shark population in particular and the marine ecosystem in general; 4) part of the Hawaiian community has real spiritual aumakua concerns regarding extended shark hunting, supported by others who strongly maintain that the ocean is full of risks, of waves, of currents, of sea creatures, and "you take your chances."

There was, and to some extent there remains, strong support for continuing this approach. The task force, however, is now faced with something of a dilemma. If we continue this selective after-the-fact elimination and there is another attack, fatal or otherwise, the public outcry at that point for failure on our part to have undertaken further control measures would have us all looking for a place to hide.

There is no question that we need to continue strong efforts with respect to research and information on sharks, and we have already approved funding for this purpose. As Richard Pyle stated in his recent memo to us, we simply don't know enough about shark biology to make recommendations for increasing public safety. I don't believe that any of us favors a large-scale shark control program similar to the 1960s. The possible effects of large-scale removal of tiger sharks on our marine environment make this approach an unacceptable alternative.

How many?
What we should consider and what I would recommend is that we undertake to selectively remove tigers from those areas where there have been documented sightings and encounters, and where there is regular use of the waters by the public. Such areas must include Maile, Makaha, North Shore, Windward, Waikiki and Kewalo.

The control measures could be single settings in these areas. They could also be done with a minimum of publicity and probably not bringing any of the catch to the dock. This should not preclude discussion with people of the community to get their understanding and support.

November 7, 1992

From: Richard L. Pyle

To: Shark Task Force Members:

We are clearly in a situation right now where the Tiger Shark "issue" is receiving an enormous amount of attention from the public. The state is under a lot of pressure to make decisions about what course of action should be taken to alleviate public concerns about the risk of shark attacks. Since I leave tonight for two weeks and will be gone during the time when these decisions are made, I felt compelled to submit my thoughts to you in the form of this letter. Admittedly it is a long letter, but I sincerely hope that you will take the time to read it in full.

Although I am not officially a member of the Shark Task Force, I have attended the past three meetings as proxy for Dr. John E. Randall, my research advisor, who is a member. Initially I believed that he and I shared similar opinions on this issue, but it has recently become apparent that we do not - at least with respect to the need for large-scale shark control. I have therefore decided that it would not be fair of me to represent him in his absence, and I will abstain from attending future meetings on his behalf. As you know from my input during previous meetings, I am very much concerned about this issue, and I would certainly be willing to contribute my thoughts to future Task Force discussions. If you feel my input is useful and would like me to serve as a member, I would be willing to do so. If not, I will certainly understand. In either case, I would like to submit to you the following points to make my perspective on this issue clear.

1. With regard to Task Force members: I find it ironic that none of the only three active shark researchers in the state (who I am aware of) have been asked to serve as members. Brad Wetherbee and Chris Lowe, both of whom are graduate students in the Zoology Department of the University of Hawaii, and both of whom have conducted scientific research on sharks in the past (and continue to do so), have much to contribute. Gerald Crow, who works at the Waikiki Aquarium, is also actively involved with current shark research. All three of these individuals have attended most of the meetings of the American Elasmobranch Society (AES) over the past five years, and in all honesty, I feel they are most in touch with the views and concerns of shark biologists worldwide. Chris, in fact, has *twice* won awards for the best student presentation at recent AES meetings. Their views and opinions should, by all means, be voiced at Task Force meetings.
2. With regard to the purpose of the Shark Task Force: As I pointed out at the last meeting, I believe the discussions and decisions of the Task Force are not so much about shark biology or even public safety, but rather they are about addressing public concerns. This is entirely understandable for two reasons. First, the purpose of the Task force is to advise the State, and the State is responsible for responding to public concerns. Second, and perhaps more significantly, there simply *is not enough information known*

about shark biology to make recommendations for increasing public safety. Lets face it - the decisions have been made mostly on informed opinion, not documented fact. Fortunately, incidents involving sharks are *extremely rare*. There have not been enough attacks to allow us to make generalizations. Aside from recommending that people avoid swimming around dusk or dawn, alone, or while bleeding, there isn't much that can be said or done to reduce the risk of attack.

3. Regarding "preemptive" removal of sharks: Much of the last meeting was dominated by discussions of what to do in response to shark incidents at Maile Point. This is an issue which concerns me quite a bit - in fact I believe I was the one who first brought up the "Maile Tiger" issue several meetings ago. Clearly there are many aspects and concerns which must be taken into consideration when deciding whether or not to remove a particular animal or animals which may pose a threat to humans. Shark attacks on humans, especially ones resulting in fatalities, are terrible for everyone - particularly for the family of the victim. But such incidents are bad for sharks as well, because the enormous attention given by the media to these events tends to increase the public's willingness to eliminate (*i.e.* kill) large numbers of sharks. I therefore support the concept of selectively removing a few large Tiger Sharks from areas with a documented history of encounters between people and apparently aggressive sharks. There were a series of reported encounters with large sharks in the vicinity of Makaha prior to the attack on Aaron Romento. I certainly do not mean to imply that his tragic death could have been prevented by some action of the Task Force. There was simply not enough evidence to suggest a real problem shark in that area for the Task Force to consider any shark removal. However, I think there *is* substantial evidence to indicate one or more "problem" sharks at Maile Point. I have known and dived with John Earle for several years, and I have immense respect for his opinions - especially those regarding marine life. I have come to believe, for a wide variety of reasons, that Maile Point is a high-risk area for a possible future shark attack. If such an attack occurs anytime in the next year, it will likely fuel the public's fear of sharks and will ultimately cause much harm to come to the Tiger shark population in general. I don't think it's worth the risk - for the surfers, *or* the sharks.

4. With regard to large-scale shark population control: I am emphatically opposed to any form of large-scale shark control program for the simple reason that I believe that such a program would ultimately cause more harm than good. I feel we have no reason to assume that a reduced shark population will necessarily result in fewer attacks. While this relationship may seem intuitive, history suggests otherwise. Regardless of whether or not there has been a significant increase in the incidence of shark attacks on humans in recent years (and such an increase is by no means clear), it is more important and informative that rates of shark incidents *did not go down* during or immediately after the control efforts in the 50's, 60's and 70's. Furthermore, if biologists have learned *anything* in the past few decades, they've learned that large-scale manipulations of ecological parameters often have devastating and unpredictable consequences. I believe that the unknown damage to the environment which would result from a large-scale removal of Tiger Sharks is too much to risk, especially when the only evidence we have suggests that such an effort would not reduce the risk of attack.

These are the points which concern me the most. I have many other comments and opinions, but I will refrain from expanding this letter any further. I wish the Task Force the best of luck in dealing with this and future "situations" involving sharks. I will be back in Hawaii after November 21st, and would be happy to discuss these and other related issues further. Thank you for your patience.

Sincerely,

A handwritten signature in black ink, appearing to read 'Richard L. Pyle', written in a cursive style.

Richard L. Pyle

cc: Chris Lowe
Brad Wetherbee
Gerald Crow
John Earle

Letters to the Editor
Honolulu Star Bulletin
P.O. Box 3080
Honolulu, Hawaii 96802

November 6, 1992

Dear Editor:

Recently, a body surfer was killed in a shark attack in the Makaha area. He was only 18 years old with his entire life ahead of him. His family and friends feel the pain of his needless death. Recently, shark attacks have been common news in Hawaii with attacks occurring frequently and other residents dying painful deaths.

How many more people must die before the State of Hawaii takes strong, effective action? If a tourist was killed, then the State would care since tourism would decline and revenues would fall. If a Hawaii resident dies, the State does not seem to care. The State will hunt down the shark which caused the attack, if possible, and quit. Then the State will wait until another attack or death occurs to do anything.

About 15 years ago, the State had a shark culling program to reduce the numbers of large, predatory sharks. This program was effective and shark attacks were rare. Since that time, the large, predatory sharks have increased and the only force to control them is man. If the State does not reduce these sharks, they will become more aggressive and continue attacking and killing people.

The State Shark Task Force and groups opposing shark control are directly responsible for the recent needless deaths and the continuing deaths which will most surely soon follow. Lives are being lost while they waste valuable time studying the problem and taking no effective action.

If a shark culling program is not immediately put into effect, more deaths of your children, family and friends will definitely continue on a more frequent basis. No one is safe since the shark killed the Makaha boy in 5 feet of clear water on a sunny day with friends nearby which shows the aggressiveness of these sharks.

You, the people of Hawaii, must care enough to call the State Shark Task Force at 587-0393 and demand that a shark culling program be started now, since the government appears to care more about sharks' lives than your lives.

Sincerely,

T. S. Smith

T.S. Smith
Honolulu, Hawaii
CC: State Shark Task Force



John Waihee
Governor

HS ✓
92-60

NEWS RELEASE

November 12, 1992

DEPARTMENT OF LAND AND NATURAL RESOURCES
CONTACT: Linda McCreery, 587-0393

NO SHARKS SIGHTED FROM HELICOPTER TODAY

A helicopter survey along the Waianae Coast and North Shore of Oahu today revealed no sharks lurking in nearshore waters, said Chairperson William Paty.

Paty made the survey flight this morning in a private helicopter. He surveyed offshore waters from Ko Olina resort to Waianae Boat Harbor, where the helicopter stopped to pick up Harbormaster William Aila and City and County of Honolulu Water Safety Officer Brian Keaulana.

The group then surveyed the Waianae Coast to Kaena Point, and the North Shore to Waimea Bay.

"We saw lots of green sea turtles and several pods of dolphins, but no sharks anywhere," Paty said. "We paid particular attention to surfing sites and areas of reported shark sightings.

"The water was clear, and we could see the ocean bottom quite a ways offshore. We are confident that had there been any sharks in the vicinity, we would have been able to spot them," he said.

When asked why the sharks weren't visible, Paty said, "Who knows? They weren't near shore."

RECEIVED

NOV 12 1992

Div. of Aquatic Resources

Paty said that helicopter flights are "an excellent way to survey the area." No other way can provide such a great degree of offshore observations for presence of sharks, he said.

The Shark Task Force will use helicopters again for shark surveys, probably in cooperation with U.S. Coast Guard training flights over the Waianae Coast and other routine military helicopter operations, Paty said.

#

SHARK FISHERMEN

ISLAND	AREA	NAME/PHONE	NAME & SIZE OF BOAT (FT)	COMMERCIAL LICENSE (YES/NO)	REPORTING AND LANDING RECORD
Kauai:	South side:	Dave Kathoff	AIKANE 49 (owner/cpt)	yes-93	FY 92: complete 4/12 NC*
		332-8436			FY 93: Aug-Oct delinquent
		Steve Wheeler	AIKANE 49 (crew member)	yes-93	not required
		335-5436(w)			
		332-9438(r)			
		Darrel Horner	HALLELUJAH	yes-93	FY 92: 6/7 NC March-June delinquent
		245-3325(w)			FY 93: Jun-Oct delinquent
		245-4241(r)			
		Ralph Young	UFO	yes-93	FY 92: 6/12 NC FY 93: Aug-Oct delinquent
		(826-6114)			
		Bob McReynolds	HOOMAIIKAI	yes-93	FY 92: complete all catches FY 93: Sept-Oct delinquent

*NC = no catch = did not go out (does not mean skunk trip)

SHARK FISHERMEN

ISLAND AREA NAME/PHONE NAME & SIZE OF BOAT COMMERCIAL LICENSE (YES/NO) REPORTING AND LANDING RECORD

Oahu: Northshore: Greg Mattney
637-5689(w)
638-7655(h) (big boat) no-92 no-93 -----

Harold Bloomfield
638-8941 (unlisted) (big boat w/
wrenches) no-92 no-93 -----

Perry Dane
637-7605 no-92 no-93 -----

Leeward: Tom Yoho KAHANUOLA no-92 no-93 -----

Windward: Steve Kaiser HIOLANI yes-92 no-93 FY 92: Mar-Jun
239-6331 delinquent
259-7933 3/7 NC

Southshore: Steve Kaiser " " " -----

*NC = no catch = did not go out (does not mean skunk trip)

SHARK FISHERMEN

ISLAND AREA NAME/PHONE NAME & SIZE OF BOAT COMMERCIAL LICENSE (YES/NO) REPORTING AND LANDING RECORD

Molokai:
(per Bill)

