

A large sea turtle, likely a Galapagos tortoise, is shown swimming in clear blue water. The turtle is the central focus, with its head and front flippers visible in the foreground. The background is a deep blue, suggesting an underwater environment. The text is overlaid on the upper portion of the image.

Balancing the Scales for Sea Turtle Conservation: Setting Priorities Globally and Locally

Roderic Mast
Oceanic Society, IUCN-MTSG, SWOT



Globally Ranging Species



jamursba-medi,
indonesia

oregon, usa

20,560 km

Epic migrations

IUCN Red List



**...Defines Risk of
Extinction**

**...Criteria
Apply to *All
Species***

Big Turtle Questions - 2003

- Abundance - how many turtles are there?
- Distribution – where are they and when?
- Hazards – what are the threats to their survival?
- Species vs. Populations – what units to manage?
- Risk of extinction – which turtles/units are most vulnerable?
- Conservation – what are the highest priority investments?

SHELL GAME

Gulf News Nov 19, 2010 p.18



Rescued from illegal poachers

Foreign tourists join Bali Marine Police in releasing sea turtles at a beach in Kuta, Bali, Indonesia yesterday. Bali police released 87 sea turtles after they were seized from illegal poachers which came from nearby Sulawesi island. Although regulated by law, turtle trade is still frequently taking place in many places in Indonesia, police said.

EPA



December 2014
Cartagena

**~40% of dead turtles
have plastic in them**





millions
die every year

6 of 7 marine turtles are
threatened



5 threats to sea turtles



hunting /egg take



climate change



fisheries bycatch



pollution



habitat loss

A large number of sea turtles are resting on a dark sandy beach. The turtles are scattered across the foreground and middle ground, some facing the water and others facing away. The beach is dark, and the sky is filled with soft, grey clouds, suggesting a sunset or sunrise. The ocean is visible in the background, with gentle waves breaking on the shore. The overall scene is peaceful and natural.

The State of the World's Sea Turtles (SWOT)

seaturtlestatus.org

A scenic view of a beach at low tide. The foreground is a wide, sandy beach with some shallow water pools. In the background, there is a large, rocky cliff with some greenery on top, overlooking the ocean under a clear sky.

SWOT Vision Components

#1

A relational, global-scale database of the complete biogeography of all 7 species of sea turtles, all age classes, wherever they occur

SWOT Vision Components



#2

A network of people worldwide who generate, update, improve, and use SWOT data for research and conservation of sea turtles and their habitats.

SWOT Vision Components

#3

A Communications strategy that informs, strengthens, and grows the network, placing tools into the hands of those who can use them for sea turtle research and conservation

“SWOT Team”

~ 1200 people

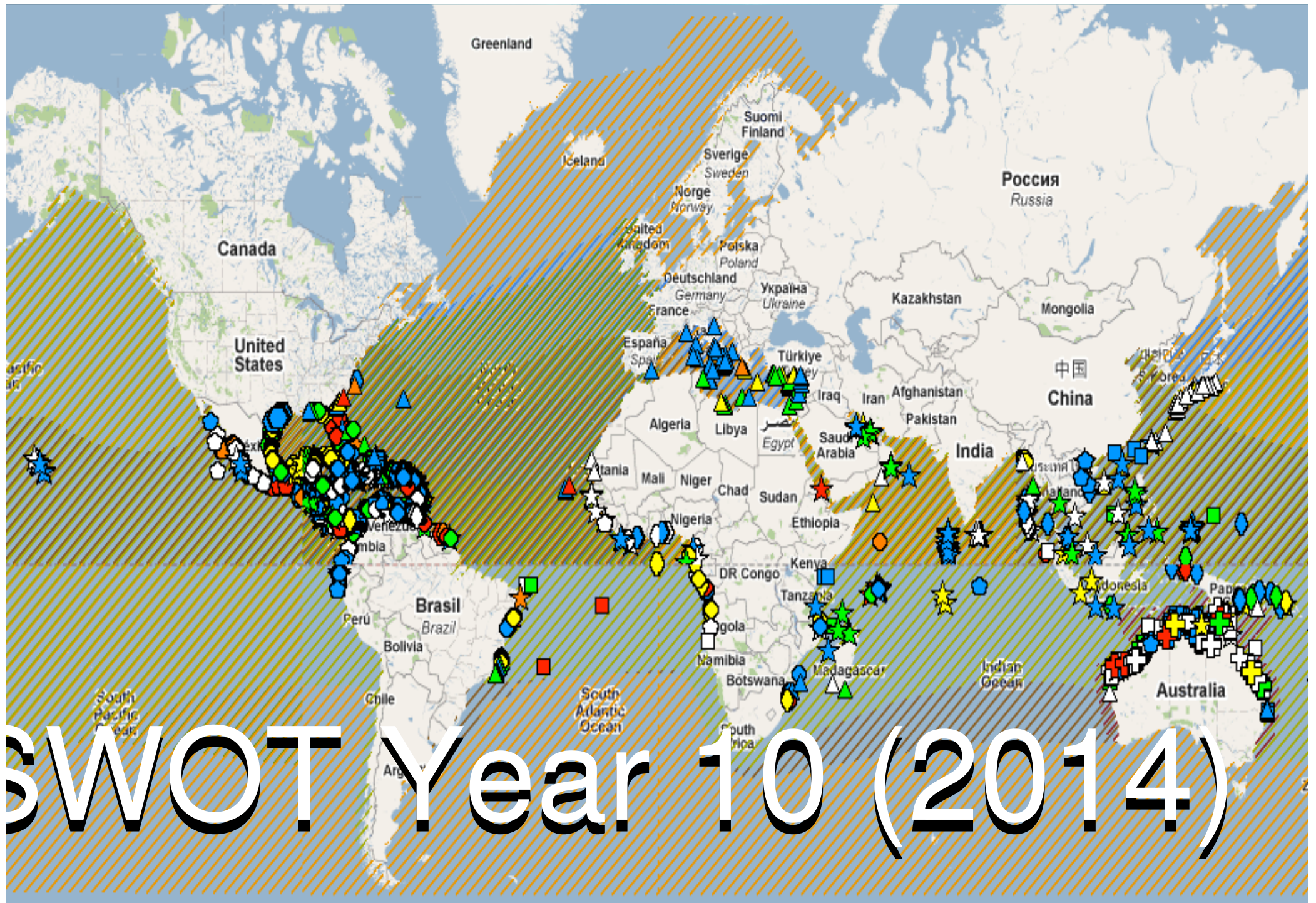
~ 82 countries

Unlimited enthusiasm!





