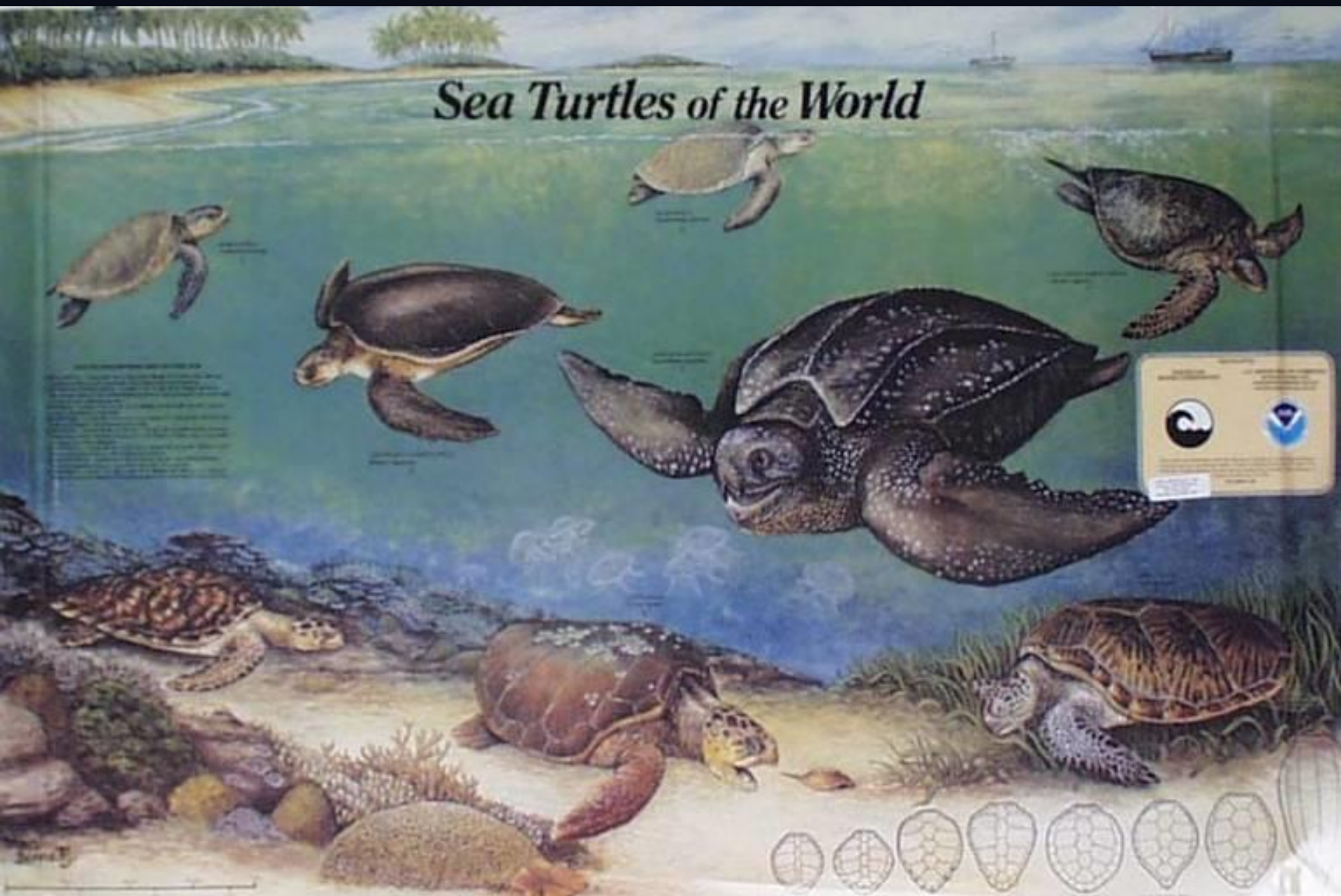


SEA TURTLES



Sea Turtles of the World



[Faint, illegible text block]

