

GEORGE BALAZS
DAILY LOG - JANUARY 1, 2014
TO MAY 2014

HONU WORLD IN HAWAII
PDF 00,000,609
LISTS 34
PDF FRENCH
EAST FFS PHOTOS
SPECIAL



GATES CLOSED
DF - PDF 36 37

HONOLEA
TAIWAN PHOTOS
PDF 6,66

2 of 3

caliber
JOGI
COMPOSITION BOOK
808-395-6409 (MOKU)
WH6BLQ (LINE/IME)
George H. Balazs
992-A Awaawaanoa Place
Honolulu, Hawaii 96825
"HIKIYANA LIA"



L2  I need my sleep.
Please stay away 6 feet.

5/23/14 Necropsy - visitors
Friday ANDREW TORRES @ NOAA.GOV (Puro) ^{Acft} (83)
AND ^{MR.} EVAN COSEY <GILLAGAN66@HOTMAIL.COM>

5/22/14 Telecon ASO/149 -25-02-07 Kyle VH 5707
DUANE Smith NOAA Attorney X5704
Tues. Re 6 MAY 2013 Dc in Samoa (Cook/EEL)

- CONTINUED -
5/28/2014 TAP Denise - Pub. & DATA
Wednesday vs operations/Products

Shardell -
MARKING Pen
Duct TAPE
Cody
WASH TAPE
KELLY
FLORES
TW
THURS or SAT TAG
FRIDAY TAG
NOTE BOOKS
PLASTIC BAGS
JUN 1 DUTY
EIE = HONLAB

THURSDAY 9AM - 11AM 5 JUNE 2014
ETHICS LAW AND Programs Division
Outside scientific organization = personal
"on the clock"
capacity should use NOAA.gov ANY ALL
QUESTIONS: 202-482-5384 of ETHICS DIVISION @ DOC.GOV
TEL. official. Exceptions. Representing NOAA

6/19/14 SPREF 12-1PM
THURS +685 21929 ex 210 (208)
Michael DONOGHUE Penna SOLOMONA
- Review Committee - ^{Wed} Short list to
Subcommittee (Advisory Committee) ^{Sergeant}
6/23/14 11AM TAP (1) SHEILA (cetaceans) ^{title change}
Monday (3) CARAZON (cetaceans)

84

28 MAY - 4 JUNE 2014
Wed. Wed.

TAIWAN [Keelung - LIUCHIU-TANSUI]

6/2014 JOE Spring 350 Blue hand PITTAG. 200 new style PITTAGS.
4 applicators.

5E00 thru 5E99	TO PALMYRA Eleanor STERLING?
6E00 thru 6E99	
7E00 thru 7E99	
8E00 thru 8E99	
9E00 thru 9E99	
1F00 thru 1F99	6/2014 +8-5099-C
2F00 thru 2F99	
3F00 thru 3F99	
4F00 thru 4F99	
5F00 thru 5F99	

600 TOTAL
INCOPEC
681

9/2012 battery DATE Telonics # 663466
ARGOS ID 53762
+2 (2 EPONY KITS) ^{5 MIN} Deployed
ON MT 55

Wed 7/15/14 - Dist Fwd to PAL

Forwarded message

Date: Sat, 22 Dec 2012 12:18:15 -1000 (HST)
From: George H. Balazs <gbalazs@honiab.nmfs.hawaii.edu>
To: Erin Betley <ebetley@amnh.org>, Eleanor Sterling <sterling@amnh.org>
Subject: Tag series- Inconel 681 Conservation Tags for you to order/purchase
from National Band and Tag Company

INCONEL
TAGS

Erin cc Eleanor, here are the numbers you must order for the Inconel tags. Please reference me and my email address when you place the order so the owner managers Kevin Haas will know that I concur with your using my address on the tags. Note that I worked with Kevin's father- Fred- in the mid-1970's for the company to produce tags made of Inconel (an exceedingly seawater corrosion-resistant alloy that is now standard use (along with Titanium from Australia) globally for sea turtle researchers). The return address on the tags must be: Line 1- WRITE HIMB Line 2- UNIVERSITY Line 3- HAWAII, 96744 The size of the lettering (and numbering below) must be exactly the same as my past orders (that National Band and Tag Co. will have on file). We do want this to be perfectly correct, so please check double check (including with me) as the order progresses. At least four applicators must be ordered with the tags. Your ordering must specify that the applicators will be tested with the tags produced to ensure that they each properly seal (clinch) the tags. No invoice should be sent to my agency, as we agreed I will get 500 of the tags, in exchange for the ones (including the pit tags) I'm happily supplied you in the past for Palmyra. Note also please, for later, IF any of the tags are used at any other location besides Palmyra, it's really important that I be informed as a timely fyi prior to use. With Thanks and the Happiest of holidays, George

Ask for money

Logged to Polovina

RAY
TIGER

10
11

S/V
K

5

6/6/14

N 3

10

need

S/V ITEMS SENT TO MICHAEL WHITE (85)
TONGA REVA OMAKA VILLAGE
KAWAI PENRHYN (4) TAM 2639 (6/24) TEL.

3 NOTE BOOKS ARGOS 50137 672279
50 STIR STICKS " 52693 672281

2-16 FL. OZ. UV CURE (3/4 canned) " 52695 672283

6/14 Surfboard Laminating Resin 53758 672268

20 MIXING CUPS

36-1/2" BRUSHES

1- SISSORS

1- 2 part Silicon Elastomer kit

10 Sheet Sandpaper

1- 1" Roll fiberglass cloth

ARRIVED JULY
CATE JULY
see Receipt
#25 PAID TO
ISLAND VENTURES

APRIL
Departs 6/23/14

6/13/14 LEIMANA IN HILO REMOVE

EU 6/14 SATURDAY
Shark bit Hualalai - 960-3480
CALL TO

6-16-2014 Monday " TRAIN left the STATION "

9 AM TRP Meeting *

Devon - Been doing, are doing and want to be doing
Basking sightings
7 DATA BASES

" overall strategy w/ common GOALS "

Primary Recovery staff - " PIRO

TIB RATES - Survival rates CHINA

RAY BOLAND "wow factor"

TIGERS!?

10 coppers sent to Kelly
" TALK + BOAT in fresh attention
way in get KHVH

① SRT out (geological + 90% storms)
② Climate

K. Bjornal
TO Francke
Debra
POLOVINA?
Susan
PULTZ
JACK
Kittie
LOST

ask for money

logged to Polovina

"Return to the Gods: Twin"
Ocean offerings of cosmic turtles
find eternal peace ^{with the gods} in Hawaii
and Hong Kong

NO DATES
NO GREAT
DETAIL

"PBN"
PARO'S BHUTAN

WWW.TWCC.COM/
EXTRAS/MCAFEE

Thurs Friday
3-4 July 2014
5PM 4PM

photos
DAY

Fun 680

25th ANNUAL TURTLE INDEPENDENCE
27th olds 4 Turtles Released -
12 Kept; 5 1-year olds recently sent
from SLP.

Summer FP Midpoint Review p.61 APRIL 9, 14 Wed.

TRP Meet 5/12 Monday no copy of what I signed

FP Meet 6/20 Friday "Progress update"
6/27 Friday "Vibrant meeting" ^{Just this date 6/23} But ^{no concern} charge

Re Jeff Polovina
one FP program at
Chiefs
DATE

6/30 Monday Work Force
left ~ 12:30 AM FP NOT around so
7/2 Wednesday - Given copy w/ "declined to sign" on it.

7/7 Monday July Duty

6/2
K...
C...
7

6/26/14 AL JAZERA

Western HAWAIIAN OYSTERS

DRAKES BAY Pt Reyes OYSTERS.

87

Report -

KHON T. 6/27/06/28 4x year Removing Nape NAT. Sea Shore
Celia Smith / Volunteers - IN FRONT of Waikiki Aquarium

7/2/14 9AM Leads meeting KUH, me, SIRI
Wed, FP TOR PIER 38 facility

88 930AM
Thursday
6/19/2014

NECROPSY HALAWA

- ① Tumor associated
KAAHALUU
- ② Shark Attack Adult
Male KAWAII 6/18/14

Asuka Ishizaki <asukai@lava.net>
To: George Balazs <George.Balazs@noaa.gov>

6/19/2014

George - full course title is "Marine Science Summer Course on Fishery and Resource Management". Lead instructor is Erron Yoshioka (Moanalua High School science teacher), and assistant instructors are Frank Raymond and Marisa Kiethanom. Most of them are Moanalua High students, but a handful are from other schools.

Friday
6/20/2014 9AM
Progress P. Plan

HALAWA ~ 40 day treatment
6/22 Friday 930am
floating turtle died -
TU necropsy

Spatial Conference
Seminar, Kyle, MARK HAMMAN, BRIAN WALLACE
AIRCRAFT CARRIER RONALD REAGAN
SAW HOSPITAL NAVY SHIP "COMFORT" "MERCY" Pearl Harbor

6/27/14 10AM Friday
Friday TOPIC

All species - habitat & structure
3000 word article

"2.0" version
"Biol. Sea Turtles Chapter 9" by ALAN BOLLEN

6/27/2014 Friday 900AM
6/18 STRANDING CASE
FP
Vibrations
FP meet
Asked
Written STATEMENT
SA

4/2 Declined
TO SIGN
GIVEN TO ME
RISK ASSESSMENT
STRANDING

6/30 Monday
JULY DUTY POSTPONE
WOWA Force Management (316) 426-5966
Michelle Swinton - Sulewski
TO CALL J. Nette Newman (301) 713-6353
VOICE MAIL
COMBOED &
4/9 6/20 6/27

Dr. Kelly Stewart "LIFE IS TOUGH, MAKE A JOKE" (89)
MM & TD - MT Genetic Program

TAXES
ETC.
US CITIZEN
RESIDENT ABROAD TRAVE TO TAIWAN - "Religious
& PURPOSES"

"ISLANDER" definition:

"Good Samaritan" -

SAW LONG GONG - LUCHIN

" MAZU

EMBODIMENT of the VIRGIN MARY TO
THE PEOPLE OF CHINA

"Bleed ^{OUT} ONE'S LIFE'S BLOOD and sell it
DOWN THE SEWER"

90

~~(1) Windmill notes~~ ~~(2) Soze~~

7/1/14 TRP 9AM Meeting - ^{me} Siri, Kyle, Skim, SB,
TUESDAY SARAH, Devon, JFP. (Devise sick, TOPD ^{here})

Robust - "no matter what you do it will not change"

words Imperical, Quatitative, Qualitative

Mendelley ^{for} citations
N-NOTES

olives
East vs West (for Indian Ocean)

means
zero - no info

BLANK cell - none should be blank

NA category not applicable

Greens - H - JAPANESE research

"1/2 weeks ^{to be} populated" FP

EP "DON'T WANT the perfect to be the enemy of the good" looking for progress

Recommendation "ACC conference",
Turtle session next time

Hirth Witzel + REC. plans

EVAGD.com

PAAF Dennis RALLY 808-335-4652

BOB KERN HANAUMA 9/18/14 943-9241
4-7pm

91

KRA HUMANITY HATE
JUDGE KERN 539-4320 KAIP
an authentic "fo real"
Search for truth
"See that justice is done"
"Who do you believe? (im)utable cause vs
Responsible Don't

JURY DUTY
Report 7:45 am 7 July 2014
MONDAY

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WWW.COURTS.STATE.MI.US

KA'A HUMANU HALE 777 PUNCHBOWL

JUDGE KIM 539-4320 KA'IPO

AN AUTHENTIC "FO REAL"

CLERK ASSISTANT

"Search for the truth"

"See that justice is done"

"Who do you believe?" Probable Cause vs
Reasonable Doubt.

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cd

Connecting international priorities with human wellbeing in low-income regions: lessons from hawksbill turtle conservation in El Salvador

LOCAL ENVIRONMENT, 2014

Michael J. Liles^{a,b*}, Markus J. Peterson^a, Yvonna S. Lincoln^c, Jeffrey A. Seminoff^d, Alexander R. Gaos^{e,f} and Tarla Rai Peterson^a

^aDepartment of Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX, USA;


^bEastern Pacific Hawksbill Initiative, San Salvador, El Salvador; ^cDepartment of Educational Administration and Human Resources, Texas A&M University, College Station, TX, USA;

^dNational Oceanic and Atmospheric Administration – National Marine Fisheries Service, Southwest Fisheries Science Center, La Jolla, CA, USA; ^eEastern Pacific Hawksbill Initiative, San Diego, CA, USA; ^fDepartment of Biology, San Diego State University, San Diego, CA, USA

(Received 20 April 2013; accepted 11 March 2014)

Hawksbill turtles (*Eretmochelys imbricata*) are highly endangered in the eastern Pacific Ocean, yet their eggs continue to be an important subsistence resource for impoverished coastal residents in El Salvador. In this study, we use naturalistic inquiry to explain the realities experienced by coastal residents who share habitat with hawksbills in El Salvador, and then suggest implications of the disparities between these realities and international priorities for hawksbill conservation and community development in El Salvador and other low-income regions. To provide a context for understanding hawksbill conservation and its implications for similar challenges related to conservation and wellbeing, we first summarise the conservation context, including the emergence of sea turtle conservation in El Salvador. We then describe our naturalistic approach, including the ethnographic methodology for this study. Finally, we detail the analysis of interviews conducted with *tortugueros* (i.e. local sea turtle egg collectors), to help explain how hawksbills fit into local realities. Our results demonstrate that, from the perspective of *tortugueros*, (1) the primary importance of hawksbills is the economic value attached to egg sales, but there exists a deeper connection to local culture; (2) egg purchase by hatcheries is a socially just conservation strategy that benefits both hawksbill and human wellbeing; and (3) opportunities for local residents to participate in decision-making regarding sea turtle conservation are limited, and should be increased. We argue that harmonising international conservation priorities with local community development realities is one path towards simultaneously contributing to long-term sea turtle recovery and human wellbeing in low-income regions.

Our study of sea turtle conservation in low-income regions of El Salvador supports a growing body of evidence demonstrating that attempts to impose internationally negotiated uniform conservation strategies are failing in some cases where more locally shaped strategies have been more effective (Sayer and Collins 2012). Thus, understanding realities experienced by primary resource users is a prerequisite to analysis of the power structures operating in resource-based processes. Moreover, successfully aligning conservation strategies with local realities benefits wildlife and human wellbeing in both low- and high-income regions (Hutton and Leader-Williams 2003, Naughton-Treves *et al.* 2005, Robards and Lovecraft 2010). For all these reasons, conservation policies and practices must account for dynamic social contexts, distributions of power, and interests of stakeholders – including primary resource users – to maximise the probability of their success.



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We arrived at a village one evening and after Richard has given his presentation I stood up and told the villagers about the work that we are doing in the Arnavons esp our turtle monitoring program. It stirred up a lot of interest and questions. A lady then stood up and said that she wanted to show me something that her husband got from a turtle. She then sent her daughter to their house and brought a turtle tag.

This is the tag number:

S - 611
WRITE.HIMB
UNIVERSITY OF HAWAII
96744

I then interviewed the husband and he told me that he caught the turtle in the reef next to the village in December 1995. He has kept the tag since.

I wonder if this information is still relevant to those who did the tagging in Hawaii (which I assume the university of Hawaii) or is it far too back.

I'd love to hear from them.

Regards

Willie

Dear Dr. Balazs,

Thank you for sending me Jennifer Keller's contact information for my science project at Kaimali. I loved working out a Kaimali and ended up getting and stocking a salt water fish tank.

For the science fair, I got first place at my school, St. Anthony's. I then went to the HATS's fair. I am looking forward to doing more science in high school. Thanks so much for helping me. I hope I can come out to the canal and help you with the turtles again some time.

Sincerely, 4/2014

Brian Popp



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George,

Thank you ^{April}
2014

...so very much. ✓

For your generosity
and thoughtfulness. Your
Easter gift was more
than enough and greatly
appreciated.

Shardell, Arianna, & Mireya
😊

ANAHULU 7/2014

PILOT STUDY

KIM RAY

Investigating a 'Novel' Behavior: Estuarine and Riverine Behavior of Green Sea Turtles in Hawaii. Patterns of Habitat Use and Implications for Management

Background

Green sea turtles (*Chelonia mydas*) of a wide variety of sizes and both sexes (including those large enough to be sexually mature) have been observed regularly using the Anahulu River on Oahu's north shore. They have been observed all the way from the river's mouth into Haleiwa Harbor to the point where the river turns into a series of small streams - a distance of approximately 1.25 kilometers. In the innermost regions where turtles have been observed, the river is entirely fresh water.

In modern Hawaii, this is a novel behavior and may represent a re-emergent behavioral trait being expressed as the turtle population has expanded in response to several decades of protection. Certainly, this behavior has not been subjected to scientific scrutiny. This phenomenon is of intrinsic scientific interest but also has resource and protected species management implications because this same stretch of the Anahulu River is becoming increasingly heavily used by recreational boaters and paddle boarders. The impact of the intersection between turtle habitat use and human activity is not known.

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Richard Grigg
1937 - 2014

Please Join us in a Celebration of Richard's
Life.