Kelii Mawae

Arthur C. Puua

(per Brooks)

James Dickson
879-4879(h)

KIHEI BOY
32 ft.

yes-92 yes-93

FY 92: current
1 NC, 11 catches.
FY 93: Jul-Oct
delinquent

*NC = no catch = did not go out (does not mean skunk trip)

SHARK FISHERMEN

ISLAND	AREA	NAME/PHONE	NAME & SIZE OF BOAT	COMMERCIAL LICENSE (YES/NO)	REPORTING AND LANDING RECORD
Mauai:	Lahaina/ Maalaea:	James Stegmuller 667-9328(h)	LAHAINA PILOT 40 ft.	no-92 yes-93	FY 93: current 3/3 NC
		Robert Gomes 244-7521(h)	KEALALANI 30 ft. Force	yes-92 yes-93	FY 92: current 12/12 catches FY 93: Oct del. 2-NC, 1-catch
		Bert Oliveira 572-7156(h)	SHANA II 34 ft. Radovitch	yes-92 yes-93	FY 92: current 12/12 catches FY 93: Jul-Oct delinquent 2 catches
	Hana:	Robert Carroll 248-8269(h)	RISKY BUSINESS 30 ft. (not available until 1/93--under repair)	yes-92 yes-93	FY 92: current 7 NC, 5 catches FY 93: Oct del 3/3 NC
		Mark Collins 248-7067(w) 248-8913(h)	KAINUI 40 ft.	yes-92 yes-93	FY 92: current 12/12 catches FY 93: delinq. Aug-Oct, 1 catch
		Greg Lind 248-8679(h)	23 ft. Sea Craft 27 ft. Force	yes-92 yes-93	FY 92: current 1 NC, 11 catches FY 93: Oct del 3/3 NC
	Kahului:	Tim Tam Sing 572-6152(h)	30 ft. Force	yes-92 yes-93	FY 92: Jun del 2 NC, 9 catches FY 93: current 4/4 catches
		James Dickson 879-4879(h)	KIHEI BOY 32 ft.	yes-92 yes-93	FY 92: current 1 NC, 11 catches FY 93: Jul-Oct delinquent

*NC = no catch = did not go out (does not mean skunk trip)

NOTE: DOCARE-MAUI indicated if they are available, they could assist us (22 ft. Whaler).
Possibly avoiding some of the problems incurred previously.

SHARK REPORTING PROTOCOL

1. SHARK ATTACK

Call 911 for medical and police

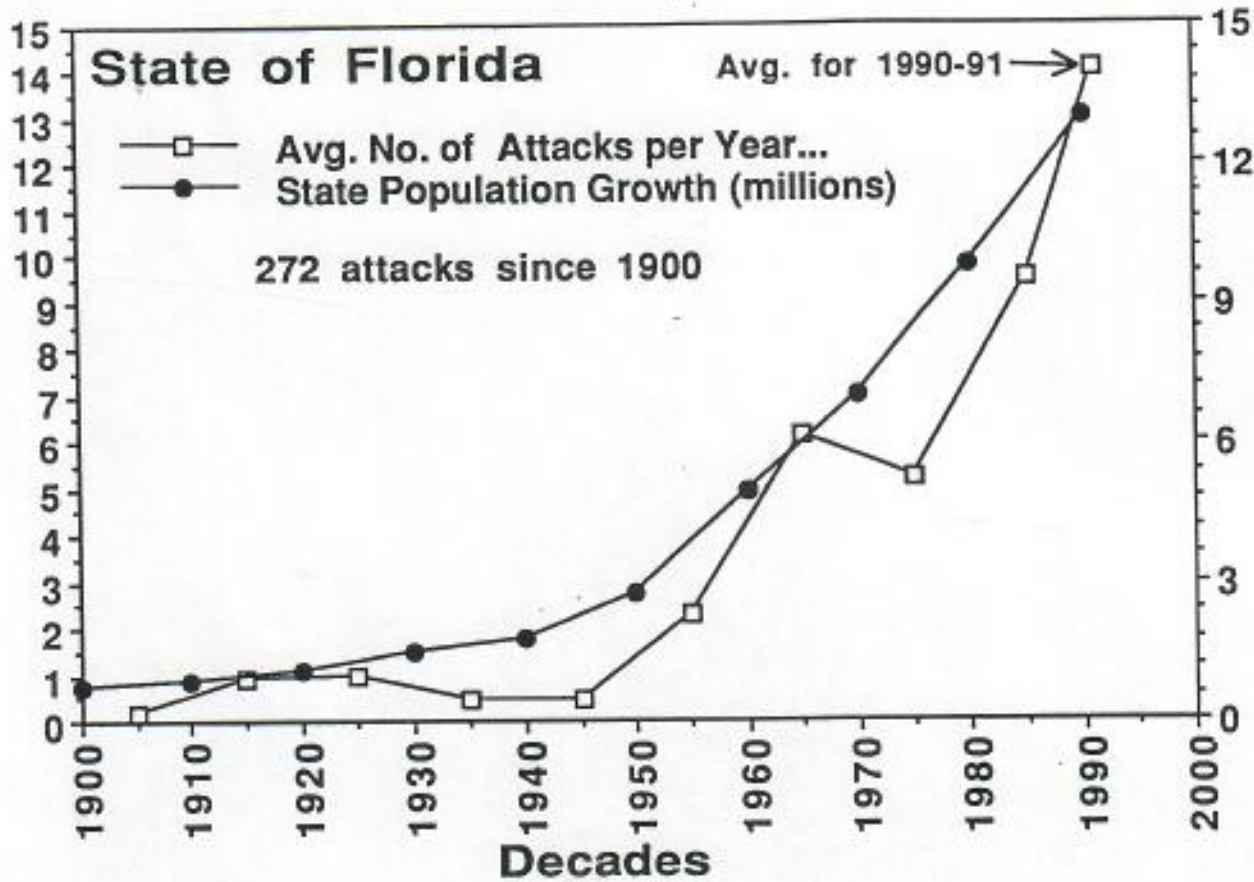
Automatic shark hunt after attack. 911 calls one member of Shark Task Force (starting from top of list, whoever answers first):

Linda McCreery	587-0393;	373-9399
Bill Paty	587-0400;	637-4870
Randy Honebrink	587-0111;	947-4543
Steve Kaiser	259-7933;	237-6335 (home)
	223-1530	(cellular)
	549-1721	(beeper)
Henry Sakuda	587-0100;	396-0155
Local fishermen from list		
John Naughton	955-8831;	262-9029
Jerry Crowe	923-9741;	
Steve Thompson (Harbors)	587-1973;	261-8397
Waianae Harbormaster William Aila	696-6614;	696-9921
Water Safety Div.	922-3888	
City/State Civil Defense		
DOCARE	587-0077	
Marine Patrol	587-2000;	

2. SHARK SIGHTING

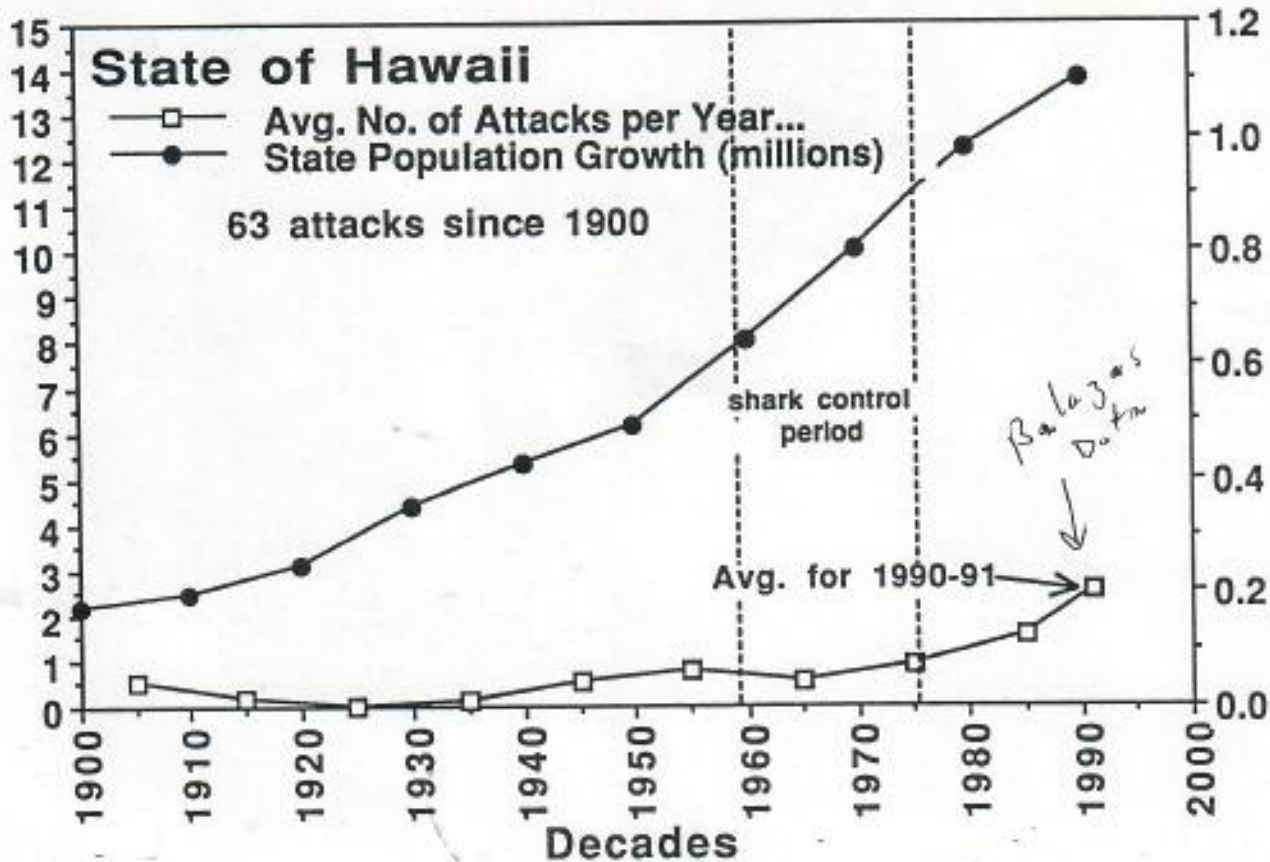
Call 58-SHARK. Phone number publicized via news and stickers. Recorded voice message gives instructions (see sample script). Scientist may contact caller to obtain more information. Calls retrieved by Division of Aquatic Resources and transcribed onto report forms. Data analyzed by Shark Task Force to determine where to hunt sharks.

Avg. No. of Attacks per Year for Decade



State Population Growth (millions)

Avg. No. of Attacks per Year for Decade



State Population Growth (millions)



FLORIDA
MUSEUM OF
NATURAL HISTORY

GAINESVILLE

PETER BENNETT Ph.D.
Director

RESEARCH • EXHIBITS • EDUCATION

UNIVERSITY OF FLORIDA

904/392-6562

FAX # 904/392-0103

DIRECTOR'S OFFICE

Cover Sheet for Faxed Documents

DATE:

11/13/92

TO:

CHRIS LOINE

FAX # 808 236 7443

FROM:

GEORGE BURGESS

Phone #: (904) 392-1721

MESSAGE:

Here's the graph. You might generate interest by noting that Hawaii and Florida are very similar in their population/attack relationships and that Fla. has 7-10 x more attacks per year. Tell them I'll explain Fla. and world perspective on basis of ISAF files (2000+ documented attacks).

2

of pages including cover sheet

Please phone upon receipt.