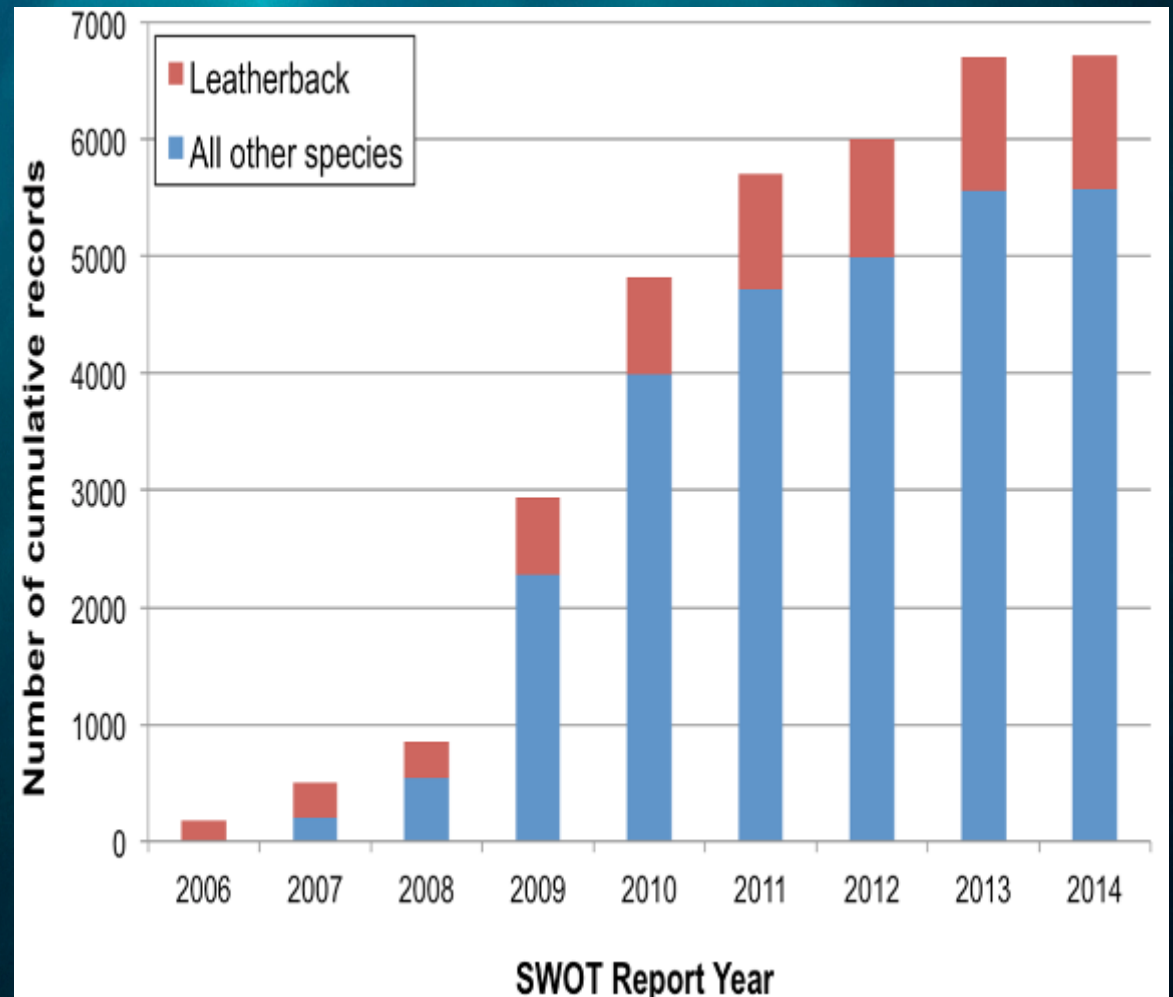
SWOT Year 1 (2004)



SWOT Year 10 (2014)

SWOT Nesting Beach Data 2004-2014

~ 10 years
~ 7,000 records
~ 3,200 sites
~ 130 countries





Nesting sites « » Show sites Distributions RMUs mtDNA nDNA Google Earth Feedback

Species ▲ ■ ◆ ★ ⬢ ⬤ + ●

- Caretta caretta
- Chelonia mydas
- Dermochelys coriacea
- Eretmochelys imbricata
- Lepidochelys kempi
- Lepidochelys olivacea
- Nator depressus
- multi-species sites

Count type ▲ ■ ◆ ★ ⬢ ⬤ + ●

- Females
- Crawls
- Clutches

Country ▲ ■ ◆ ★ ⬢ ⬤ + ●

Multi-select

- Australia
- East Atlantic
- East Indian
- East Pacific
- Mediterranean
- Oceania
- West Indian
- West Pacific

Map Satellite Hybrid

POWERED BY Google

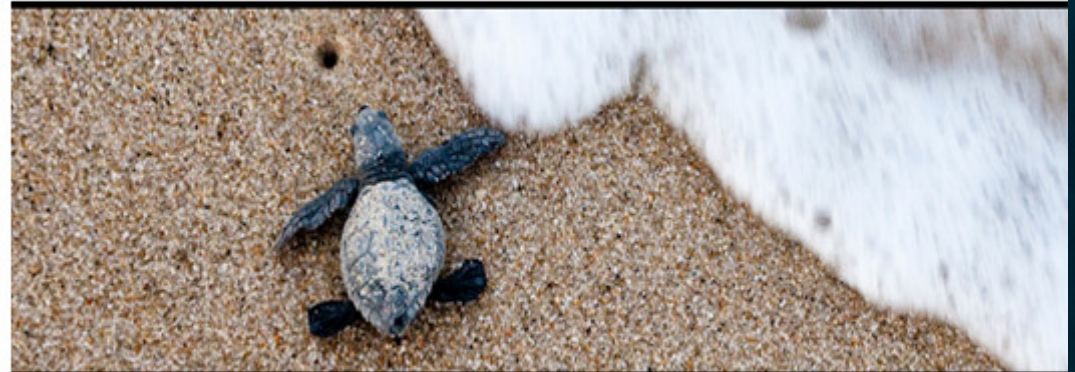
Images ©2014 TerraMetrics, NASA, SEAMAP Distribution, CRIS, SEAMAP, Terms of Use

Site name ▲	Regional organization	Species	Year	#females binned	#females exact	#clutches binned	#clutches exact	#crawls binned ▼	#crawls exact
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Data Standardization Tools