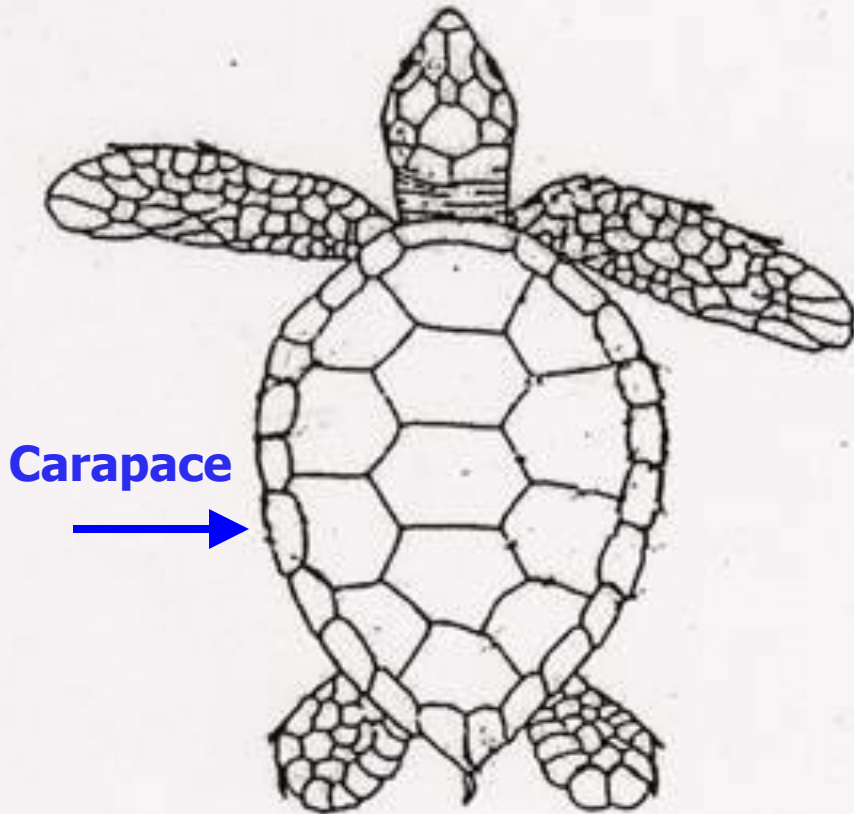


Seven Species of Sea Turtles

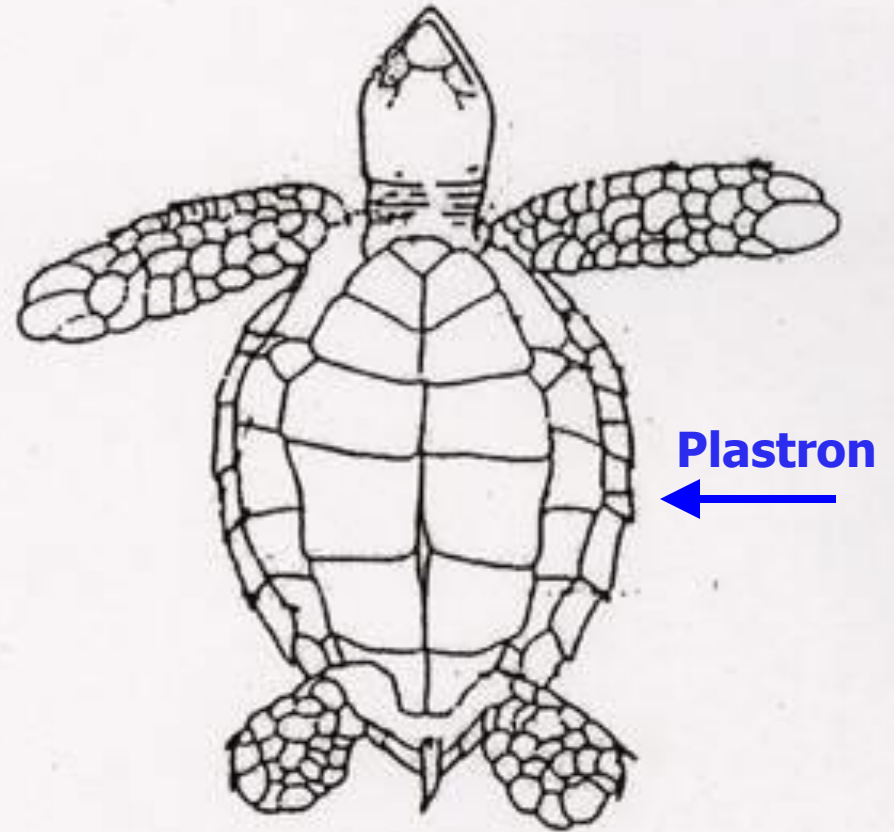
1. Green (*Chelonia mydas*)
2. Hawksbill (*Eretmochelys imbricata*)
3. Leatherback (*Dermochelys coriacea*)
4. Olive ridley (*Lepidochelys olivacea*)
5. Loggerhead (*Caretta caretta*)
6. Australian Flatback (*Natator depressus*)
7. Kemps ridley (*Lepidochelys kempi*)

Sea Turtle Terminology

Dorsal



Ventral



- Scutes are plates on carapace and plastron
- Scales are found on surfaces of flippers and head

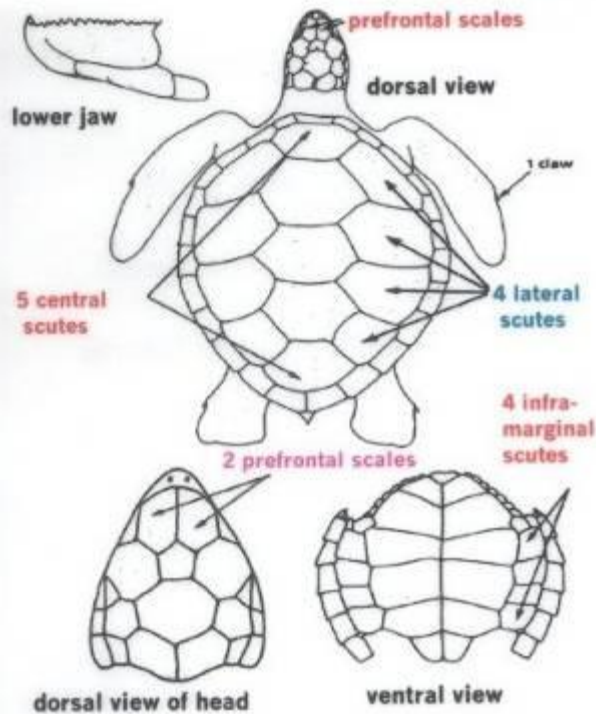
GREEN

- **Named for the color of internal fat**
- **Weighs up to 300 lbs**
- **Feeds on algae and seaweed**
- **Pacific nesting beaches in Hawaii, Australia, and various Pacific Islands**



George H. Balazs

Green Sea Turtle



- Smooth oval shell
- Brown/yellow greenish color
- 4 pairs of lateral scutes
- 5 central scutes
- 2 prefrontal scales
- Serrated lower jaw

Comparison of Flipper Size



Pacific Green Turtle

Atlantic Green Turtle





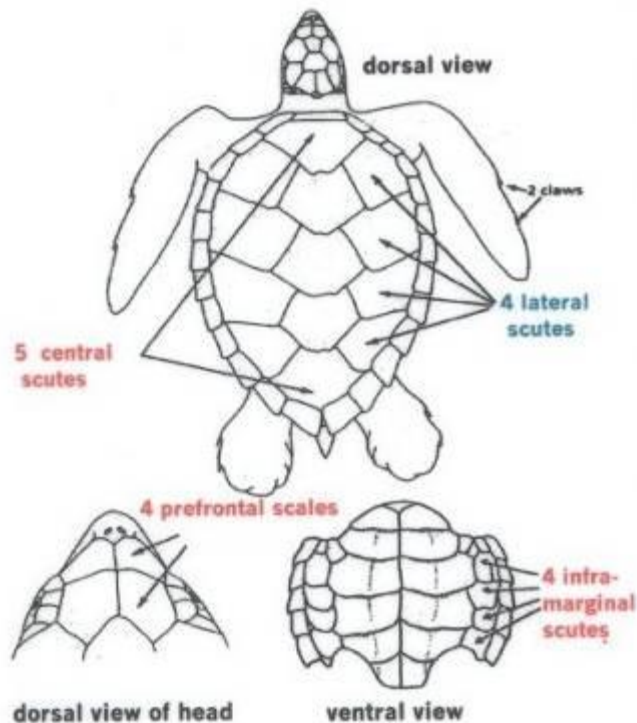
Ursula Keuper-Bennett

HAWKSBILL

- Dark brown with overlapping scutes
- Weighs up to 150 lbs
- Pointed beak used for picking food such as sponges from coral
- Pacific nesting beaches in Australia, Asia, Philippines, and Hawaii