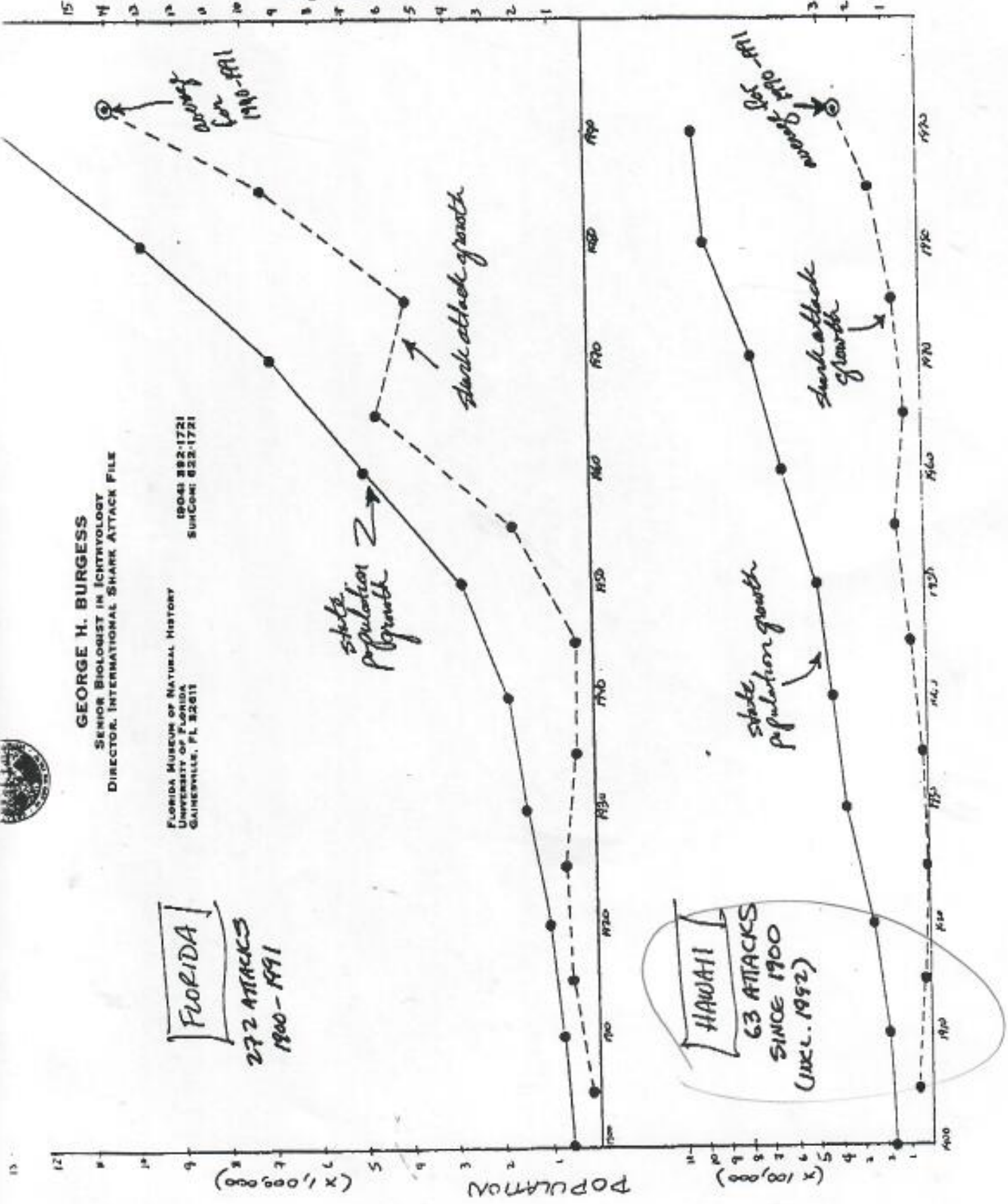


GEORGE H. BURGESS
 SENIOR BIOLOGIST IN ICHTHYOLOGY
 DIRECTOR, INTERNATIONAL SHARK ATTACK FILE

FLORIDA MUSEUM OF NATURAL HISTORY
 UNIVERSITY OF FLORIDA
 GAINESVILLE, FL 32611
 (904) 392-1721
 SUWCOR: 022-1721

FLORIDA
 272 ATTACKS
 1900-1991

HAWAII
 63 ATTACKS
 SINCE 1900
 (INCL. 1992)



HAWAII

Friday, November 27, 1992 ■ Star-Bulletin •

■ Inmate may have died from asthma **A-4**

■ Maui animal shelter faces foreclosure **A-5**

■ Dead dolphin found in loose fish nets **A-7**

Boat-sized tiger shark towed in

□ Fireman, 2 friends in a 12-foot boat snag the 12-foot predator in a net at Kahana Bay

By Devi Sen Laskar
Star-Bulletin

Wayne Howland had the time of his life as he and two friends snared a tiger shark the size of his 12-foot boat only 300 yards off the shores of Kahana Bay, just north of Kaaawa.

The 28-year-old firefighter was on the small boat with his boss and a friend Wednesday when they found the shark tangled in a 300-foot-long net they had put out the night before, he said.

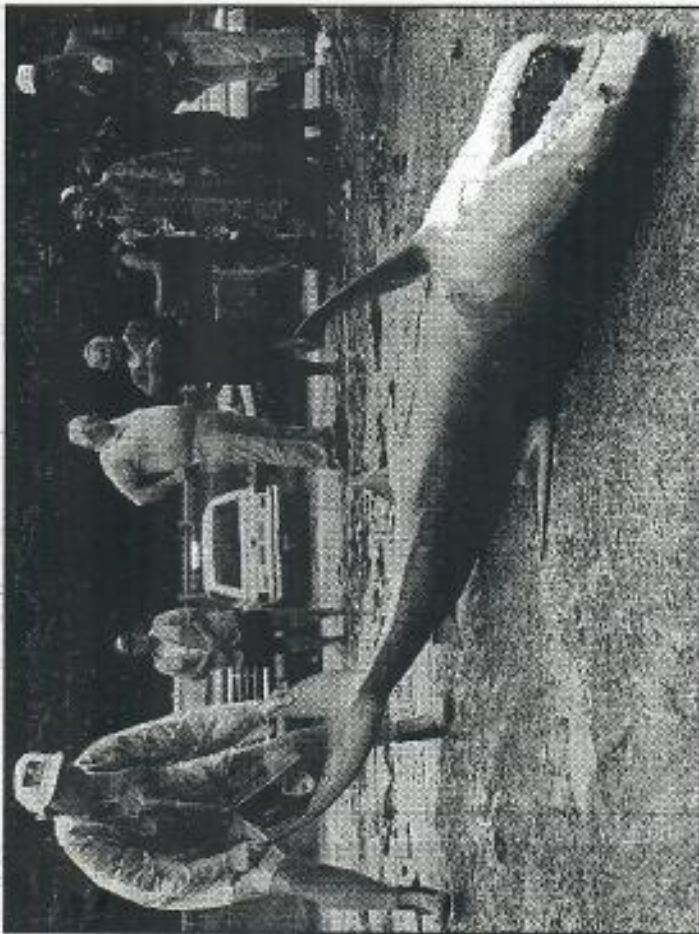
"We couldn't untangle it, so we tied it with a rope and then we dragged him by his tail back to shore," he said.

"That was so cool. When he kicked, it was like riding a horse."

Because the shark was as big as the boat, the animal's movements rocked the vessel.

It took the three men about four hours to bring the shark to shore.

They then called the National Marine Fisheries Service, which sent representatives to cut open the shark.



By Devyne Howland, Special to the Star-Bulletin

Father Randy Novak tries to drag 12-foot tiger shark caught just off of Kahana Bay.

The shark was the sixth caught off Oahu waters this month.

Four were hooked by state-hired fishermen after a shark attacked and killed 18-year-old Aaron Romento as he

When scientists cut open the stomach of the latest shark catch Wednesday, they found two fish still wrapped in a net, Howland said.

"He must have been really hungry," he said. "That's why he came to the net — for our food."

John Naughton, a National Marine Fisheries Service biologist, said Fisheries scientists dissect the sharks that are caught and examine their stomach contents.

They also check the condition of the animals and collect tissue that is analyzed for reproductive studies.

Shark belly sections are given to hula halau, which use the skins for drums. Shark teeth also are salvaged.

The rest of the carcasses usually are taken five miles out to sea and dumped.

But once the latest shark inspection was completed, the meat was distributed among people along the shore, Howland said.

"My captain took some home, and I think he's going to bring some into work on Saturday," he said. "I've never had shark meat, but I hear it's good."

Howland, who hadn't caught a tiger shark before, said he would do it again.

"But next time I'd want a bigger boat," he said. "I never saw anything like this before. I've caught small hammerheads before, but this was really huge. The tail was 3 or 4 feet wide."

TRANSMITTAL SHEET



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

Commercial: (808) 943-1221
 Telefax: (808) 943-1290

TELEFAX FOR: MR. BILL PATY, DLNR

DATE: 12/24/92

FROM: GEORGE BALAZS

TELEPHONE EXT: 943-1240

NUMBER OF SHEETS TRANSMITTED (including this page) THREE

MESSAGE:

DEAR BILL: COMPLICATED THEORIES AREN'T REALLY NEEDED TO LOGICALLY EXPLAIN THE INCREASING NUMBER OF SHARK ATTACKS THAT HAVE OCCURRED DURING RECENT YEARS. THE STRAIGHTFORWARD REASON WAS EXPLAINED IN THE DLNR'S "FINAL REPORT" FOR THE 1971 SHARK CONTROL AND RESEARCH PROGRAM. PREVIOUS TO THAT, DR. ALBERT TESTER EXPLAINED THE SITUATION ON A NUMBER OF OCCASIONS, INCLUDING IN THE 1969 ISSUE OF SKIN DIVER MAGAZINE. EXCERPTS OF BOTH ACCOMPANY THIS FAX.

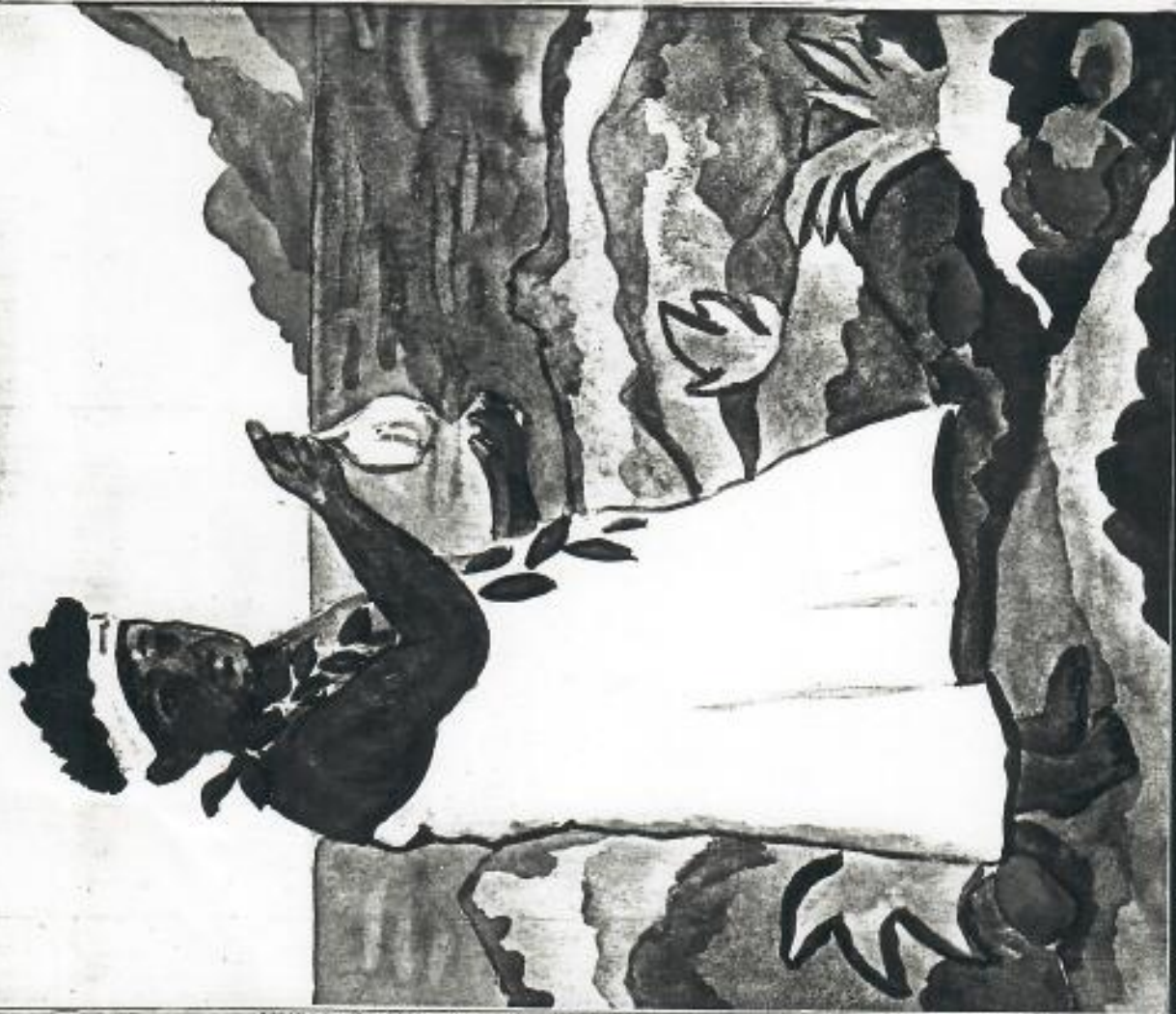
TAKING OUT A DOZEN OR SOME TIGERS SIMPLY WON'T DO THE JOB, IN MY PERSONAL OPINION. PREVIOUS CONTROL EFFORTS DEMONSTRATE TO US THAT THERE ARE MANY TIGER SHARKS OUT THERE IN HAWAIIAN COASTAL WATERS. DR. RICHARD GRIGG HAS DONE SOME MATHEMATICAL COMPUTATIONS TO ESTIMATE THE NUMBER OF TIGER SHARKS AROUND OAHU. IF YOU HAVEN'T DONE SO ALREADY, YOU MAY WANT TO SPEAK WITH HIM.