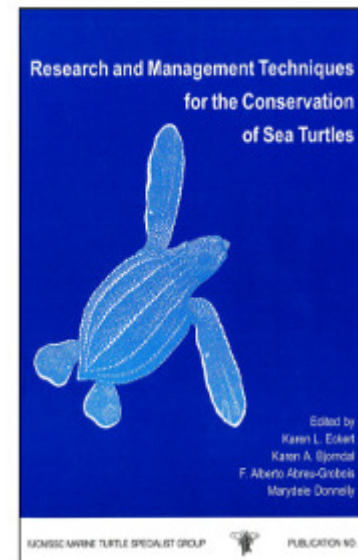
Research & Management Techniques for the Conservation of Sea Turtles

IUCN SSC Marine Turtle Specialist Group



[Home](#) [About the MTSG](#) [About Marine Turtles](#) [Publications](#) [Members](#) [Regions](#)

Research and Management Techniques for the Conservation of Sea Turtles (1999)



[Download the PDF \(6.1 MB\).](#)

Eckert, K. L., Bjorndal, K. A., Abreu-Grobois, F. A. and Donnelly, M. (Eds.) 1999. *Research and Management Techniques for the Conservation of Sea Turtles*. IUCN/SSC Marine Turtle Specialist Group Publication No. 4. Washington, DC: 235 pp.

A limited number of hard copies are available for purchase. Please [contact us](#) for details.

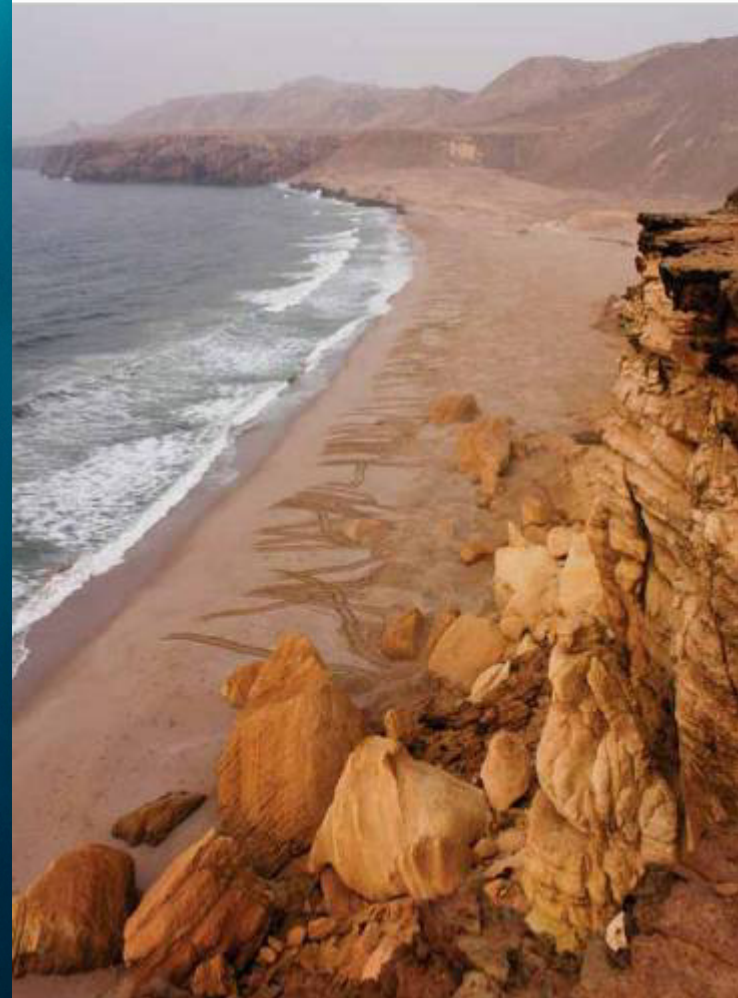
Data Standardization Tools

Minimum Data Standards
for Nesting Beach
Monitoring

SWOT 
The State of the World's Sea Turtles

Normes minimales en matière de
données de suivi des plages de ponte

VERSION 1.0



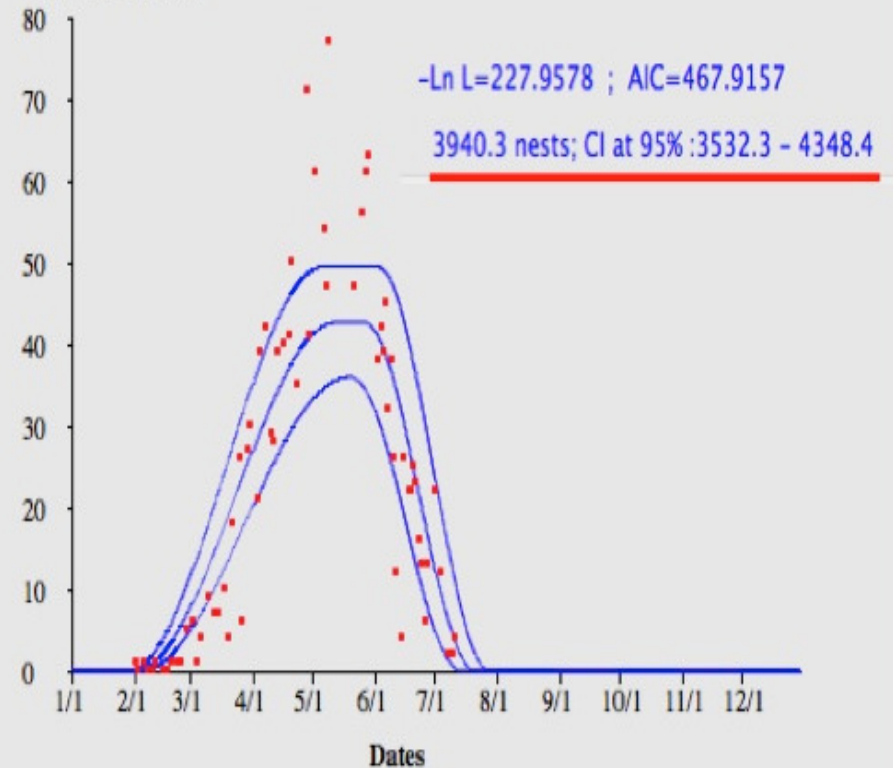
Data Standardization Tools

SWOT

The State of the World's Sea Turtles

Season Data Share Analysis Report Method

Number of nests



Armila - Armila Nesting Data 2014

Marine turtles time-series

Marine-turtles nesting season analysis

SWOT Version 3.1.6 (210) Genre 3.1.9

Species: *Dermochelys coriacea*

Name of nesting beach/region: Armila

Long./lat. of center of nesting beach: 23 /

Length of nesting beach in km: 6 km

Timing of nesting season: Season: January-December

Begin: DD/MM Fit Date format: MM/DD/YYYY DD/MM/YYYY

Peak: DD/MM Fit

End: DD/MM Fit

Number of section: 0

Section	Days	Counts	Use 0 1	Fit ?