Hawksbill Sea Turtle



- Overlapping scutes
- Narrow shell
- Hawk-like beak
- 4 pairs of lateral scutes
- 5 central scutes
- 4 prefrontal scales

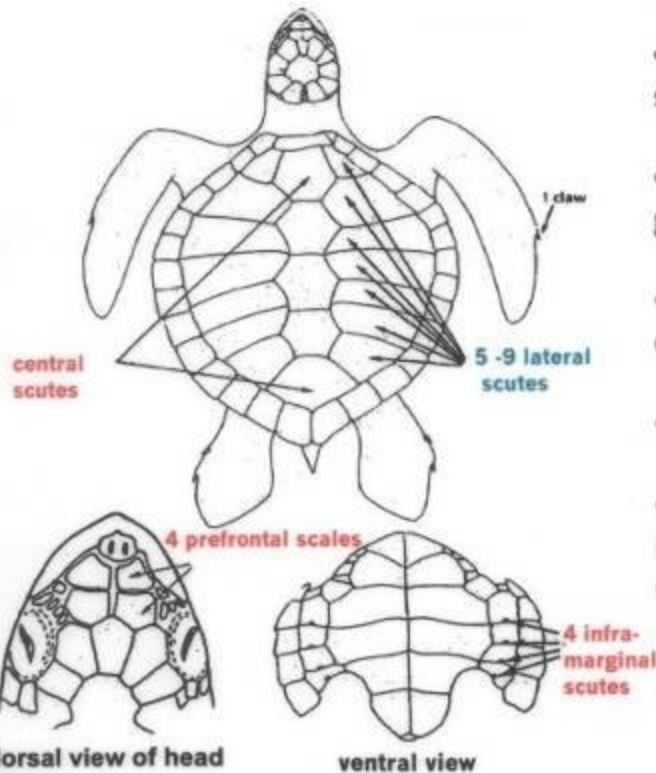


OLIVE RIDLEY

- Grey in color and weighs up to 110 lbs
- Has a relatively high carapace (shell)
- Feeds on jellyfish and pelagic red crabs
- Pacific nesting beaches in Mexico and Central America



OLIVE RIDLEY SEA TURTLE



- Almost round-shaped shell
- Olive/grayish green color
- Between 5-9 pairs of lateral scutes
- 4 prefrontal scales
- 4 pairs inframarginal scutes

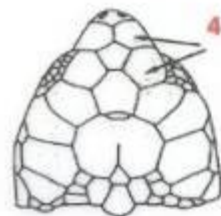
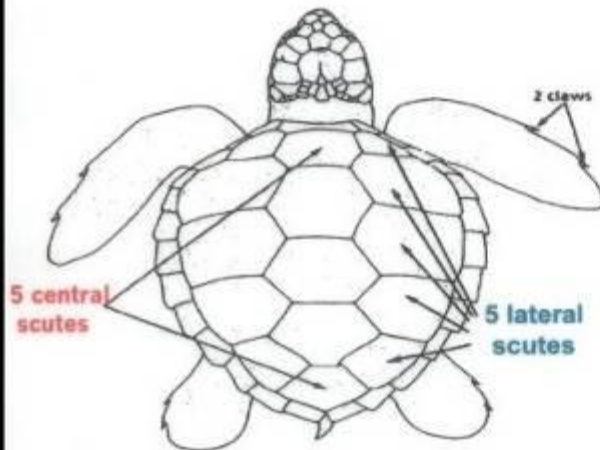


LOGGERHEAD

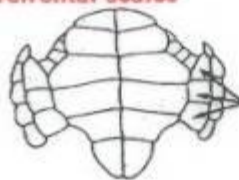
- Reddish in color and weighs up to 300 lbs
- Comparatively large head
- Typically preys on benthic invertebrates such as cnidarians, cephalopods, and fish
- Pacific nesting beaches in Japan and Australia



Loggerhead Sea Turtle



4 prefrontal scales



3 infra-marginal scutes

- Heart shaped shell
- Reddish/orange color
- 5 pairs of lateral scutes
- 5 central scutes
- 4 prefrontal scales
- 3 inframarginal scutes



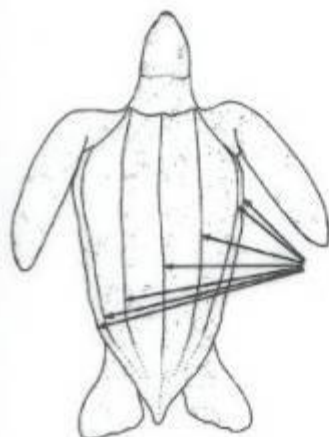
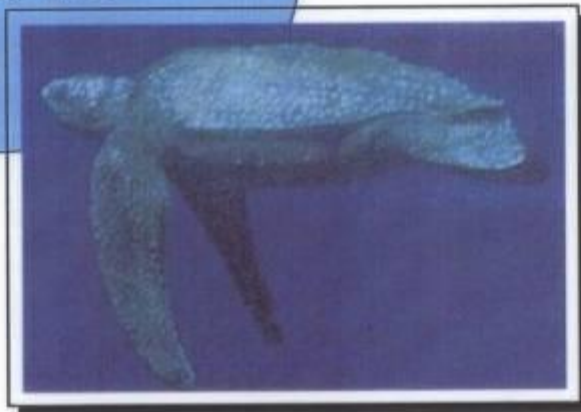


LEATHERBACK

- Largest of all sea turtles
- Weighs up to 2,000 lbs
- Only soft-shelled turtle
- Diet primarily consists of cnidarians, tunicates, and jellyfish
- Pacific nesting beaches in China and Mexico



