

Phoenix Rising from the Ashes

The Hawaiian
Green Turtle

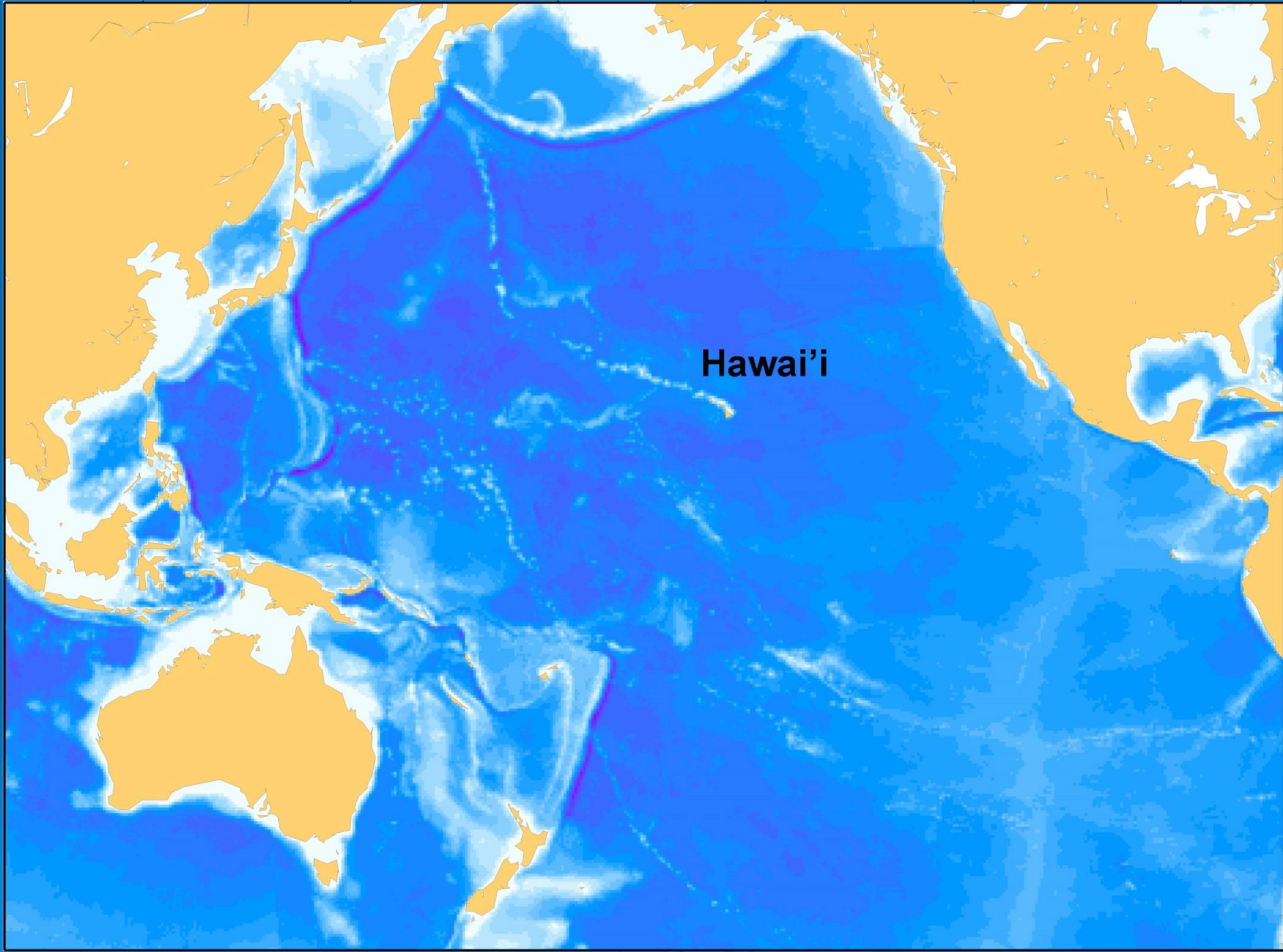
鳳凰



**A 42-Year History
of Changing Ecology