July 9th 2014

7:30 - 11:00

Outrigger Canoe Club

2909 Kalakaua Ave

Honolulu Hawaii

spreading of ashes will be at 9:30
in front of the Outrigger Canoe Club

(109)

NOV 28-30, 2014 STAU AMANI, CA
"MAGNIFICENT MARINE TURTLES OF THE
HAWAIIAN ISLANDS: AN AMAZING 40-YEAR
RISE TO ABUNDANCE"

AWYER
SSB

2/7/2014 Ward Briggs

THE DENARDUS FAMILY WELCOMES A LITTLE MUNCHKIN! 2/7 - 2014

Addressing
the

July 26, 2011

7:30-11:00

Outrigger Canoe Club

2909 Haliimaile Ave

Honolulu, Hawaii

speaking of ashes will be at 9:00
in front of the Outrigger Club

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TITLE: Magnificent and Mystical Marine Turtles: Cultural Links to Conservation

BY: George H. Balazs
Regional Vice Chair for Oceania
IUCN Marine Turtle Specialist Group
ItsAHonuWorldinHawaii@hotmail.com

9/23/2014
for CVHK

ABSTRACT: Seven species of ocean turtles exist globally as the descendants of ancient and resilient reptilian lineages that have adapted and survived for millions of years. Over the course of human history, an array of relationships has developed with turtles, and especially marine turtles amongst coastal and island peoples. Turtles are woven deeply into the cultural and traditional fabric of humanity, with uses ranging from food for families; sacrifices to the Gods; pets; utilitarian implements; ornamentation; medicine; funerary; foretelling the future; and spiritual strength and protection. Today all seven species of marine turtles are considered endangered by the International Union for Conservation of Nature (IUCN), with the exception of the population of green sea turtles (*Chelonia mydas*) in the Hawaiian Islands. Several other sea turtle populations besides Hawaii are also showing remarkable restoration from over-exploitation due to efficient fishing technologies and human encroachment into previously pristine turtle habitats. At the same time there are many sea turtle stocks at seriously low levels that continue to decline. This dichotomy in sea turtle conservation status is one of the great challenges of our time in balancing appropriate protective measures along with limited sustainable use, where such harvest and other forms of human utilization might be advantageous to both turtles and people. Conservation strengths and weaknesses of the life history of all sea turtles include: migrations over great distances to breed; keen navigational abilities; coming ashore to lay eggs in the sand; newly hatched young that travel far from shore to live on the high seas; and relatively slow rates of growth causing delayed adult sexual maturity. Successful conservation programs that endure are best built with local communities as their foundation. National legislation and international conventions, based on sound ecological principles, clearly also have importance. However, strategies for conservation are made robust and equitable when they integrate cultural and traditional components forged at the local level by the very people closest to the turtles and their environment. China and all of East Asia have vigorous and growing sea turtle conservation programs that deserve praise, support, and partnership to improve the status of regional stocks.

This presentation will rely heavily on photography and other imagery to illustrate the above biological facets of sea turtles, of human and turtle cultural links, and the speaker's life experiences and conservation viewpoints.

(110) TAX
Date: Wed, 23 Sep 2009 21:23:50 -1000 (HST)
From: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
To: Lee S Motteler <geo_map@msn.com>
Subject: McAvoy (2009) Ancient objects found on remote Mokumanamana 'an archaeological mystery' The Honolulu Advertiser 09/18/09

Necker Betty

STONE AVAILABLE

(2) DISSERTATION

(3) EMAIL Address

Ancient objects found on remote Mokumanamana 'an archaeological mystery'

By Audrey McAvoy
Associated Press

Researchers on a rare expedition to a now uninhabited rocky outpost north of the main Hawaiian islands found a partially finished human stone carving and the remnants of what may be a craftsman's workshop.

The findings at the remote Mokumanamana island, about 460 miles northwest of Honolulu, were part of the most extensive archaeological survey of the tiny outcrop in 85 years.

University of Hawai'i anthropology doctoral student Kekuewa Kikiloi spent 18 days on the 46-acre island along with Anan Raymond, a U.S. Fish and Wildlife Service archaeologist.

The inhospitable island lacks fresh water, trees that would provide cover, and is continually buffeted by wind. It's frequented by seabirds, but is otherwise desolate save for the ruins of ancient heiau, or shrines, that line the top of a ridge running along the spine of the island.

"It's somewhat of an archaeological mystery as to how people survived on this island in the past and constructed these huge monuments," Kikiloi said yesterday.

The newly discovered carving resembles other stone figures found on Mokumanamana during a trip to the island sponsored by Hawai'i's provisional government shortly after the U.S.-backed overthrow of the Hawaiian monarchy in 1893.

That expedition brought several figures to the main islands, most of which are now at the Bishop Museum.

Kikiloi said it's not clear what the images were used for, but they're unlike any other objects in the Hawaiian islands.

In general in Hawaiian tradition, he said, images are often used as a focal point during prayer and worship of gods.

God in the

The partially unfinished figure found on this trip has a blank face, as though the artist didn't gotten around to carving facial features. It also appears that its left arm has broken off.

The workshop was far from the heiau. Raymond said someone may have been working on the figure to take to a heiau and would have done so if it was finished.

It's unclear when humans lived on the island or if they had a long-term settlement there.

But Kikiloi said coral objects on nearby Nihoa, which he believes was a staging ground for the construction Mokumanamana's heiau, date to the 1500s.

Mokumanamana has an unusually high concentration of heiau - at least 34 on just 46 acres.

Kikiloi believes Hawaiians built the shrines there because Mokumanamana was considered the gateway to the afterlife. He said he plans to address this theory in his doctoral dissertation.

Mokumanamana lies on the Tropic of Cancer. This means the sun - which represents life and death in Hawaiian tradition - goes directly over the island on the summer solstice, the longest day of the year.

Moreover, the Tropic of Cancer is called "Ke ala nui polohiwa a Kane" in Hawaiian, or "The Dark Shining Path of Kane," and is often used as a metaphor for the path to the afterlife.

"When spirits separate from the body after someone passes away, they go on a second half journey to return to the source that everything is created from," Kikiloi said.

There are similar shrines, with upright stones, atop the highest peaks of Maui and the Big Island, on Haleakala volcano and Mauna Loa and Mauna Kea volcanoes, respectively.

Mokumanamana is one of the Northwestern Hawaiian Islands and is inside the Papahānaumokuākea Marine National Monument created by President George W. Bush in 2006.

Nikkormat EL. Because great pictures won't always wait to be taken.

So many of the things we'd love to photograph are always in motion. Some quickly, some with easy grace. So often there's a perfect moment...one that really makes a great photograph. How many have you missed? Because your camera was too complicated? Or too simple?

What you need is a fine quality high performance camera which is as simple to operate as a snapshotter. The Nikkormat EL is such a camera. *And because it has fully automatic exposure control...* all you have to do is focus and shoot. That's all that's required for perfectly exposed photos.

If your interest in photography grows, as well it may when you see the fantastic photos you will get, you may want additional lenses or other accessories. If so, the Nikon System is there, waiting for you.

It's the finest and most complete selection of lenses and accessories in all of 35mm photography. Nikon will even help speed up your photographic development. The Nikon School, a 10½-hour short course which travels all over the country, will be in your area sometime soon. Your Nikon dealer has the details, or write for Folio 28, Nikon, Inc., Garden City, N.Y. 11530. Subsidiary of Ehrenreich Photo-Optical Industries, Inc. (In Canada: Anglophoto Ltd., P.Q.)



Nikkormat EL
The automatic from Nikon.

NATIONAL Geographic 1974

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BOB SIGALL
REARVIEW MIRROR

Recollections of nuke tests at Johnston still burn bright

In 1958 the skies of Hawaii were lit up on several occasions by nuclear tests at Johnston Island, 700 miles away. The first explosion, on Aug. 1, 1958, was clearly visible around 1 a.m. in the territory of Hawaii. The Star-Bulletin reported that "islanders who were up at that time saw a bright flash of light to the southwest, followed by a reddish fireball."

Even though Gov. William Quinn and military officials had warned us in advance of the test, the public greeted it with "a mild wave of panic," the paper reported.

Gov. Neil Abercrombie said he was driving down Punahou Street when it went off.

"The whole sky lit up a bright green," he recalls. It became one of his motivations for politics. "I dedicated myself, back then, to work for the ending of atmospheric atomic testing."

A viewer 2,500 miles away

in Fiji reported seeing it, too. He described long streaks of lightning that seemed to flash downward from high in the sky. "Then a huge, round, reddish cloud appeared which burst after about 20 minutes into assorted colors which slowly spread outward."

WHEN THE SECOND nuclear test occurred, islanders were better prepared, holding "Atomic Parties," with snacks and blankets at prime viewing locations.

Manoa resident Jim Harwood had a closer look at the blast. He was directly underneath several of them in 1962.

Harwood was aboard the USAS American Mariner, tasked with monitoring the test.

"The folks in Hawaii got a much better view of the aftereffects of the atomic test than I did, stationed right under the explosion 250 miles up. The sky was fully

overcast and it was pouring rain.

"When the all-clear sounded I came out from under a black protective cloth and saw, to my astonishment, the entire overcast sky from horizon to horizon was a brilliant green as bright as daylight, fading minute by minute through yellow to orange and then red, as if the end of the world was happening."

How could we see an atomic explosion 700 miles away? The nuclear explosions took place 80 to 250 miles above the island. The top of the fireball was even higher than that. From 700 miles away the curvature of the earth would prevent us from seeing anything at ground level. But we could see anything bright enough above 60 miles in height.

These were the first rocket-launched nuclear tests by the U.S. The purpose was to measure the effects of high-altitude nuclear explosions to be used in anti-ballistic missiles.

The nuclear warheads were 100 to 250 times more powerful than the bomb dropped on Hiroshima at the end of World War II.

On July 9, 1962, a 1.45-megaton bomb exploded at an altitude of 250 miles. An artificial aurora lasted seven minutes. The unforeseen electromagnetic pulse

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STAR-ADVERTISER / 1962

Hawaii residents held "atomic parties" with snacks and blankets at prime viewing locations to watch nuclear tests high above Johnston Island.

caused power surges on Oahu, knocked out a few streetlights, blew fuses and circuit breakers, and triggered burglar alarms. The explosion supercharged the

Van Allen radiation belts, resulting in several satellites malfunctioning.

Bob Sigall, author of the "Companies We Keep"

books, looks through his collection of old photos to tell stories each Friday of Hawaii people, places and companies. Email him at Sigall@Yahoo.com.

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JOSEPH LIBBY / SPECIAL TO THE STAR-ADVERTISER

A WHALE OF A SURPRISE

4/12/14
HS-A

Two humpback whales made a stunning appearance within a massive wave cresting off the North Shore on April 5. Quick-fingered photographers and videographers were able to catch the surreal moment when the two whales — a mother and calf — became visible in the midst of a set of giant waves. The images went viral this week with Facebook fanatics, Instagram users and news organizations from Daily Mail to the Huffington Post sharing the photos.

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JIM MILLER
SAVVY SENIOR

Age discrimination at work takes time to prove, resolve

Dear Savvy Senior: What constitutes age discrimination in the workplace, and where can I turn to for help if I think I've got a case? —
Demoted at 64

Dear Demoted: Age discrimination has become a much more frequent complaint in recent years as more and more people are working into their retirement years. But you need to be aware that proving it is extremely difficult to do, especially since the 2009 Supreme Court decision that raised the bar for the type of legal proof that workers need to win age discrimination lawsuits.

With that said, here are the steps you'll need to take to fight age discrimination if you think you've been treated unlawfully.

ADEA PROTECTION

The Age Discrimination in Employment Act is your first defense against age discrimination. This is a federal law that says an employer cannot fire, refuse to hire, or

treat you differently than other employees because of your age.

Some examples of age discrimination include:

>> You were fired because your boss wanted to keep younger workers who are paid less.

>> You were turned down for a promotion, which went to someone younger hired from outside the company, because the boss says the company "needs new blood."

>> When company layoffs are announced, most of the persons laid off were older, while younger workers with less seniority and less on-the-job experience were kept on.

>> Before you were fired, your supervisor made age-related remarks about you.

>> You didn't get hired because the employer wanted a younger-looking person to do the job.

The ADEA protects all workers and job applicants age 40 and over who work for employers that have 20 or more employees — including federal, state and lo-

cal governments as well as employment agencies and labor unions. If your workplace has fewer than 20 employees, you may still be protected under your state's anti-age discrimination law. Contact your state labor department or your state's fair employment practices agency for more information.

Another protection for older workers is the federal Older Workers Benefit Protection Act. Under this law an employer cannot reduce health or life insurance benefits for older employees, nor can it stop their pensions from accruing if they work past their normal retirement age. It also discourages businesses from targeting older workers when cutting staff and prohibits employers from forcing employees to take early retirement.

WHAT TO DO

If you think you are a victim of employment age discrimination, your first step is to file a charge with the Equal Employment Opportunity Commission usually within 180 days from the date of the alleged violation. You can do this by mail or in person at your nearest EEOC office (see www.eeoc.gov/contact) or by calling

800-669-4000.

The agency will help you through the filing process and let you know whether you should also file a charge with your state anti-discrimination agency. Once the charge is filed, the EEOC will investigate your complaint and find either reasonable cause to believe age discrimination has occurred, or no cause and no basis for a claim. After the investigation the EEOC will then send you its findings along with a "notice-of-right-to-sue," which gives you permission to file a lawsuit in a court of law.

If you decide to sue, you'll need to hire a lawyer who specializes in employee discharge suits. Lawyers.com and Findlaw.com are two websites that can help you locate discrimination attorneys in your area.

Another option you should consider is mediation, which is a fair and efficient way to help you resolve your disputes and reach an agreement.

The EEOC offers mediation at no cost if your current or former employer agrees to participate. At mediation you show up with your evidence, your employer presents its evidence and the mediator makes a determination within a day or less.

Jim Miller is a contributor to NBC-TV's "Today" program and author of "The Savvy Senior." Send your questions to Savvy Senior, P.O. Box 5443, Norman, OK 73070; or visit www.savvyseior.org.

KENNY BROWN / 1919-2014

24-hour vigil will honor beloved business

By Timothy Hurley
thurley@staradvertiser.com

The legacy and life of the late Kenny Brown, Native Hawaiian business and political leader, will be celebrated at a 24-hour vigil at the Royal Mausoleum of Hawaii Chapel starting at midday Thursday.

Hundreds are expected to attend the event, called "Kū i ka Mana," which is being organized by a group of people whose lives were touched by the man who died last month at the age of 94.

"We all feel compelled to honor an extraordinary man," said Maile Meyer, owner of Native Books/Na Mea Hawaii. "I'm thrilled to be doing this."

Brown, great-grandson of John Papa I'i, a member of the court of Kamehameha III, had a resume that was long and impressive. Among other titles, he was chairman of the Bishop Museum, the East-West Center and

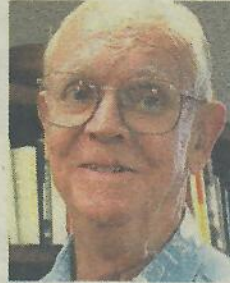
the Hawaii Community Development Authority.

He ran for lieutenant governor in 1966 and served as a special assistant to Gov. John A. Burns before serving two terms in the state Senate.

In the business world, Brown owned the Waianae Cable Co. and would later serve as chairman of the board of Oceanic Cablevision. He served on numerous boards of directors, including Amfac, Pan Pacific Development Co., Emerald Hotels Corp. and Hawaiian Airlines.

He was the longtime president and chairman of Hawaii island's Mauna Lani Resort, which under his leadership was a forerunner in preserving, protecting and incorporating Hawaiian culture as part of the visitor experience.

He also founded the Native Hawaiian Hospitality Association with Hawaiian scholar George Kanahale.



Kenny Brown:
He served two terms in the state Senate and ran for lieutenant governor in 1966

During the '80s and early '90s, Brown was chairman of the board of The Queen's Health Systems in Honolulu and worked to redirect the mission of Queen's to serve Hawaiians and the less privileged sectors of Hawaii's population.

As president of the Hawaii Maritime Center, he pushed for ways to support the voyages of the Hokule'a and the work of the Polynesian Voy-

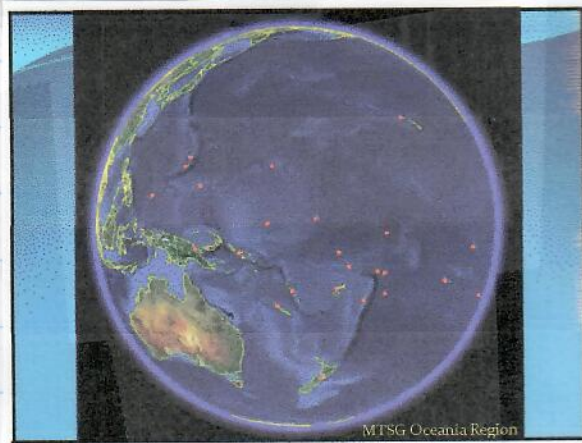
aging Society.

Designer Momi Cazimero, who served with Brown on the Queen's board, said Brown was a powerful role model who inspired personal growth and leadership in others.

"Kenny lived the principles and wisdom of his kupuna on whose shoulders he stood. And now we stand on his shoulders," she said.

Different topics that were special interests of Brown's will be discussed in three-hour segments throughout the 24 hours. The public is invited to come and go at any time. Parking will be available at the Honolulu Central Seventh-day Adventist Church, 2313 Nuuanu Ave., mauka of the Royal Mausoleum, or Mauna'ala.

The event will start at noon Thursday with a family gathering and personal remembrances. Community health and wellness will be the focus of the next segment from 3 to 6 p.m., fea-



leader with royal ties

turing representatives of the Queen's Medical Center and other health organizations and foundations that shared Brown's vision.

The third segment, from 6 to 9 p.m., will focus on business and commerce. Waikiki businesses, hotel industry professionals and other industry leaders are expected to discuss the future of tourism.

Land stewardship will be discussed from 9 p.m. to midnight, while Hawaiian music and culture will be addressed from midnight to 3 a.m. From 3 to 6 a.m. the topic will be ties among the peoples of Polynesia. Brown

on several occasions traveled to Aotearoa, or New Zealand, and he envisioned a Pacific ohana.

From 6 to 9 a.m. the topic will be "Justice, Governance, Advocacy and Leadership," while the final segment at 9 a.m. will be "Reflections and Voyaging into the Future."

"He was a voyager," Meyer said. "He was out over the horizon in everything he did."

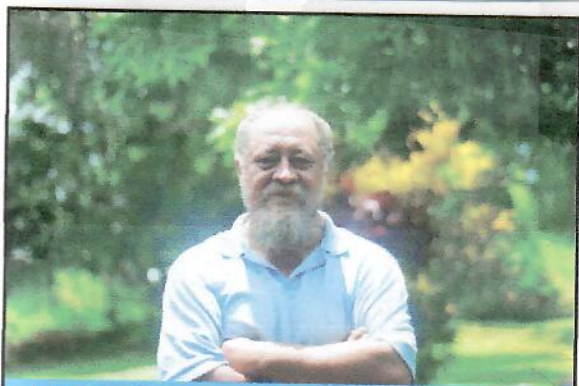
At the end, lei offerings will be made at the Kamehameha and Queen Emma crypt, and then there will be a short walk to place lei at the grave sites of the Papa I'i, at Oahu Cemetery.