BEST WISHES TO YOU AND YOUR WIFE FOR THE HOLIDAYS. YOU MAY BE INTERESTED TO KNOW THAT I CONTINUE TO RECEIVE CHRISTMAS CARDS FROM PAM MEHL AND HER THREE YOUNG CHILDREN. PAM'S HUSBAND RAY WAS DEVoured BY A TIGER SHARK THREE YEARS AGO OFF KAHE POINT. ALTHOUGH SOME WERE PESSIMISTIC, MY INVESTIGATION STRONGLY SUGGESTED THAT MR. MEHL WAS VERY MUCH ALIVE WHEN FIRST BITTEN.

SINCERELY,



DV
623.2
J35
1977



*The Olowalu Massacre
and other Hawaiian Tales*
by Aubrey P. Janion 167 pp.

The word *kahuna*, unqualified, in Hawaiian Antiquities usually refers to a priest or one who offers sacrifices (although it is often mistakenly understood to mean a sorcerer). Literally translated, it is anyone who practices an art, profession or trade and the qualifying noun indicates the calling of the individual. Thus: "*Kahuna pule* is a priest; *kahuna lalaau* a physician; *kahuna kawai laau* a carpenter and so forth. *Kahunaana* is one who uses divination or sorcery and *kahuna hoo-piopia* is a priest who practices sorcery in connection with his priest's office."

Lorrin Andrews

Dictionary of the Hawaiian Language

THE SHARK GOD OF AWA MOMI

For some days bags of cement, piles of lumber, portable railroad track, steel girders and assorted material were piled up along the bank of the inlet of Awa Momi, or Pearl Harbor as the *haoles* called it. Horses drawing heavy wagons, drays and trucks moved around as men worked the giant cranes into position. In the channel which led to the open sea, the Hawaiian Dredging Company's ship *Governor* nosed her way past a five-masted schooner which lay a little distance from the shore.

It was midsummer 1909. A crowd of sightseers had gathered to watch the dredge begin work on Thomas Dock, named in honor of Captain Robert E. Thomas of the United States Navy, but better known today as the Dry Dock.

At the water's edge, apart from the crowd, Kapuna Kanakeawe eyed the bustling preparations with misgiving. He was tall and straight despite his eighty-seven years. A long life as a fisherman had kept him trim and his chest muscles rippled under the faded blue *piriaka* shirt, that hung, unbuttoned, from his shoulders. His bare feet bunched on the scree which covered the shoreline and in his hand he carried a canvas bag filled with small fishes.

Once a week for a number of years he had come to this point of land with his satchel of food. In the underwater caves below him was the abode of Kaaupahau, the Shark God, his *amakuu*. Every week he dived down and placed food in the crevices for his ancestral family god.

Skirting the crowd, Kanakeawe made his way to David K. Richards, a burly gang boss, who was supervising the unloading of the drays.

"You can't dig here," the fisherman told him. "Move away. The Shark God lives here. If you disturb him, by and by you have plenty *piikia*. Big trouble."

Richards eyed him without concern. He cared nothing for the lares and penates of the old man, and doubtless thought with Burke that "superstition is the religion of feeble minds." In any case it was not in his province to halt an enterprise of this nature.

Work progressed slowly and by 1913 it was almost completed. It was three in the afternoon of February 17 when a split appeared in the bottom of the dock and the entire construction exploded. Timber, concrete, steel girders, portable railroad track, everything in fact, was pulverized. All that was left of the eight-hundred-foot dock

was a jumbled mass of twisted steel and rubble. One man was killed and many barely escaped with their lives. Four years' work and \$4,000,000 had been lost in a matter of minutes.

After a year and a half spent in investigation and discussion, a new contract was signed on November 9, 1914. This time there was to be a larger dock, 1001 feet long by 138 feet wide. Work began again.

A ceremony attended the renewal of the construction. *Thrum's Annual* for 1914 described an address given by the Secretary of the Navy, Josephus Daniels, and dedicated to "the God of Civilization, the God of Commerce and the God of Christianity," who rules upon the waves as well as upon the land. He made no reference, however, to the Shark God.

By April 1919, as completion was once more approaching, someone remembered Kanakeawe and his fateful warning. The oldtimers suggested that attention should be paid to Hawaiian beliefs. The Navy was unimpressed, but the governor and business leaders sided with the *kamaainas* and sent for Mrs. Puahi, a *kahuna*, who lived in Waikiki.

Mrs. Puahi believed that the Shark God must be appeased before any work was undertaken in that area. She was asked to instruct the job foreman, David Richards, in the ritual necessary to make the place safe for further construction. The usual practice of sacrificing a pig was discarded in favor of offerings of ashes and salt water. Richards learned by heart some Hawaiian prayers and selections from the Bible. Mrs. Puahi then told him to go to the Dry Dock between two and three o'clock in the morning, "never turning back or stopping to talk on the way."

Accordingly, at 2:00 a.m. on April 15th, Richards went to the Dry Dock, where he chanted the *mele haipule* or religious songs that he had memorized, and offered ashes and salt water to the Shark God.

Mrs. Puahi arrived at 8:00 on the same morning. She also sang certain chants and threw crackers into the water on both sides of the Dry Dock as well as inside and all around it. The cofferdam was pumped out and from it was taken the skeleton of a fourteen foot shark. Mrs. Puahi then pronounced the Dry Dock safe.

That evening I dined with Percy Benson, Vice President of the Hawaiian Dredging Company. During the meal a phone call from Pearl Harbor informed him that the floor of the Dry Dock had risen six inches. It never moved again and the enterprise was completed on August 21, 1919.

The Shark God had been appeased.

- Gessler, C.
Byron, Lord
Thrum's Annual
- Hawaii, Isles of Enchantment*
Voyage to the
Sandwich Islands
1890
- Kahoolawe
- Day, Grove A.
Fornander, A.
Emory, K.
Kamakau, S. M.
Ellis, W.
- Hawaii and Its People*
The Polynesian Race
The Island of Lanai
Ruling Chiefs of Hawaii
Narrative of a Tour
through Hawaii
Hawaiian Annual for 1903
- Thrum, T. G.
Vancouver, George
McAllister, J. G.
Gessler, C.
Courson, M.
Malo, David
Bingham, H.
Arago, J.
Honolulu Archives
Honolulu Star Bulletin
- Voyage of Discovery 1798*
Kahoolawe
Hawaii, Isles of Enchantment
The Beacon, March, 1971
Hawaiian Antiquities
Bingham's Sandwich Islands
Voyage Autour du Monde 1825
Letters and Papers
August 28, 1968
- King, 2nd Lieut. G. W.
Honolulu Archives
Honolulu Star Bulletin
Pacific Commercial Advertiser
The Friend
- Stolz, Dr. Louis M.
Kauai Historical Society Papers
Kauai Historical Society Papers
Piilani & Sheldon
- Report to Captain Ziegler
Papers
April 21, 1934
June 30, 1893; 1897
July & August, 1893;
March, 1897
Memorandum
V. 1 p. 227. Hofgaard
V. 3 p. 19. Walter F. Sanborn
Ke Ka'ea'ea o na
Pali Kalalau
- The Great Kauai Train Robbery
- Rice, P.
The Indictment of
Kaimiola Hali
The Pacific Commercial
Advertiser
The Garden Island
- Memorandum
February 14, 1920
February 17, 1920
- The Shark God of Awa Momi
- Furlong, Admiral F.
Thrum's Annual
Scott, Edward E.
- Paradise of the Pacific*
July, 1914
Saga of the Sandwich Islands
- The Secret Society of the Hale Naua or Temple of Science
- The Minute Book of the Hale Naua Society
- The Leper of Kalalau Parts I & II
- St. Mouritz, A. A.
Alexander, W. D.
- The Path of the Destroyer*
The Later Years of the
Hawaiian Monarchy

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1977



167 pp.

THE OLEWAU MASSACRE

and OTHER HAWAIIAN TALES
by AUBREY P. JANION

Illustrated by Guy Buffet



an ISLAND HERITAGE book

For Kathryn who listened.

FIRST TRADE EDITION, 1977

Produced and published by
Island Heritage Limited
Norfolk Island Office
'Leaside' Tynes Road
Norfolk Island 2000
Australia

Please address orders and editorial
correspondence to our United States office:
Island Heritage Limited
224 Kamez Street
Honolulu, Hawaii 96813
Phone: (808) 533-4211
Cable: HAWAIIBOOK
Telex: Heritage 634206

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Library of Congress Catalog Number 76-12506
This edition first published in Japan.
Printed and bound in Hong Kong under the
direction of Mandate Publishers Ltd.

THE OLOWALU MASSACRE PROLOGUE

A few months before the terrible events at Olowalu, the snow *Eleanora*, under the command of Captain Simon Metcalfe, and her tender, the *Fair American*,* captained by Metcalfe's son, were returning from China. Separated in a storm, they proceeded independently of one another to Hawaii via the northwest of the American continent.

The *Fair American* made her way to the Island of Hawaii arriving at Kawaihae Bay in March 1790 at which time the *Eleanora*, having left Maui earlier, was anchored at Kealahou, a little distance to the south. Neither knew of the other's safe arrival.

Captain Simon Metcalfe, in his ship the *Eleanora*, had been cruising along the coasts of Hawaii during the winter months of 1789 engaged in barter with the natives. In his dealings with them he had earned for himself an unenviable reputation for harshness and brutality — a man quick and sudden in temper, coldly arrogant, brooking no criticism of his orders. However, the Hawaiians had been willing to put up with a certain amount of ill-treatment since it was only by trade that they could acquire the much needed iron and other foreign commodities.

Some time previously Kameeiamoku — a high chief and the father of Hoapili, later governor of Maui — had gone on board the *Eleanora*. In some way he had offended Metcalfe who had him flogged. Furious at the brutal and humiliating insult, he had sworn to be avenged on the first whites whom he encountered. Little did he know that his threat would be carried out on Captain Metcalfe's own son.