and Restoration**

Hawaiian Green Turtle - Honu





Hawai'i

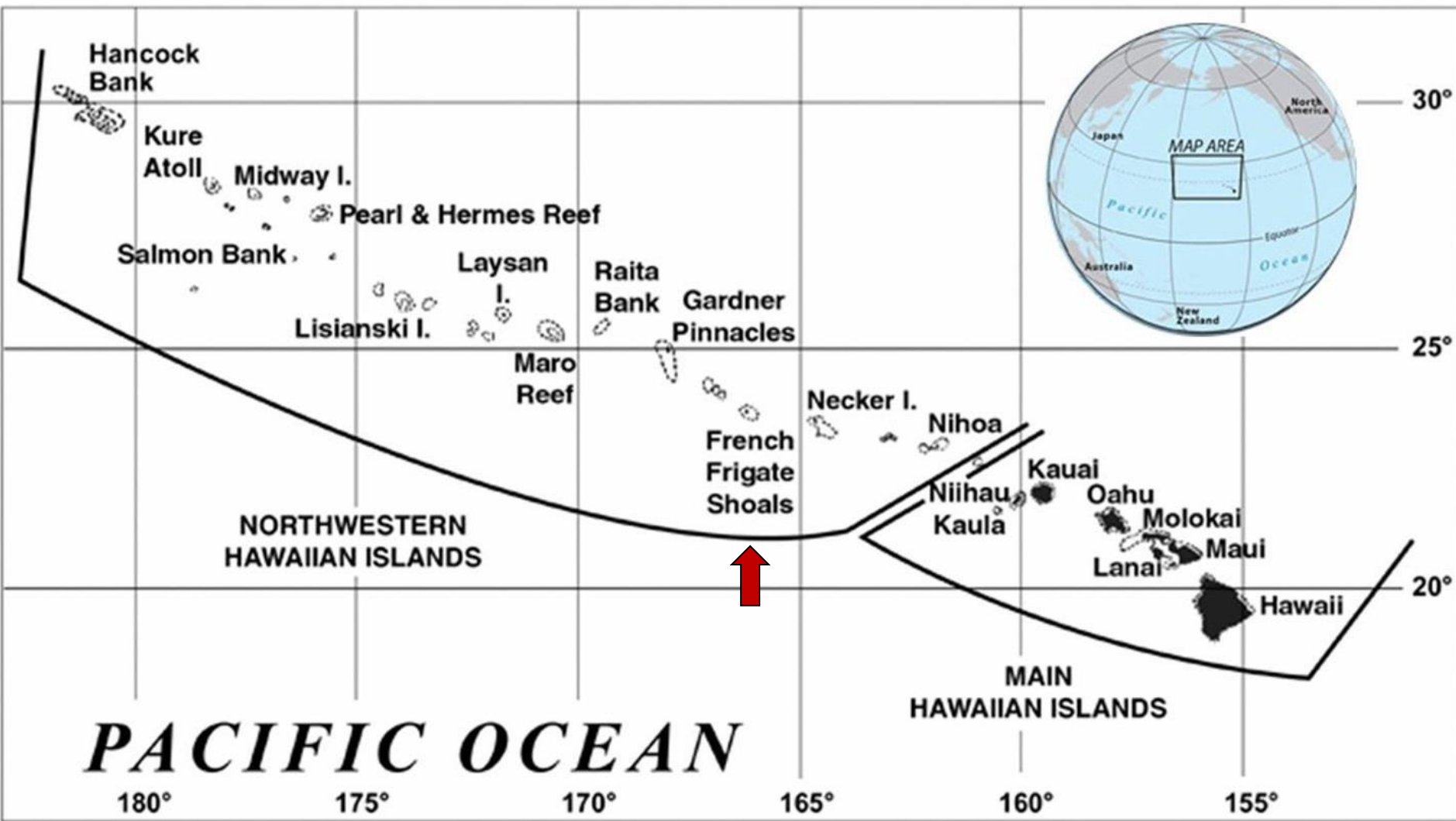
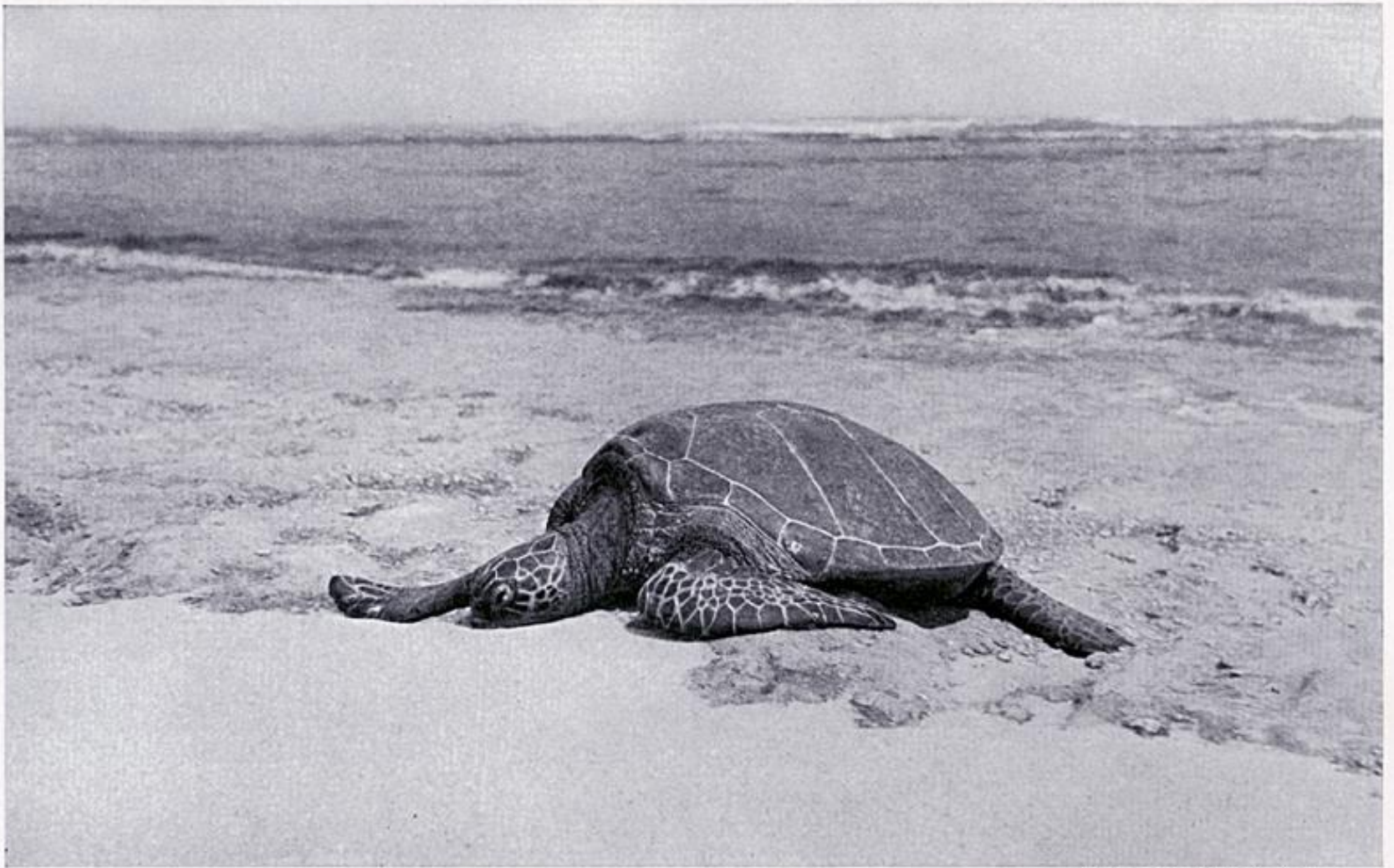