Leatherback Sea Turtle



dorsal ridges

Dorsal View
(Top)



w-shaped beak

- Dark color
- No hard shell
- No scales
- 5-7 dorsal ridges
- W-shaped upper jaw or beak
- May attain great size



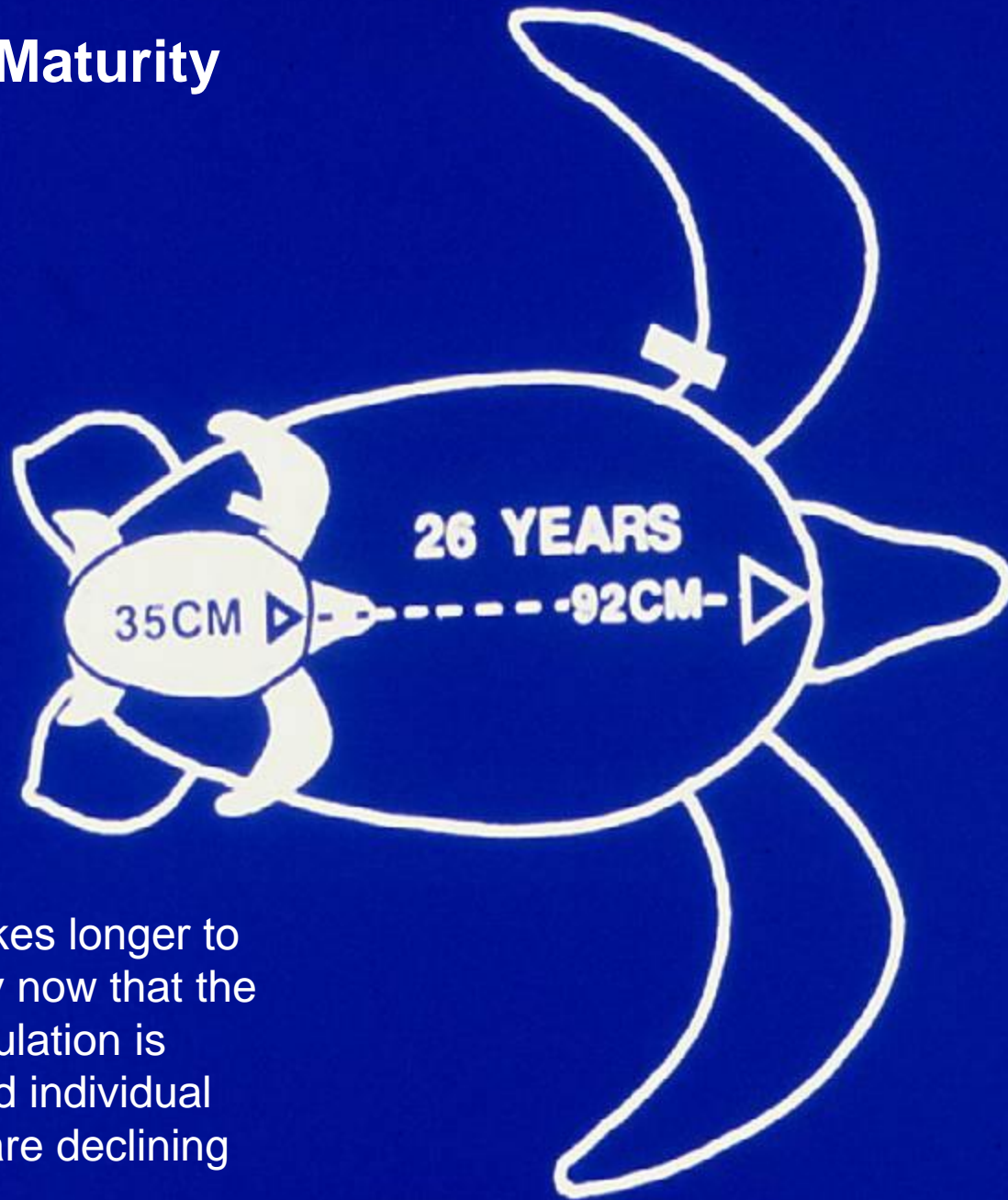
AUSTRALIAN FLATBACK



KEMPS RIDLEY

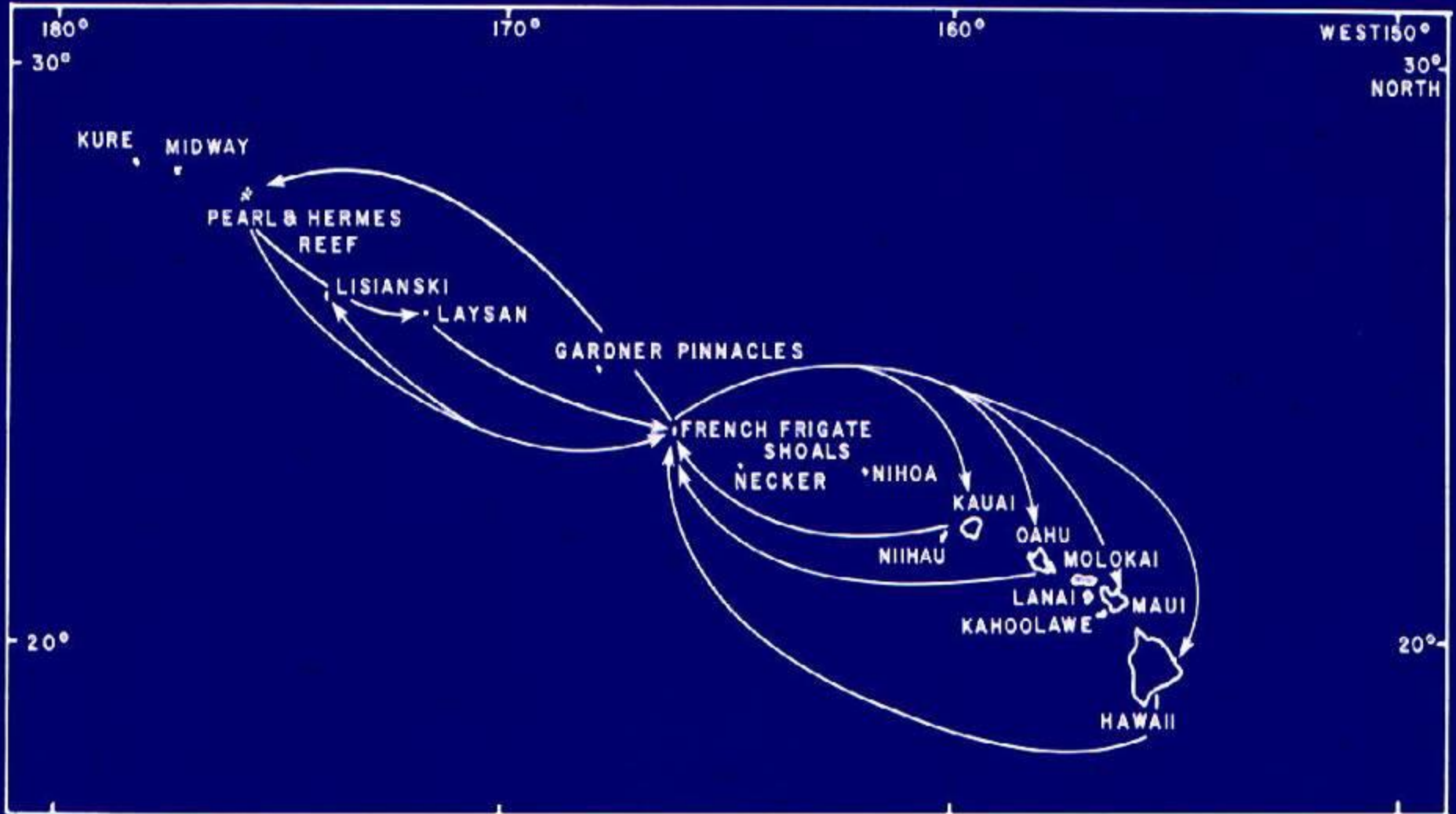


Time to Maturity



...probably takes longer to reach maturity now that the Hawaiian population is recovering and individual growth rates are declining