Vision for Oceania

Prepared by Pacific Islanders at a 1996 SPREP meeting in Samoa

We see a future where generations of Pacific Island people will have choices about how they use and interact with sea turtles. This dream will come true if we take action now to ensure that sea turtle populations recover to become healthy, robust and stable. Sea turtles will be fulfilling their ecological role and be harvested by Pacific Islander people on a sustainable basis to meet their cultural, economic and nutritional needs.



Lul Bell- Our Colleague, Friend, and Man of the Pacific Islands
February 24, 1956 to November 29, 2012

Vision for Oceania

Translated into Solomon Islands Language and then back into English

It's not here yet, but we see a time when people in the Pacific and turtles are living together in harmony. The turtles will live to support the people in their needs; also turtles will have their place in the Pacific.

A Time Apart

Anonymous

Ua 'ea 'e ke loa 'a 'ole

"The 'ea lives when it is not gotten." (Anonymous)

We had never met, but our paths crossed many times before. Each year during the time known as *kau wela* to native Hawaiians she would announce her arrival with subtle imprints in the sand. Each year she would steal up from the night to lay her eggs amidst the dangling *pōhuehue* vines that outlined the crescent-shaped bay. And each year, for the past twenty years, I would make the long trip to the same remote beach for our annual rendezvous.

She was certainly not bashful when it came to saying hello. Again and again she would crawl from the bosom of the sea to deposit her clutches. Each day thereafter under the blazing sun, I would trace her meandering tracks to locate and count her nocturnal excavations. Some years our footprints would mingle as many as six or seven times. Her tracks, easily discernable in the morning sun, became less distinct as the day wore on. Each gust of wind softened her footprints with drifting sand. By day's end only a concerted effort by knowing eyes could distinguish the traces of her nightly visits. Soon enough the relentless tradewinds and undulating tides would cover her tracks, leaving the beach a blank canvas ready to paint her next appearance.

Dutifully, we each would revisit the secluded beach over and over again. For three months at a time, our footprints would merge every 14 to 18 days until she was completely spent and returned no more. Her arduous mission completed, she would vanish to parts unknown until the next summer. My reprieve was never that long. Within weeks the leathery eggs she left behind transformed into miniature replicas of herself. At a predetermined time they would erupt *en masse* from their sandy cradles and dash frantically to the beckoning sea. At the water's edge, the unremitting waves pummeled them relentlessly. Paddling fiercely, the stronger ones make their way

past the shore breaks to relative safety. Their weaker siblings would not be so fortunate. They would be carried backwards and tossed onto a rocky promontory only to become wedged between boulders. If the tide was rising, there was still hope. A friendly wave might still carry them back out to sea. If the tide was ebbing, they were doomed. Not many stragglers would survive the blistering sun until the next swelling tide.

Those fateful strandings enabled me to identify their secretive mother as *ka 'ea*, known to westerners as the hawksbill turtle because of the shape of its beaklike mouth. Revered throughout the Pacific, *ka 'ea* is deeply embedded in our Hawaiian culture. For millennia its dark red meat provided much needed protein for our ancestors. Various other internal parts became essential medicinal ingredients for *lapa 'au* rituals. Numerous useful utensils such as combs, spoons, and dishes were commonly fashioned from its thick shell. Native fishermen found its carapace indispensable in making net needles, mesh gauges, and fishhooks. Its colorful serrated shell was also fabricated into ceremonial adornments such as bracelets and pendants. The role of *ka 'ea* extended beyond the visceral and utilitarian needs of native Hawaiians. It also fulfilled a spiritual connection for the first people of these islands. In the ancient creation chant of the Hawaiian Islands the *Kumulipo*, it is *ka 'ea* that was "born from the darkness of the night." It was upon the back of *ka 'ea* that mortals were transported from the "lower islands" to the "upper outer kingdom." And it was *ka 'ea* that guarded the ocean passage to the "kingdom of *Kuaihelani*," the residence of our supernatural gods. So intimately linked are we that *ka 'ea* is forever ingrained within our spiritual psyche, our genetic memory.

The hawksbill is one of several extant species of sea turtles found in the Hawaiian Islands. Markedly distinct from its larger cousin *ke honu*, the green sea turtle, they are nowhere as common. While green sea turtles abound in the shallow reefs around our islands, hawksbills are seldom encountered. Twenty years of research at

Foreword for "A Time Apart"

George Balazs

992-A Awaawaanoa Place, Honolulu, Hawaii 96825 USA (E-mail: isahonworldinhawaii@hotmail.com)

With admiration and respect for local island communities, I am honored to recommend "A Time Apart" to the readers of Marine Turtle Newsletter. The author of the article, who wishes to remain anonymous, is a native Hawaiian that has been my close friend for the past 32 years. The story he presents here offers a perspective not previously expressed in the pages of the Marine Turtle Newsletter. Indeed, not all readers will agree with the author's views. But all will, I hope, be inspired to give thoughtful consideration to his cultural insights and conviction. Questions that one might ponder include: How much research and information is really needed and enough to conserve sea turtles on a sustainable basis? In our seemingly

never ending curious quest for data and detail, is something being forsaken of our fundamental human acceptance of nature for the gift it really is?

These brief introductory comments have been written in my personal capacity as Regional Vice Co-Chair of the Oceania Region, IUCN Marine Turtle Specialist Group. I thank the Editors of Marine Turtle Newsletter for their continuing robust commitment to provide a forum for the exchange of diverse views.

"Sea turtles return in the dark of the night to escape notice. Ambiguity is their hallmark, and so should it be for those who are privileged with serendipitous rendezvous." - Author of A Time Apart.

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a biologist have given me the opportunity to identify more than several thousand Hawaiian sea turtles with numbered tags. Of these encounters, only two were hawksbills. This rarity tugged at my curiosity and begged to be explored. To start, I considered that perhaps a satellite transmitter could be attached to my enigmatic partner. Linked with such a device I would be able to determine her whereabouts after leaving me to care for her offspring each year. My ploy determined, I readied myself for our annual rendezvous.

Counting the days between nesting episodes enabled me to predict subsequent visits with amazing accuracy. For several months as if on a schedule she arrived to perform her time-honored ritual. Each night she would plow across the beach until locating a suitable spot before carefully excavating a pit with her rear flippers. Painstakingly, she would deposit as many as 120 golf ball-sized spheres into a well-formed cavity. And then, as if following a prescribed script, she would inch forward and use her front flippers to disguise her nest by flailing sand backwards across her back. Once satisfied with her ruse, she would crawl back into the embracing sea from which she emerged an hour or so earlier. At last, after months of clandestine meetings she was almost completely spent. The time had come to execute my scheme. I carefully counted the last remaining days until her next visit and assembled my gear. After all these many years I would get to meet her face to face. Finally I'll get to know where she went after leaving me so abruptly each summer.

The *kulu* moon slipped in and out between dismal clouds. Distant flashes in the sky bode ominously. Through the drizzle I saw a dark break in the white ribbon of foam lapping the shoreline. Slowly at first, but with firm and decided motion she crawled onto the beach. With each ponderous stroke she moved farther and farther away from the protecting sea, the lambent moonlight imparting a glimmer off her still wet carapace. Only the occasional sound of flailing sand synchronized with laborious sighs interrupted the primordial stillness of the *hilo* night. It was as if time stopped and I had stepped back into another world.

She was beautiful! Vigorous and full of fight when I tried to stop her from returning to the sea. It didn't take long to realize that holding her in the box was not going to work. Reinforcement with ropes and rocks, stakes and tree branches, had all proved futile. She was too strong and too determined. Not to be outdone, I secured an old cargo net from some nearby flotsam. Weaving several pieces of tattered rope through the webbing, I created a bag. Another fierce struggle ensued, but I managed to guide her into my hastily improvised net. As an added measure I hung my pugnacious prize from a *hao* tree. Suspended several inches above the sandy beach her powerful flippers were completely neutralized. Decades of anonymity ended, we stared at each other in the silence of the night: I in wonderment, and she in anger for having her life's journey interrupted so unceremoniously.

After watching her dangle and being satisfied she was safely ensnared, I returned to camp to retrieve the transmitter. Barely fifteen minutes had passed, but I could not overcome the apprehension welling deep within my *na'au* as I hurried back to the beach. My heart sank as I saw my makeshift sack hanging limply in the air. She had dismantled several weathered strands, and that was enough for her to slip away. Thinking there was still enough time, I quickly located her tracks and followed them to the shore, but to my dismay I saw them disappearing into the surf. Too late!

In disbelief I stood there stunned, staring hopelessly at her truncated prints. Gradually the rain dripping on my face awakened my senses and made me realize she was actually safe and well. Eschewing my snare, she now swam unhindered in the sea where she belonged. Oddly enough, my disappointment was replaced with a sense of relief. It was as if a large weight had been lifted off my shoulders. Slowly but surely, the sound of lapping waves began to register in my mind. And then, just as surely, I heard my *tutu wahine's* voice (grandmother) speaking to me in the darkness of the night. "*O 'oe no ka maha'oi!*" she admonished me. Her words exactly from many years ago when I peppered her with questions about her life. "You are too nosey!" In the gloomy night, her stern voice rang clear and strong again. "*A'ohē ou kuleana.*" she said. "You need not concern yourself of those things." The difference this time I understood exactly what she was trying to tell me those many years ago. She had wanted me to accept her as she was. There was no need for me to know every single nuance of her life. Such things were not necessary. I should have been satisfied knowing she was alive and well, and grateful for the opportunity to share some time with her. After all, shouldn't that be what matters most?

I had that turtle bundled up tighter than a drum and still she managed to escape. A clearer omen there could not have been. It was as if *tutu* was again reminding me not to be so meddlesome and to appreciate things for what they were. *Ka 'ea* was full of life, going about her business as she had done for so many years. I should had been satisfied knowing she was healthy and robust, and successful in fulfilling her life's destiny. Moreover, I should had been appreciative that she had allowed me to share a moment in time with her. In return, she asked only for respect and privacy. It seems now only fair to permit her this remaining shred of dignity as the modern world encroaches upon her very existence. During our brief encounter on that remote beach that night, she reminded me that she was my contemporary and not an amusing scientific curiosity. With renewed appreciation, I wiped the blended rain and tears from my face. Slowly I turned my back to the sea and walked silently to camp. If *ka 'ea* needs to be burdened with some *haole* contraption, it will have to be done without my participation. I will honor her wishes and bother her no more. I owe at least that much to my *tutu*.

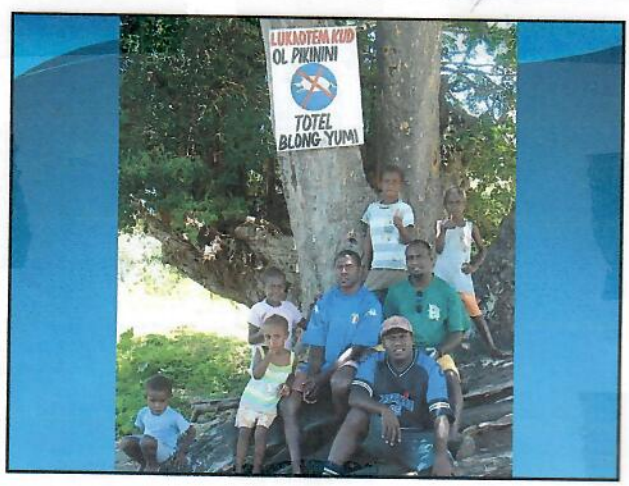
Aloha George,

Mahalo for another wonderful
Turtle Independence Day. You created
so many wonderful 'Honu memories'
for everyone. I really appreciate
all your support and aloha!

Warmest aloha,

MAUNA LAISI

Suzanne
BREDO



Marlon Brando influenced a generation of actors and played memorable roles such as Don Corleone in "The Godfather," above, Stanley Kowalski in "A Streetcar Named Desire," below left, and Col. Kurtz in "Apocalypse Now," middle. Off the screen, right, his life was equally fascinating and unpredictable.

Acting icon influenced a generation

Associated Press

LOS ANGELES >> Marlon Brando, who revolutionized American acting with his Method performances in "A Streetcar Named Desire" and "On the Waterfront" and went on to create the iconic character of Don Vito Corleone in "The Godfather," has died. He was 80.

Brando died at an undisclosed Los Angeles hospital yesterday, attorney David J. Seeley said today. The cause of death was being withheld, as were funeral arrangements, said Seeley, noting the actor "was a very private man."

Brando, whose unpredictable behavior made him equally fascinating off the screen, was acclaimed the greatest actor of his generation, a two-time winner of the Academy Award who influenced some of the best actors of the generation that followed, among them Al Pacino, Robert De Niro and Jack Nicholson.

He was the unforgettable embodiment of the brutish Stanley Kowalski of "A Streetcar Named Desire," the mixed up Terry Malloy of "On the Waterfront" (which won him his first Oscar) and the wily Corleone of "The Godfather" (which won him his second).

But his private life may best be defined by a line from "The Wild One," in which Brando, playing a motorcycle gang



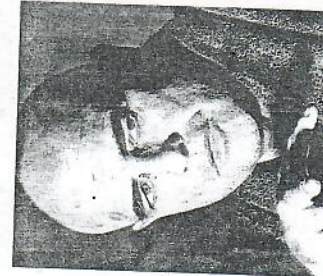
leader, is asked what he's rebelling against.

"Whataya got?" was his famous reply.

Millions of words were written about his weight, his many romances and three failed marriages, his tireless — and, for some, tiresome — support of the American Indian and other causes, his battles with film producers and directors, his refuge on a Tahitian isle.

His most famous act of rebellion was his refusal in 1973 to accept the best actor Oscar for "The Godfather." Instead, he sent a woman who called herself Sashen Littlefeather to read a diatribe about Hollywood's treatment of Native Americans.

Brando's private life turned tragic years later with his son's conviction for killing his daughter's boyfriend in 1990. Five



years later, the daughter, Cheyenne Brando, committed suicide, still depressed over the killing. She was 25.

Still, the undying spotlight never made Brando conform. Starting with Kowalski in the stage version of "A Streetcar Named Desire" and a startling series of screen portrayals, Brando changed the nature of American acting.

Schooled at the Actors Studio in New York, he created a naturalism that electrified audiences and fellow actors.

"He influenced more young actors of my generation than any actor," longtime friend and "Godfather" co-star James Caan said today.

Born in Omaha, Neb., in 1924, he grew up a pudgy, mischievous boy called Bud.

He first became exposed to the theater through his mother,



an occasional actress in the Omaha Community Playhouse. It was Mrs. Brando who encouraged a neighbor to appear at the playhouse — a young man named Henry Fonda.

At 19, Brando moved to New York and studied acting with Stella Adler. After a week, Adler said: "Within a year, Marlon Brando will be the best young actor in the American theater."

It took a bit longer. He appeared in such plays as "I Remember Mama," "A Flag Is Born" and "Truckline Cafe" before the Tennessee Williams play that made him famous, "A Streetcar Named Desire" in 1947.

Brando never appeared in another play, but he reprised the role in the 1951 film, earning the first of four successive Academy Award nominations for best actor. It was followed

by "Viva Zapata!" (1952); "Julius Caesar" (1953); and "On the Waterfront" (1954), his first win.

A remake of "Mutiny on the Bounty" in 1962 bolstered his reputation as a difficult star. He was blamed for a change in directors and a runaway budget.

The film changed his life in another way: He met his third wife, Tahitian beauty Tarita, and bought an island, Tatiaroa, which he intended to make part environmental laboratory and part resort.

His box office power seemed finished until Francis Coppola chose him to play Mafia leader Don Corleone in "The Godfather" in 1972. Brando's jowly, raspy-voiced Don became one of the screen's most unforgettable characters.

In his later years, 100 pounds heavier, he hired himself out at huge salaries for such commercial enterprises as "Superman." He was more effective as the insane army officer in Coppola's "Apocalypse Now."

His crusades and many romances kept him in the public eye throughout his career. His first marriage was to actress Anna Kashfi in 1957; they separated a year later.

In 1960 he married a Mexican actress, Movita. They were divorced after he met Tarita. All three wives were pregnant when he married them. He had nine children.

7/2/04 Reilly HSB CI

Identification of algae from turtle feces

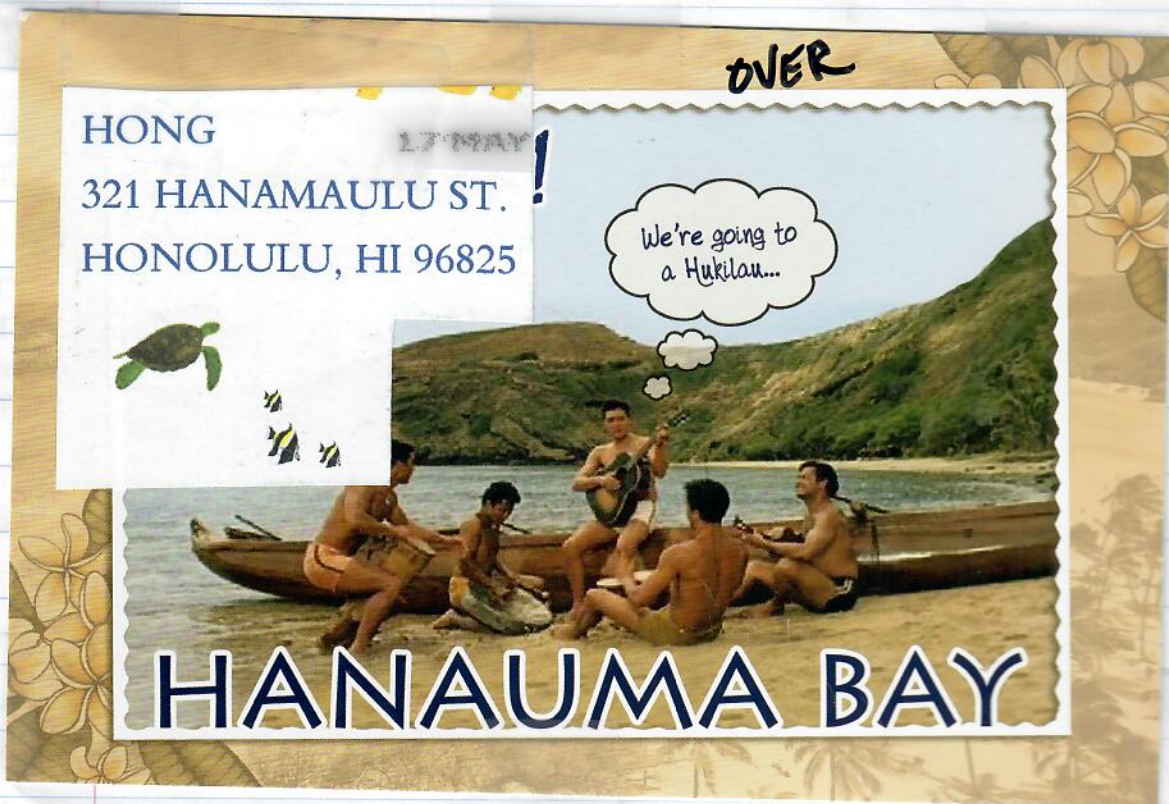
collected at Kailua, Nov. 22, 1989

Isabella A. Abbott

Dec. 18, 1989

Methods: Each sample was shaken well and about 10 ml poured out into a petri dish which was placed under a dissecting 'scope and examined. Representative pieces were removed to a microscope slide for identification under low power. Taxa are listed in order of occurrence (no more than 3 species were recognized).

