Overview of sea turtle population ranges and status within the WCPO

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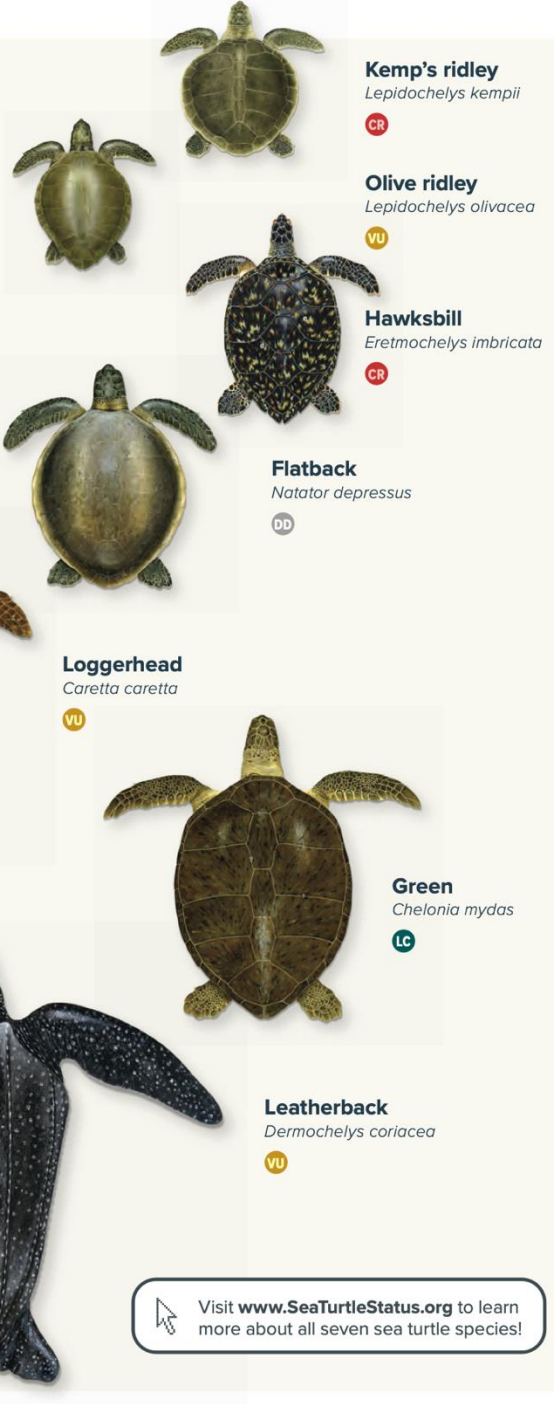
Dr. Bryan Wallace

Background

- Director, Ecolibrium, Inc.
- IUCN Marine Turtle Specialist Group
  - Coordinator, Burning Issues Working Group
  - Red List Coordinator (2010-2026)
- Interamerican Convention for the Protection and Conservation of Sea Turtles (IAC)
  - Science Sector Representative, Consultative Committee of Experts
- Coordinator, *ad hoc* working group between IAC and IATTC
- Co-Coordinator, Eastern Pacific Leatherback Conservation Network (Laúd OPO)

meet the turtles

The seven sea turtle species that grace our oceans belong to an evolutionary lineage that dates back at least 110 million years. Sea turtles fall into two main subgroups: **(a)** the unique family *Dermochelyidae*, which consists of a single species, the leatherback, and **(b)** the family *Cheloniidae*, which comprises the six species of hard-shelled sea turtles.



Kemp's ridley
Lepidochelys kempii
CR

Olive ridley
Lepidochelys olivacea
VU

Hawksbill
Eretmochelys imbricata
CR

Flatback
Natator depressus
DD

Loggerhead
Caretta caretta
VU

Green
Chelonia mydas
LC

Leatherback
Dermochelys coriacea
VU

IUCN RED LIST STATUS:

- CR Critically Endangered
- EN Endangered
- VU Vulnerable
- NT Near Threatened
- LC Least Concern
- DD Data Deficient

Visit **www.SeaTurtleStatus.org** to learn more about all seven sea turtle species!