Drag and drop or open a text file

Open Replace Add series

Text encoding: UTF8

About...

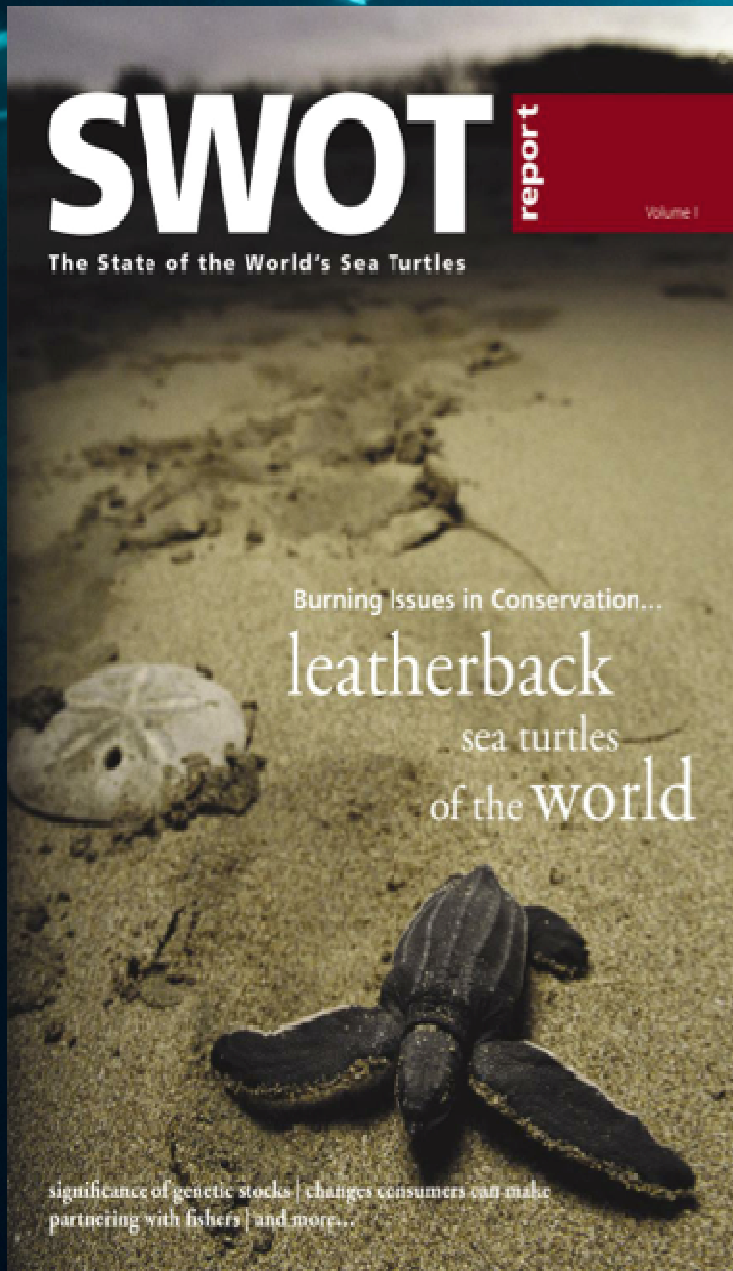
SWOT The State of the World's Sea Turtles

This software can be used to estimate the total number of nests of a marine turtles nesting season with partial nest count.

Software designed by Marc Girondot <marc.girondot@u-psud.fr>

People that help for tests: Marie-Cécile Godgeger, Mathilde Pesson, Bryan Wallace, Brian Hutchinson, Andrea Whiting, Sara Ben Hassine