- #1 Amansia glomerata; Codium edule
- #2 Codium sp., Amansia glomerata
- #3 Amansia glomerata only
- #4 Codium edule; Amansia glomerata
- #5 Amansia glomerata only
- #6 Caulerpa sp., Amansia glomerata; Codium sp.
- #7 Amansia glomerata only



FOR TURKEY -

of the Pacific

SHIPS OF OPPORTUNITY: RELEASING SATELLITE-TAGGED
LOGGERHEADS ON THE HIGH SEAS TO STUDY THEIR PELAGIC
ECOLOGY IN THE PACIFIC OCEAN

North Pacific				Location
Month/Year	Ship	No. of CC released with Sat tag	Size range	
Apr 2003 (1)	Kitakami	7	39.7 - (59.4 SCL)	34.643N 140.166E
Nov 2004	Kitakami	26	27.7 - 35.3 SCL	34.867N 140.590E
Sep 2007	Kitakami	25	23.6 - 28.2 SCL	34.867N 140.590E
Nov 2003 (2)	Ishikari	17	26.2 - 56.0 SCL	34.867N 140.233E
Apr 2004	Ishikari	13	25.6 (64.8 SCL)	35.431N 141.122E
Mar 2009	Ishikari	26	32.2 - 37.7 SCL	35.407N 141.447E
Jul 2005 (3)	Nippon Maru	8	39.2 - 47.0 SCL	33.950N 136.900E
May 2005 (4)	Aichi Maru	40	29.6 - 38.4 SCL	32.667N 176.617E
Oct 2006	Aichi Maru	35	(23.3) - 30.2 SCL	32.852N 176.832E
Apr 2010	Aichi Maru	29	32.8 - 40.7 SCL	29.684N 130.535E
Jul 2011 (5)	N/A Flipper	29	34.6 (71.1 SCL)	Boso Peninsula - 35.695N 141.335E
Jul 2011 (6)	N/A YOSHIE-MARU	31	26.5 (75.2 SCL)	Sea of Japan - 36.706N 136.335E
Total Number		(286)	(LARGEST)	

South Pacific				Location
Month/Year	Ship	No. of CC released with Sat tag	Size range	
Sep 2008 (7)	La Glorieuse French Navy	42	24.0 - 34.3 SCL	29.80S 170.86E
Sep 2012 (8)	M/V Matisse Cargo Container	46	31.0 - 41.0 CCL	24.98S 163.03E
Total Number		(88)		

N+S =
2003-2012 N = 374

8 ships of opportunity
vessels

JOURNAL publications - 8
DIRECT OR INDIRECT

Days TRANSMITTING -

9 YEARS N. Pacific stock
4 years S. Pacific stock 4s or
SPOT 5s
TELEPHONICS -
VESSEL photos

under 45 cm

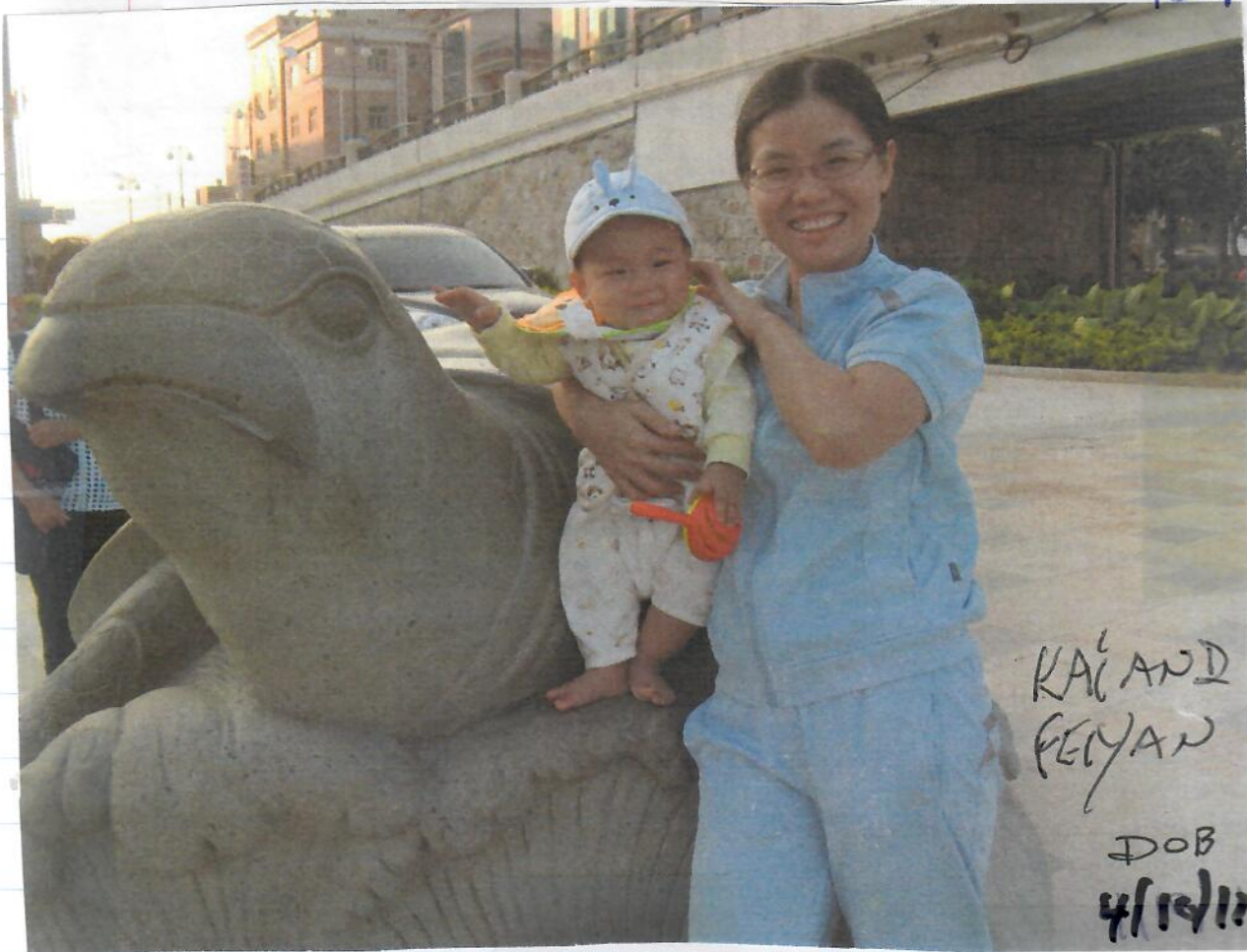


Table

Capture
Tag (P)
Mark (C)
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Biotele

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124



2013 ANNUAL OCEAN-CAPTURE REPORT

Table 1. Summary of sampling procedures and take activities 1 Jan – 31 Dec 2013.

	Total Take by Species	Allowed Take
Captures	137 Cm / 0 Ei	600 Cm / 10 Ei
Tag (PIT or flipper)	49 Cm	150 Cm
Mark (shell etch)	24 Cm	100 Cm
Tissue and Blood Sample	-	100 Cm
Tissue Sample	0 Cm	-
*Blood Sample	40 Cm	-
Scute and Lavage Sample	-	200 Cm
*Scute Sample	41 Cm	-
Lavage	0 Cm	-
Biotelemetry – added/removed	33 Cm	50 Cm

*There were a total of 40 turtles sampled for blood and scute scraping. These turtles were placed into both take categories, but they are the same animals.

Date: Tue, 15 Jun 2004 13:40:29 -1000
From: Bridget McBride <Bridget.McBride@noaa.gov>
To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Shawn Murakawa <smurakawa@mail.nmfs.hawaii.edu>
Subject: Re: possible nest at Mokuleia

*dead
hotels*

Redme

[Part 1, Text/PLAIN 62 lines.]
[Unable to print this part.]

The best place to access the nests is to drive past Mokuleia BP and go past several houses on the right (beach side, 68-900s), the airfield is on your left. Pull over on the right at the next available spot where the trees/shrubs have cleared a bit and you can see the beach. No real parking lot, but people are always pulling over here. Go out to the beach and walk east, back towards Mokuleia BP. About 20 ft down, on your right will be one possible nest. It is up near the nau paka in front of two large (2ft tall) cement slabs, kind of resembling tombstones. If you keep walking east you will see many broken surfboards propped up creating a fence of sorts. This is where Maxey lives. Two other nest sites are right in front of his "property" marked with a rusty swivel chair. The 4th nest site is ~40 ft further east from his place, this one is the hardest to see, up near the vegetation.

There are pictures on the H drive, under MTRP, Photos, Strandings, 060904 Mokuleia...
Hope this helps,
bridget

125

22nd May, 2008

Dear George,

Just to keep you up to date: we are still coping with eye and skin problems and will likely be doing so through June. In the meantime, I'm sending you a few things that you will already have seen!



That was a very nice paper in the recent issue of Pacific Science.

Love to Linda*and say Hi! to Mike Seki for me.

Much Aloha

Bansey

*We hear lots of Kaiser administrative horror stories from Han. Their new extension at Moanalua must have been designed by the UH!

CAPTURE DATE, LOCATION AND METHOD: 04-14-00 Kawaiwi Canal Oahu Snorkel/Hand

PERSON RECORDING DATA: AS NEW TAGS: 4135312C75

OLD TAGS: EFL 3102 RHF NEW TAGS: 4135685A11

TIMER SCORE: 2 LHF OTHER NEW TAGS:

STRAIGHT CARAPACE-LENGTH: 64.5 WIDTH: 47.3

NOTCH LENGTH: 64.5 DB: 9 L.O. VB: 25 L.

CURVED CARAPACE LENGTH: 68.5 WIDTH: 60

HEAD WIDTH: 10 SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE Yes

TAIL LENGTH: T 16 c 11

RIGHT FRONT FLIPPER WIDTH: 10.2 SAMPLES COLLECTED:

PLASTRON LENGTH: 52.3

WEIGHT: 70

DESCRIPTIVE REMARKS: LFF 1st 4 LFF 1st 4 RFF tail missing RFL healed slit TAIL LOSS CC 3.6 LQ 3rd central shallow healed puncture 1.5cm x 3mm

new molotov # 20 PRINT PHOTOS

(126)

TAKE PAPER MONEY

"Little LIUCHI" SIMILARITIES LIUCHI & HAWAII

TOURISM = 7M VS HK 7M residents
ISLANDS = SIZE =

LOCAL CULTURE FOCUS ON THE SEA

TAMENESS

FISHING PORTS FOR DISTANT Long Line

GREEN TURTLES PROMINENT + Abundant
Red ALGAL FORAGING - RESTING ^{underwater} _{refugia}

Shallow near shore Limestone Reef

Viewing from Cliffs + SNORKEL / SCUBA

Lat. Long. (LIUCHI) =

Number of TRIPS: HONOLULU = 5 GB

1) 10/2011; 2) 11/12; 3) 2/2013; 4) 7/2013; 5) 10/2013

ALGAL food - Alcanthophora +

ALL SIZE CLASSES (post pelagic^s to Adults)

PROTECTED

NESTING

STRONG STEWARDSHIP FOR TURTLES ^{feed}

CHINESE HERITAGE

ANCESTRAL CEREMONIES

sent in plane
burned
back up to Heaven

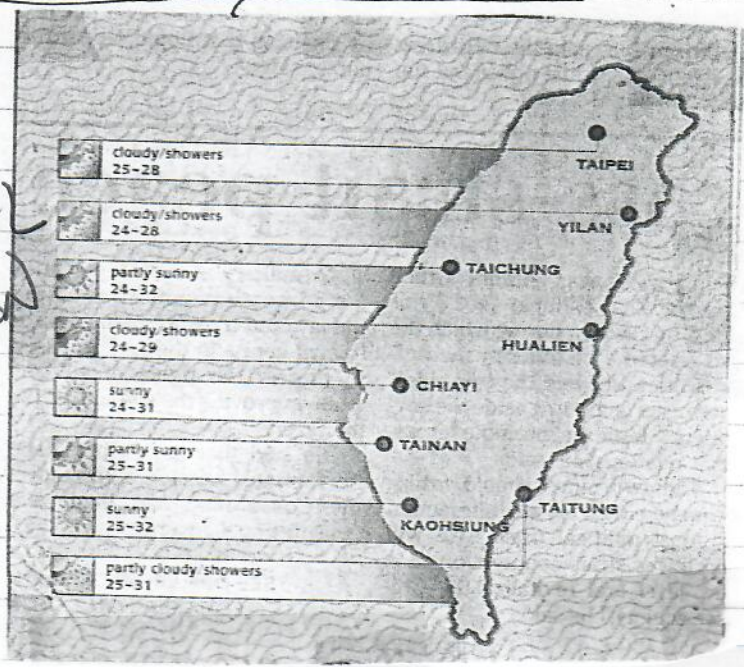
JAPAN influences

from "Little Lioqui - A New Island PARADISE for MIND and Sense"

31

8) "Gerban Bay (Venice Beach) Venice Beach is located on the western shore of Little Lioqui, its clean white sand and blue water inviting you to swim or sunbathe. Its beauty compares to that of Hanalei Bay in Hawaii!"

Att on my own
CROSS-CULTURAL COMMUNICATION (CCC)



"Religion, TRADITION, AND CULTURE" "Who owns the TURTLES? ^{who do they belong to?} Whose are they?"

"of all the things one can take ^{with them} when visiting a new place, the most important is an open spirit"

Ah dear George EARLY MARCH 2014

what a wonderful
time! Thank you
much for taking the
time to show me (us)
so many beautiful HI
spots. I was very
happy to spend time
with you - esp on
your birthday!! See
you at ISTS -
My best - Kelly

POSTAGE & FEE PAID
NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



George Balazs
992 Awaawanoa Pl
Unit A
Honolulu, HI
96825

STEWART

From
Marilyn
MAJOR
via sister
Candis

Early 2014

Aloha

Hello,

I hope all three ~~boxes~~ ^{boxes - sorry} arrive
safely.

This bag is the worn
shells and I will appreci-
ate you tossing them
overboard and saying they
are from Marilyn and Candis.
MAHALO, L.

Excerpt from: Yoshimasa Matsuzawa. 2009. Sea Turtle Conservation and Sea Turtle Association of Japan. In Tatsuo Adachi and Nobuyuki Tokoro (eds). *Sustainability and Business Administration: Realizing Coexistence Societies through Environmental Business*. Minerva Press, Kyoto, Japan.

“What kind of world would open up when we solve the issues that pose threats to sea turtles today, sufficiently recover the population, and remove them from the Red List? We envision a world in which a diversity of relationships exists, as it must have been so for a long time, between sea turtles and people who live outside of urban centers: those who eat sea turtles; those who do not eat sea turtles because of their loyalty to an ancestor who was saved by a sea turtle; those who eat sea turtle eggs; craftsmen who create eyeglass frames using hawksbill shells; fishermen who offer sake¹ to a sea turtle caught in his net; fishermen who carry out a burial for a dead sea turtle in expression of sympathy; fishermen who enshrine in their family altar² a piece of driftwood that a sea turtle used as a pillow; children who play at the beach mocking the tracks of sea turtles that came to nest; children who surround a sea turtle and torment it, and a young fisherman who comes by to rescue the turtle³. To bring back rich and plentiful nature that allows and tolerates such a diversity of values and world views, we believe, is the natural direction toward which we should be moving.” (p.207)

足立辰雄・所伸之編著「現代社会を読む経営学（14）サステナビリティと経営学—共生社会を実現する環境経営」2009年、ミネルヴァ書房（京都）より
第11章 ウミガメ保護と日本ウミガメ協議会 松沢慶将

「現在ウミガメに脅威となっている主な問題を解決して、十分に個体数を復活させ、レッドリストから外したその先にはどのような世界が広がるのだろうか？われわれが思い描くのは、もともと長い間存在したであろう、地方で暮らす人々とウミガメの多様な関係である。ウミガメを食べる人、ウミガメに救われた祖先の遺言を忠実に守りウミガメを食べない人、ウミガメの卵を食べる人、タイマイの鱗板から眼鏡の縁を作る職人、網にかかったウミガメに酒をふるまう漁師、死んだウミガメを哀れみ埋葬する漁師、ウミガメが枕にしていた流木を神棚に祀る漁師、ウミガメの足跡を真似て砂浜で遊ぶ子供たち、ウミガメを囲みいじめる子供たち、それを制してウミガメを助ける若い漁師。このような多様な価値観を許容する豊かな自然を取り戻すことが、本来の進むべき方向であると思う。」(P. 207)

¹ Sake is traditionally used as one of the highest forms of offerings in *Shinto* practices.
² Most Japanese households have a family altar called *kamidana*, following the traditional *Shinto* practice. A talisman called *Shinsatsu* or *Ofuda* issued by a *Shinto* shrine is typically placed on the *kamidana* as a protector of the household. Offerings such as rice and *sake* are placed regularly on the *kamidana*.
³ In reference to the Japanese folklore *Urashima Tarou*, which is a story about a young fisherman who rescues a sea turtle being tormented by a group of children, and is rewarded for his heroic act with a visit to an underwater palace.