Figure 1. Hawaiian Archipelago





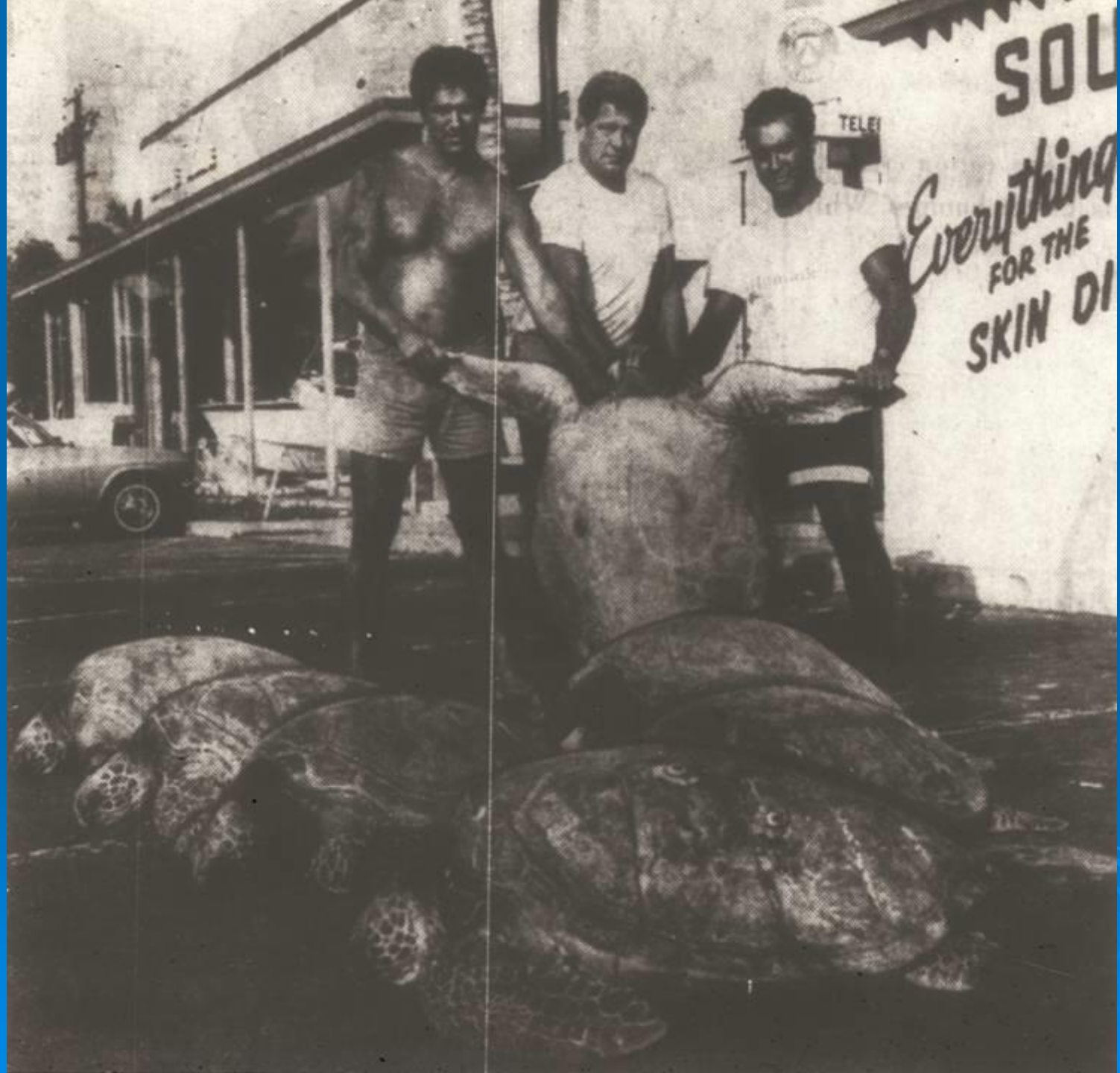




Photograph by Alexander Wetmore

A GREEN TURTLE ASLEEP ON A SANDY BEACH: LISIANSKY ISLAND

These grotesque creatures browse in submarine fields of algae until hunger is satisfied, and then crawl heavily out to sprawl in the sand, safe from enemies in the sea. On one occasion, the author, while walking 300 yards along the beach on Lisiansky Island, counted 80 of these creatures from fifteen inches to four feet in length. Others, feeding a few yards offshore, were hidden by ripples on the water and so escaped this casual census. Their only enemies seem to be sharks.



WANTED!



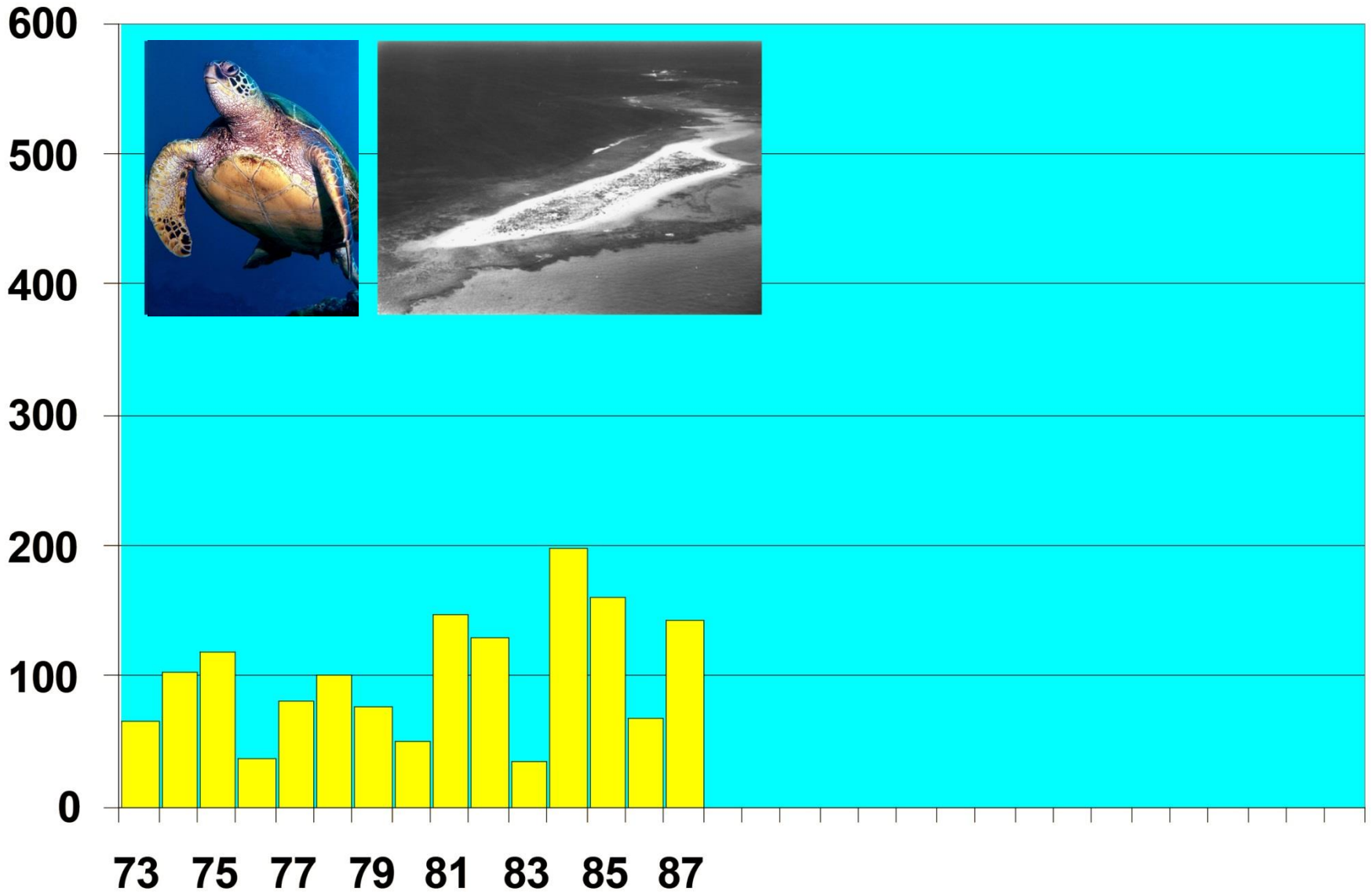
FOR
STEAKS, SOUPS
PURSES,
SHOES
ETC.
ETC.