Sea turtles in the WCPO

6 of 7 species

All life stages: **Nesting, foraging, migration**

Lifespan: **similar to humans, varies by species**

Reproduction: **females nest every 2 to 4+ years**

Migration: **long distances between reproduction and feeding areas; leatherbacks exceptional**

All threats present: **bycatch, take, coastal development, pollution, climate change**

Long, slow lives make them vulnerable to bycatch impacts

What is bycatch and how does it happen?

turtles + fishing gear =

Same place, same time

Bycatch
(or incidental capture, or interactions)

Turtles targeted

Retained for consumption or sale

Discarded, dead or alive

Discarded alive after good handling and release

Known sea turtle bycatch

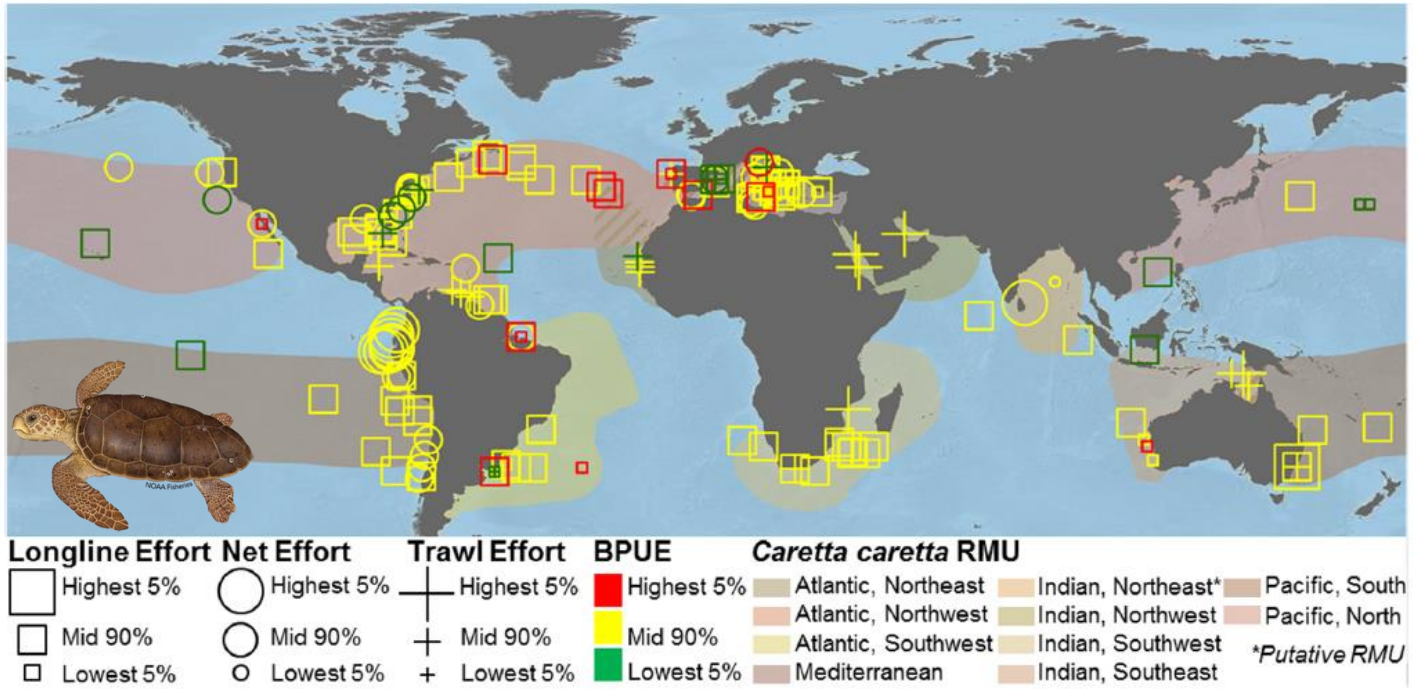
Still many data gaps

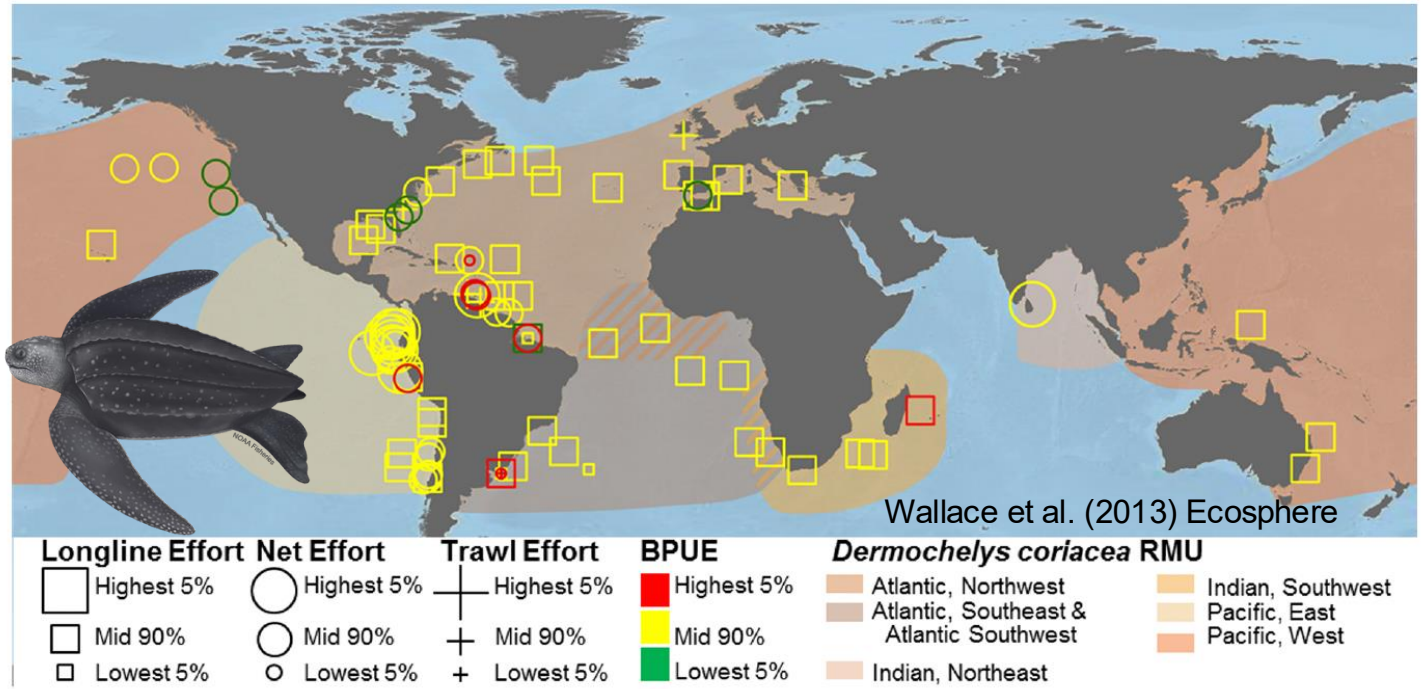
Occurs in large- and small-scale fisheries, habitats, national and international waters

Occurs in many gear types

Major threat for many sea turtle populations

Affects fishers and their communities in various ways





How to assess conservation status of sea turtles?