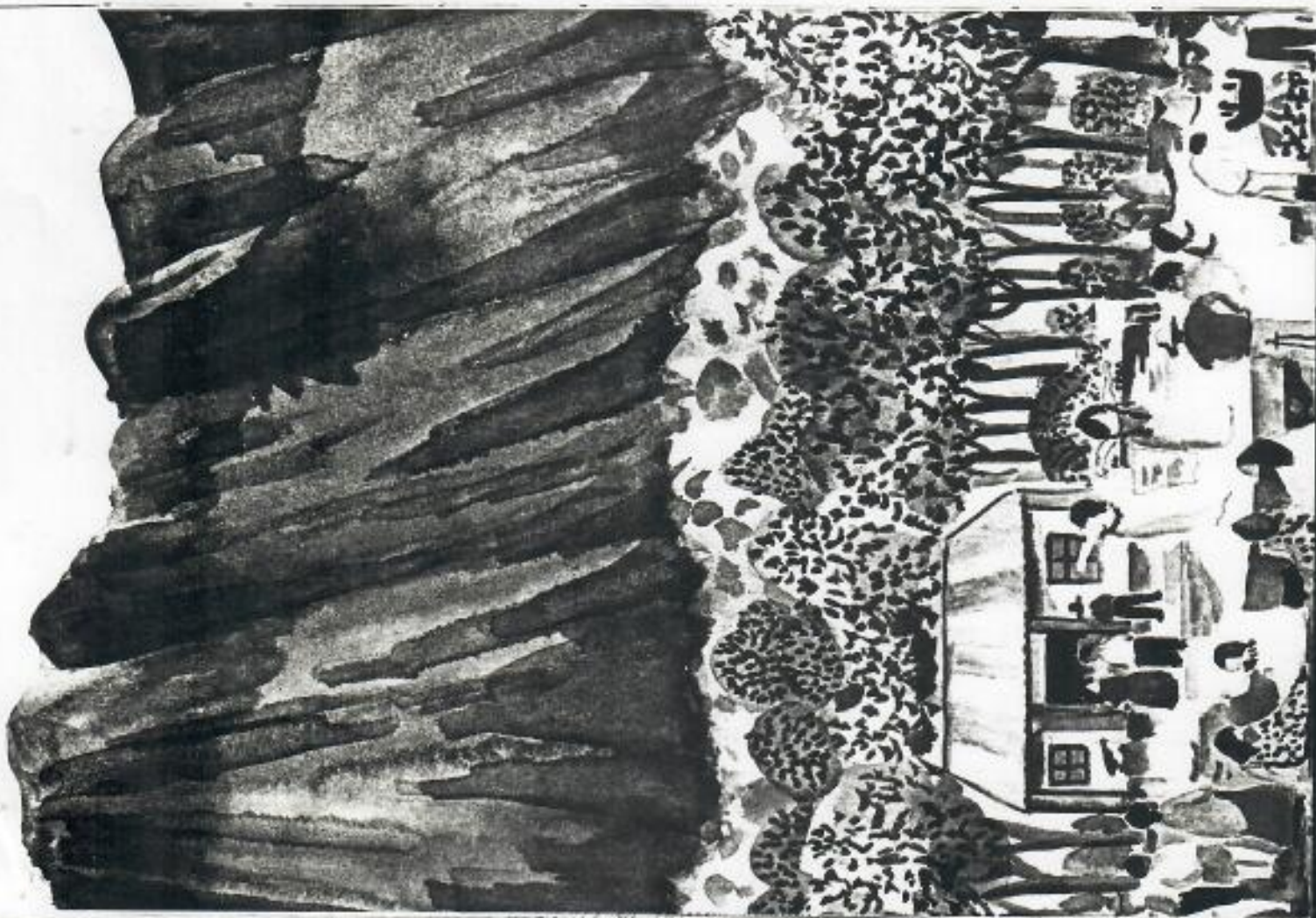
*Appendix

THE OLOWALU MASSACRE

The southerly wind which had sent the vessel scudding before it, north from Hawaii, had died down and veered to the northeast by the time the ship anchored under the "Ladrone Mount" on the Island of Maui. It was "on or about" January 30, 1790.

The canoes coming out from the shore to meet her, loaded with trade goods, swarmed around the vessel. Most of the native craft were small, some twenty feet in length, a foot or so in the beam, much the same in depth and equipped with outriggers. Their average weight was about fifty pounds. They carried four or five men and a variety of island produce. Pigs and chickens, tied with twine, straggled in the narrow hulls. Fish, sweet potatoes, taro, bananas, limes, coconuts and an occasional dog cluttered the canoes. Baskets from the *ire vine*, *laukela* mats, *leis* made from boars' tusks and dogs' teeth, small objects fashioned from *kukui* nuts and the *kuper* or bracelet of *pipipi* shells strung together with native cord were offered in trade, anything that could be exchanged for coveted iron or weapons. A few islanders held up the valuable *lei niho palaoa* — a whalebone carved in the form of a hook and arranged on a necklace of human hair — worn only by chiefs and chiefesses on state occasions or in battle. One man displayed a feather cloak.

Soon after the trading was underway, a stiff breeze sprang up. The strong currents of the roadstead, combined with a dragging anchor, made it difficult to keep the snow headed into the wind. Captain Metcalfe gave up trade at this point and sailed farther up the coast to Honuaula, where he dropped anchor again.



News of the trading vessel reached the village of Olowalu, about twenty miles up the coast. When Kaopuiki heard about the *Eleanora*, he loaded his canoe with hogs, fruit and other products to exchange for muskets, ammunition and nails. It was night when Kaopuiki and his men arrived at Honuaula. In the moonlight they could see the ship's cutter riding astern of the snow. The temptation was great. Kaopuiki decided to steal the boat.

It must have been between eleven o'clock and midnight when Kaopuiki and three or four of his companions slipped into the water. They swam out to the *Eleanora* and silently cut the lines which held the cutter to the ship. As they began to tow it away, the boat watchman, who had fallen asleep in the cutter was awakened by the movement. He drew his knife and attempted to give the alarm, but the natives quickly overpowered and killed him.

They took his body ashore with them. There the boat was beached and broken up. All the nails and iron were removed, to be made into fishhooks and awls. Kaopuiki and his party then returned to Olowalu.

On the *Eleanora* some time passed before the loss of the cutter was discovered. Immediately, the alarm was sounded and all hands were summoned aft for a roll call. The watchman was missing. In the darkness, nothing could be seen of the boat. A dinghy was lowered over the side but the search was soon abandoned. An old Hawaiian, who came on board earlier in the evening and who had been given permission to sleep on the snow, was seized and put in irons.

The following morning no canoes came out to trade, and the suspicion that the cutter had been stolen became a certainty. Some women who had been sleeping on the *Eleanora* jumped overboard and swam ashore, but the old man was not allowed to go.

That afternoon two or three canoes came out with

presents of hogs and fruit, but the gifts were not accepted. The last canoe that came alongside was ordered away, but the natives refused to leave. They were then driven off by gunfire, which killed some of the paddlers.

Late the second night a native quietly swam out to the anchored sailing ship. He was trying to cut away a piece of copper sheathing from the bottom of the ship when Metcalfe saw him. The captain fired a pistol but missed. A boat was then sent after the native and he was caught and brought on board where he would have been hanged but for the intervention of two officers.

The next morning four or five thousand natives came down to the shore armed with spears, slings and clubs. The *Eleanora* pulled to within a quarter mile of the beach and opened fire with "grape and round shot" in an attempt to drive them away. At noon Metcalfe sent a landing party ashore to burn the grass huts and the *heiau*. Although one Hawaiian was killed and two were taken prisoner, the natives offered no resistance to the sailors. Later in the day when some of the men went ashore to get water, the natives attacked and drove them back to the ship.

From one of the prisoners it was learned that the man who had stolen the cutter lived at Olowalu. Captain Metcalfe set sail in that direction, where the *Eleanora* sailed into Maalaea Bay to obtain water and to trade. Some canoes came alongside and the natives were well treated. Water was brought out and trading resumed. Among other things, Metcalfe bought a little boy and girl for the sum of two hatchets and some beads.*

The *Eleanora* remained at Maalaea for three or four days. Her sides were caulked, her sails mended and pork was salted for the ship's store. She then weighed anchor and "stood from the shore."

The next stop was Olowalu. Early the next morning a chief came alongside and talked with Captain Metcalfe. The

captain offered a musket, eight cartridges, a bar of iron and a piece of Bengal cloth as a reward for the return of the missing watchman. The chief agreed to produce the man if they would send a boat ashore. A ship's officer and the boatswain, John Young, armed a boat and took it inshore, but after waiting an hour they returned to the snow empty-handed.

The chief came out to the ship again and promised that if the boat would come once more they could be sure of getting their man. The boat started toward shore a second time, when a native came swimming to meet them. He handed them a bag containing the thigh bones of the watchman. These were taken on board and shown to Captain Metcalfe, who threw them into the sea.

Shortly thereafter the chief came and claimed his reward, which was given to him. The chief then told how the watchman had tried to give the alarm, but that the distance between the cutter and the snow had been too great for his voice to be heard. When he drew his knife, he was overpowered by the chief's men and his head cut off. His body was taken ashore and the flesh burned as a sacrifice to the gods — a fact partially borne out by the ship's officers who had reported seeing a blazing fire.

The chief then asked if the natives might come out to trade without fear of molestation and he was reassured on that point. The chief also reported that the cutter was undamaged. Captain Metcalfe offered a further reward if it were to be returned to the *Eleanora*.

At dusk a large canoe containing twenty-five women came alongside, but Metcalfe, fearing that they had some plan to seize the vessel, would not allow them on board.

Early the following morning, some two hundred canoes surrounded the *Eleanora*. They came from Olowalu, from Lahaina, from Ukumehame, Kaanapali, and Lanai. Many families had brought their children for the day's outing to

see the foreign ship. They came in good faith, trusting in the word of the ship's commander that they would not be harmed.

About ten o'clock, three chiefs came out to the snow with the keel of the stolen cutter. Metcalfe then knew that the chief had lied to him and that the cutter had been broken up. The officers who so recently had saved the life of the native at Honouaula now tried to persuade their captain to hang the three chiefs from the yard in full view of the canoes as an example, but Captain Metcalfe had other plans. After delivering the keel of the boat, the chiefs, with incredible naivete asked for the reward. Exclaimed Metcalfe: "I will now give the reward they little expect."

He first placed a *tabu* on the larboard side of the ship, compelling the canoes to cluster to starboard "next the shore." They were close in to the side of the vessel, crowded together like grapes on a vine. The gun ports were closed and a man was placed at each of the lanyards. The four cannon on the quarter deck were loaded with five hundred balls apiece and some of the swivels had twenty and others ten. The guns between decks were loaded with a hundred balls, and fifty langrage nails, a kind of shot used for tearing sails and rigging and composed of bolts, nails and other pieces of iron fastened together or enclosed in a canister. There were seven guns loaded with such charges. The whole broadside was to open fire at a single command.

One of the officers, Mr. Chambers, protested that the proposed punishment was too severe and would only result in the wholesale slaughter of innocent people. Captain Metcalfe insisted that his orders be carried out. When all hands were at their posts, he gave the command to fire. The gun ports flew open, seamen pulled the lanyards and the broadside raked the closely-packed canoes at pointblank range. The cries of the wounded and dying were drowned by volley after volley of musketry directed personally by

Metcalfe from the deck.

Broken canoes, mutilated dead lying half in and half out of the water, stems of bananas, pigs, limbs torn from bodies, and artifacts jumbled together littered the crimson sea. The survivors swam and paddled in wide-eyed panic for the shore. Later the remains of the dead were pulled from the water with fishhooks and piled on the beach. More than one hundred natives were killed outright and a hundred and fifty were seriously wounded.

Ironically, Kaopuiki, the boat thief, escaped the carnage. He was not at sea that day.

Some time before the terrible Olowalu encounter, the *Fair American* had been released on the coast of America and had made her way to the Island of Hawaii. The young captain, Thomas Metcalfe, arrived at Kawaihae in March 1790, at the same time his father, captain of the *Eleanora*, was anchored at Kealakekua a few miles away. The *Eleanora* had hurried south after the Olowalu massacre.

It was on March 17 that Chief Kameeiamoku saw the *Fair American* riding at anchor, and he prepared to take his revenge. He outfitted several canoes, and, taking four chiefs and a number of retainers, asked permission to go aboard the vessel.

The natives, who had come unarmed, feigned feelings of great friendship toward young Metcalfe. They offered him presents and trading valuables for next to nothing. This aroused the suspicions of Isaac Davis, the mate. In vain he tried to warn his young skipper, who seemed happy with the behaviour of the Hawaiians. The crafty Kameeiamoku went aft with a feathered helmet and invited the young Metcalfe to try it on. While he was doing so, the chief seized him and threw him into the sea, where he soon drowned. Davis "snapped" a pistol at Kameeiamoku but it misfired. The mate, too, was then thrown into the sea. The remainder of the crew were tossed overboard and the

natives beat them with paddles until they were dead.