Where Hawaii nesters come from





East Island, French Frigate Shoals



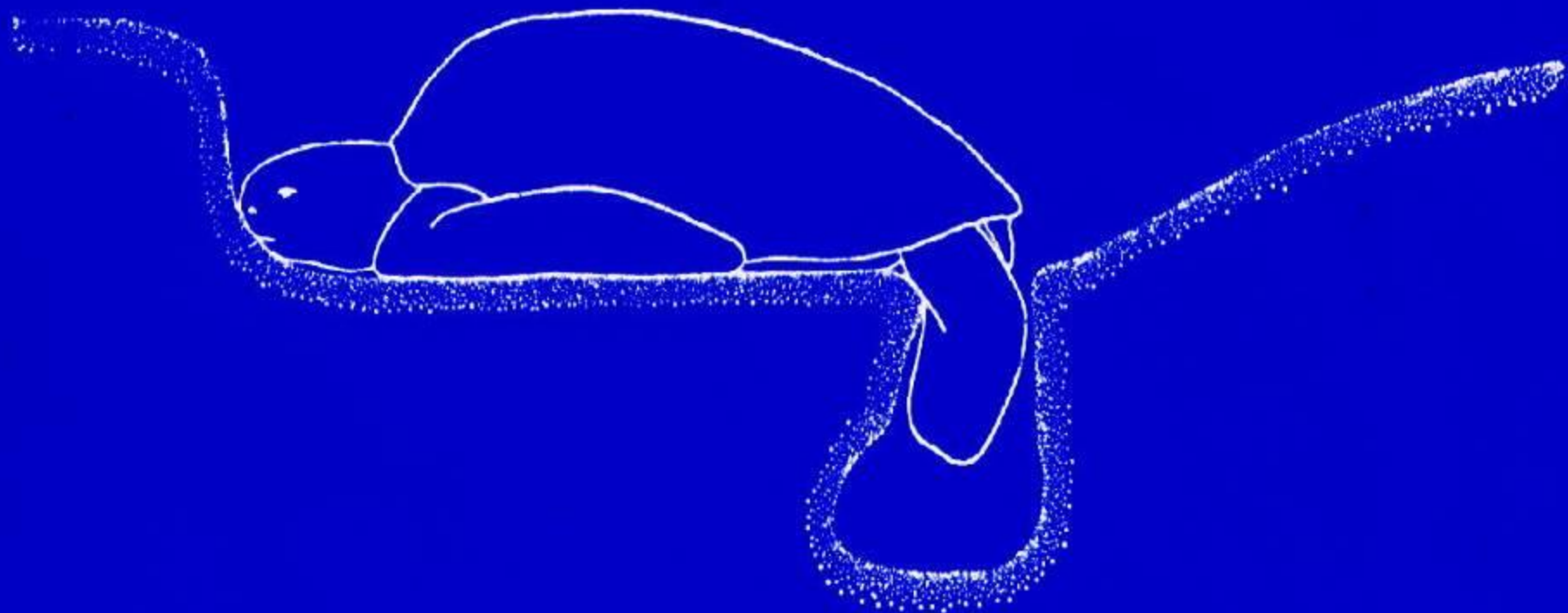


Except for the female during nesting, most marine turtles never again return to land after leaving the natal beach. However, a special exception exists for Hawaiian green turtles. On the undisturbed Refuge islands, both males and females regularly crawl up on the beaches where they bask peacefully in the sun for hours at a time.