1) Identify the population unit
2) Use robust criteria and methods

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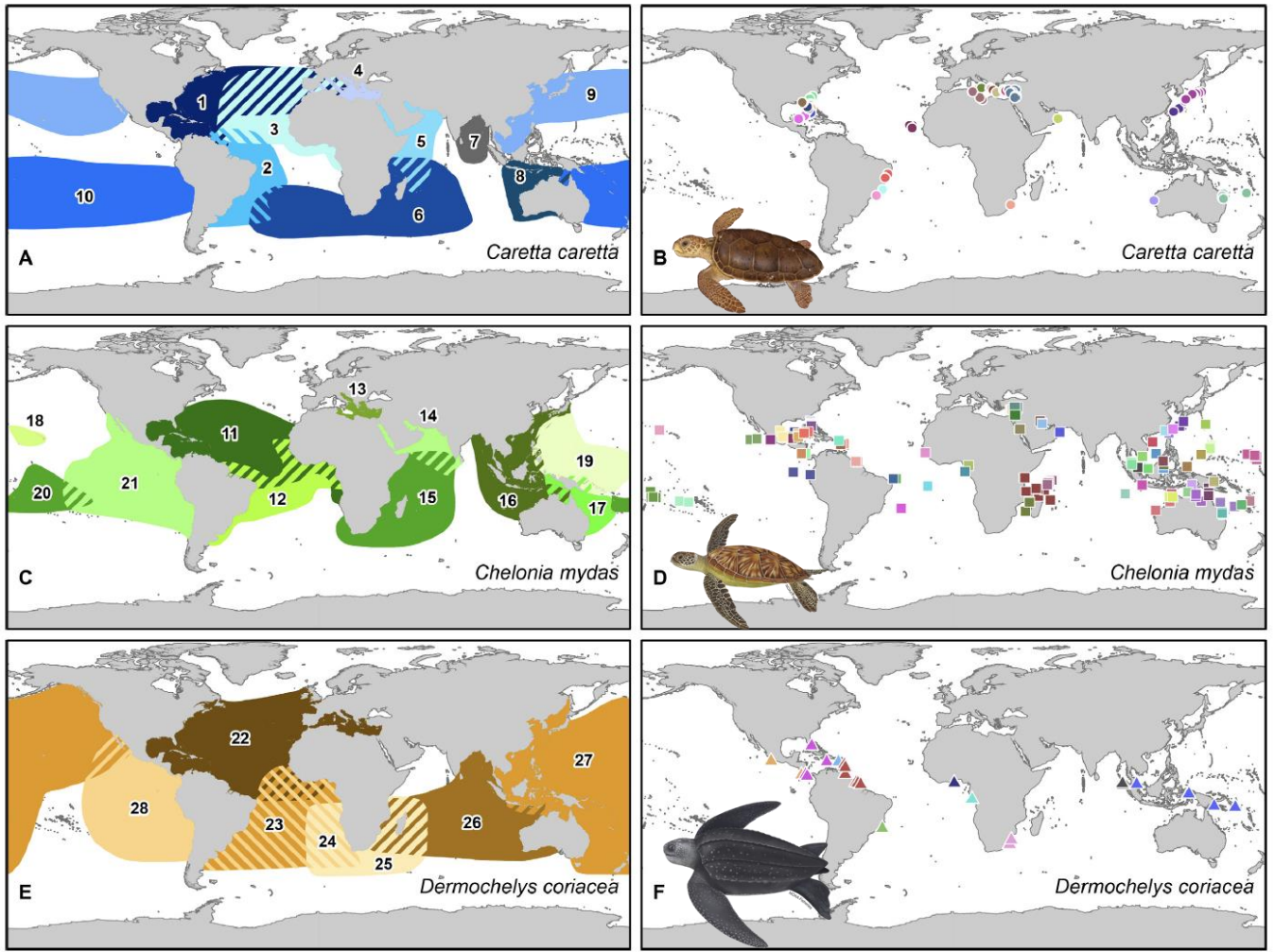
ENDANGERED SPECIES RESEARCH
Endang Species Res

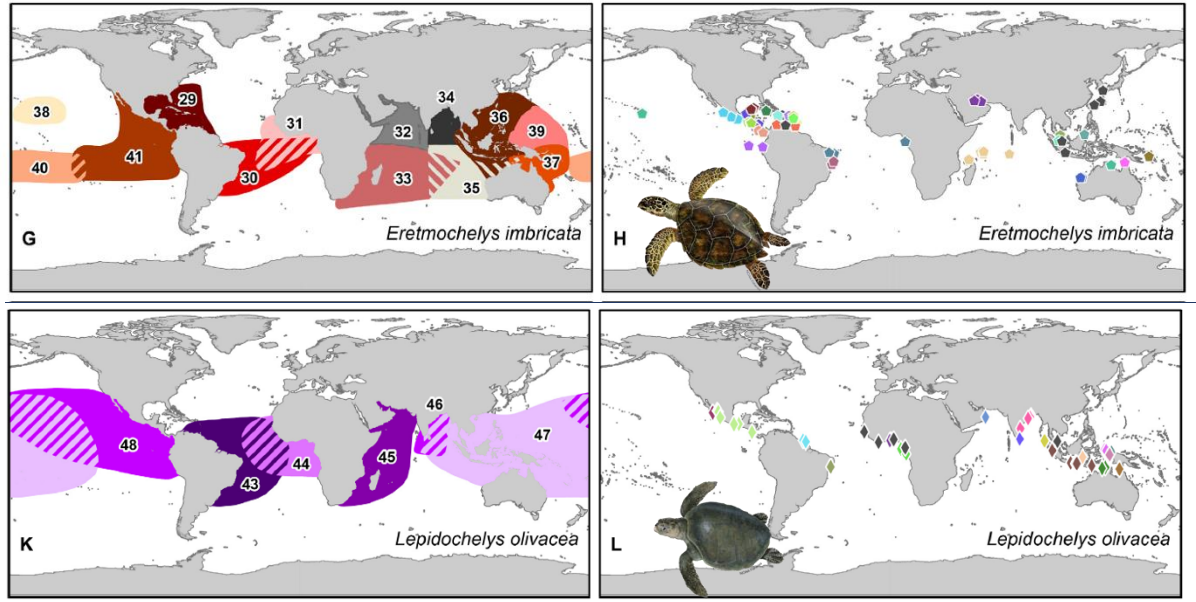
Published November 16

Marine turtle regional management units 2.0: an updated framework for conservation and research of wide-ranging megafauna species