Davis, however, was a good swimmer, and he managed to escape for a while. Exhausted from fatigue and loss of blood, he was eventually caught, stripped of his clothes and dragged on board a double canoe more dead than alive. The natives stretched him between the outrigger booms and attempted to kill him by jumping on his back. Failing in this, they left him alone, and although in a "deplorable condition," he recovered sufficiently to say "*maitai, maitai*," meaning good.

Kameeiamoku's brother, Alapai, responded with expressions of *aloha*, and, perhaps out of pity, bathed his wounds. Thereafter, Davis was treated kindly. He was "blind and almost lifeless" from the beatings, and it was several months before he recovered his sight.

Kameeiamoku plundered the tender. He then took Davis to Kamehameha I who upbraided him for his barbarous behavior. Kamehameha put Davis under his personal care and told Kameeiamoku that the boat must be returned to its rightful owner.

On the same day that the *Fair American* was seized and her crew murdered, the English boatswain of the *Eleanora*, John Young went ashore at Kealakekua Bay. He had been invited for the night by some white men who had left their ships and were living there.* But the next day when he wanted to return to his ship Young learned that a *tabu* had been placed on all canoes. None was allowed to leave the shore. He was told that if he tried to take one himself he would be put to death, but that he could have one on the following morning.

That evening John Young heard of the fate of the *Fair American* and her crew. Kamehameha sent for him and explained that he would have to stay on the island until after the departure of the *Eleanora*. He was afraid that if Metcalfe found out about the death of his son and loss

of his tender, he would wreak the same vengeance that he had brought upon Olowalu.

Captain Metcalfe sent a letter to Jas. Mackey, an Irishman and the first permanent foreign resident of the Island of Hawaii demanding the return of the boatswain.* He kept the *Elmora* at Kealakekua for two days, taking on sandalwood and firing a gun at intervals as a signal for the missing boatswain to come on board. When his man did not appear, Captain Metcalfe weighed anchor and set sail, presumably for China.

The retribution which had already begun was brought to a climax in 1794 when Simon Metcalfe was again in the American northwest where he lost his life. He was moored in the Houston Stewart Channel for trade when his ship was overrun by savages, and as John Boit, in his manuscript log of the *Union* records: "Young likewise informed me that the old Captain Metcalf in a brig from the Isle of France had been cut out at Coyars in ye Queen Charlotte Isles by ye natives of that place & every sould (sic) murder'd except one man who got up in ye main top & was taken alive. Captain Metcalf's younger son (Robert) was mate of the brig. This man whom ye natives took alive was afterwards bought of by ye Master of a Boston ship who pass'd here about a fortnight since. T'was from this man that Young got his intelligence."

Both Isaac Davis and boatswain John Young were well treated by Kamehameha. He gave them wives and land. They became his trusted friends and advisors, and they were to become very prominent in the early history of the Hawaiian Islands.

Ulupalakua and Captain J. Makee

- Honolulu Archives Papers & Letters
Private Papers
Field, Isobel *This Life I've Loved*
The Evening Bulletin January 10, 1910
Stoddard, Charles F. *The Isle of Tranquil Delights*
La Perouse *Voyages and Adventures*
Cook, John *Kamaaina & Fortyniner*
Hawaiian Almanac & Annual 1927 & 1928
Maui News
Johnstone, Arthur *Stories Nuuanu Valley*
Thrum's Annual 1908
Pacific Commercial Advertiser September 19, 1859
Honolulu in 1853
Hawaiian Journal of History 1959. Vol: 3
Partridge, Eric *Dictionary of Slang &*
Unconventional English
Taylor, Albert P. *Under Hawaiian Skies*

The Last Hours of Louis von Tempsky

- Maui News*
Private Papers January, 1922

Footprints in the Lava

- Private Papers

The Olowalu Massacre

- Fornander, A. *The Polynesian Race*
Jarves, J. J. *History of the*
Sandwich Islands
Bingham, Hiram *Bingham's Sandwich Islands*
Honolulu Archives *Papers, Letters, etc.*
Vancouver, George *Voyage of Discovery 1798*
Storrs, Lee *The Islands*
Kuykendahl, R. S. *The Hawaiian Kingdom*
Bishop, Marcia *Hawaiian Life of the*
Pre-European Period
Pukui & Elbert *Place Names of Hawaii*
Andrews, Lorrin *Dictionary of the*
Hawaiian Language
Lisianski, Urey *Voyage Round the*
World 1803-6
Dixon, George *Voyage Round the*
World 1785-8
Portlock, N. *Voyage Round the*
World 1785-8
Dibble, Sheldon *History of the*
Sandwich Islands
Campbell, Archibald *History & General View*
of the Sandwich
Islands Mission
Townsend, Ebenezer *Voyage Round the*
World 1802-12
Ingraham, Joseph *November 30, 1791*
Kamakau, S. M. *Diary of*
Log of the Brig Hope
Ruling Chiefs of Hawaii

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He was Master of the Royal Revels at Kalakaua's Court and was placed on the payroll. An excellent poker player, he was much in popular demand and his wife maintained her position of "one of the most delightful women and best dinner-givers in the Kingdom."

At Ulupalakua he afforded the guests quiet amusement by attaching a fishing line to a harness around his wife's waist as she swam about in the cistern.

The Olowalu Massacre

Fornander, vol: 11, page 233, in a footnote, disputes Jarves' statement that "The bones of the murdered seaman and the remains of the boat, for which a reward was offered, had been delivered up." He is frequently at variance with Jarves and states that no reference to the above quotation is made in the native accounts. He hedges a little on this assertion, however, as he continues "yet if Mr. Young — who was on board of the *Eleanor* (sic) at the time and subsequently resided and died on the Islands — had so reported it, it undoubtedly was so." Fornander was referring to Young's statement to Vancouver (see Vancouver, *Voyage of Discovery* vol: 11, page 136 edn 1798) — "that a reward being offered for the boat and the man, Mr. Metcalf (sic) was informed that the former was broken to pieces and the latter had been killed. The bones of the man were then demanded which, with the stem and sternpost of the boat, were carried on board the snow in about three days."

Fornander also tells us that Dibble, who knew Young well, says nothing in his *History of the Islands* of the recovery of the remains or the promised reward, on which the native account is equally silent. Indeed Dibble tells us practically nothing — not even the name of the ship's captain nor that of the snow. "I forbear to give the name of the vessel," and

it is surprising that Fornander bothers to refer to Dibble at all.

Fornander goes on to say "I am inclined to think that either Young's memory was somewhat confused, or that Vancouver misunderstood Young." After suggesting that the dead man was thrown overboard in Maalaea Bay where "it would probably have been food for the sharks," he concludes by saying "and no communication had with the ship until the day of the massacre, I think that the story of the recovery and reward, as prima facie doubtful."

It would seem that either Fornander did not know of the account written by one of the officers of the *Eleanora*, or that he completely ignored it. Nor does he mention Ingraham's account of which he may also have been ignorant. The former narrative was first published in the *Gentleman's Magazine* in London in April, 1791, a year after the massacre, and again in the *Columbian Centinel* in Boston on November 30th of the same year. It gives in great detail the whole of the tragic story from the moment of coming to anchor off "Mowee about January 30th 1790 under Ladrone Mount" to the time when the *Eleanora* sailed for the Island of Hawaii after the massacre. It mentions several meetings with the chiefs at Olowalu prior to the massacre and refers to the reward in detail and also to the delivery of the bones and the "keel" of the cutter. It will be noted that Vancouver mentions the "stem and sternpost" and also states that Metcalfe was informed that the boat had been "broken to pieces" whilst the *Eleanora's* officer asserts that the chief had insisted that the boat was "not hurt."

With the exception of these two details, Fornander's refutation of Jarves' statement appears to be unfounded. Jarves evidently had access to the ship's officer's narrative, and since it was written so soon after the event, and whilst it was still fresh in his memory, it should be considered as the most reliable version that we have.

Page 69, line 1

The tender, a tiny vessel of twenty-six tons with a crew of five men under the command of Thomas Humphrey Metcalfe, a lad of eighteen and the son of the master of the *Eleanora*, had been captured by one Martinez, the Spanish commander at Nootka, who after inviting the vessel into port, seized her for illegal entry and she was taken to San Blas. Captain Simon Metcalfe, evading similar capture, sailed for the Hawaiian Islands alone.

Page 73, line 29

The practice of buying children seems to have been normal procedure amongst sea captains at that time as Ebenezer Townsend tells us that in Honolulu on August 26, 1798, "I went ashore with the intention of getting a couple of boys, one for Captain Greene and one for myself but they being informed of my views were very shy," and again on August 29 of the same year on the Island of Kauai, "here I bought a pretty boy of about nine years of age from his father for some trifling consideration." However, the boy objected and was returned to his father who was "rather indifferent about it." It was very different on Hawaii, "for there we could have got as many boys as we pleased."

Page 77, line 25

From the time of the departure of Captain Cook's ships to the year 1790, several vessels had touched at the Sandwich Islands and, as was usual, some of the sailors had, for one reason or another, remained ashore. Amongst these on the Island of Hawaii were Jas Mackey, an Irishman and the first permanent resident, S. I. Thomas, I. Ridler, the carpenter's mate of the *Columbia* and John Young, an American and not to be confused with John Young the Englishman and boatswain of the *Eleanora*.

Page 78, line 5

The following letter, written in the flowing hand of Captain Simon Metcalfe, is extant and is preserved in the Honolulu Archives.

Eleanora off Owhyee 22 March 1790

Sirs,

As my boatswain landed at your invitation if he is not returned to the vessel consequences of an unpleasant nature must follow (to distress a vessel in these seas is an affair of no small magnitude) if your word be the law of Owhyee as you have repeatedly told me there can be no difficulty in doing me justice in the business, otherwise I am possessed of sufficient powers to take ample revenge which it is your duty to make the head chief acquainted with.

I am, Gentlemen

Yours etc; etc;

(signed) Simon Metcalfe.

To Mess.

S. I. Thomas

I. Ridler

Jas Mackey

John Young.

The Leper of Kalalau

Page 98, line 34

There are several versions of the shooting of Stolz and no two are the same. Some accounts imply that he was escorted up a ridge by a group of Hawaiians and it was there that he was shot. Others affirm that he was alone with Paoa who led him to Koolau's house where the shooting took place. In her story Piilani says that she and Paoa were present at the time. Dr. Mouritz tells us that the story of

COOK, S.F.; COMPAGNO, L.J.V. (Argus-Mariner Consulting Scientists; Shark Research Center, South African Museum)

Non-Predatory Behavior in White Sharks

White sharks are known to seize and release other species ranging from common prey (pinnipeds) to those which are not normal prey (birds, humans, otters, etc.). It has been assumed that one of two reasons explained this behavior: 1) for prey species that whites were disabling large animals and retreating to allow the prey to die before consumption; 2) for non-prey, as well as inanimate objects, that mistaken identification was involved. However, another factor which could account for seize-and-release or other behaviors in which there is no follow-up interaction has received little attention...displacement. Displacement has been well-studied for many non-marine animals. Dogs and cats are well-known examples. Both undergo resting periods when potential to enact certain behaviors builds then, at threshold, they're acted out. This may take several forms including stalking, pursuing, batting at, pouncing, evading or seizing objects or other animals. Displacement apparently serves several functions including honing hunting skills, stress relief, or development of skills necessary to socialization or hierarchical order. Once enacted displacement tends to dissipate rapidly and the animal displaying the behavior appears to become sated. White sharks may exhibit one or more similar behaviors in addition to others, such as intraspecific threat displays, not of a displacement nature. Observations of non-predatory behavior will be examined including "seize-and-release", "bouncing", "bashing", and "gaping" involving white sharks and other species.

KEYWORDS: white sharks; displacement; nonpredatory; Lamnidae; intraspecific; interspecific; *Carcharodon carcharias*; behavior

COOMBS, S.H.*; CONWAY, D.V.P.; MORLEY, S.A. (Plymouth Marine Laboratory, Prospect Place, West Hoe, Plymouth, PL1 3DH, Devon, U.K.)