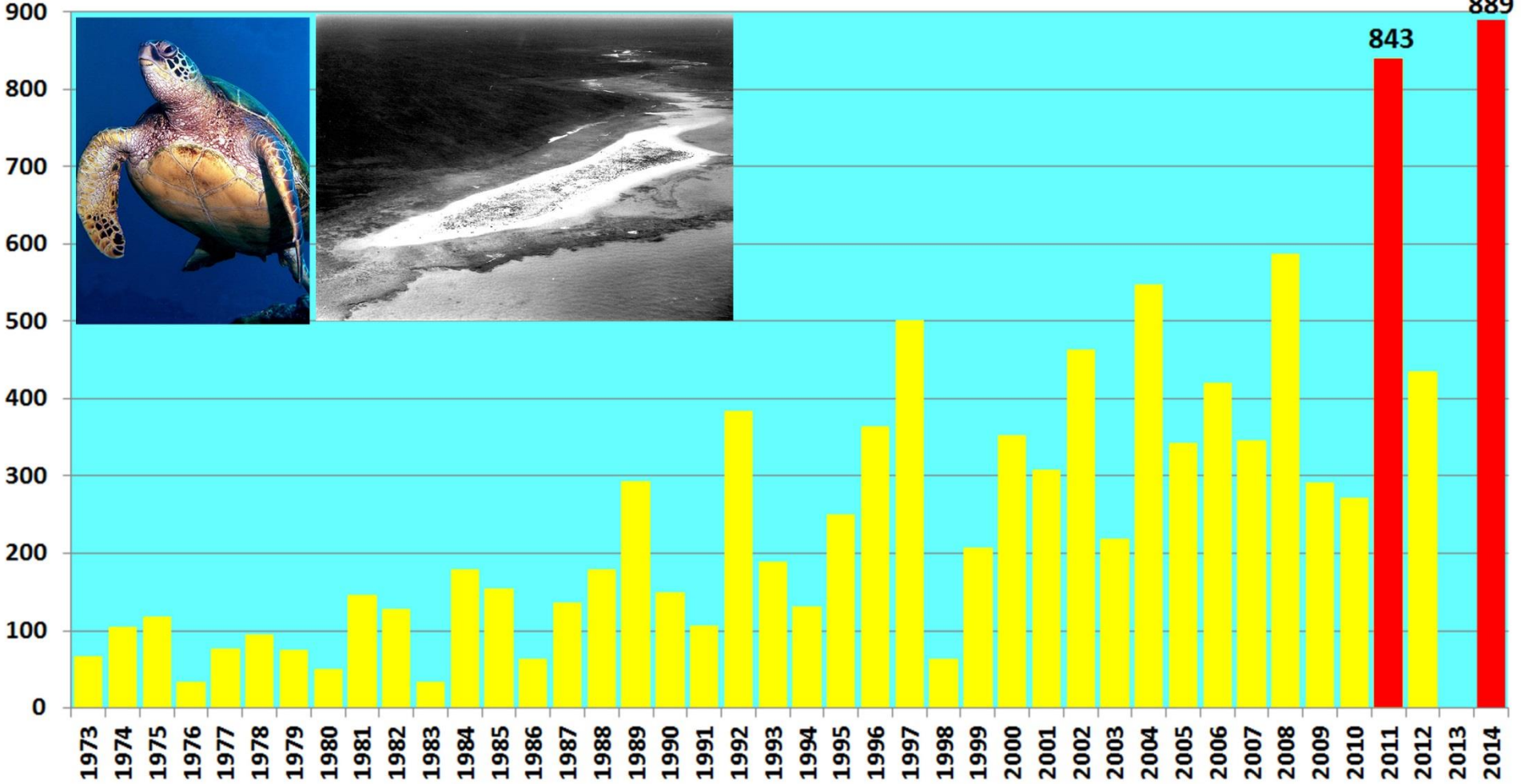
REPRODUCTION OF THE ORIGINAL



GREEN TURTLES NESTING AT EAST ISLAND



Green turtles nesting at East Island, French Frigate Shoals, 1973-2014



ANNUAL TREND FOR 42 SEASONS

Pacific Islands Fisheries Science Center
National Marine Fisheries Service

KAUAI

Lihue

To Toronto (Can)...4750 m

OAHU

Honolulu

MOLOKAI