Delineating sea turtle geographic ranges

RMUs combine nesting, genetics, tracking, sightings data from all life stages to delineate spatially explicit populations



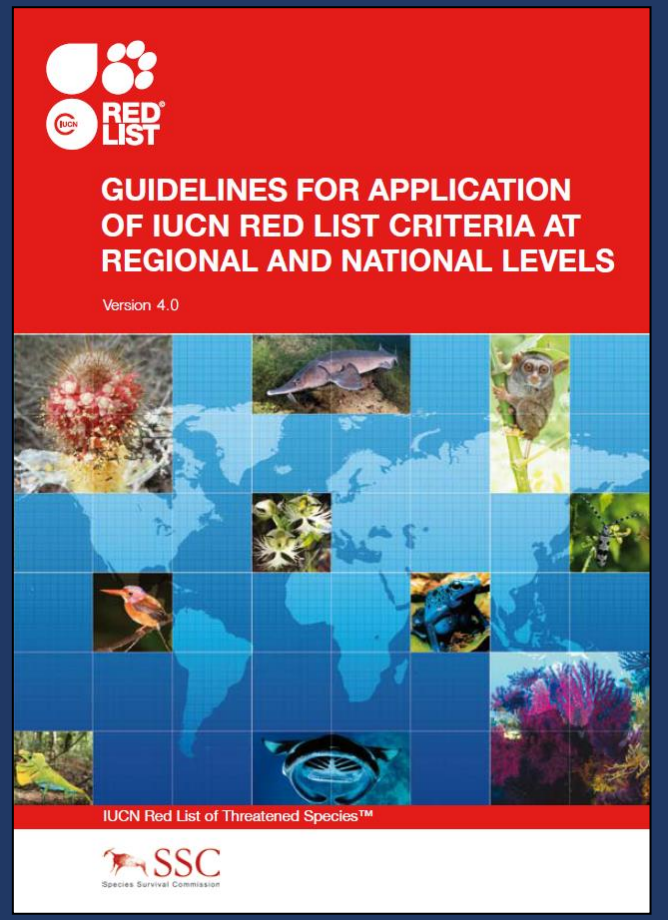


All shapefiles available for download:
https://www.iucn-mtsg.org/regional-management-units

https://seamap.env.duke.edu/swot

Conservation status assessments:

IUCN Red List: a tool to evaluate risk of imminent extinction for any species



Current Red List status by species and subpopulations in WCPO

Species	RMU	Category	Assessment year
Green turtles	Southwest Pacific	Vulnerable	2025
Green turtles	East Indian/West Pacific	Least Concern	2025
Green turtles	Hawai'i (Central North Pacific)	Least Concern	2019
Green turtles	Central South Pacific	Endangered	2023
Green turtles	Central West Pacific	Near Threatened	2025
Leatherbacks	West Pacific	Critically Endangered	2013
Leatherbacks	North Indian	Data Deficient	2013
Loggerheads	North Pacific	Least Concern	2015
Loggerheads	South Pacific	Critically Endangered	2015
Loggerheads	Southeast Indian	Near Threatened	2015
Hawksbills	Global only	Critically Endangered	2008
Olive ridleys	Global only	Vulnerable	2008
Flatbacks	Global only	Data Deficient	1996

Status Assessments: Conservation Priorities Portfolio

IUCN-SSC Marine Turtle Specialist Group

Inter-Research Science Publisher
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Updated global conservation status and priorities for marine turtles