Carbon and nitrogen analysis as a measure of condition of fish larvae, in particular for sardine *Sardina pilchardus* larvae off Spain

As part of the European Sardine Anchovy Recruitment Project (SARP) larvae of sardine *Sardina pilchardus* were sampled off the north and north-west coasts of Spain in 1991 and 1992 to measure their nutritional condition in relation to hydrography, food availability, and subsequent survival. Results from analyses of total carbon and nitrogen showed significant differences between cruises, with larvae <10mm in length being more prevalent among those in poor condition than the larger larvae. A seasonal change in larval condition with distance from the coast was related to the onset of offshore transport and seasonal upwelling. These results are compared with similar findings for larvae of sprat *Sprattus sprattus* in a parallel series of cruises in the North Sea. The field results are discussed in relation to equivalent findings from laboratory experiments to validate elemental analysis as a measure of larval condition.

KEYWORDS: condition; carbon; larvae; *Sardina pilchardus*

COOPER, J. A.*; CHAPLEAU, F. (JAC and FC Ottawa-Carleton Institute of Biology, Department of Biology, University of Ottawa)

A Cladistic Reassessment of the Generic Interrelationships within the Subfamily Pleuronectinae (Pleuronectiformes: Pleuronectidae): a progress report

Past studies dealing with interrelationships of flatfish species belonging to the Pleuronectinae (Pleuronectidae) have lacked the theoretical consistency required to make valid assumptions of phylogeny. In one case this has led to confusion in the taxonomic status of important commercial species. The monophyletic status of the Pleuronectinae is examined assuming the validity of a previously defined bothoid group. In addition, the monophyletic status of 28 genera within the subfamily is reviewed with special attention given to those genera regrouped as a result of a previously published phenetic study. A preliminary cladistic analysis is presented to show generic interrelationships within this subfamily, utilizing published and new osteological, meristic and morphological data. It is expected that a well corroborated phylogenetic hypothesis of interrelationships at the species level will provide an adequate historical basis for future studies dealing with the evolution life history traits in flatfish and should prove to be useful in future fisheries management programs.

KEYWORDS: flatfish; Pleuronectinae; cladistics; phylogeny

Shark 'experts' should get their feet wet sometimes

Regarding the article on shark fishing in the Jan. 20 issue, the self-anointed, so-called "experts" quoted, John Naughton and Brad Wetherbee, should climb down from their ivory towers and get into the water.

Anyone who has logged significant water time in Hawaii will confirm that sharks are seen by all of us, especially at Point Panic and anywhere from Pearl Harbor to Makaha, on a regular basis (2-3 times a week).

The number of attacks has been grossly underreported for obvious reasons. When I was a lifeguard at Kaimana Beach (Waikiki) there was a 8-10 foot tiger shark that frequented the area at the mouth of the channel near the windsock. If their population is increasing, as it seems to be, there will inevitably be a fatal attack in town unless something is done to control their numbers.

Contrary to the "substantial feeling" among the bleeding heart academics and their fellow nature-freaks that sharks "balance things out" in the ecological chain there is absolutely zero empirical data to support this ridiculous assumption. A shark hunt may not be the answer, but head-in-the-sand philosophizing by ignorant academics is certainly not helpful.

Chuck Staten

NATION BRIEFS

Annenberg to give schools \$365 million

PHILADELPHIA (AP) — Publishing magnate Walter Annenberg is giving a total of \$365 million to three universities and a prep academy — a donation experts say is the largest cash gift ever to American schools.

The University of Pennsylvania and the University of Southern California will each receive \$120 million from the Annenberg Foundation.

The Peddie School, a prep school in Hightstown, N.J., that is Annenberg's alma mater, will receive \$100 million. Harvard University will get \$25 million.

Annenberg has personal or family ties to all four schools. The pledges are to be fully paid in cash by the end of the year.

"The quality of education will determine the quality of our country in the years ahead," said Annenberg, the former publisher of TV Guide, the Philadelphia Inquirer and Seventeen magazine and U.S. ambassador to Britain during the Nixon administration.

"What I'm doing may inspire other people to do things for the betterment of others. That's what citizenship is all about," Annenberg said yesterday.

HUD expects losses up to \$11.9 billion

NEW YORK (AP) — The U.S. Department of Housing and Urban Development reportedly expects to lose up to \$11.9 bil-

lion in defaults on government-insured mortgages, more than double its earlier estimates of the bad loans.

The troubled loans represent more than a quarter of the \$43 billion in mortgages insured by the department under programs to encourage the construction of apartment buildings. The New York Times reported in today's editions. Most of the losses would be borne by taxpayers.

The expected losses were detailed in a confidential report issued in April by the accounting firm of Coopers & Lybrand and obtained by the newspaper. The study was commissioned by former Housing Secretary Jack Kemp during the Bush administration.

Housing officials have known for years that they faced significant losses in the insurance program, but the study revealed the amount of bad loans was more than double the department's earlier estimates.

U.S. Housing Secretary Henry Cisneros told the Times the forecast is "the single largest problem I have inherited." Cisneros said he has been working daily with the White House to draft legislation that would give the department greater flexibility in managing and selling distressed property.

Tropical Storm Arlene drenches Texas coast

SOUTH PADRE ISLAND, Texas (AP) — Tropical Storm Arlene, first named storm of the Atlantic hurricane season, soaked much of the Texas Gulf Coast with rain yesterday, but barely had enough wind to justify its title.

A tropical storm warning was posted for the Texas coast from Brownsville northeastward to Matagorda, and a coast-

al flood watch extended from Matagorda to Port Arthur at the Louisiana state line.

Some areas could receive between 5 to 10 inches of rain associated with the tropical storm, forecasters said. As of mid-afternoon, Brownsville had received 2 inches in 24 hours.

Arlene had been a tropical depression that soaked Mexico's Yucatan Peninsula with heavy rain for two days. But early Saturday, its maximum sustained wind speed reached 39 mph, the threshold for giving it the title of tropical storm, said the National Hurricane Center in Coral Gables, Fla.

Florida 10-year-old killed by alligator

HOBE SOUND, Fla. (AP) — A 10-year-old boy on a river outing with his family was fatally mauled by an alligator yesterday after the youngster got out of a canoe to go wading.

The alligator pulled Bradley Weidenhamer of Lantana under water as he waded in a shallow section of the Loxahatchee River in J.D. Dickinson State Park, about 20 miles north of Palm Beach, police said.

Bradley was freed by his father and others who attacked the alligator with paddles, said Lt. Jim Huffstodt of the state Game and Fresh Water Fish Commission. But the youngster suffered serious puncture wounds to his head and died, Huffstodt said.

A professional alligator trapper was called to the park, which reopened after an animal suspected in the attack was captured last night. "It was an 11½-foot-er," said Officer Molly Williams of the state game commission. "It was too big for our scale, but it weighed about 350 to 400 pounds."

Waikiki sharks

A hunt is a good idea

The State Shark Task Force made the right decision when it committed to a hunt for sharks off Waikiki in response to a rash of recent sightings.

It would have been easy enough to duck the issue — no one has been attacked off Waikiki and the publicity could easily turn nasty.

We can see the headlines now:

"Killer sharks hunted in shadow of famed Diamond Head."

As anyone who has read "Jaws" or "An Enemy of the People" knows, such stories are impossible to suppress; the best you can do is react in a responsible way.

Indeed, the ultimate object of the hunt is not so much to find sharks as it is to demonstrate that, by and large, Waikiki's popular swimming and surfing

areas are relatively benign and safe places to be.

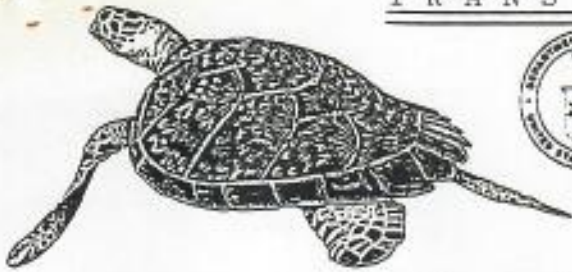
A hunt in December off Waikiki failed to produce any evidence of tiger sharks, the animal that causes the greatest concern.

In essence, the task force chose the lesser of two evils: the hunt will generate some unpleasant publicity, but a failure to hunt would leave us with anxiety and no answers.

Some authorities believe the recent rash of sightings off Waikiki is a product primarily of seasonal trends: Hammerhead sharks tend to come in during the summer, just when the waters are most full of swimmers and surfers.

A targeted, focused hunt will help ease concerns and demonstrate that authorities are not taking this matter lightly.

TRANSMITTAL SHEET



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

Commercial: (808) 943-1221
Telefax: (808) 943-1290

TELEFAX FOR: TIM HURLEY

DATE: 22 JUNE 93

FROM: GEORGE BALAZS

TELEPHONE EXT: _____

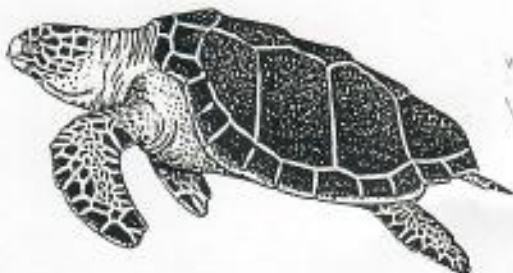
NUMBER OF SHEETS TRANSMITTED (including this page) 4

MESSAGE:

TIM -

TRUST YOU RECEIVED THE
6-PAGE FAX I SENT TO YOU
YESTERDAY. HERE'S A BIT MORE
RELEVANT INFORMATION.

BEST,
Gze



*Library
Budget*

SHARK ATTACK AGAINST MAN

A Program of Data Reduction and Analysis

by

H. David Baldrige, PhD

A Technical Report
submitted to the
United States Navy
Office of Naval Research
Oceanic Biology Programs (Code 484)
under Contract N00014-73-C-0252
Work Unit NR 104-148

31 October 1973



9501 Blind Pass Road
Sarasota, Florida 33581

number of companions was possible. Although our interpretations of the data may differ quantitatively from that of Schultz, there is consistency in the general conclusions that shark attacks occur on both accompanied and unaccompanied victims and that no real significance can be attributed to the actual numbers involved in the absence of information on the distribution of companions about individuals under non-attack conditions. The above data may well represent nothing more than the "normal" distribution of individuals making up a group of people in the water. Of course, the more important, and as yet unanswered, question is related to the selection by a shark of one particular individual as its victim from among a seemingly uniform group of people. Unless we accept the selection as being a completely random one, then there must be something different about the chosen victim either in those things which are nearby and in some way associated with him or in the olfactory, visual, or auditory profiles which he himself presents to the attacking shark.

12.5 Fish. Fish, either in unusual numbers or behaving in an abnormal or otherwise noteworthy fashion, were reported present in 213 cases and presumed with reasonable certainty to have been present in 39 additional cases. Even though information was not available on this point in 68% of the applicable cases on file, the total of 252 cases associated with fishing or fish clearly supports the very reasonable idea that sharks are attracted to fish in a disturbed state, either wounded or otherwise distressed. A number of recent studies have shown that recorded sounds of struggling fish serve as very effective shark attractants and excitants. It certainly should be no surprise that sharks would find very appealing the olfactory stimulation provided by large numbers of fish or even just one wounded, bleeding fish.

12.6 Large floating objects. The possible influence of large floating objects at the attack site is suggested by the reported or presumed presences of boats in 281 cases. Surfboards or other similar floats (air mattresses, etc.) were noted in 66 cases. On the other hand, keep in mind that most recorded shark attacks have happened in waters which are well suited to recreational activities. Accordingly, it is in such waters that boats, surfboards, floats, etc., would be expected to be rather commonplace. Still, the possibility can not be ignored that the very presence of such floating objects might be attractive to curious sharks, by virtue of either their sizes, shapes, colors, or perhaps even the vibrations put into the water as a result of their movements. Surfboard skegs, for example, often produce audible vibrations as the surfer moves over the water's surface. Serving as further evidence for the possible existence of an association between shark attack incidence and the presence at the attack site of large floating objects are the approximately 168 records in the SAF which deal with strikes by sharks not against humans, but against boats.