Lahaina

MAUI

Kahului

LANAI

KAHOOLAWE

HAWAII

Hilo

Kona

To Tokyo (Jap)...3850 m

NIHAU

To Los Angeles (U.S.A)...2560 m

To Sydney (Aus)...5310 m



HAWAIIAN ISLANDS







Changing Behaviors



10 5 '99





Cleaning Behavior





Beauty Rest











Main Hawaiian Islands

22°N

21°N

20°N

19°N

Green Turtle Basking prior to 1990's

160°W

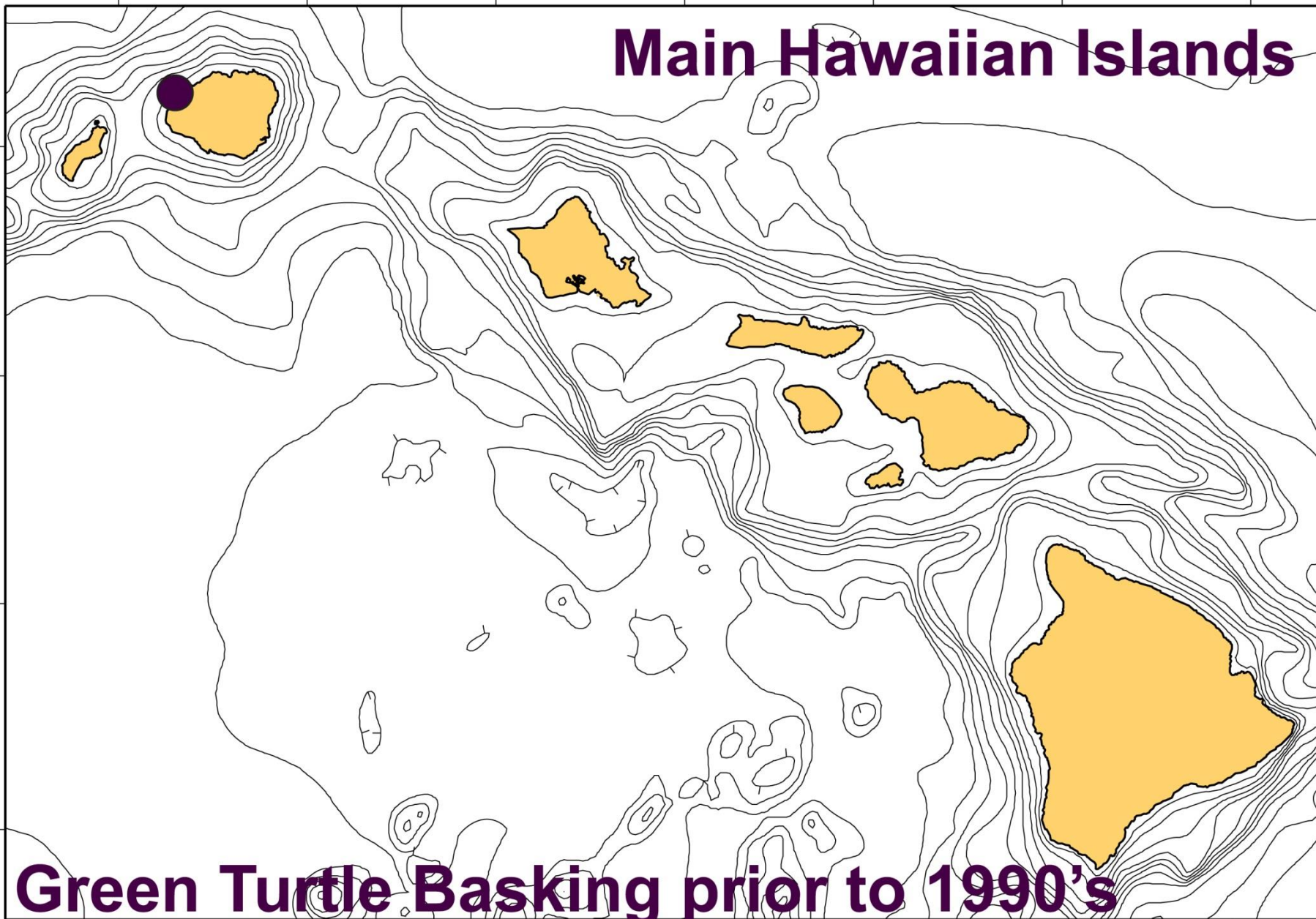
159°W

158°W

157°W

156°W

155°W



Main Hawaiian Islands

22°N

21°N

20°N

19°N

160°W

159°W

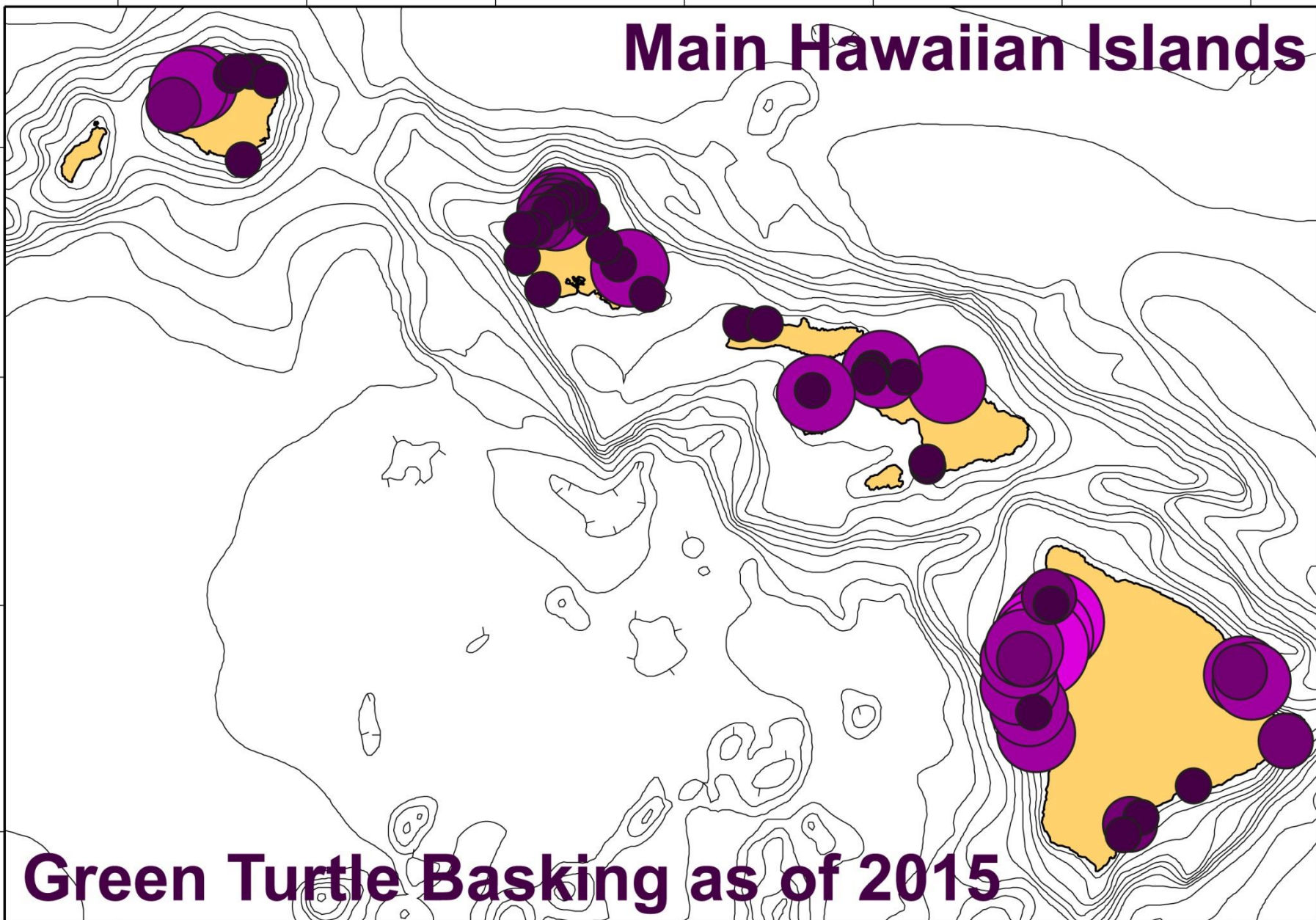
158°W

157°W

156°W

155°W

Green Turtle Basking as of 2015





POLYNESIAN CANOE TOURS

Main Hawaiian Islands

22°N

21°N

20°N

19°N

Green Turtle Nesting 1965-1980's

160°W