Download update

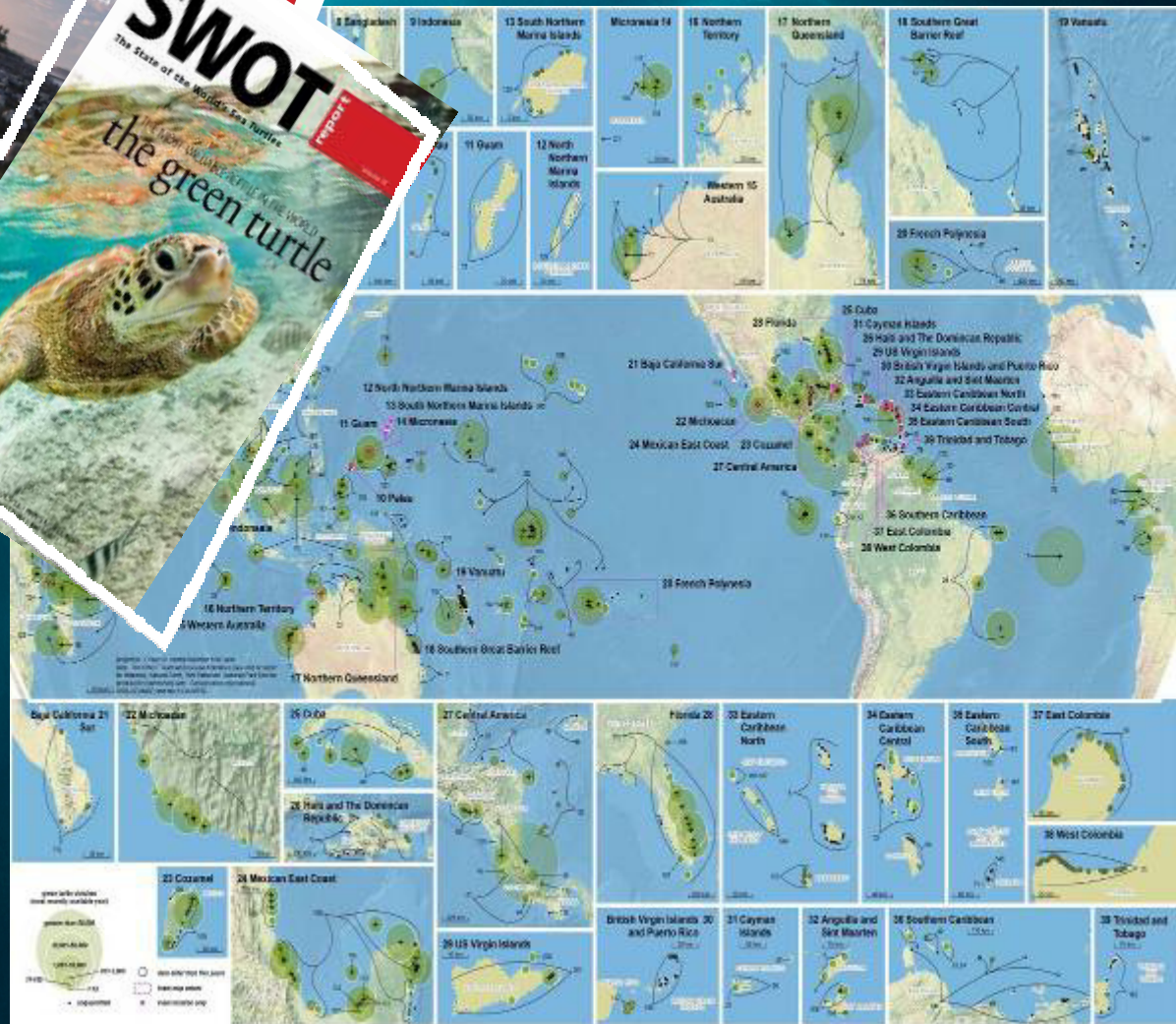


Communication

- SWOT Report Vol. 1 (2006)
- First Global Map of Leatherback Nesting



Global Nesting Data



SWOT grants

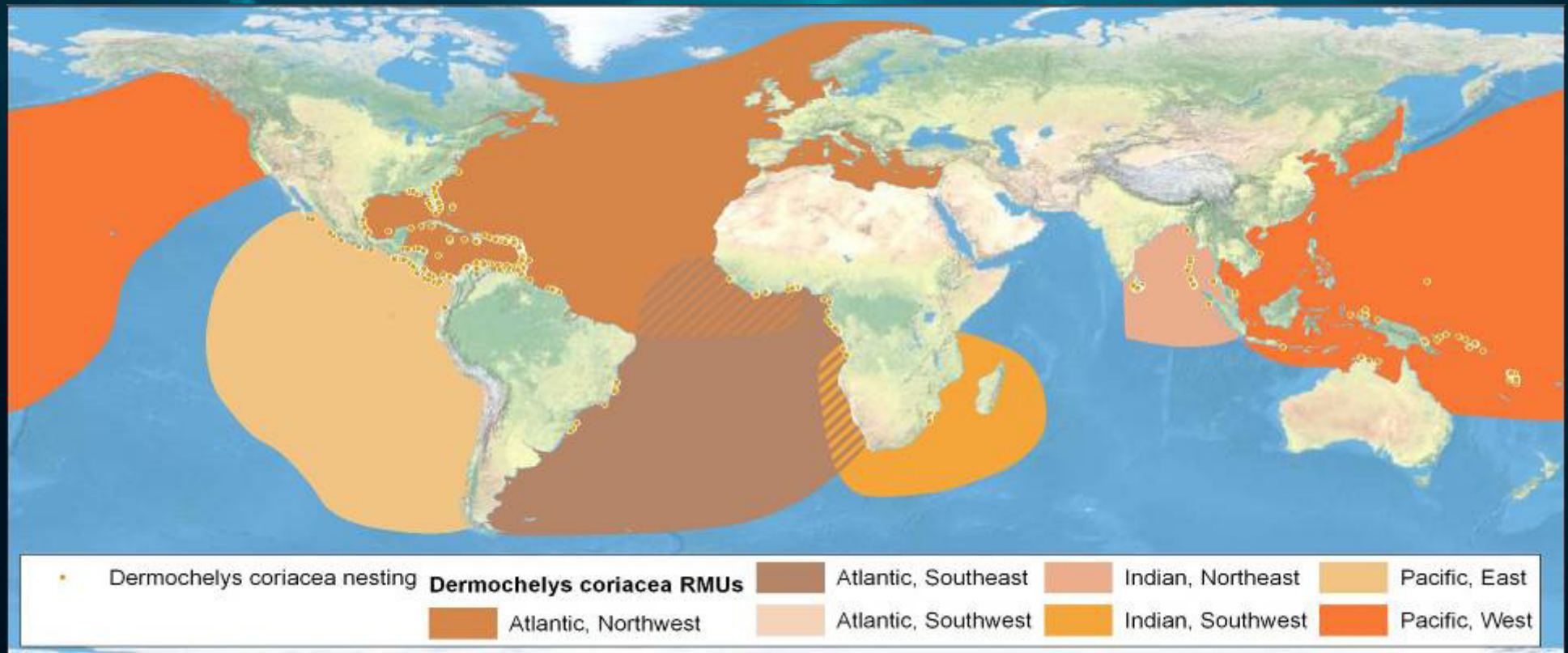
- Education
- Science
- Communication
- And more...