12.7 Blood, human. Human blood has long been considered a primary motivator for shark attack, yet in only 19 cases were the victims thought to have been appreciably bleeding into the water prior to



SILHOUETTES



TRANSMITTAL SHEET



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

Commercial: (808) 943-1221
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TELEFAX FOR: THE MAUI NEWS
TIM HURLEY

DATE: JUNE 21, 1993

FROM: GEORGE BALAZS

TELEPHONE EXT: 943-1240

NUMBER OF SHEETS TRANSMITTED (including this page) 6

MESSAGE:

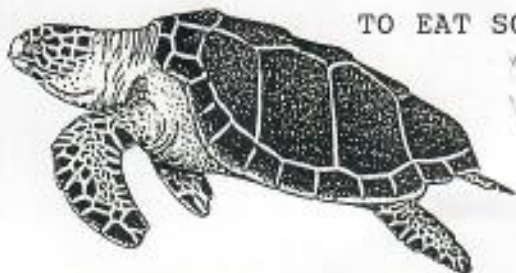
DEAR TIM:

I APPOLOGIZE FOR NOT TELEPHONING YOU BACK LAST WEEK IN RESPONSE TO YOUR INQUIRY. I EXPECT THAT THINGS WILL BE A BIT MORE RELAXED AROUND HERE THIS WEEK. SO CALL ME AGAIN WHENEVER CONVENIENT FOR YOU. IF I MISS YOUR CALL, I PROMISE I'LL GET RIGHT BACK TO YOU. THE ONLY EXCEPTION IS WEDNESDAY, WHEN I'LL BE IN KANEOHE BAY ALL DAY.

I TRUST THAT YOU'VE CAREFULLY READ MY ARTICLE "SHARKS AND TURTLES" THAT APPEARED IN H30 HAWAIIAN SURFING MAGAZINE. JUST ABOUT EVERYTHING I HAVE TO SAY ON THE SUBJECT WAS SAID THERE. AS A SUPPLEMENT, I'M ALSO FAXING YOU THE ACCOMPANYING ITEMS. I'D LIKE YOU TO READ THEM SO THAT PERHAPS THE REAL ISSUE WILL BECOME CLEAR. WHETHER OR NOT TIGER SHARKS MISTAKE SURFERS FOR TURTLES, STINGRAYS, PORPOISE, OR EVEN SMALL SHARKS IS NOT THE SALIENT FACTOR. WHAT IS IMPORTANT IS THAT BY ALL REASONABLE MEANS OF EVALUATION THERE IS AN INCREASED ABUNDANCE IN TIGER SHARKS ABLE TO DO THE BITING. THE ACCOMPANYING PAGES MAKE THIS CLEAR (AS I'VE SAID IN MY OWN ARTICLE).


BE HAPPY THAT THERE ARE MORE TURTLES OUT THERE NOW, COMPARED TO 15-20 YEARS AGO. BECAUSE IF THERE WEREN'T, I BELIEVE WE'D BE SEEING ALOT MORE BITES TO HUMANS. LARGE SHARKS HAVE HIGH NUTRITIONAL REQUIREMENTS. THEY HAVE TO EAT SOMETHING!

ALOHA,



SHARK CONTROL SUCCESSFUL

A two-year program of shark control in Hawaii is coming to a close, and Dr. Tester, professor of zoology at the U. of Hawaii and head of the shark control program, suggested that the program be continued.



The two-year project consisted of regular fishing for the sharks to reduce the shark concentration. It served another purpose as well, in that it gave access to valuable data on the beasts. Dr. Tester stressed the fact that if the fishing was not continued, the shark concentration would automatically rise again as it had done in the past. Before the fishing program began, approximately 12 or more sharks were caught per 100 hooks during a 24-hour period. After the two-year fishing period, the ratio had been reduced to four or five — $\frac{1}{3}$ the original population.

Dr. Tester suggested that two shark fishing vessels continue the operation under government subsidy. Part of the cost could be met by the commercial use of shark products such as the use of shark teeth for jewelry and shark for food (shark fin soup and shark steak).

WHILE WE'RE ON THE SUBJECT

In 1967, Gov. Claude Kirk of Florida was thinking of new industry for the state. He arrived at the possibility of using sharkskin for shoe leather. Kirk observed that sharkskin was thick, tough, and could possibly compete with leather in the shoe market. Since then, sharkskin has become an extremely popular shoe material. Why not? It gives your feet a real bite. >>>

SKIN DIVER/OCTOBER 1967 27

V18 N10

THE 1971 SHARK CONTROL AND RESEARCH PROGRAM

FINAL REPORT

INTRODUCTION

The book Sharks and Survival edited by Dr. Perry W. Gilbert of Cornell University comments on the subject of shark attacks as follows: "Although it is probable that most people would regard a statement on 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 fear and apprehension against sharks, felt by local residents and tourists alike, is one of the major factors restricting the optimum potential recreational usage of the State's near shore waters.

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 the growing popularity of water sports activities increases the probability of shark encounters. In addition to possible attacks on man, sharks damage fishing gear and catches of both commercial and recreational fishermen.

Under the present circumstances, the best method of controlling the near shore shark population appears to be the institution of a systematic and continuous shark control program conducted by the State. To pursue this course of action, Act 92 of the 1970 Legislature of Hawaii (Appendix A) appropriated the sum of \$50,000 to be expended by the Department of Land and Natural Resources for carrying out a shark control and research program in the waters of the State of Hawaii.

This is the third shark fishing program to be conducted within Hawaiian waters in recent years. The two previous programs were the Billy Weaver Shark Research and Control Program of 1959-60 (Ikehara, 1961) and the Cooperative Shark Research and Control Program of 1967-69 (Tester, 1969).

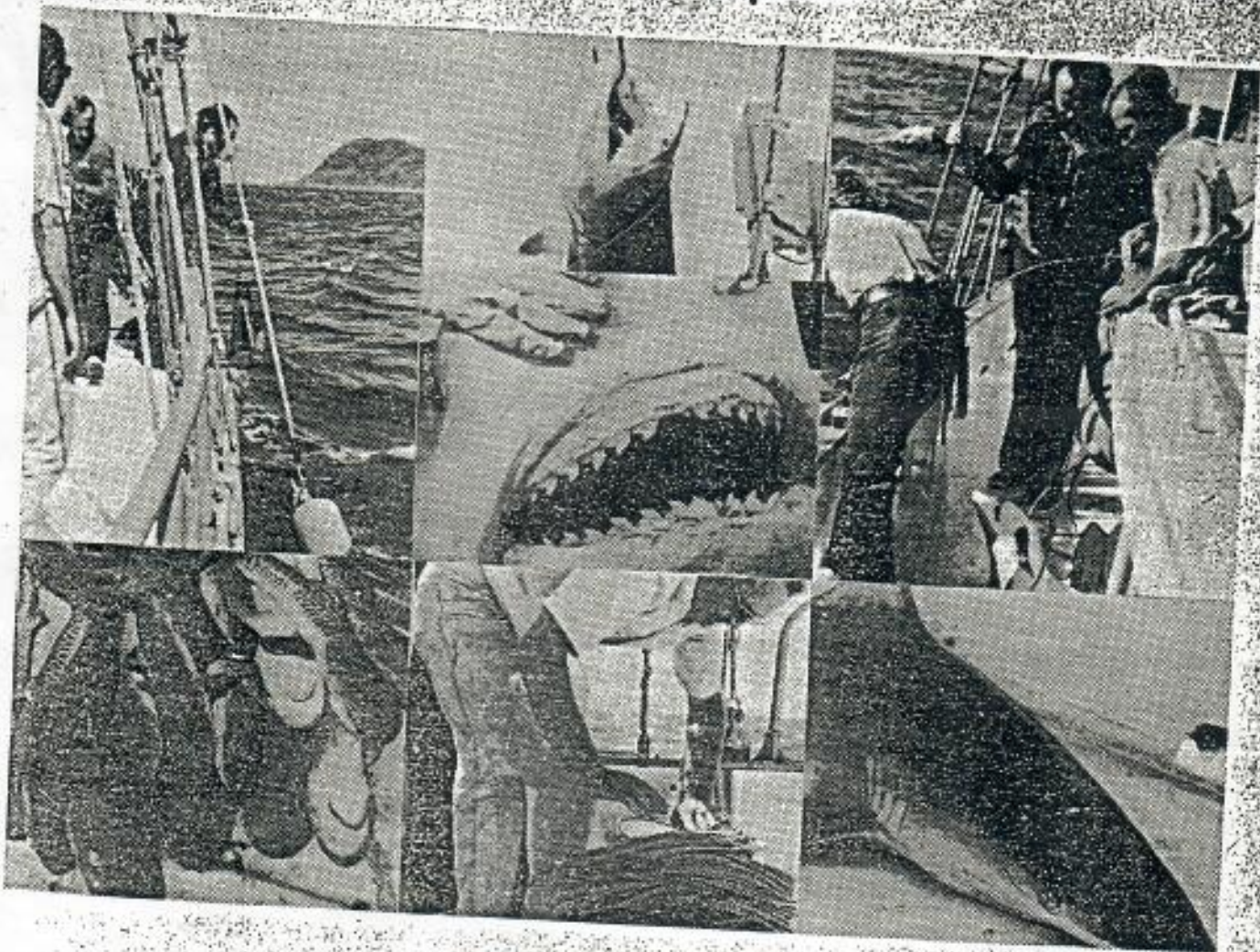
The 1971 Shark Control and Research Program placed emphasis on shark control, using the knowledge of shark behavior gained from the two previous programs. The objective of this report is to present a description of the operations and the results obtained in 1971.

METHOD AND MATERIALS

Generally, the program involved the chartering of a suitable vessel for the shark longline fishing operations in Hawaiian waters during a six-month period from March through August, 1971. During the conduct of the program, in addition to the primary purpose of removing sharks from our near shore waters, various biological data on sharks such as species composition, catch rates, sex ratios, length measurements and stomach contents were collected. Samples of shark flesh were also preserved for mercury and pesticide analyses and for testing as food in the experimental culturing of freshwater prawns.

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The 1971 Shark Control and Research Program Final Report



State of Hawaii
Department of Land and Natural Resources
Division of Fish and Game

Honolulu, Hawaii
November, 1972



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213
TEL (310) 980-4000; FAX (310) 980-4018

May 27, 1993 F/SW023:JJN

Ms. Jean Sandelin
Third Grade
Aikahi School
281 Ilihau Street
Kailua, HI 96734

Dear Third Grade Class:

Thank you very much for the 22 letters you sent me concerning sharks and shark fishing in Hawaii. Your opinions presented in the letters are greatly appreciated and, for the most part, represent the opinions the State Shark Task Force has received over the past year from people throughout the State of Hawaii.

Many of you are correct in stating that sharks are an important part of the ocean ecosystem. They are at the top of the food chain and function much as wolves, bears, and lions do on land. We therefore have to be very careful when we attempt to control shark populations so we do not upset the ecological balance of a particular part of the ocean.

The problem in Hawaii is that we do not presently have an active shark fishery for inshore sharks, such as occurs in most places in the world. Therefore many of us in the scientific community feel that the nearshore shark populations have increased in Hawaii since shark fishing was stopped in 1976. This appears to be particularly true for the large and most dangerous inshore shark, the tiger shark. The results are the dramatic increase in shark attacks during the past 18 months in Hawaiian waters.

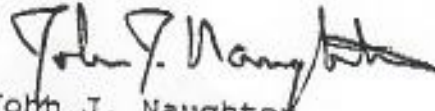
We have scientific data indicating that each tiger shark has a home-range in which it lives and hunts for food. Therefore, if a tiger shark attacks or attempts to attack a person, or a big one is sighted many times in a popular surfing or swimming area, the Task Force believes the shark should be caught and removed from the area. However, only a few big tiger sharks should be caught and killed. All other sharks caught should be tagged and released so we do not damage the ecological balance of the area.

This is the approach that we on the Task Force are taking around Oahu. We call it selective, site specific fishing, targeting only large tiger sharks. We are also conducting research to learn more about sharks in Hawaiian waters. Recently, educational materials have been prepared to teach people more about our shark populations. I am sending your teacher a shark poster for your classroom as well as a brochure for each of you.



Again, thank you for your letters. I will share them with other Task Force Members. Study hard in school and have a great time at the beach this summer!

Sincerely,



John J. Naughton
Pacific Islands
Environmental Coordinator
Hawaii Shark Task Force member

cc: F/SW, Long Beach, CA
Hawaii State Shark Task Force