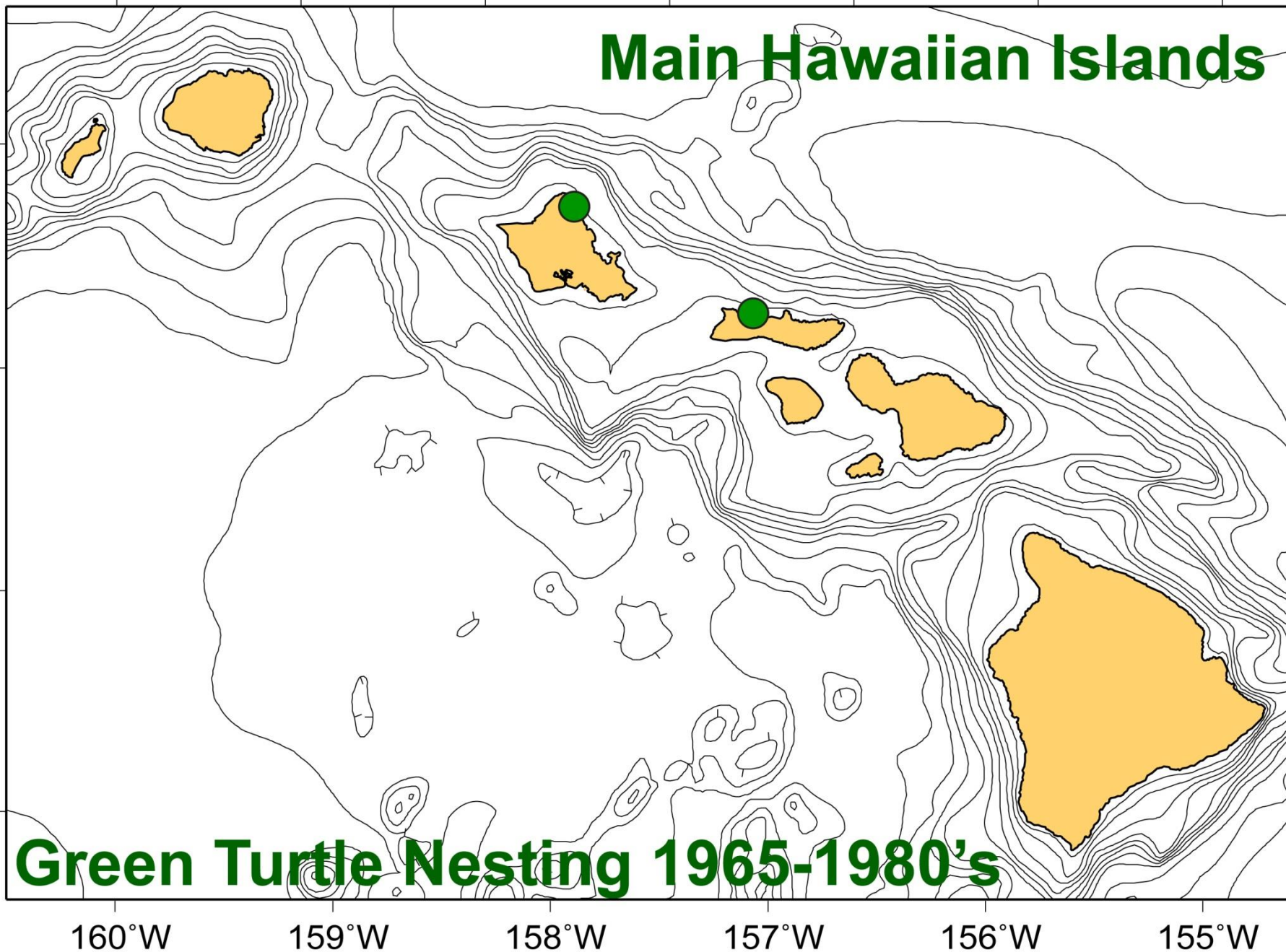
159°W

158°W

157°W

156°W

155°W



Main Hawaiian Islands

22°N

21°N

20°N

19°N

Green Turtle Nesting 1990-2015

160°W

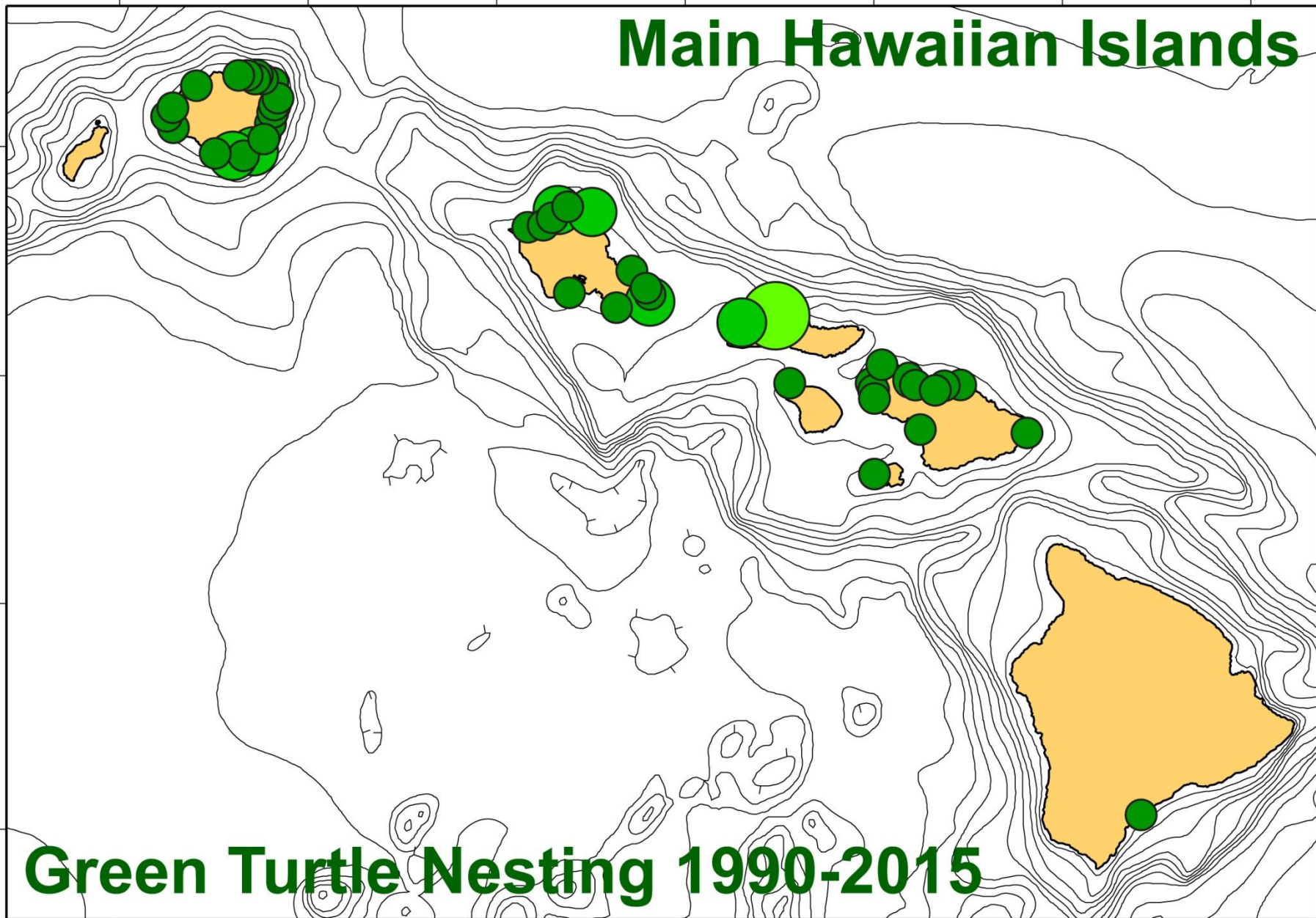
159°W

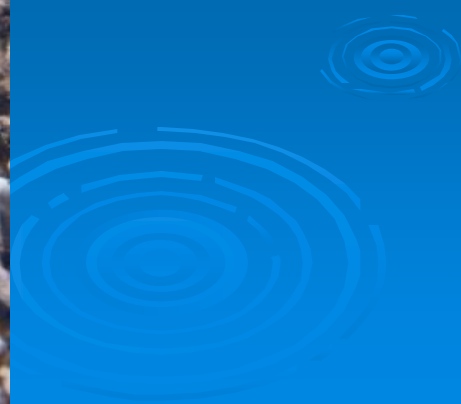
158°W

157°W

156°W

155°W





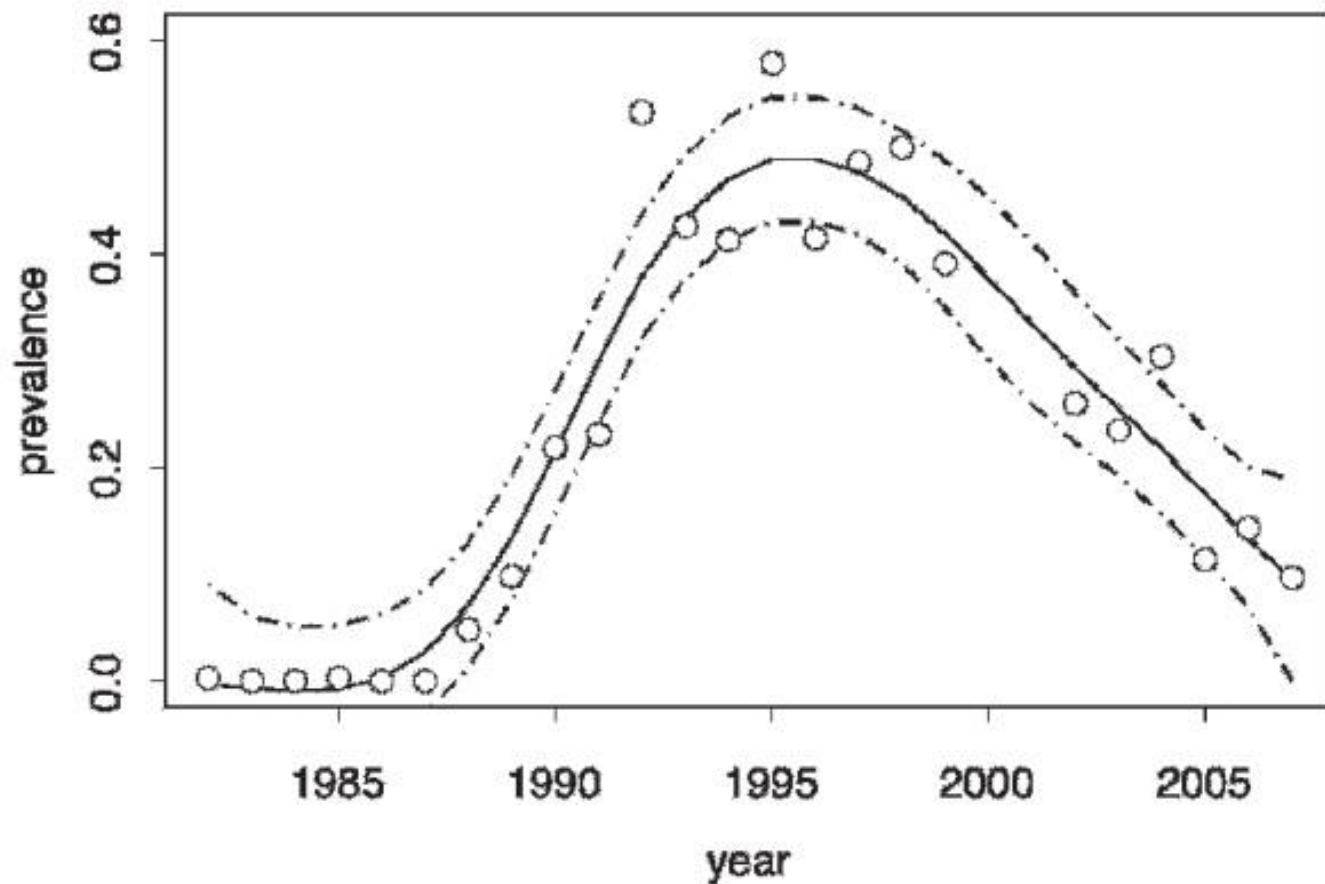
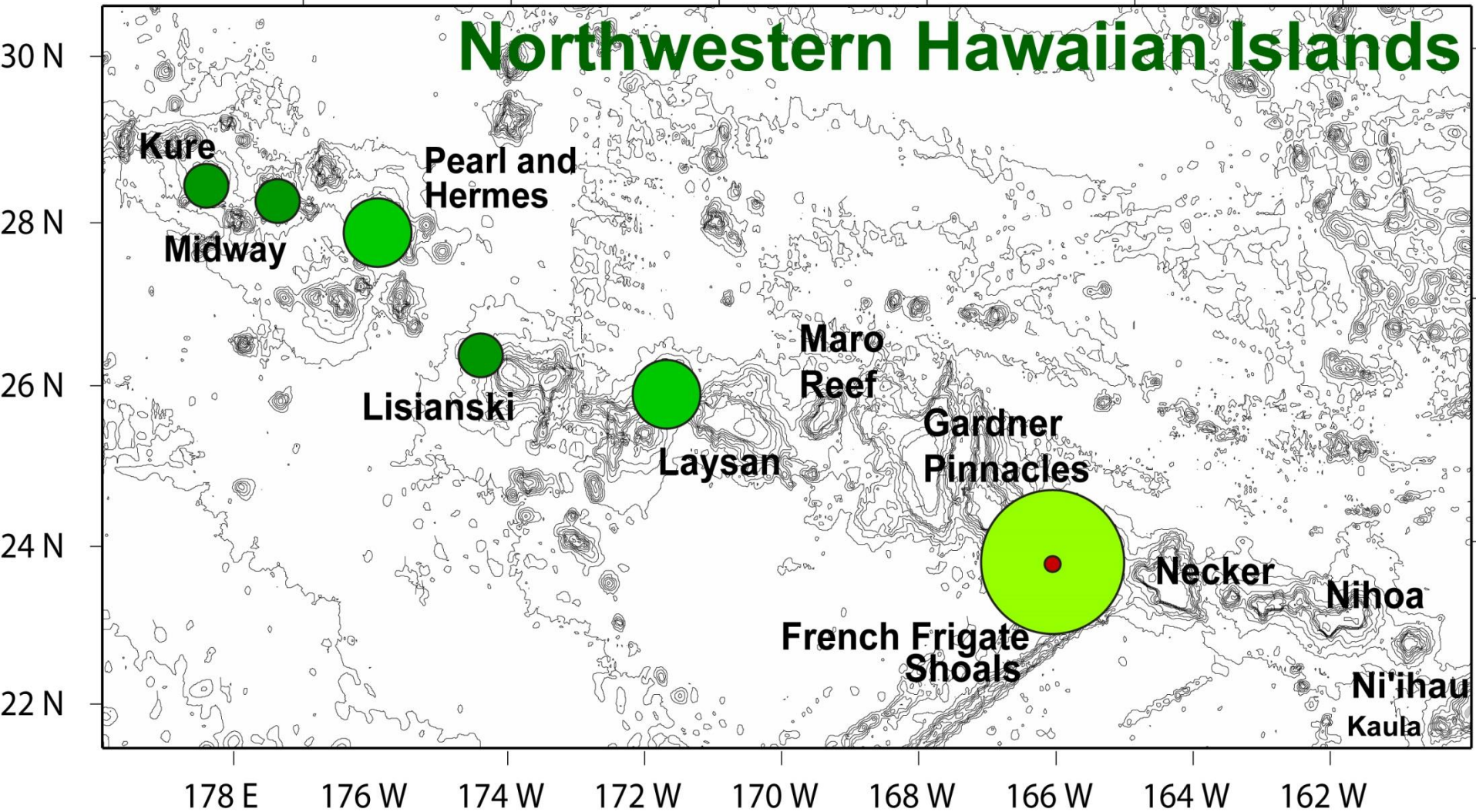