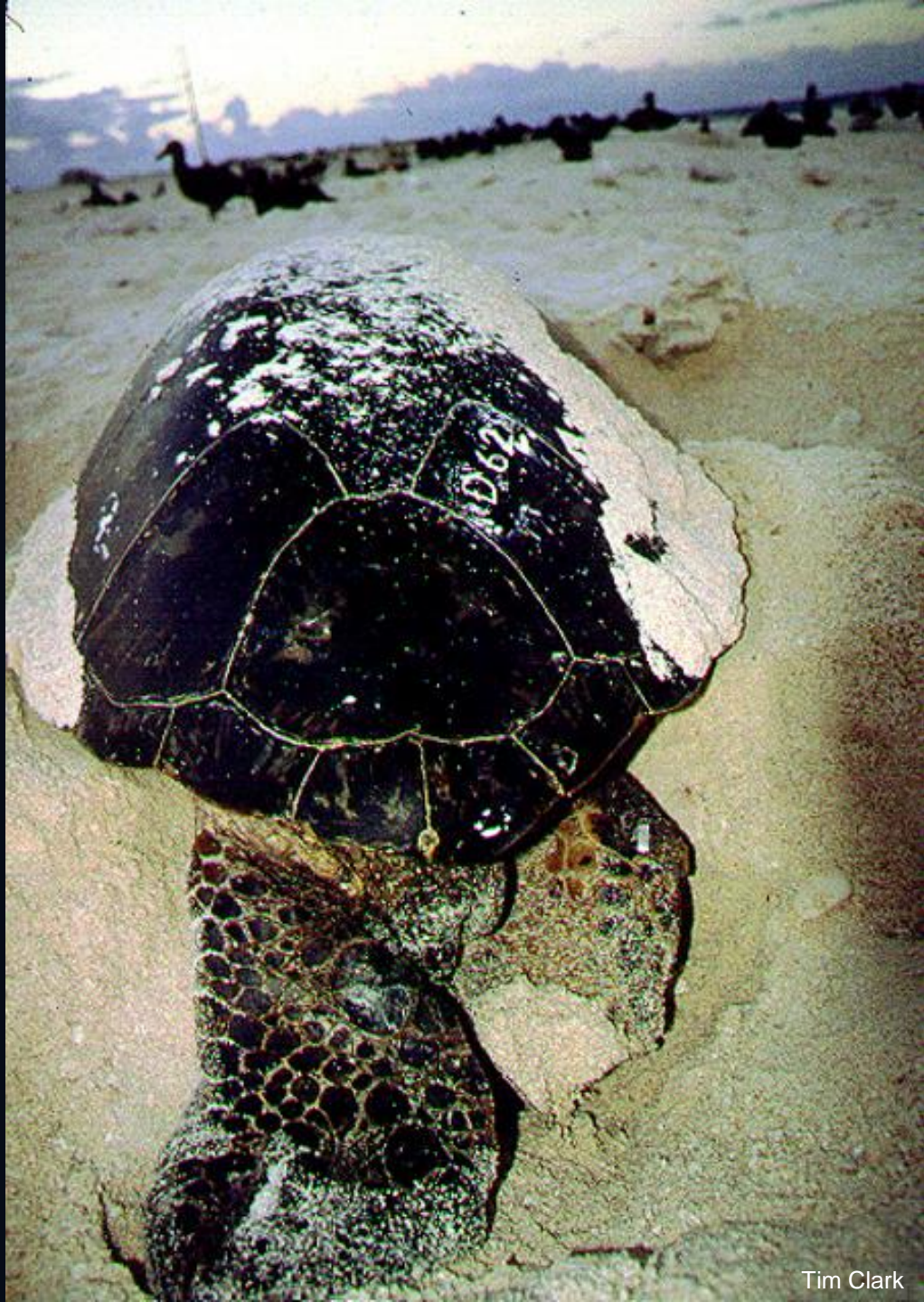












Tim Clark











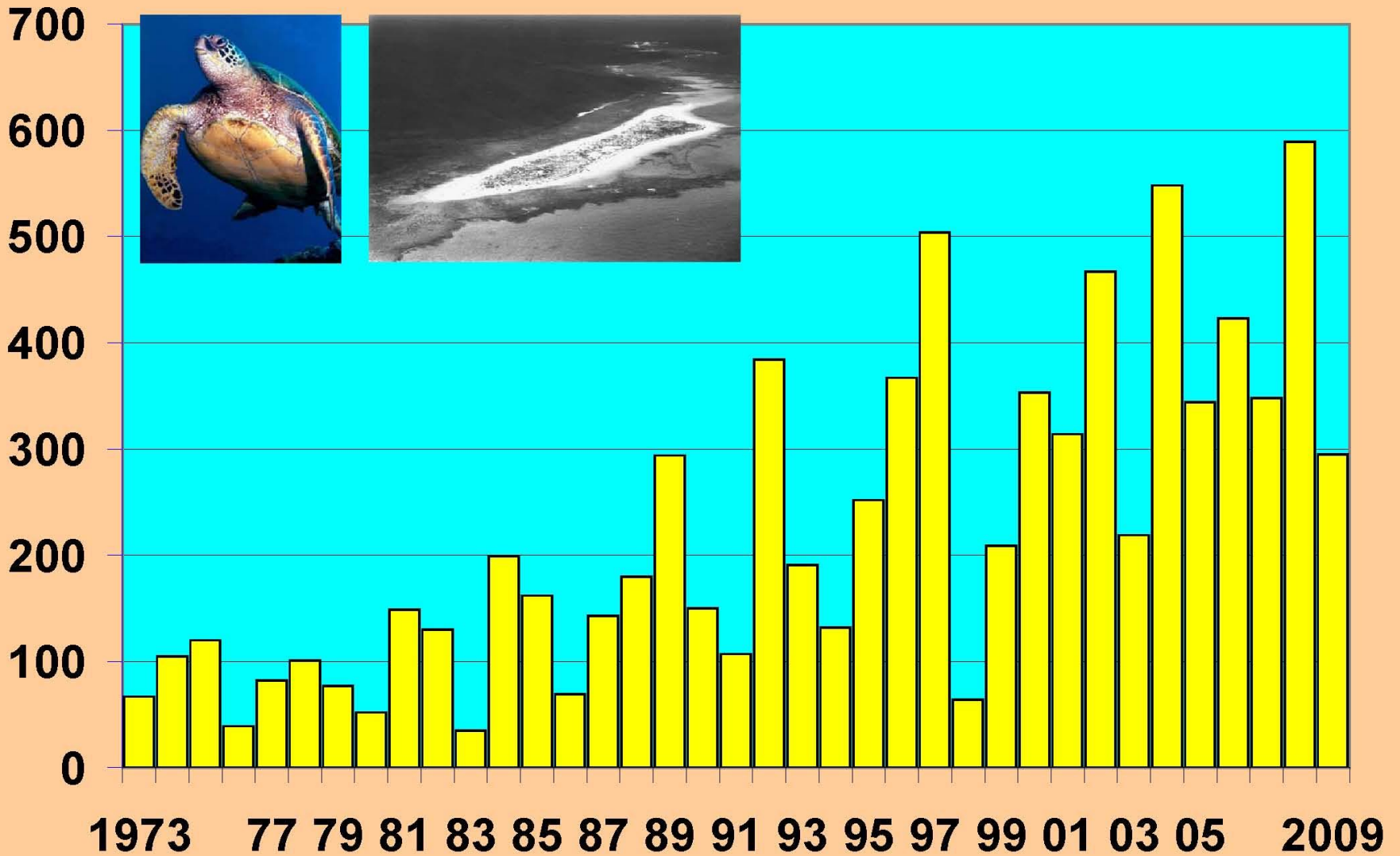






George H. Balazs

GREEN TURTLES NESTING AT EAST ISLAND, FFS



ANNUAL TREND FOR 37 SEASONS



Threats to Sea Turtles



Monofilament Fishing Line



HELP HAWAIIAN SEA TURTLES WITH SAFE FISHING PRACTICES



Prevent the event

- **PLEASE KOKUA, DO NOT** cast your line where turtles are seen surfacing to breathe.

If you hook or entangle a turtle

- GENTLY** Bring turtle close to you, use dip net or firmly hold front flippers and shell to safely lift out of water.
- DO**
- Cut line close to hook and remove line that has become entangled around turtle. **AVOID** turtle's mouth and flipper claws; use blunt scissors/knife to cut line.
- DO NOT**
- Do not lift turtle above water by pulling line - this will result in further injury. If distance to you from boat/pier/cliff is too great or turtle is too large, cut line as short as possible to release turtle.