SEA TURTLES AS A FLAGSHIP SPECIES: Different Perspectives Create Conflicts in the Pacific Islands

Irene Kinan and Paul Dalzell

Western Pacific Regional Fishery Management Council
Irene.Kinan@noaa.gov, Paul.Dalzell@noaa.gov

Flagship Species for Pacific Islanders

While generalities for cultural aspects over a geographic area as vast as the Pacific Islands can lead to misconceptions, it is worthwhile to note that Pacific Islanders, including those residing in Hawaii, American Samoa, Guam, and CNMI, utilise and have a strong cultural relationship with their marine resources, including sea turtles (Johannes 1978; McCoy 1982; Campbell 2003; Frazier 2003). Turtles are an intrinsic part of the culture, subsistence, traditions, and folklore of the region (Balazs 1982; McCoy 1982; Campbell 2003). Traditionally, they are known to have played an important role in religious ceremonies, and perpetuated community relationships and identities through the exchange of turtle meat and turtle products (Johannes 1978, 1981; Balazs 1982; McCoy 1982, 1997). McCoy (1982:279) concluded 'that turtles contribute significantly to the overall cultural stability of the people [in the Marshall Islands] and that their contribution in protein is not nearly as important as their cultural role'. However, the indigenous people residing in the US and US Pacific territories (Hawaii, Guam, America Samoa, and CNMI) lost their cultural rights to harvest turtles when the US Endangered Species Act rendered harvest illegal. They have since requested an allowable cultural harvest of turtles, green sea turtles specifically, to perpetuate and strengthen cultural identity¹⁰ (McCoy 1997; Hara 2002; Ilo 2002). In this regard, sustainable use may allow turtles to assume a flagship role for indigenous Pacific islanders to promote cultural integrity (McCoy 1982, 1997; Hara 2002), and may further convey resource conservation ethics to younger generations (Johannes 1978; Morauta, Pernetta, and Heaney 1982; Spring 1982; McCoy 1997; Poepoe, Bartram, and Friedlander in press).

Although this concept may be controversial, islanders believe that strengthening cultural practices will revive traditional authority, resulting in limited harvest and increased protection of nesting beaches (Spring 1982; Ilo 2002); as has already proven to be the trend in certain Pacific Island nations, such as Fiji (SPC no date) and Vanuatu (Petro 2002). It is the belief of elders in Papua New Guinea that, '[by] following old traditions, turtles will still be plentiful' (Spring 1982:295). Furthermore, socio-cultural studies conducted in CNMI by McCoy (1997) suggest that the continuation and regeneration of cultural practice could allow limited use, yet provide more effective conservation measures than laws imposed from afar.

This paper does not intend to provide an exhaustive review of the cultural

traditions, uses or perspectives of sea turtles to native Pacific Islanders. Nor is it the place to argue the nuances of the terms 'traditional' or 'cultural'. It is our contention however, that sea turtles are ingrained in the cultural heritage of the region. Turtles played a significant role in traditional management systems, and conservation ethics, values, and attitudes were perpetuated as a result of the rules, rituals, and legends associated with turtle harvest (McCoy 2004).

Petro, G.
2002

Community Empowerment: A Case Study, Wan Smolbag Turtle Conservation Program, Vanuatu.

In: I. Kinan (Ed.), *Proceedings of the Western Pacific Sea Turtle Cooperative Research & Management*

Workshop, February 5-8, 2002, Honolulu, Hawaii. Pp. 109-110.

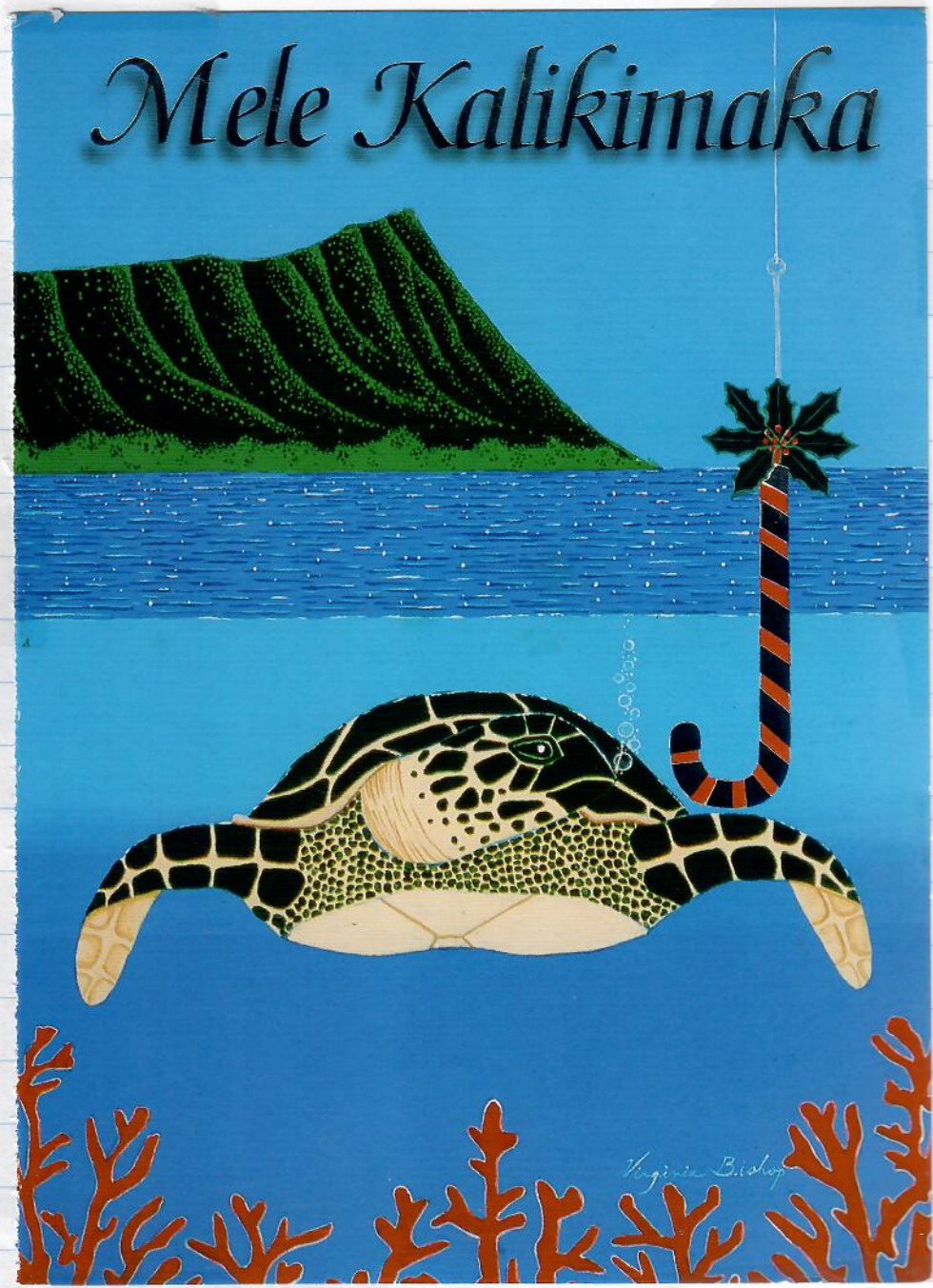
Poepoe, K.K., P.K. Bartram, and A.M. Friedlander

in press *The Use of Traditional Knowledge in the Contemporary Management of Hawaiian Community's*

Marine Resources. In: B. Neis, I.G. Baird, and N. Haggan (Eds.), *Putting Fishers' Knowledge to*

Work. Oxford, United Kingdom: Blackwell Publishing.

Mele Kalikimaka



18



19



20



21



22



23



133

LIBRARY OF
GEORGE H. BALAZS

Phil. Trans. Roy. Soc. Lond. B. 260, 373-410 (1971) [373]
Printed in Great Britain

Observations on sea turtles at Aldabra Atoll

BY J. FRAZIER
Department of Zoology, Oxford

[Plates 26 to 29]

This paper is a preliminary report based on observations made from January to July 1968 and on expedition notes from August 1967 to November 1968. The majority of the work was carried out on adult green turtles which had been harpooned and captured by the Seychellois turtlemen at Aldabra. A small number of observations were made on nesting females and hatchlings of the same species.

Males are, on average, smaller than females; this is the reverse of the expected situation and may be due to the fact that more males than females are captured. The relevance of various body proportions is discussed, as are the results of regression analysis of the measurements.

Coloration of the adult carapace is extremely variable, but certain colour characteristics are strongly correlated with sex; a predictive index for sex determination is presented.

Green turtles at Aldabra have similar breeding biology to other populations.

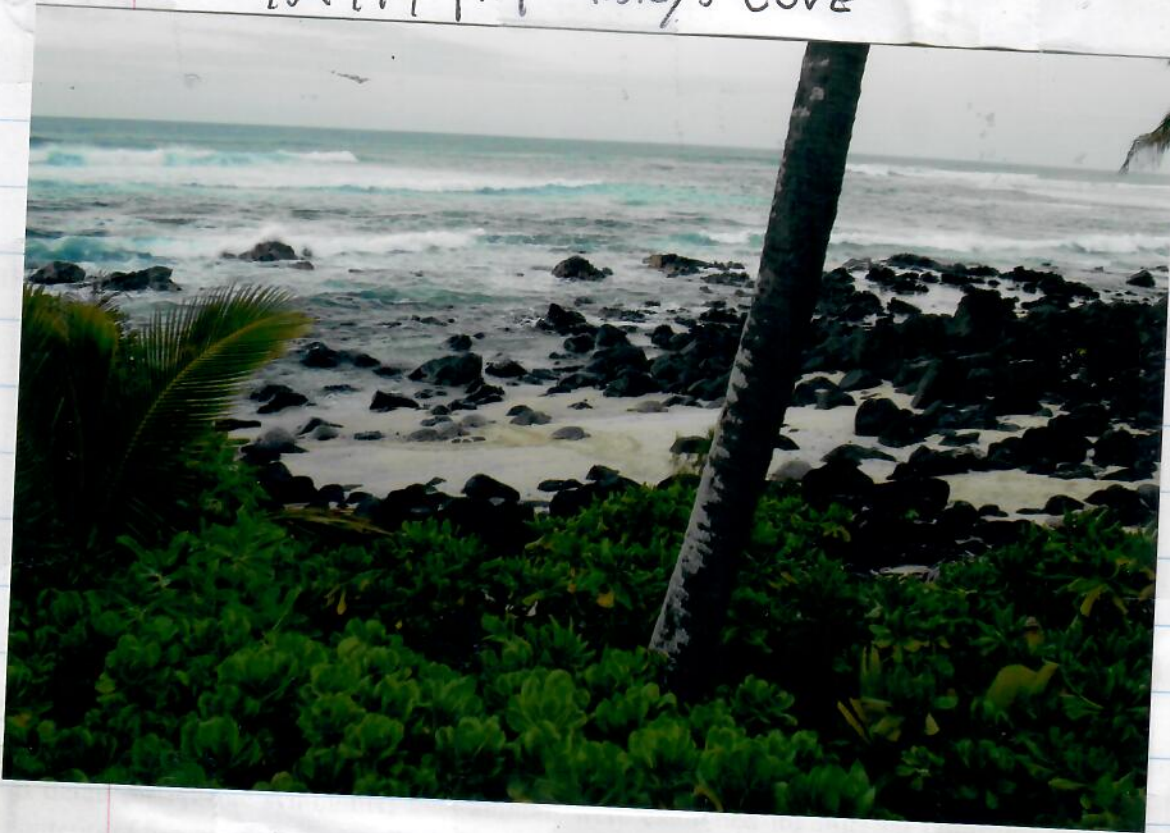
Hatchling and egg measurements reflect the same trends shown by the adult females.

A number of different organisms were found on adult green turtles: barnacles, leeches, isopods, green algae, and red algae. In addition, tabanids and mosquitoes were found on turtles above water. Sharks and ghost crabs are probably important predators of adults and young respectively. Only one internal parasite was found.

Incidental observations were made on hawksbills. The first recorded specimen of a loggerhead from Aldabra was obtained. Information from Seychellois turtlemen relating to sea turtles at Aldabra is presented; economic importance and problems of conservation are raised.

TRAY
net
FROM my
Desk
3/3/14
SMITHSONIAN
POB P
NWHTI
whale-shute
oil deposits

1/21/14 PM AUDREY'S COVE



1/22/14 AM AUDREY'S COVE

FLESH FOODS

DOGS

Dogs were possessed by the ancient inhabitants of most of the Tuamotus. At Anaa, in 1606, the Spaniards saw a little white, speckled dog [Quiros 1904, v.1:201; v.2:337]. Schouten, in 1616, saw three dogs, "...which knew not how to bark or to make any noise," at uninhabited Pukapuka atoll [Burney 1806, II:377]. One of Captain Cook's officers noted in 1774 that the dogs at Takaroa were "...in general small and thick, with a large head, not unlike that of our bull dogs" [Marra 1775:170]. Forster, during the same visit, was impressed by the trading of several dogs for small nails by the Tahitian, Mahina, whom they had on board. "The dogs were not unlike those of the Society Islands, but had fine long hair of a white colour. Mahina therefore was eager to purchase them..." [G. Forster 1777, v.2:40].

When the Spaniards were compiling the list of Tuamotuan islands known to the Tahitians they were told that Matahiva, Tikehau, Kaukura, Anaa, Makeo, and Fangatau [island names identified by KPE] had dogs, and that at Kaukura the dogs had "good coats" [Corney 1915, v.36:188-189]. The Tahitians evidently coveted the Tuamotuan dogs for their long hair as fringing material for their *taumi* or gorgets. But the Tuamotuans themselves, so far as we know, did not use the dogs' hair for ornamentation purposes — rather, the dog was prized as a source of food. Its common name was *ngaeke*, but it was also called *kuri* and, at Hao, *kurio*.

Lucett, while stopping at Hao island in 1842, noted: "They have no quadrupeds, save a few wretched dogs which they keep for eating, and a small species of rat which infests the islands in myriads" [Lucett 1851, v.1:247].

In many of the Tuamotus the dog was still eaten in the 1930s, particularly at Tatakoto; it was baked in the ground oven. Paea of Anaa said

that the preparation and cooking were the same as for a pig, and that the dog was considered the greater delicacy.

PIGS

John R. Forster, naturalist on Cook's second voyage, during which they became acquainted with Anaa and Takaroa, said there were dogs but no pigs in the Tuamotus [John R. Forster 1778:188]. Pigs were introduced at an early date after the coming of Europeans. Wilkes found that the natives of Arutua had them in 1839 [Wilkes 1844:351], and Lucett said of Anaa in 1842, "They rear pigs in great abundance...the pigs being reserved to exchange for calico and other articles with the ships that occasionally touch there" [Lucett 1851, v.1:239].

At Napuka in the 1930s, pigs were kept in small rectangular enclosures of coral stone, or in pandanus-trunk palisades; on most islands, however, they were allowed to run loose, being tethered only when wanted for slaughter. Young pigs were caught in the bush where they had been born and tamed by being led about by children for several days, at the end of a cord tied to one foot. Pigs were fed from wooden troughs made out of a section of log about a meter long and 30 cm in diameter, adzed flat along the top, and excavated to a depth of about 10 cm.

A pig was killed by holding its head under water in the lagoon, or by clubbing it just at the base of the nose. In Tahiti it was either drowned or strangled by being placed on its back and pressure applied by a pole across its throat.

The hair was singed (*inaina*) by applying a torch of coconut leaves, and then was scraped or pulled off with the bare hands. Next, the pig was completely disemboweled. A small pig was slit from breast to rectum, opened out flat and laid breast down, legs spread out, on the oven floor. A large pig had only a small cut made for disemboweling and the cavity was stuffed with

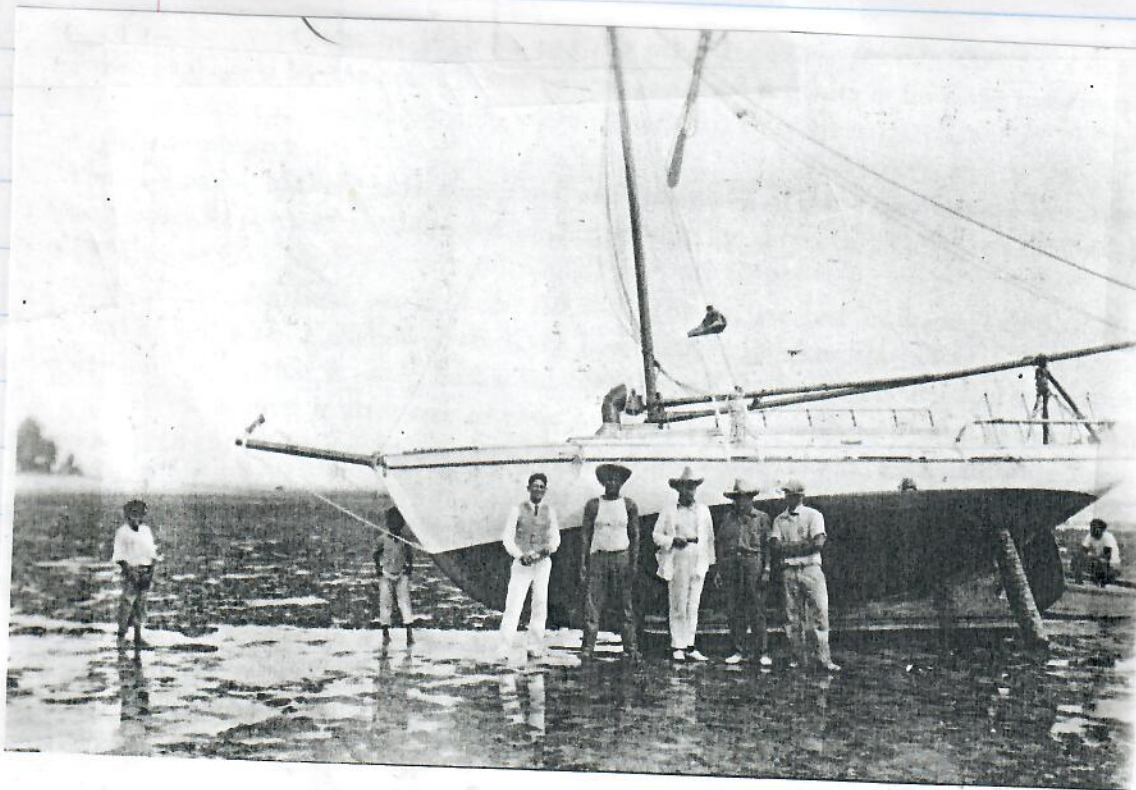
September 1975

PACIFIC ANTHROPOLOGICAL RECORDS NO. 22

KENNETH P. EMORY

Department of Anthropology
Bernice Pauahi Bishop Museum
Honolulu, Hawaii

**MATERIAL CULTURE
OF THE TUAMOTU ARCHIPELAGO**



Frontispiece. Bishop Museum Tuamotu Expedition Ship *Mahina-I-Te-Pua* and crew at Vahitahi, July 1930. Adoption of the Tuamotuan level keel enabled the *Mahina-I-Te-Pua* to be hauled over the reef. Left to right: Kenneth P. Emory, sailor Tane, J. Frank Stimson, Capt. Vanaa Gooding, and sailor.

coconut leaves to keep the sides from clinging together. It was laid breast down (*tipapa*) as a rule, legs tucked under, but might be placed on its back if it was desired to keep the juices from running out. The intestines of the pig were cut in small sections, and either turned inside out (*share*) or split lengthwise for cooking.