FIGURE 2. Epidemic curve with three phases: 1) rapid increasing phase (1988–1991), 2) peak phase (1992–1998), 3) slow decline phase from 1999 onward. Solid curve=smoothing spline fit, dashed curves=95% Bayesian confidence intervals, dots =apparent prevalence estimates.



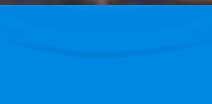
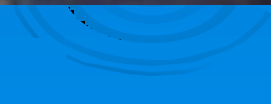


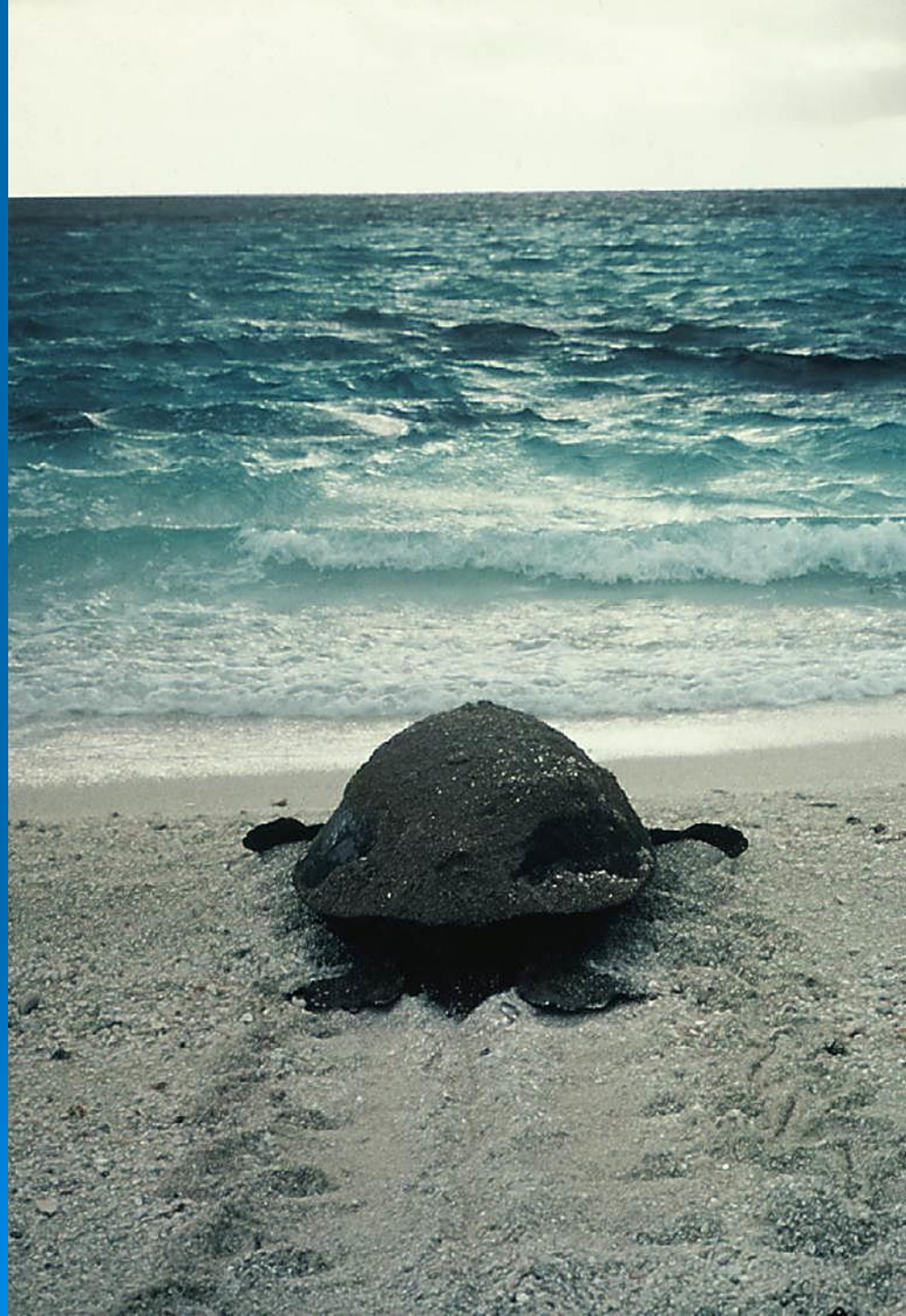
Northwestern Hawaiian Islands













The Shifting Sands of Time

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