 - Do not remove hook unless turtle is lightly hooked and it can be taken out without further injury. If uncertain, **DO NOT** remove hook.

Turtles with serious cuts, ingested or deeply embedded hooks need veterinary care. Keep turtle in shade. Immediately call National Marine Fisheries' Marine Turtle Research Program: 983-5730 or, weekends and holidays, State of Hawaii DOCARE conservation hotline: 587-0077.

Place this sticker on your tackle box

www.nmfs.noaa.gov/prot_res/prot_res.html

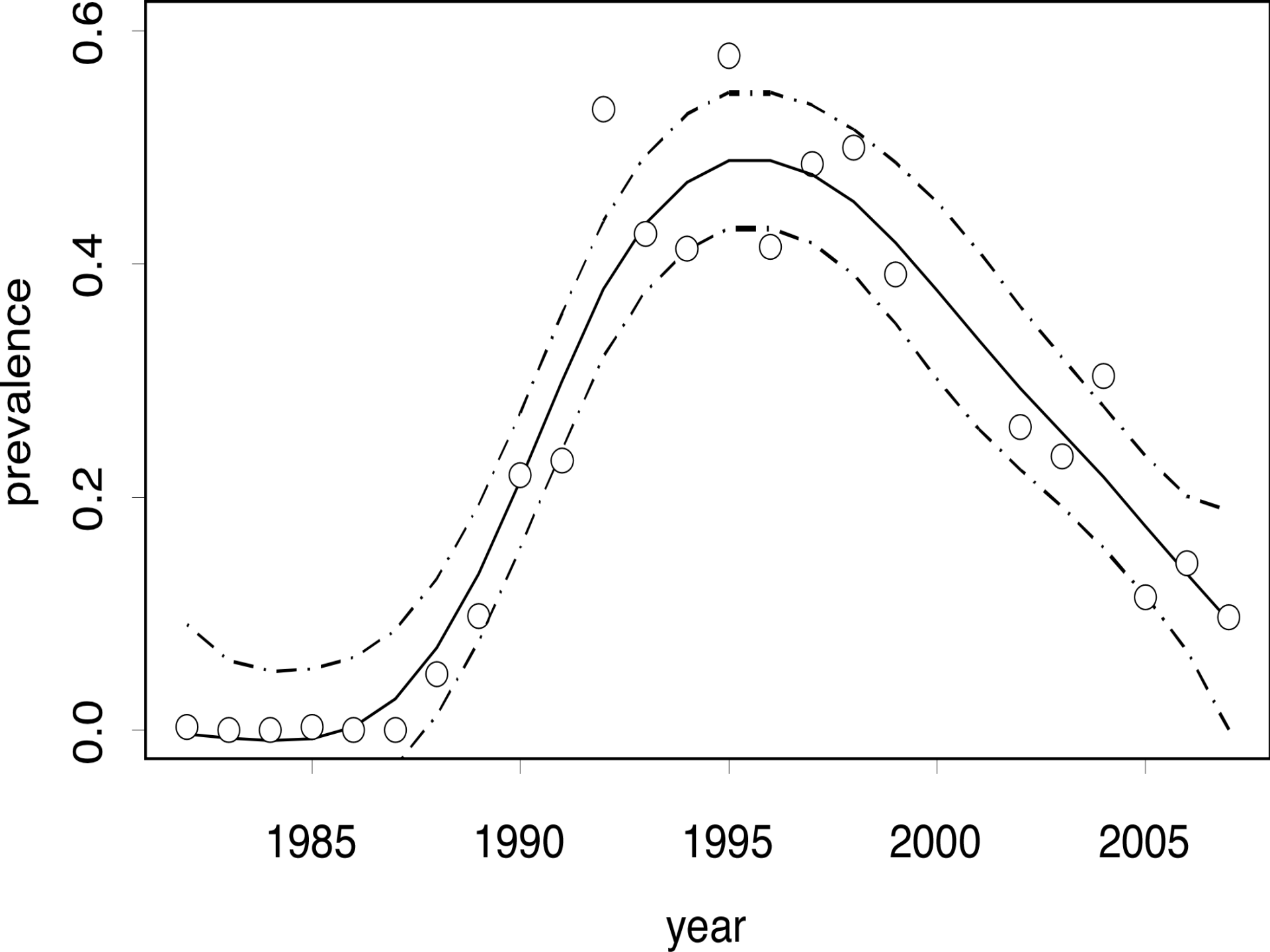
Shark Attack



Fibropapillomatosis (FP)











**Rescue of
turtle stuck
in a crack**

**Release of turtle with
surgically amputated
front flipper**



Turtle Uplinks to Satellites

■ One of Mauna Lani Resort's recently released honu (Hawaiian green turtle) has been cruising the pelagic zones around the Hawaiian islands. This turtle, affectionately known as Mauna Lani Honu #22270, was fastened with a small, air-activated UHF transmitter enabling researchers to track its movements prior to being released 5 miles offshore this past June 20.