BIRDS

Birds (*manu*) were plucked (*hutihuti*) of their feathers, placed over (*paina*) the flame of the fire to burn off the down (*huhuru tahinano*), then disemboweled (*konaē*) and baked; or the skin was stripped off with the feathers before cooking. A bird might be speared on the end of a stick (*huki i runga i te rakau*), and then roasted over an open fire till the fire burned to coals (*ngarahū*), then the bird was placed directly on the coals. Young birds were especially sought because they were tender and fat. After the bird was plucked and singed of the down, it was baked a short time in the ground oven; this short-time baking was called *kofa* at Anaa.

Bird eggs (*tono*) were of course eaten, but to what extent we did not find out, or whether they were eaten raw or cooked. We did learn, however, that the eggs of the *kaveka*, or sooty tern (*Terna sacata*), will keep for three weeks or more packed in sand. Our yacht, the *Tiare Tahiti*, picked up several hundred of these eggs at a deserted island and kept them packed in sand; we were dining on some of them, still palatable, a month later.

TURTLES

Of all the food, none—except perhaps human flesh—was held in higher esteem than the turtle (*honu*); it had to be shared with the gods at the *marae*, and was forbidden to women and children. The turtle season was from July to December,

when they approached the land and the females came ashore to lay their eggs. While some islands might not have been visited by a single turtle during some years, in two out of three years an atoll was likely to receive them in such numbers as to enable the capture of 50 to 100. When many were taken some were confined in pounds (*tipua honu*). Typically these were rectangular palisades of stout poles planted upright, 15 cm apart, in the shallow waters of the lagoon (Fig. 14). At Akiaki, a salt-water pool bounded by bluffs of limestone that a turtle could not scale served as a place of confinement.

A turtle was not slaughtered until a few minutes before it was to be placed in the oven of first cooking, the *umu rau toto* (blood-absorbing oven), or, at Vahitahi, the *auahi pirikana*. The turtle was kept alive, turned on its back. It was dispatched by cutting its throat with an eel-jaw knife, and the blood was caught in coconut cups. The transverse opening at the throat was made large enough for the insertion of the arms to draw out the intestines and, if the turtle were female, the egg sack. All other organs were left within during the first cooking.

The turtle was placed breast down on a bed of *puka* or *ngatae* (*Pisonia*) or *tohonu* or *ngeōngeo* (*Messerchmidia*) leaves laid on the hot stones of the oven. Strips of *kere* (coconut-leaf stipule) were laid over it, and the whole was covered with sand. The turtle was left in this oven for at least an hour.

Taken from the first oven, the organs were removed and the fat and flesh were cut up in pieces for the second oven, called the *auahi koea* (flesh oven) at Vahitahi. The second oven was placed a few feet from the first, and its stones were red hot and ready for the second cooking by the time the turtle was dismembered. The two ovens, prepared in advance and ready for lighting, are shown in Fig. 1. Each oven was about 1.3 meters in diameter and occupied a hollow 30 cm in depth. The heat from one oven was not sufficient to cook such a large animal protected by its



Fig. 14. Turtle pound, *tipua honu*, at Vairaatea.

shell and thick hide, but the first cooking melted the fatty tissue binding organs together and made the separation of the turtle flesh an easy matter. In the 1930s, with long and sharp knives of steel, the turtle was sometimes cut up and cooked in a single oven.

We saw the blood (*tikahiri*) poured into halves of coconut shell embedded in smouldering husk, a little flour added, and the mixture eaten after it had been allowed to warm a few minutes. Paea of Anaa said that the fat and flesh from the turtle were cut up in small pieces, kneaded in the blood, the mixture put into the emptied large intestine (*roeroe toreu*), and baked in the ground oven.

The developing eggs (*rama*) in the egg sac (*here*) were wrapped in separate, green pandanus leaves, pinned to hold them together, and baked.

The *roeroe* or intestines (removed before the turtle was put in the first oven) were variously identified—*roeroe taratara* or *roeroe vanavana* (literally, rough intestines), *roeroe hiro* (twisted intestines), which have thick walls, and *roeroe*

noa (plain intestines). The *roeroe taratara* were cleaned, scorched on the open fire, and eaten, as also, I believe, were the others. The head belonged to the *makona*, the one who captured the turtle, but in former days it was obligatory on his part to give it to the chief. In the 1930s he gave it to whom he wished, even to a woman; if on his next expedition he was successful he would present the head to the same person. This he would continue to do as long as good fortune favored him in his turtle hunting. The heart (*upoupo*) was also the property of the *makona*. The Adam's apple (*farona*) was dried and put on the *marae* with the *una*, or entroplastron.

Various organs, such as the lungs (*papahia*) were put in coconut-leaf baskets (*tongini*) lined with *Pisonia* leaves to kill the taste of smoke, and thus baked. The fats (*havene*) were tied up in the stems of the yellow dodder (*kainoka*; *Cassytha filiformis*) before baking.

The various fats were considered very choice and were named, according to Tetumu of Faite:

kanoe,
choic
havene
breas
manu
havene
topio
poe mo
anoth
pereta, f
huakotul
fatu r

At Aki
removed f
baked on
fat called
another fat
peva—this
various me
were name

koes koho
koes takak
koes tange
koes turitu
koes perer
at Vahi

These nar
monas, for r
the people
have largely
Turtle egg
Father Fier
coconut, fish
inhabitants
KPE]].

FISH

Most of th
appear also
Paea of Ana
sharks, 13 ee
crustaceans a

kanoe, yellow fat next to stomach, considered the choicest

havene miti runga, fat on either side of upper part of breast, also called *ngako* at Pukarua (see also *poe manava*)

havene ngenengene, fat on either side of base of neck *topio*, hard fatty substance on each side of *miti runga poe manava* (according to Fariua of Fangatau, this is another term for *havene miti runga*)

pereta, fat on either side of liver

huakotuku, fat clinging to, or next to the *topio* (called *fatu rangi* at Fangatau).

At Akiaki, while watching the fats being removed from a large turtle that had just been baked on the adjacent *marae* site, I was shown a fat called *nohirei* located near the breast. Still another fat, from between the *nohirei*, was called *peva*—this fat is not present in lean animals. The various meats to be divided among the people were named:

koea kahora, flesh on either side of liver

koea takaki, flesh from neck to shoulder

koea tangenengene, flesh rearward of *takaki*

koea turituri, flesh of the lower jaw

koea pererau, flesh from the four flippers (called *fanga* at Vahitahi).

These names were fairly universal in the Tuamotus, for most of them were collected also from the people of Vahitahi, on whose descriptions I have largely depended for their identification.

Turtle eggs (*take*) were eagerly sought after. Father Fierens, writing in 1871, said, "The coconut, fish, and turtle eggs form the diet of the inhabitants of Takoto" [1872:129 (trans. by [?])].

FISH

Most of the fish occurring in Hawaiian waters appear also in the Tuamotus, as well as others. Paea of Anaa gave the names of 14 kinds of sharks, 13 eels, 167 fish of various kinds, and 30 gastropods and mollusks. We had with us copies

of Fowler's *The Fishes of Oceania* [1928], and at many of the islands secured the names of the fish illustrated by Fowler, besides long lists of others. These names were recorded by Stimson [1964] and the scientific names of those mentioned in this text will be found in Appendix B.

The fact that many of the fish near the reef and within the lagoon were poisonous (*takero*) to eat during part of the year at many of the atolls, or parts of the atolls, seriously interfered with the food supply. It was necessary to become acquainted with local conditions through the local natives, or to proceed very cautiously. How the people learned when fish could be eaten safely and when it was dangerous to eat them, I do not know. Feeding them to dogs and watching their effect on these animals would answer the question. When in doubt, natives cooked the fish with the juice from the *nono* apple, which counteracted the poison. Ordinarily the poisoning manifested itself in more or less violent stomach pains, headaches, and partial paralysis, and the effects sometimes did not wear off for many days, but it was rarely fatal.

The common explanation for this phenomenon—of fish being poisonous part of the time at certain places—is that seaweed upon which they feed produces, at certain times of the year, a poisonous substance. This may also explain the fact that the Tuamotuans did not eat seaweed, several varieties of which are so palatable to the Hawaiians.

The following fish, said Paea of Anaa, were eaten raw with coconut meat, after being pounded (*rure*) and left to soak in lagoon water for a while: the *tengatenga*, *homohomo*, *kukina*, *kutu*, and *titeketeke* (parrotfish); *ngavere* and *nonga* (wrasse); and *tutuke* (boxfish).

Fish were sometimes roasted simply by suspending them over a fire, tied by the tail to a horizontal pole resting on two forked sticks. *Kokiri* fish were spitted on the end of a stick and held over a fire till the oil had melted from their fat, then they were roasted on coals.



The Race to Necker

In 1894, two ships left Honolulu Harbor on a most urgent and unlikely mission to the Northwest Hawaiian Islands

STORY BY RON WILLIAMS, JR.

At 5:10 p.m. on May 25th, 1894, the steamer *Iwalani* quietly pulled out of Honolulu Harbor. She had arrived only that morning, made swift and secretive preparations, and promptly left. Although the crew tried to slip away unnoticed, that was nearly impossible with the heightened sense of anxiety around town. Under normal circumstances the hurried departure of a ship might

not have aroused much suspicion. But circumstances in the Honolulu of 1894 were anything but normal.

Just sixteen months prior, in January 1893, a critical moment in Hawai'i history had occurred: A small group of mostly American and European businessmen, backed by US Minister John L. Stevens, had overthrown the Kingdom of Hawai'i. They had chosen missionary descendant

and former politician Sanford B. Dole to lead a provisional government, but he had no intention of actually running the country; instead, they sent a treaty to the United States proposing immediate annexation. President Grover Cleveland, however, was not receptive; he declined the treaty and called for an investigation that later declared the coup an "armed war" and Minister Stevens complicit.

Or were they? On a secret trip to Hawai'i in 1893, Fleming had studied maps and survey titles and concluded that a tiny, 46-acre volcanic island called Necker Island had been long uninhabited and officially left unclaimed by the Hawaiian kingdom. It was therefore still up for grabs! If a ship from the Royal Navy could sail to Necker and claim it for Britain, the empire would have its cable way station. The British government was initially wary about such an aggressive land grab, fearing it could push the United States to annex Hawai'i. They tried first to negotiate a purchase or lease of the needed territory but to no avail: Upon receiving inquiries from the British regarding Necker, the provisional government of Hawai'i publicly declared its ownership of the island.

Privately, however, they rushed to research whether their claim were true.

Their investigation unearthed some interesting facts. Several Hawaiian monarchs, including Ka'ahumanu, had visited Mokumanamana (the Hawaiian name for Necker, literally "branching island"), but there were no records of actual landings or territorial claims. An 1857 expedition sponsored by King Kamehameha IV, Alexander Liholiho, and led by William Paty had explored the northwest islands and indeed taken possession of several, including Laysan and Lisiansky, in the name of the Hawaiian kingdom. No such

claim had been made for Necker.

With this enterprising foreigner pushing the issue and their claim in doubt, the provisional government took no chances. Capt. King knew that despite the rebuffing of the initial British offers, Fleming would not be easily deterred. Now these secretive men were in town preparing ... something ... and time seemed to be of the essence. They needed to be decisive; they needed a ship.

They contacted the Inter-Island Steamship Co. and chartered the *Iwalani*. The ship was out to sea at the time but due back shortly. Upon return the *Iwalani*'s crew was in port only minutes before it was quietly given its new assignment; indeed, the race was on!

By nightfall on May 25, both the *Iwalani* and the *Champion* had left port and were out of contact; those on land would have to simply wait for word of the outcome. *Nupepa Ka Oiaio* reprinted, in Hawaiian, a May 11 column from a Canadian newspaper that reported on the British plans for a Pacific telegraph cable. Later, the story of this dramatic race would spread from Honolulu. Americans would read of "The Race to Necker Island" in *The New York Herald*, and in *The New York Times*: "To Seize a Hawaiian Isle: English Cruiser on its Way to Take Necker."

Back in the waters off O'ahu on that

141

Copy.

1894.

PROCLAMATION

WHEREAS NECKER ISLAND LYING WITHIN THE HAWAIIAN ARCHIPELAGO IN LATITUDE 23° 35m 18" N. AND LONGITUDE 164° 41m 00" W. HAS BEEN CLAIMED AS HAWAIIAN TERRITORY SINCE 1857, WHEN AN EXPEDITION WAS DISPATCHED TO IT BY THE HAWAIIAN GOVERNMENT AND WHEREAS ON THE 27th., DAY OF MAY A.D. 1894 POSSESSION WAS TAKEN OF SAID ISLAND WITH THE USUAL FORMALITIES BY HIS EXCELLENCY JAMES A. KING, MINISTER OF THE INTERIOR OF THE PROVISIONAL GOVERNMENT OF THE HAWAIIAN ISLANDS, HE BEING THEREUNTO DULY AUTHORIZED BY A COMMISSION FROM HIS EXCELLENCY SANFORD B. DOLE, PRESIDENT OF THE PROVISIONAL GOVERNMENT OF SAID HAWAIIAN ISLANDS.

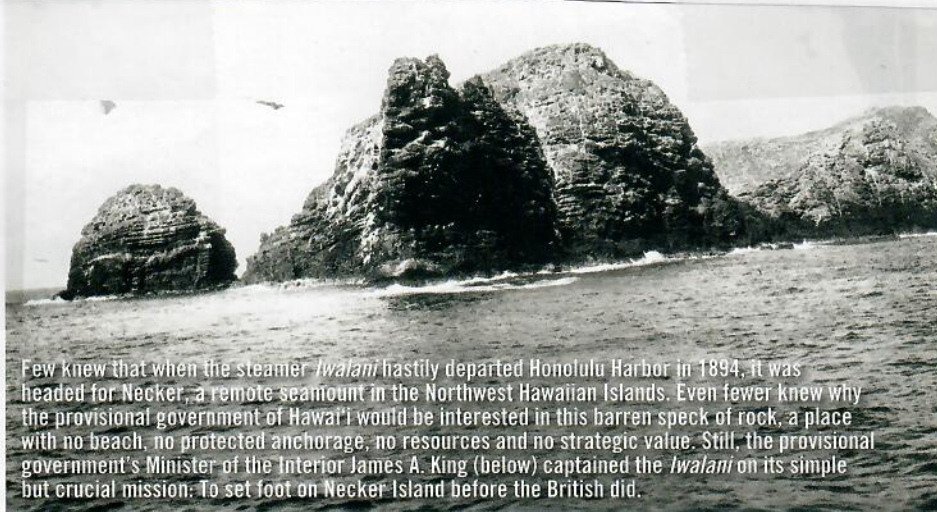
THEREFORE, THIS IS TO GIVE NOTICE THAT SAID NECKER ISLAND IS HEREBY TO BE CONSIDERED AND RESPECTED AS A PART OF HAWAIIAN TERRITORY AND THE PROPERTY OF THE HAWAIIAN GOVERNMENT.

DONE AT HONOLULU THIS 12th DAY OF JUNE A.D. 1894

SANFORD B. DOLE

President Of The Provisional Government
of the Hawaiian Islands.

Francis M. Hatch.
Minister of Foreign Affairs.

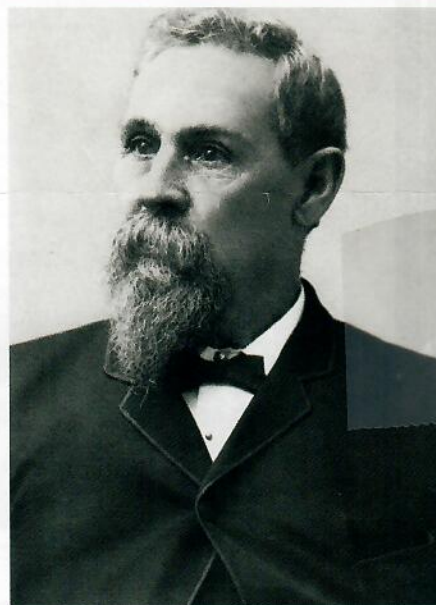


Few knew that when the steamer *Iwalani* hastily departed Honolulu Harbor in 1894, it was headed for Necker, a remote seamount in the Northwest Hawaiian Islands. Even fewer knew why the provisional government of Hawai'i would be interested in this barren speck of rock, a place with no beach, no protected anchorage, no resources and no strategic value. Still, the provisional government's Minister of the Interior James A. King (below) captained the *Iwalani* on its simple but crucial mission: To set foot on Necker Island before the British did.

Things got complicated for the newly declared provisional government. New US Minister to Hawai'i Albert Willis arrived in Honolulu with orders to negotiate the reinstatement of Queen Lili'uokalani. Some believed that Willis had authorization to use force. Rumors spread—some of them true—that both the annexationists and supporters of the Kingdom of Hawai'i were gearing up for a possible military conflict. Throughout the early part of 1894, the newspapers had reported that groups of mercenaries had offered to sail to Hawai'i and defend the teetering provisional government. People in Honolulu were keeping close tabs on everything and everybody, and so, when a steamer mysteriously pulled into port and shipped out in a matter of hours, the tense town filled with gossip.