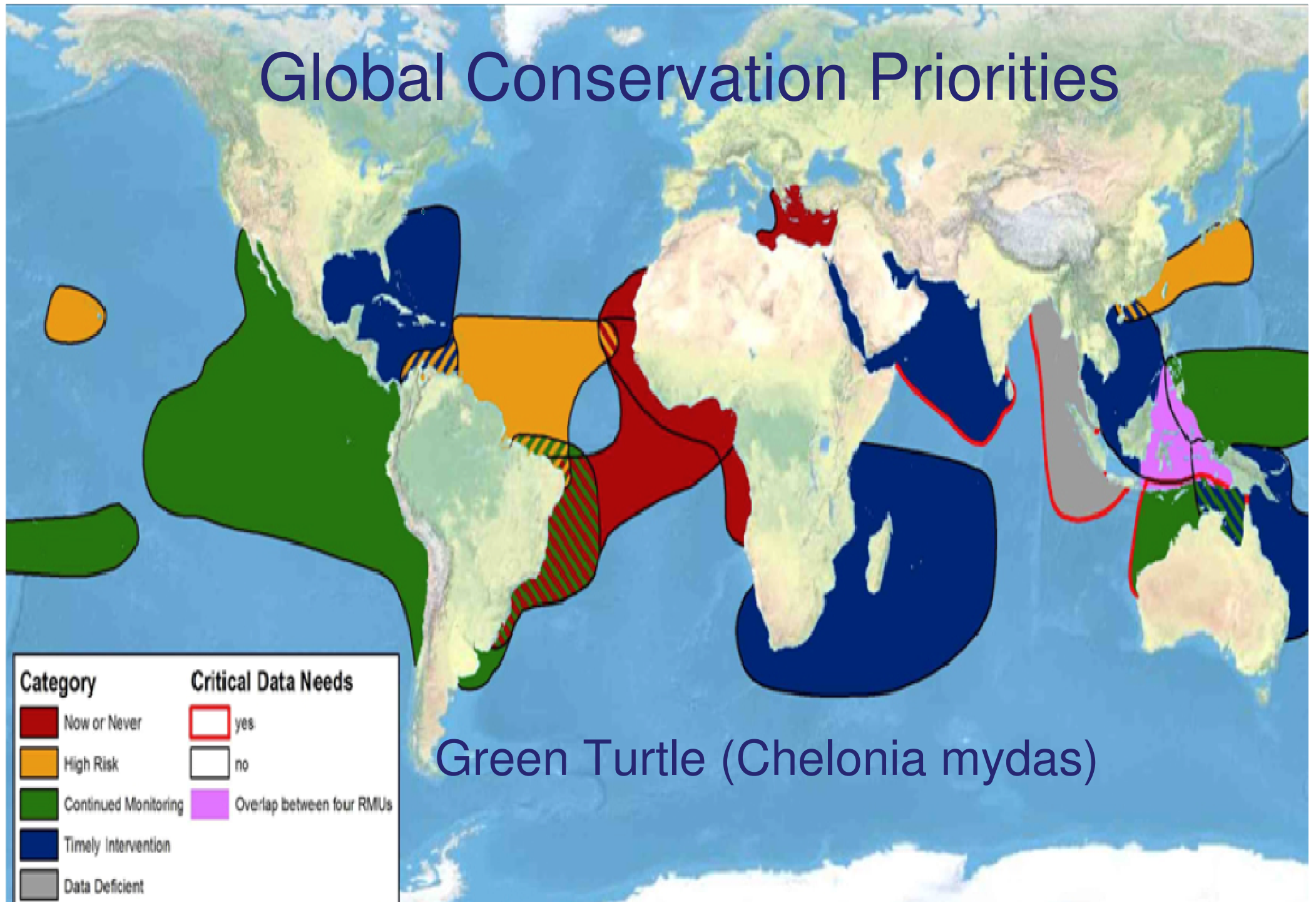
MTSG “Burning Issues” Workshops

- Regional Management Units (RMUs)
- Priority Conservation Actions

RMUs (*Regional Management Units*)

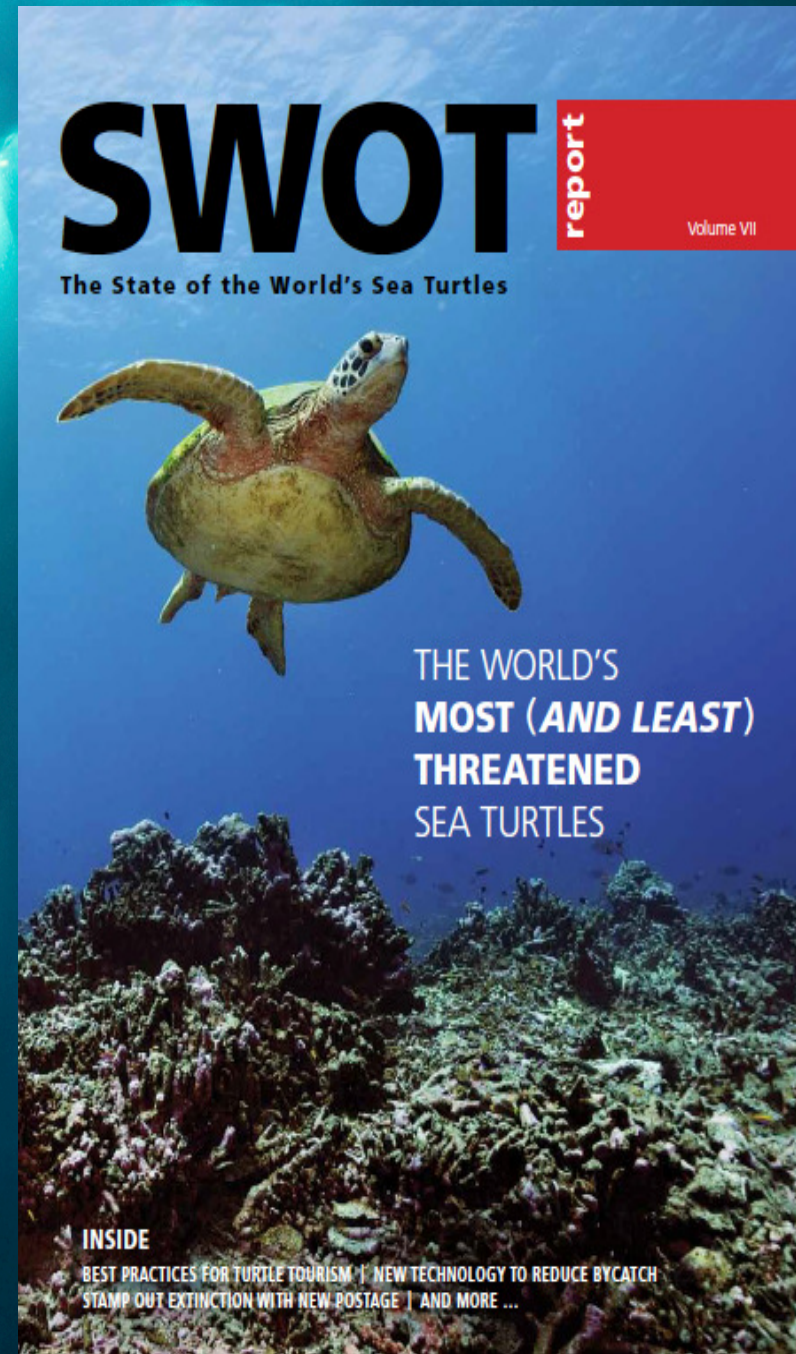


Global Conservation Priorities



Green Turtle (*Chelonia mydas*)

The World's Least (and Most) Threatened Sea Turtle Populations



IUCN Red List (2014)



**Risk of Extinction to
the Species**

***... and to
the
population
(RMU)***

A close-up photograph of a leatherback turtle resting on a sandy beach. The turtle's head and front legs are visible, partially covered in sand. The background is a soft-focus expanse of sand. The text is overlaid on the image in white, bold, sans-serif font.