Honu #22270 was released with the help of Francis Ruddle and Steve Boreri of Mauna Lani Sea Adventures, and student Jill Quaintance of the Hawaii Preparatory Academy Sea Turtle Research Program. By July 16, the honu was southeast of the Big Island when it abruptly turned north away from the islands. August 7 marked the honu's venture west, where it neared Necker Island before heading south and then west toward home. After spending a few days traveling around the island of Maui, the honu eventually returned to the Big Island and was last detected south of 'Apua Point on the east side of the Big Island on November 28. The sea turtle is continuing to move south.

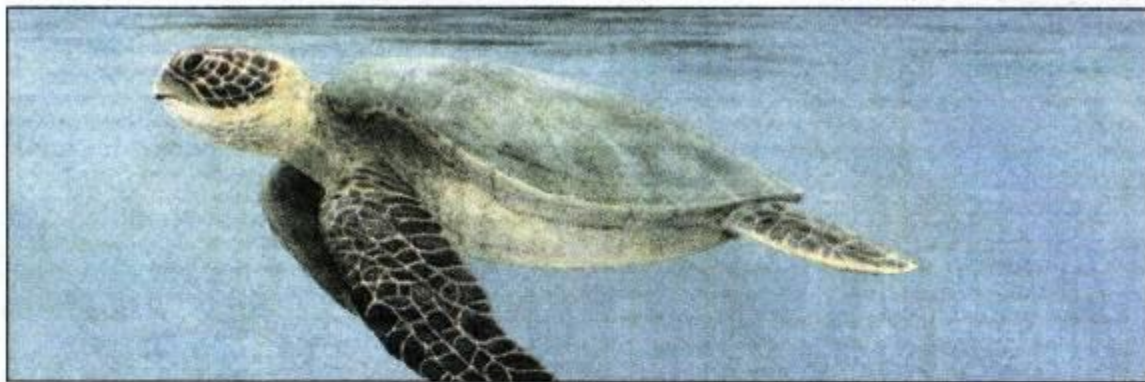
"From the inception of the Mauna Lani Honu Program, it has been our desire to educate the public and promote honu preservation in a research-oriented environment," said Mauna Lani Vice President and Director of Resort Administration Sandie Patton, administrator for the resort's turtle program. "This high-tech tracking of the honu is very exciting, and it enhances the educational and research aspects of our program. We receive an updated tracking map approximately every week, and we have been sharing this information with various elementary school classrooms and turtle aficionados who are tracking the progress along with us."

When the turtle is on the ocean's surface, the transmitter periodically sends a signal to five orbiting NOAA (National Oceanographic and Atmospheric Association) satellites in what's called the ARGOS system, a joint project between the United States and France. The satellites relay the signal to ground stations where it is analyzed and relayed to the NMFS (National Marine Fisheries Service) Honolulu lab.

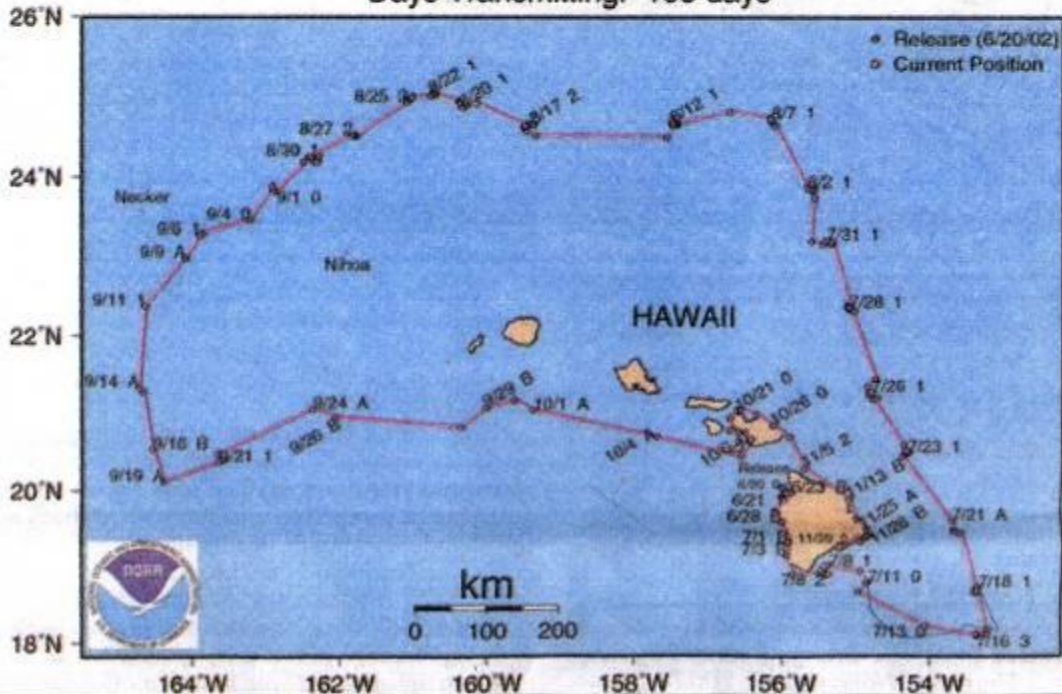
"We were hoping the turtle would take up life in the pelagic zones, and the good news is that it

Mauna Lani's 'Satellite Honu' Phones Home

by Diana Moody



Movement of Mauna Lani Juvenile Green Turtle 22270
Duty Cycle: 12 hr on, 48 hr off SCL: 45.5 cm
Days Transmitting: 165 days



Turtle nets







P & V McCormick



MAHALO!



Chad Yoshinaga