When the next morning's papers came off the press, the whispers became a roar. All the papers suggested that a secret mission on behalf of the provisional government was under way; the *Hawaii Holomua* wrote specifically that the aim of the operation was to suppress an insurrection among Japanese laborers on one of the Islands' plantations. The Hawaiian-language newspaper *Ka Makaainana* added to the general mystery by reporting that "Kapena Kini, Kuhina Kalaiaina" (Capt. [James A.] King, minister of the interior) had been seen boarding the *Iwalani* with "he mau pu"—guns—and "he pahuhae"—a flagpole.

Still, few knew the *Iwalani's* true destination, and those who did weren't talking. The *Hawaiian Star* quoted Attorney General William O. Smith as saying, "I can say nothing of the *Iwalani's* mission



Left: Bishop Museum; Above: Edwin H. Bryan, Jr., Bishop Museum

further than she has gone to one of the westward islands and will return in a few days." If rumors around town were wild, the truth was perhaps even more bizarre.

Less than an hour after the departure of the *Iwalani*, the British cruiser HMS *Champion* also left Honolulu Harbor. British officials had spread word that the twenty-two-gun warship was headed out for target practice. Yet instead of heading east to the usual firing areas, the ship marked a course west/northwest, similar to that of the *Iwalani*. Adding to the intrigue, one of the men aboard the *Champion* had arrived in Honolulu only the day before from Victoria, British Columbia and had been shuttling around town in secrecy. This mysterious visitor had immediately gone to see the acting British vice-counsel, F.M. Swanzy. The two had

gone to the government survey office and examined charts of the chain of islets and reefs extending for 1,200 miles west/northwest of Hawai'i.

It didn't take long for word to reach the offices of the provisional government; these inquiries greatly concerned a government that already had its hands full. They would be convening a constitutional convention in just a few days amid strong opposition. Their effort to portray a sense of stability within the Islands following the overthrow was precarious at best. Yet among all these challenges, they felt that this news, combined with earlier information that they had learned about British ambitions in the Pacific, demanded immediate action.

The man who had been searching the records was a retired British naval officer named Gardner-Buckner. But his was not the name that worried the provisional government. That distinction belonged to one Sandford Fleming, a Scottish-born Canadian engineer and inventor. He had an international reputation as a man who got things done; in 1858 he had proposed the wildly ambitious idea of building a rail line that stretched across all of British North America, linking the Atlantic with the Pacific. Fleming had been the chief surveyor for the Canadian Pacific Railway in 1885 when the last spike in the railway connecting the two coasts of Canada was driven, sparking a nationalistic fervor

throughout the British Empire. (He was also the man responsible for establishing the Standard Time System in 1883—still in use today—primarily as a way of simplifying train schedules.)

Now it seemed Fleming had another grand idea: an undersea telegraph cable linking two important pieces of the empire, Australia and Canada. He patriotically deemed it an imperial necessity. Canada's prime minister, John A. Macdonald, had invited Fleming to attend the 1887 Colonial Conference in London, where the visionary engineer made a case for his transoceanic cable. The reception was encouraging, but Fleming's cable idea had a major technical obstacle: It required a way station somewhere along its 7,300-mile run across the Pacific. Great Britain did not own the requisite territory, but the ever-resourceful Fleming had an answer.

The Hawaiian Island chain was both directly in the path of the proposed cable and nearly halfway between both its destinations. But the Islands were all territory of a sovereign, foreign nation. ...

May 25 evening, the two competitors were steaming toward their goal. The distance from Honolulu to Necker is 460 miles, and not many were giving the old Hawaiian freight steamer much of a chance against a sophisticated modern cruiser from the world's most powerful navy. But while the *Iwalani* was a much less sophisticated and technically slower ship, she had the advantage of being lighter and more maneuverable among the reefs that dotted the journey.

Nearly seven hours after leaving Honolulu, the ship reached Kaua'i. Bearing southeast, the *Iwalani* sailed for another eighteen hours until passing Nihoa, 150 miles west of Necker. Sailing on through the night, the eager crew sighted Necker at 9 a.m. on the 26th. The *Iwalani's* log states: "... arrived at the island and dropped anchor in eighteen fathoms of water." But they needed to actually set foot atop this imposing island with its sheer cliffs and document their landing. A camera had been brought along for just that

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By Helen Altton
Star-Bulletin Writer

To most people, it's just "a damn old rock."

But, after seven days and nights on Necker Island, George H. Balazs says, "To me, it's like a great cathedral."

Balazs shared the precipitous islet with Hawaiian monk seals, green turtles, hundreds of thousands of native seabirds and shrines of ancient Polynesians.

"It was a beautiful experience," he said, describing his adventure.

BALAZS IS A research biologist at the University of Hawaii's Institute of Marine Biology and the endangered Hawaiian green turtle is his special interest. He recently was appointed a member of the Marine Turtle Specialist Group of the International Union for Conservation of Nature.

He is in his second year of a three-year study to survey the turtle population in Hawaiian waters, including remote areas of the Leeward chain. He also hopes to learn more about their movements, growth and eating habits.

His research is funded by the State Marine Affairs Coordinator and the National Sea Grant Program.

Gary Naftel, captain of the Easy Rider, was doing fisheries research in the Necker area and dropped Balazs there with a week's supplies on Aug. 19.

NECKER, A narrow fishhook of volcanic rock, is 393 miles northwest of Hawaii in the Hawaiian Islands National Wildlife Refuge. Technically, it is part of the City and County of Honolulu. The rocky island comprises 41 acres and the highest spot there is 275 feet.

The islet is protected from human contact by hazardous landing conditions, and by the U.S. Fish and Wildlife Service, which gave Balazs a permit to work there.

Balazs spent three days in a cave shelter on a bluff but changed camp after puncturing his mattress.

"It was rough sleeping on the lava rock," he said.

He made three trips along the peak of the island, setting up observation stations, but said, "It's pretty precipitous. There are not many places to hike. I wore out a pair of boots."

HE SAID THAT, wherever he went on the island, he saw turtles

coming in to feed on the seaweed.

"I never saw such lush stands of limu," he said.

Balazs saw "a fair number" of Hawaiian monk seals with young pups born on the island.

"This was new information for Necker," he said. "We hadn't thought of it as a pupping area."

The seals and turtles "team up" on Necker, snoozing together on the ledges, Balazs said. "I'm really amazed at how they are able to live in harmony in a limited area on the rock ledge."

HE ALSO WAS surprised to see the turtles "hauling out on the lava rock and sleeping." On other islands, they bask on coral sand, or crawl under ledges underwater, Balazs said.

The turtles arrived at about 10 or 11 at night and left about 7 or 8 in the morning, he said.

He caught six small turtles with a scoop net to tag and measure them to follow their movements—"if they're moving"—and monitor their growth. He also used a probe sampler to obtain stomach contents to find out what they're feeding on.

There was a "definite change-over" of turtles, Balazs said. "I never caught the same small turtle twice." And, based on his observations, he estimates a minimum of 50 turtles using the nearshore waters.

NECKER SITS on a 650-square-mile bank, with the greatest depth 125 feet, Balazs said.

"It's conceivable the turtles are using the entire bank and the island itself as part of their total cycle," he said.

Necker is about 75 miles from the turtle breeding grounds at French Frigate Shoals so Balazs believes it is an important island for them.

"I feel the adults are probably fairly resident to the island," he said.

He found the birds and animals far tamer at Necker than at other islands where they have acquired fear of man.

KENNETH P. EMORY, senior archaeologist at the Bishop Museum, was "shocked" when he saw a slide show of Balazs' trip to Necker.

Emory spent five days on Necker in 1924 and recorded 34 marae (shrines) built by ancient Polynesians. He thought they were still there, undisturbed, but Balazs' pictures showed a number of the reli-

Turtles and Seals

Find a Home



gious structures had been destroyed by bombs.

Emory said he learned the Navy was bombing the island during World War II and advised the naval command at Pearl Harbor that the island was covered with ancient ruins.

Balazs found a 250-pound bomb on one section of the island and two more bombs on the northwest cape

with birds perched on them.

Balazs would like to go to Lisianski, which he believes may be another important island for turtles, and to other remote islands in the leeward area.

But, he said, there is no transportation into the eight units of the wildlife refuge except for French Frigate Shoals where a Coast Guard navigation station is located.

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From p. 143

purpose. They lowered a skiff loaded with "His Excellency Capt. J.A. King, Captain Freeman, C.B. Norton and nine sailors." After a difficult landing, the successful culmination of the mission was recorded next: "A hard climb up a rugged cliff 260 feet high was made, when Minister J.A. King hoisted the Hawaiian flag, read the proclamation and took possession of the island." The crew remained on Necker for only a few hours before heading back.

When the familiar whistle of the *Iwalani* was heard in Honolulu around 7 p.m. on Thursday May 29, a number of people rushed down to the wharf. Dole and the provisional government cabinet arrived to meet Capt. King and congratulate him. The newspapers mercilessly teased the massive British ship and its crew; the *Hawaii Holomua* joked that Capt. King, with his rifle, had "bored a hole in the *Champion*, and that the wreck was hanging at the end of a stern-line from the *Iwalani*." Later the British government would insist that the *Champion* had stopped just past Kaua'i, her intended destination all along. (International embarrassment notwithstanding, Fleming would eventually have his cable; the first section, from San Francisco to Honolulu, was laid in 1902.) While the facts of the British ship's true destination are disputed to this day, some Honolulu families still recount stories celebrating the *Iwalani* ... and *ka heihei iā Necker*—the race to Necker. HH

Notes:

006225

01/17/2014





Star-Bulletin



Wednesday, October 12, 1977

Seabirds flock around a marae (shrine) built on Necker Island by ancient Polynesian travelers while George Balazs, left, keeps watch from an observation post on a steep cliff.-Photos by George Balazs.



SIGHTING INFORMATION TURTLE AND SEAL

Animal sighted (circle): Turtle Seal
Number of animals: 34 Type, if known: Green
Date: 6/16/82 Observer: DeRooy
Address & phone: NAUTILUS DIVE CENTER, INC.
Time: 10:30 AM (optional):
Location: Lelaia 382 Kamehameha Ave.
Observed from (circle): shore, boat (name: Hilo, Hawaii 96720)
while skin or SCUBA diving (on surface or at 35 feet deep).
Estimated size (length): All most med to Lg
Comments: (such as color pattern; injuries; scar patterns; tumors; whether flipper tags are present (Y/N); color and number of the tag(s); bleach marks (number/letter); behavior; and weather)

All time record for one dive since 1982

Only one example with severe tumor

Seals and sea turtles are protected under Federal and State law.

DO NOT DISTURB.

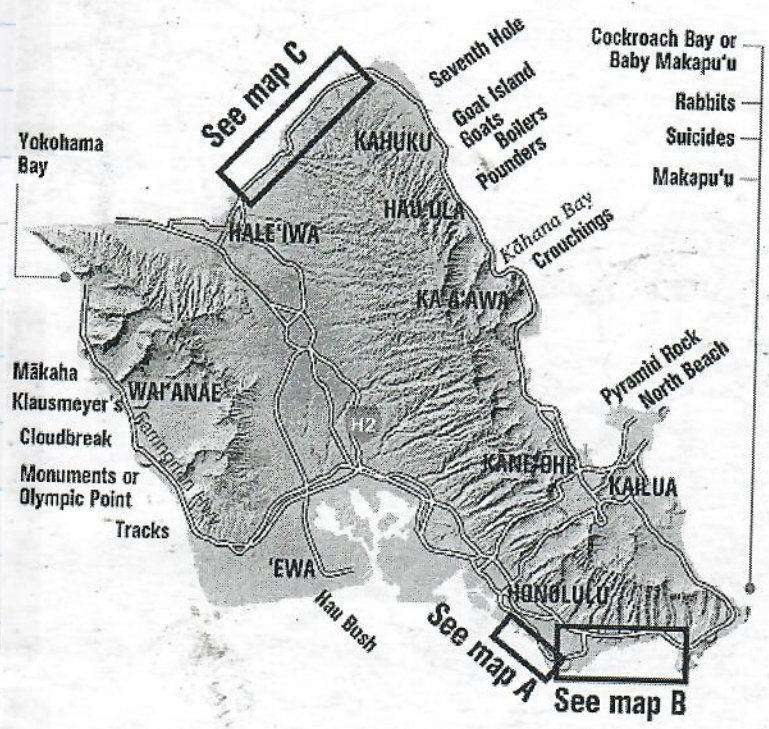
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1917

O'AHU SURF SPOTS

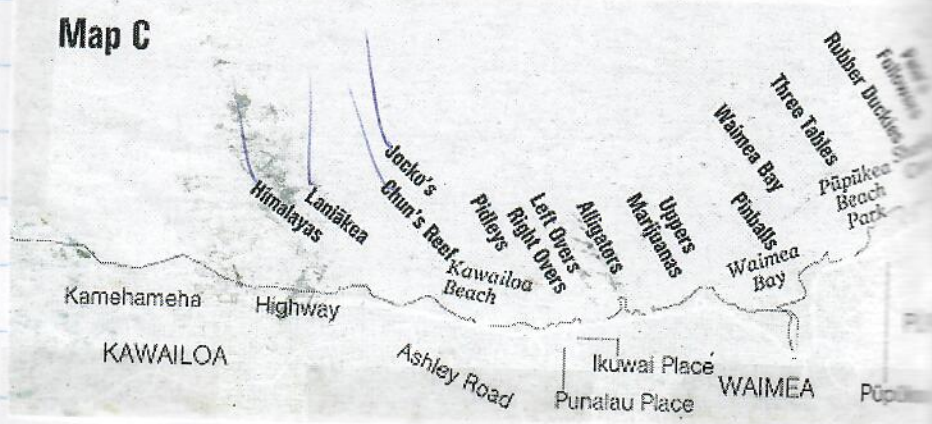
Map A



Ala Moana
Keweenaw Basin

Map B

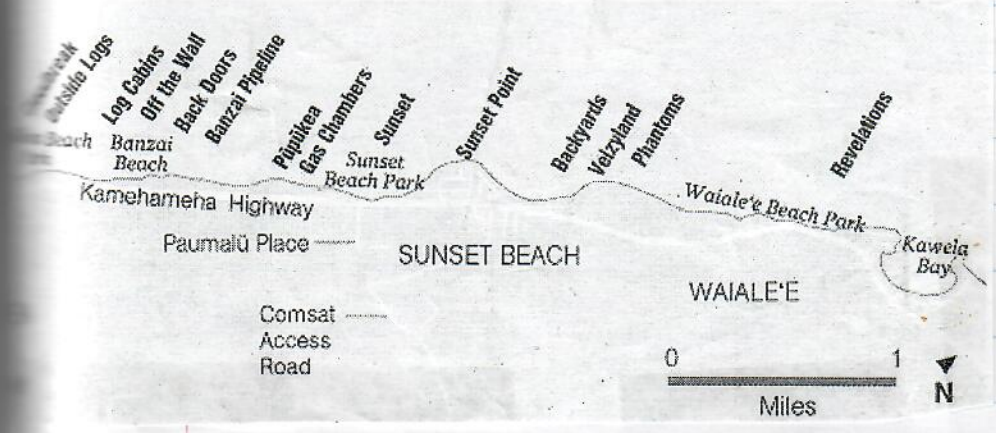
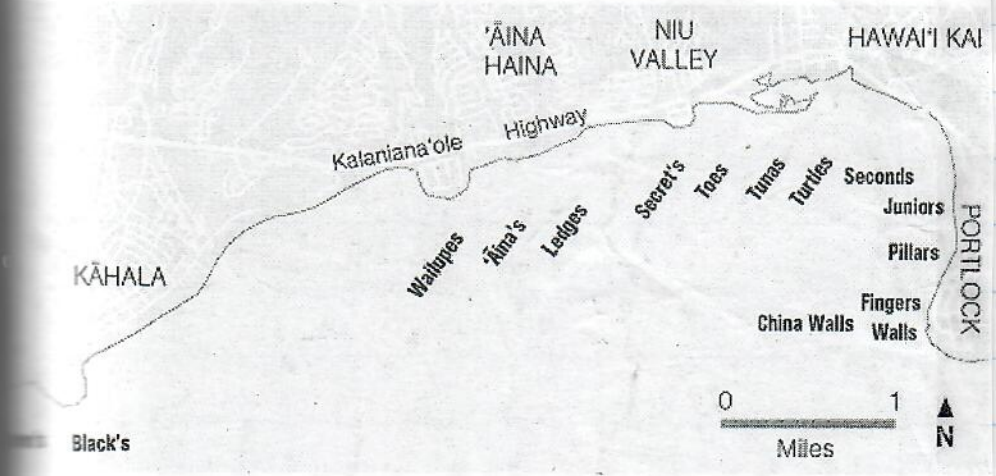
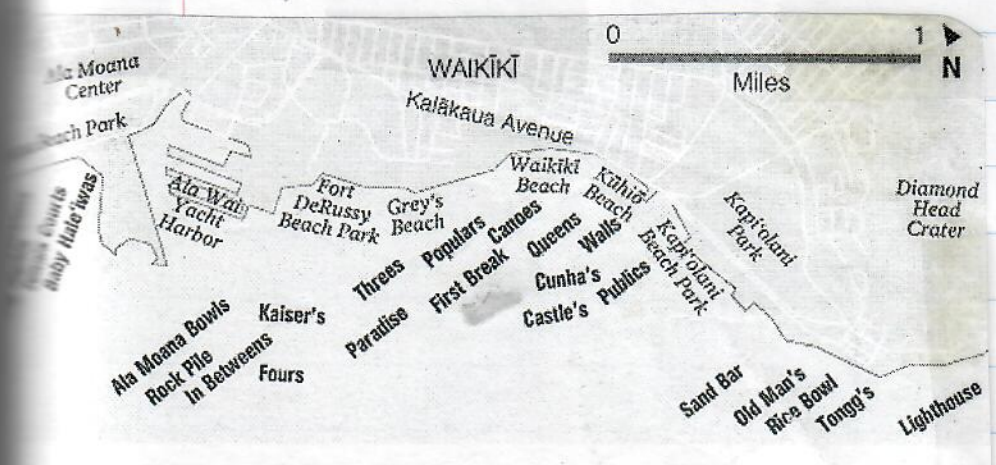
Map C