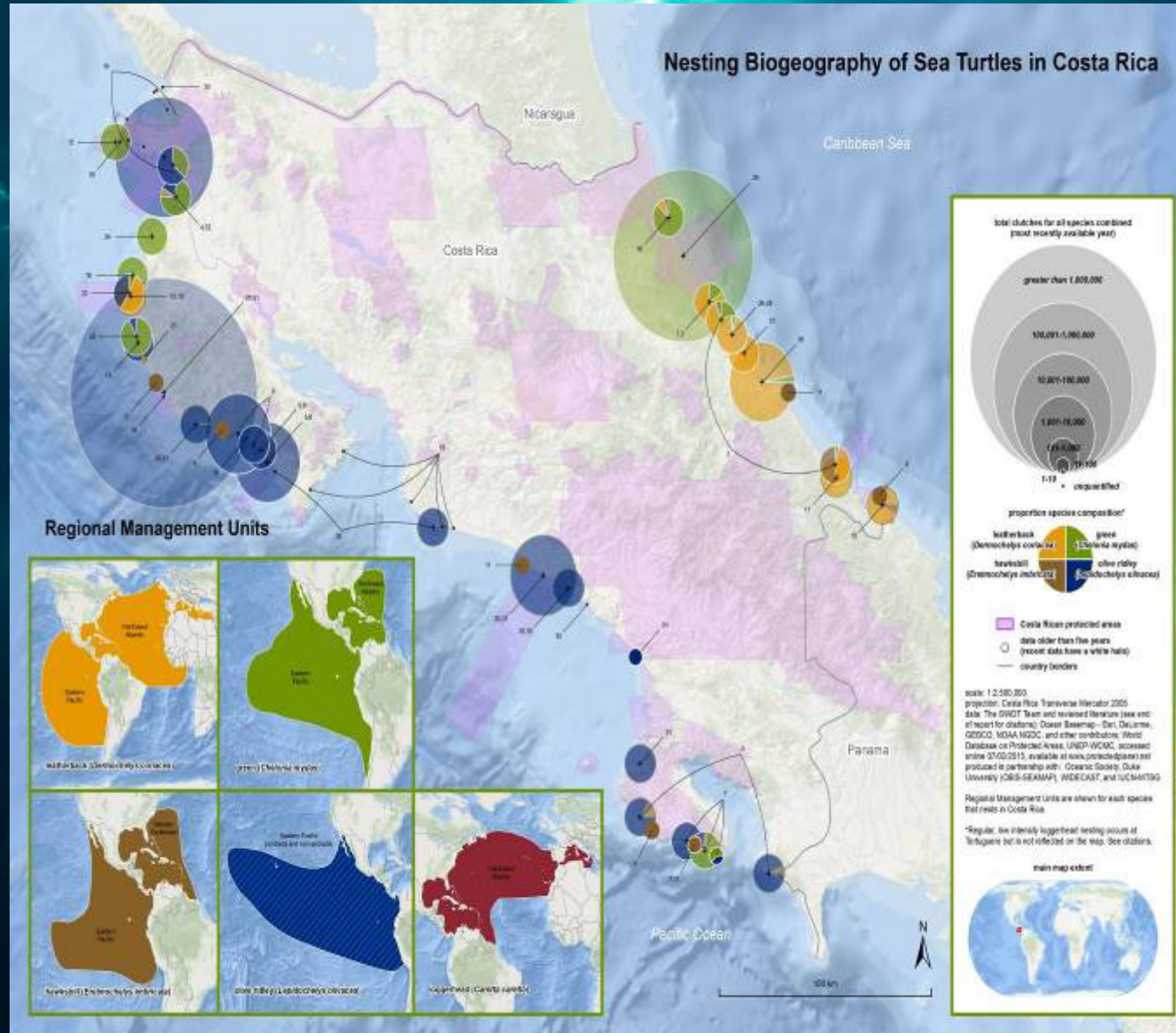
SAVE EAST PACIFIC LEATHERBACKS

**A ten-year action plan to recover leatherback turtles in
the East Pacific.**

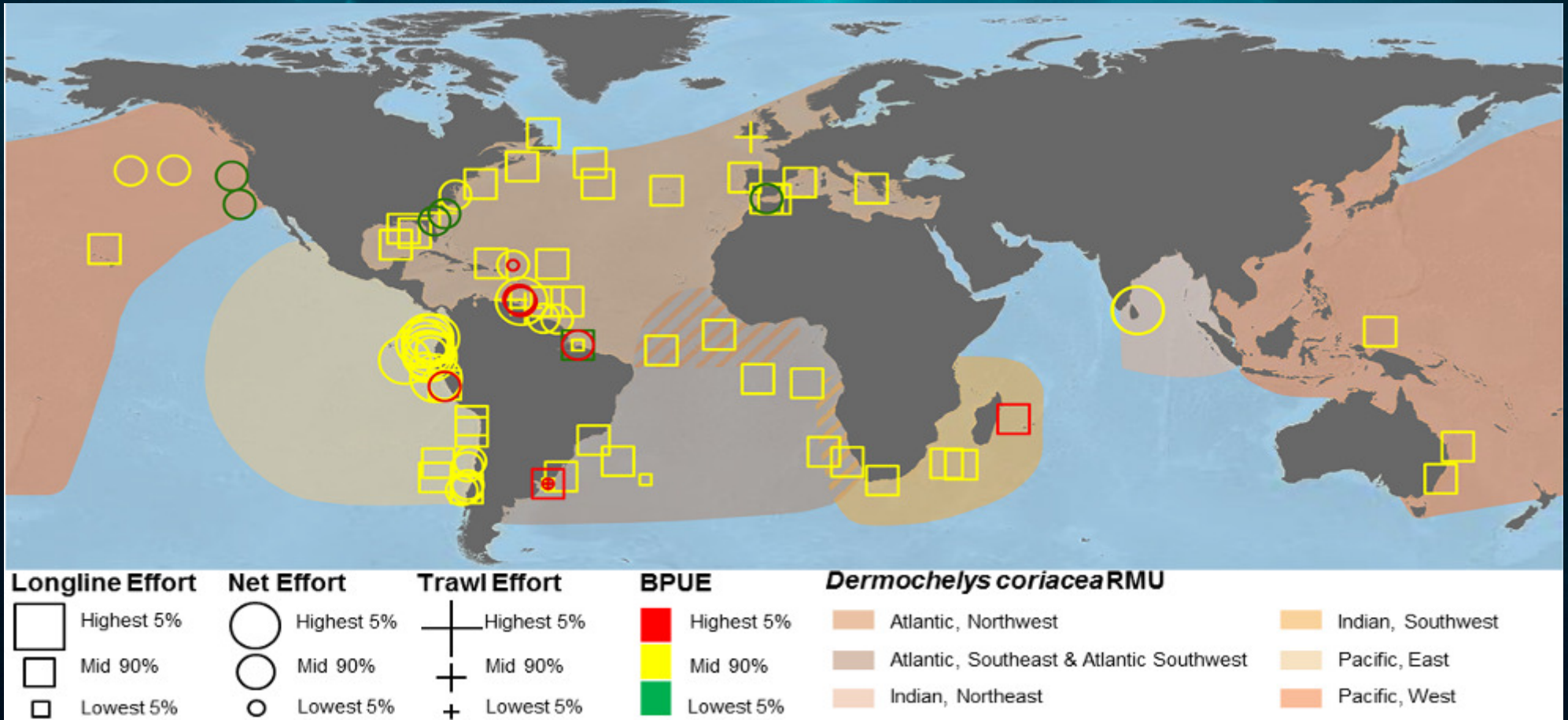
SWOT Telemetry Project (2011+)