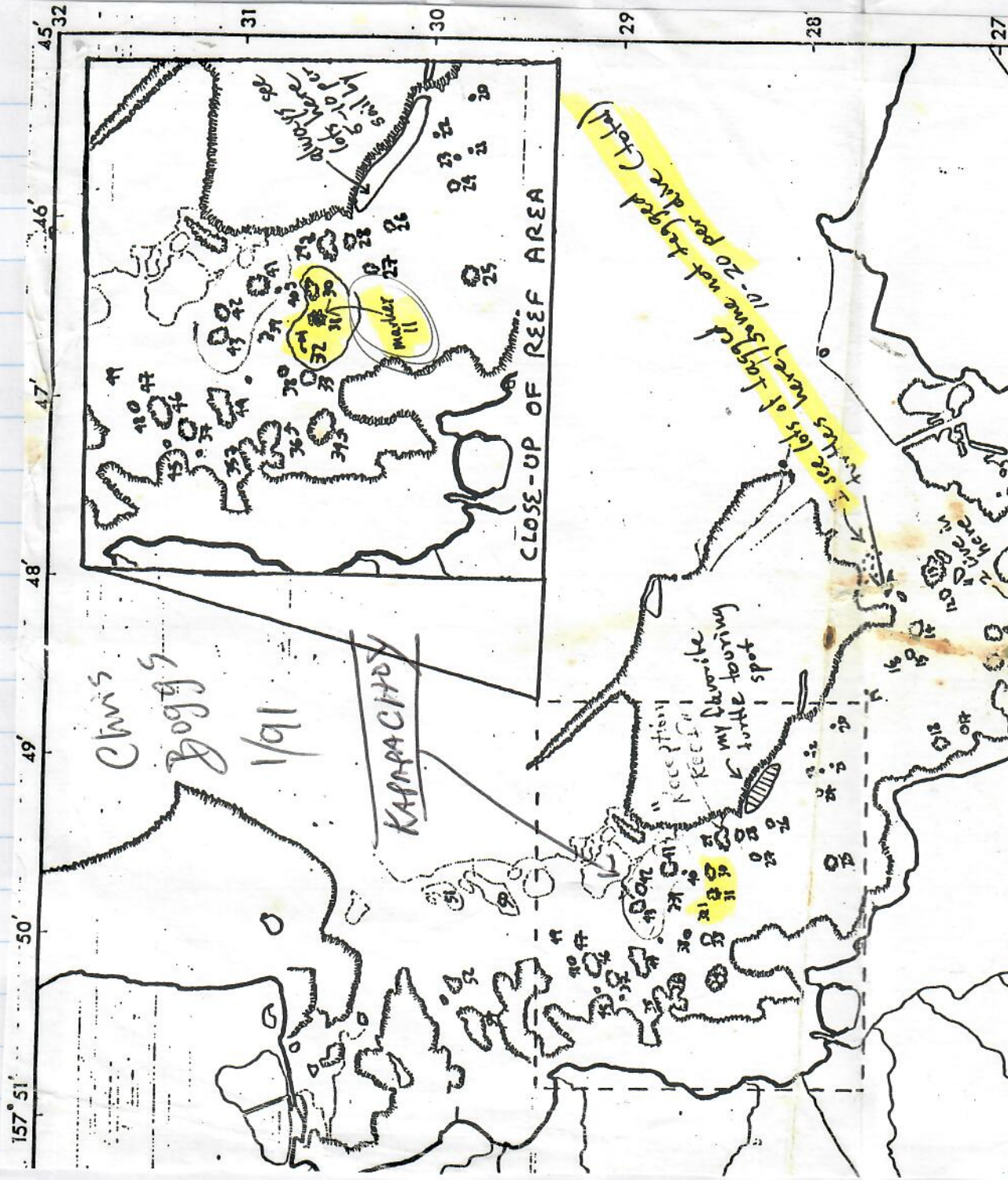


Diagonal

City

Pūpū





157° 51' 50' 49' 48' 47' 46' 45' 32'

31

30

29

28

27

Chris Boggs

1/9/1

KAPACHY

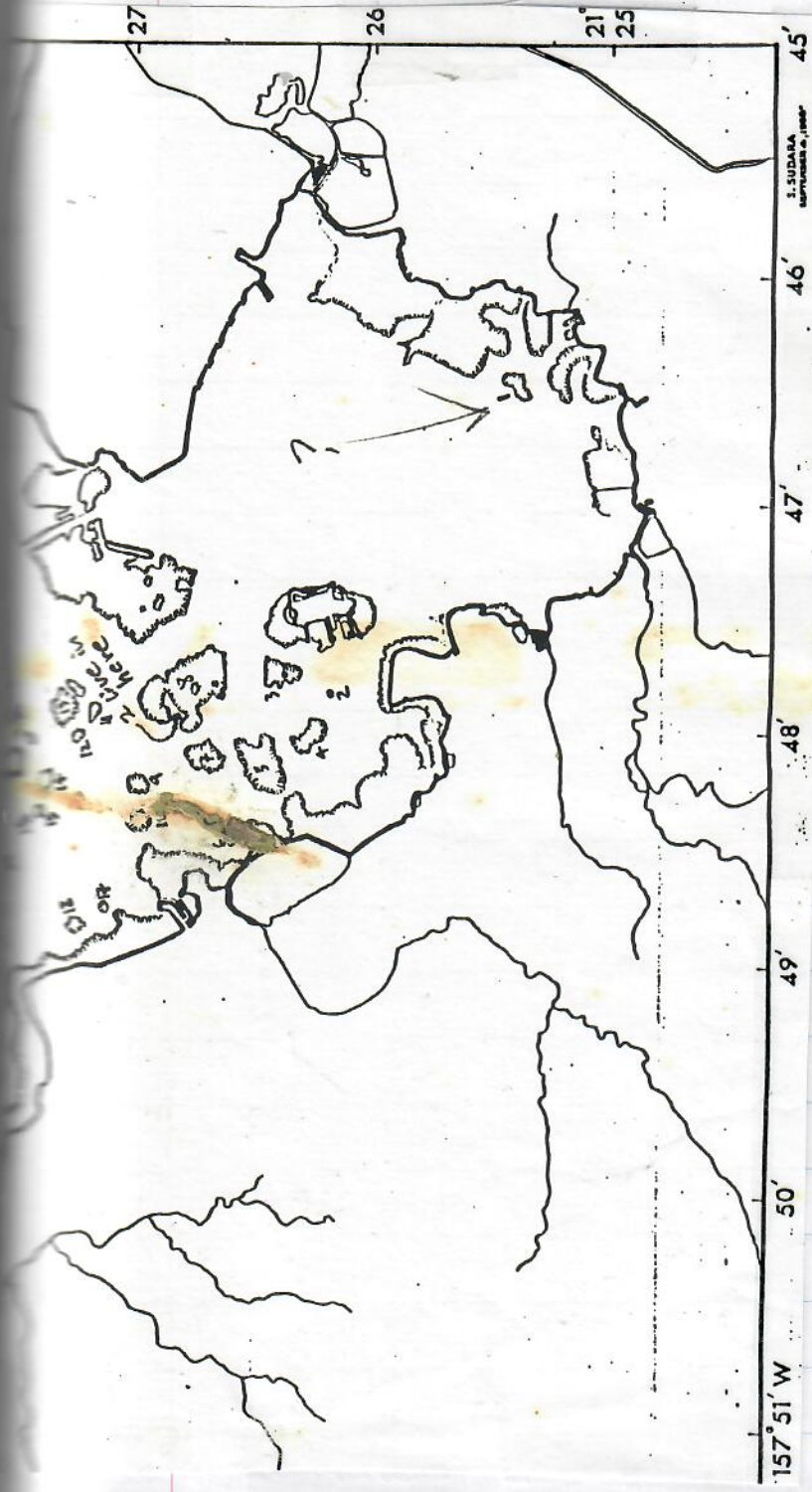
see lots of jagged turtles here, 10-20 per dive (total)

my favorite turtle touring spot

see lots of jagged turtles here, 10-20 per dive (total)

see lots of jagged turtles here, 10-20 per dive (total)

see lots of jagged turtles here, 10-20 per dive (total)



Source: Bill Tyler

I. SUDARA
1970

157° 51' W

50

49

48

47

46

45

21
25

26

27



Western
Pacific
Regional
Fishery
Management
Council

September 10, 2012

VIA ELECTRONIC FILING AND POSTAL MAIL

Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Re: 90-Day Finding on a Petition to Delist the Green Turtle in Hawaii and Notice of
Status Review (RIN 0648-XB089; NOAA-NMFS-2012-0154)

To Whom It May Concern:

The Western Pacific Regional Fishery Management Council (Council) appreciates this opportunity to provide comments to the National Marine Fisheries Service (NMFS) on the 90-day finding on a petition to identify the Hawaiian population of the green turtle (*Chelonia mydas*) as a Distinct Population Segment (DPS) and delist the DPS under the Endangered Species Act (ESA). The Council believes that the petition presents substantial scientific information indicating that the Hawaiian population of green turtles has recovered and is no longer in danger of extinction, thereby warranting the delisting of this DPS.

The ESA was enacted to protect and recover imperiled species and the ecosystems upon which they depend. The recovery of the Hawaiian green turtle population presents a remarkable success story for the ESA. Since protections were put in place during the 1970s by the State of Hawaii² and later under the ESA, the Hawaiian green turtles have rebounded at a rate of nearly 6% per year. The current population may be over 80% of pre-exploitation levels in the early 1940s, and it is estimated that there are approximately 61,000 resident green turtles in Hawaii's coastal habitats. Major threats such as commercial harvest and habitat destruction in nesting grounds have been eliminated, and the population has continued to increase despite the existence of residual threats. Adequate regulatory mechanisms are in place at local, federal, and international levels to ensure that the green turtle does not become endangered after delisting. The Hawaiian green turtle population has achieved the ESA's principal goal of recovery, and

¹ See 77 Fed. Reg. 45571 (August 1, 2012).

² In 1974, the Hawaii Department of Land and Natural Resources adopted Regulation 36, which prohibited green turtle take except under a permit to take for home consumption in the main Hawaiian Islands.

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www.wprcouncil.org

Commonwealth of the Northern Mariana Islands, Pacific Remote Islands Area, Republic of the Marshall Islands, Federated States of Micronesia, and the Republic of Palau. Furthermore, the Pacific Sea Turtle Recovery Team tasked to draft the Green Turtle Recovery Plan concurrently drafted recovery plans for all other species of sea turtles occurring in U.S. Pacific waters. Consequently, similar biological recovery targets were used across most species.

For example, the Pacific green turtle Recovery Plan states that "Each stock must average 5,000 (or a biologically reasonable estimate based on the goal of maintaining a stable population in perpetuity) females estimated to nest annually (FENA) over six years." The Recovery Plan provides no scientific rationale that 5,000 FENA is an appropriate recovery target for the Hawaiian population, and thus the Services should determine a "biologically reasonable estimate" for this population prior to evaluating the population status against this criterion. Recent studies suggest that, while current nesting activity at French Frigate Shoals is well below the nesting beach carrying capacity⁷, at least some foraging grounds in the main Hawaiian Islands are at or approaching carrying capacity⁸. This suggests that the growth of the Hawaiian green turtle population is likely limited by foraging capacity, and that 5,000 FENA may be an unrealistic target for this population.

Furthermore, a significant discrepancy exists between the Pacific and Atlantic green turtle Recovery Plans. The Atlantic-green turtle population nests in Florida and is one of two breeding populations listed as Endangered instead of Threatened in 1978. According to the Atlantic green turtle Recovery Plan published in 1991⁹, the Florida population must meet a delisting criterion of "an average of 5,000 nests per year for at least 6 years [emphasis added]," instead of 5,000 females¹⁰ as specified in the Pacific green turtle Recovery Plan. No scientific justification is available in the Recovery Plans or in the scientific literature explaining this discrepancy.

The green turtle, known in Hawaii as the *hona*, is an important cultural resource for the people of Hawaii. Protection of green turtles under the ESA in 1978 not only prohibited traditional, cultural, and subsistence use of honu, but also deprived local communities of the ability to take care of the resource upon which they depended. While three decades have past, willingness of the people to take care of the land and the ocean for future generations remains strong in the islands. Delisting of the honu would not only signify an achievement under the ESA, but would also return the responsibility of honu management to the people of Hawaii, who have vested interest in ensuring that the green turtle population is sustained in perpetuity.

⁷ Tiwari, M., G.H. Balazs, and S. Hargrove. 2010. Estimating carrying capacity at the green turtle nesting beach of East Island, French Frigate Shoals. *Marine Ecology Progress Series*. 419: 289-294.

⁸ Wabnitz, C.C.C., G. Balazs, S. Beavers, K.A. Bjornndal, A.B. Bolten, V. Christensen, S. Hargrove, D. Pauly. 2010. Ecosystem structure and processes at Kaloko Honokohau, focusing on the role of herbivores, including the green turtle *Chelonia mydas*, in reef resilience. *Marine Ecology Progress Series*. 420: 27-44.

⁹ National Marine Fisheries Service and U.S. Fish and Wildlife Service. 1991. Recovery Plan for U.S. Population of Atlantic Green Turtle. National Marine Fisheries Service, Washington, D.C. Available for download at: https://www.nmfs.noaa.gov/burhdofs/recovery/turtle_green_atlantic.pdf

¹⁰ Each female lays multiple nests per season. According to the Atlantic Recovery Plan, green turtles lay 2-3 nests per season, indicating that 5,000 nests would be equivalent to approximately 1,666-2,500 females.

2
should be delisted accordingly to ensure that the ESA fulfills its function as intended by Congress.

"The PIF (LMR) pa reactivat 2011 thin involving which Ge Headqua Centers in (visiting s contact w the visitat must have total. Tha favorably. deadline t - is essent profession

LMR 2013

"The PIFSC representing NOAA USA in the Pacific is significantly involved in the Living Marine Resources (LMR) panel meeting ongoing academic involvement in a bilateral with China. The LMR bilateral was reactivated in June 2011 after nearly 7 years of stagnation on both China and the USA's part. Since June 2011 things have moved very fast via numerous conference calls, a major meeting at headquarters involving the Chinese delegation, and a workshop on turtles convened by the Chinese in Shanghai at which Gerard, Balazs and John Wang were prominent players. Balazs travel to Shanghai was paid by Headquarters. Jeff Siminoff represented the SWFSC. Seminoff and Balazs emerged as representing their Centers in terms of moving further forward the bilateral for turtles to develop projects. Academic exchange (visiting scientist to each location) was high on the list of the draft meeting report. Balazs recently made contact with PIRO international fisheries Raymond Clarke. Clarke offered to bop funds from his program for the visitation of two Chinese turtle scientists for 10-15 days of visit to PIFSC by September. But the bop must have a Center travel ceiling. Travel per diem etc for each Chinese estimated to be 5.5K so 11.0K total. That's a lot of ceiling, but this *is* an important step forward that will be viewed by the Chinese very favorably. A fall-back position would be one Chinese scientist- 5.5K of ceiling. Ray Clarke has a short deadline to commit the funds- he has made it easy for me, but the ceiling assurance-- either 5.5K or 11.0K- is essential." Today ideally, according to Ray. PIRO does not have the ceiling- Ray made that professionally very clear to me." gb

~~LMR~~
~~CHINA/USA~~

should be delisted accordingly to ensure that the ESA fulfills its function as intended by Congress.

Since the petition was submitted in February 2012, the Hawaiian green turtle assessment conducted by members of the Marine Turtle Specialist Group (MTSG) was accepted by the International Union for Conservation of Nature and Natural Resources (IUCN).³ The final assessment concluded that this population now has a status of "Least Concern" under the IUCN Red List, indicating that it is no longer threatened with extinction. The assessment was reviewed by the full MTSG membership consisting of over 200 sea turtle experts worldwide prior to being submitted to the IUCN for consideration. The Council requests that NMFS and U.S. Fish and Wildlife Service (collectively, the Services) take into consideration the new IUCN Red List classification for Hawaiian green turtles as the assessment presents a comprehensive review of available scientific information regarding its population status. A copy of the final assessment is enclosed.

As part of the status review, the Services will determine whether the Hawaiian green turtle qualifies as a DPS under the ESA and whether delisting is warranted for the DPS. As indicated in the Federal Register Notice announcing the 90-Day Finding, the Services are required to evaluate the species status against the ESA Section 4(a)(1) factors⁴ using the best scientific and commercial data available. In addition to the Section 4(a)(1) factors, NMFS has previously used delisting criteria specified in the recovery plan to evaluate population status, as seen in a recent status review of the eastern DPS of Steller sea lions⁵ that resulted in a proposed rule to delist the DPS. Should the Services decide to take a similar approach of using both the Section 4(a)(1) factors and recovery criteria in evaluating population status of the green turtle, the Council requests that the Services first examine the applicability of each of the recovery criteria to the Hawaiian population.

The Recovery Plan for U.S. Pacific Populations of the Green Turtle⁶ was published in 1998 and includes eight recovery criteria, all of which must be met to be considered for delisting. However, the Recovery Plan and its delisting criteria were not created specific to the Hawaiian population, but instead were created for all green turtles inhabiting U.S. Pacific waters, spanning a broad geographic range including the U.S. west coast, Hawaii, American Samoa, Guam,

³ Pflieger, N.J., Chaloupka, M.Y. & Woods, E. 2012. *Chelonia mydas* (Hawaiian subpopulation). In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1. <http://www.iucnredlist.org/details/16285718/0>

⁴ These are: (1) the present or threatened destruction, modification, or curtailment of habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; and (5) any other natural or manmade factors affecting the species' existence (16 U.S.C. 1533(e)(1), 50 CFR 424.11(c)).

⁵ National Marine Fisheries Service. 2012. (Draft) Status Review of The Eastern Distinct Population Segment of Steller Sea Lion (*Eumetopias jubatus*). 106pp + Appendices. Protected Resources Division, Alaska Region, National Marine Fisheries Service, 709 West 9th St, Juneau, Alaska 99802. Available for download at: <http://nwr.fisheries.noaa.gov/protectedresources/stellers/eips/traffedps0412.pdf>

⁶ National Marine Fisheries Service and U.S. Fish and Wildlife Service. 1998. Recovery Plan for U.S. Pacific Populations of the Green Turtle (*Chelonia mydas*). National Marine Fisheries Service, Silver Spring, MD. Available for download at: http://www.nmfs.noaa.gov/pr/pdfs/recovery/turtle_green_pacific.pdf

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