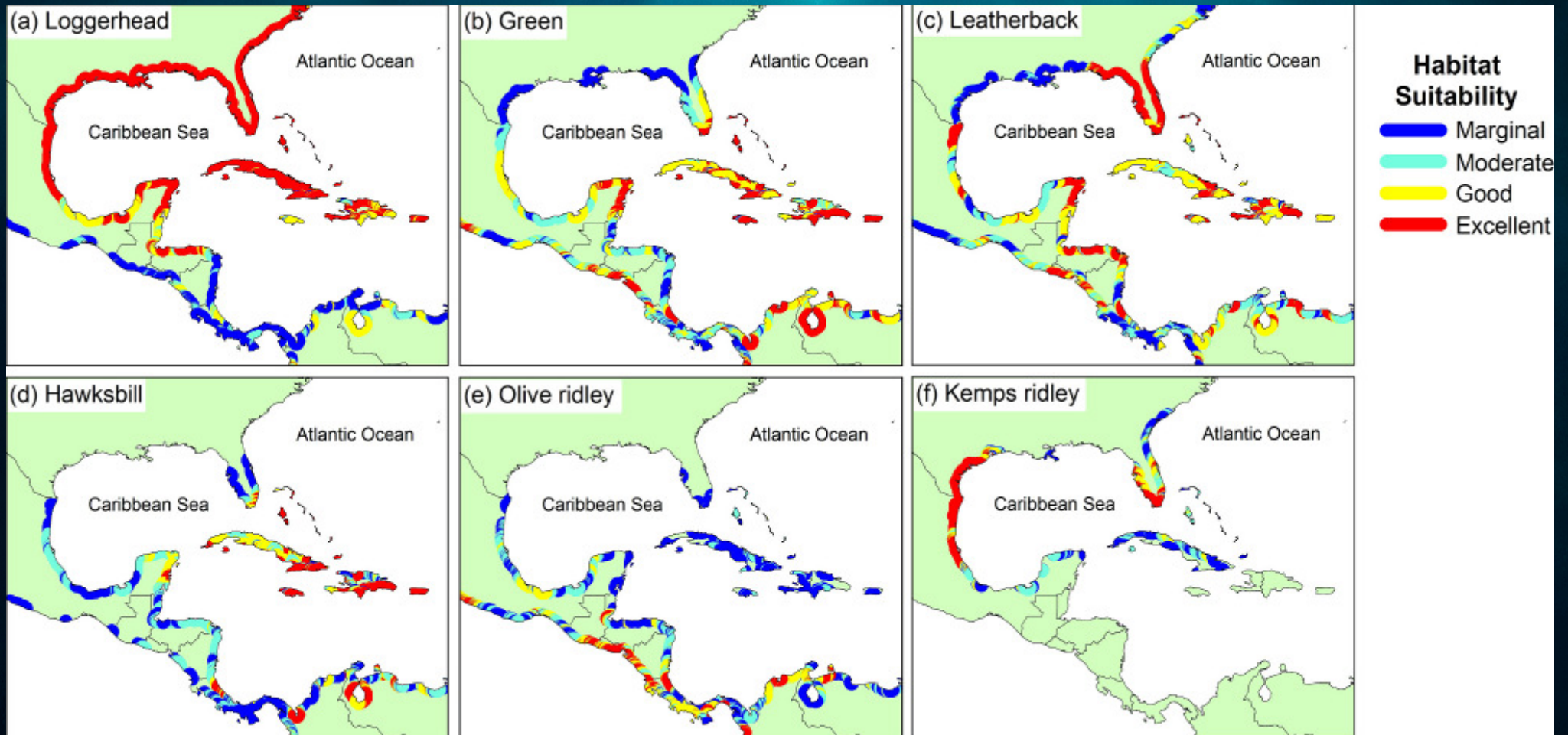
National Scale Maps (2015+)



Impacts of Fisheries on RMUs



Habitat Viability in the Face of Climate Change



The Future of SWOT

- Improving the database
- Growing the SWOT Team
- Adding new data layers (e.g., at-sea observations, strandings, photo ID, etc.)
- Defining “Important Turtle Areas”
- *SWOT Atlas of Turtles of the World*
- Monitoring of global trends in sea turtle abundance



Sea Turtles as “Flagships”

1.5 Million Viewers !

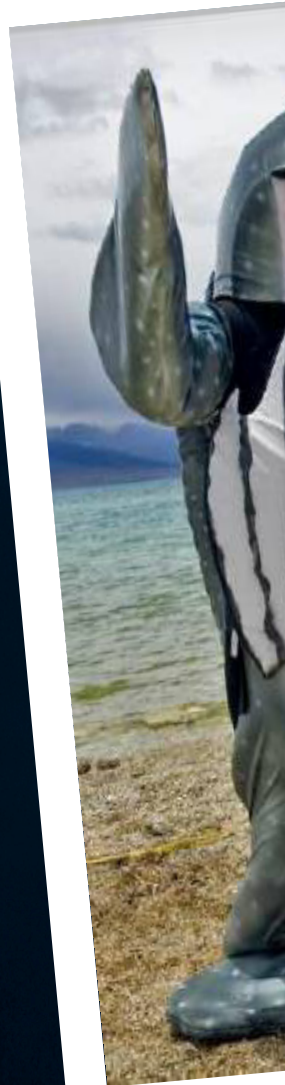


THE GREAT TURTLE RACE

Stephen Colbert
National Geographic
U.S. Olympic swimmers
Pearl Jam
Red Hot Chili Peppers
R.E.M.
RATATAT



Mr. Leath





seventy
PERCENT OF THE PLANET



1 in 4 people

DEPENDS ON THE OCEAN FOR FOOD



ocean challenges

What humans put in the
Sea

What humans take out of the Sea



**broad-scale changes
in human behavior**



***Governments**

***Businesses**

***Consumers**



Thank You