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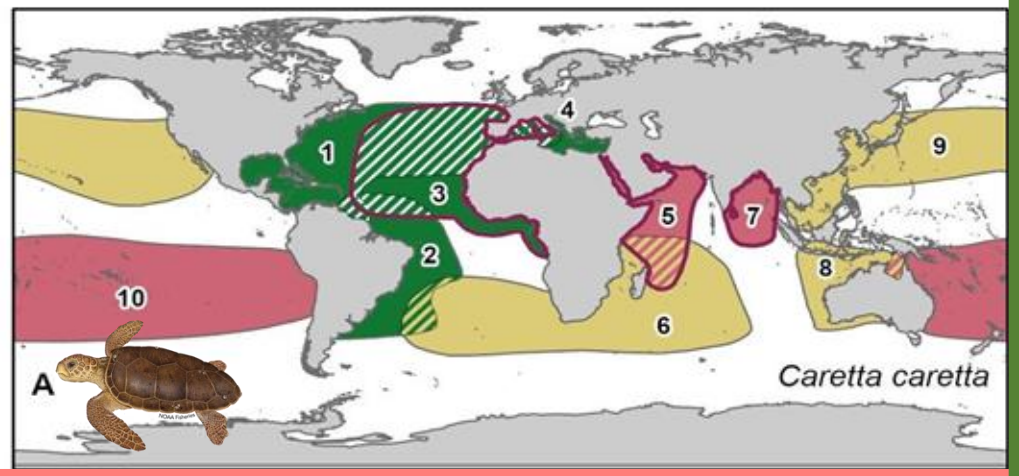
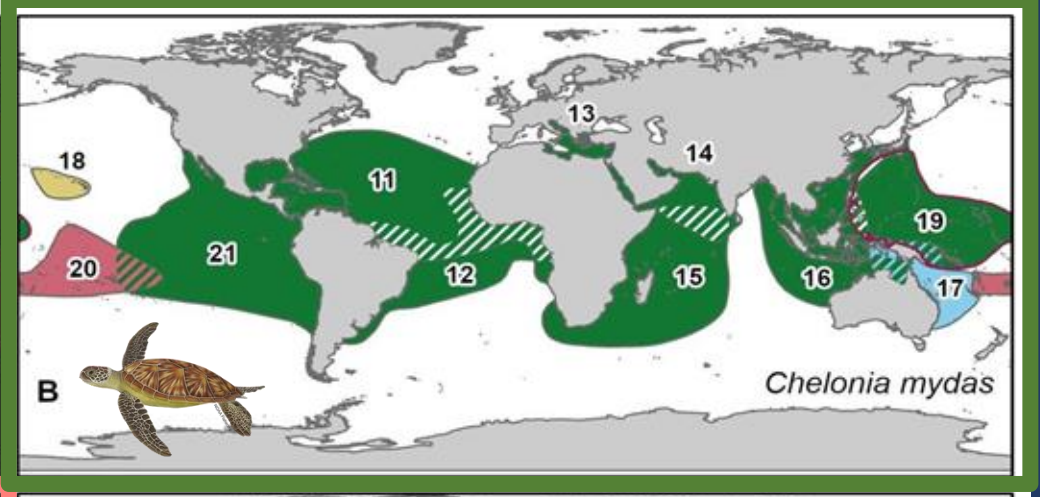
- Expert-driven, globally consistent framework
- Assess risk (population viability), threats impacts, and data needs
- Evaluated changes in status since previous assessment
- *Bycatch still the highest threat*

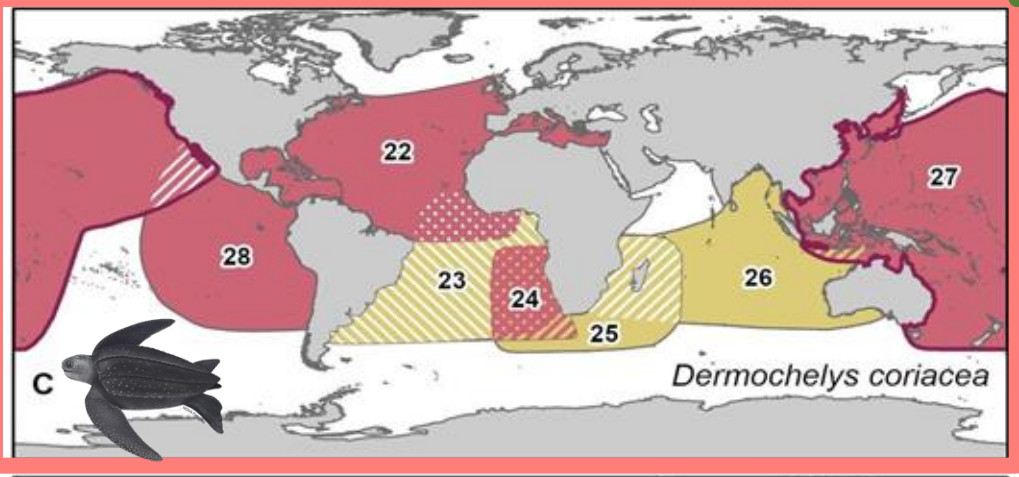
GOAL: provide relevant, up-to-date assessment of turtle status to support various conservation priorities

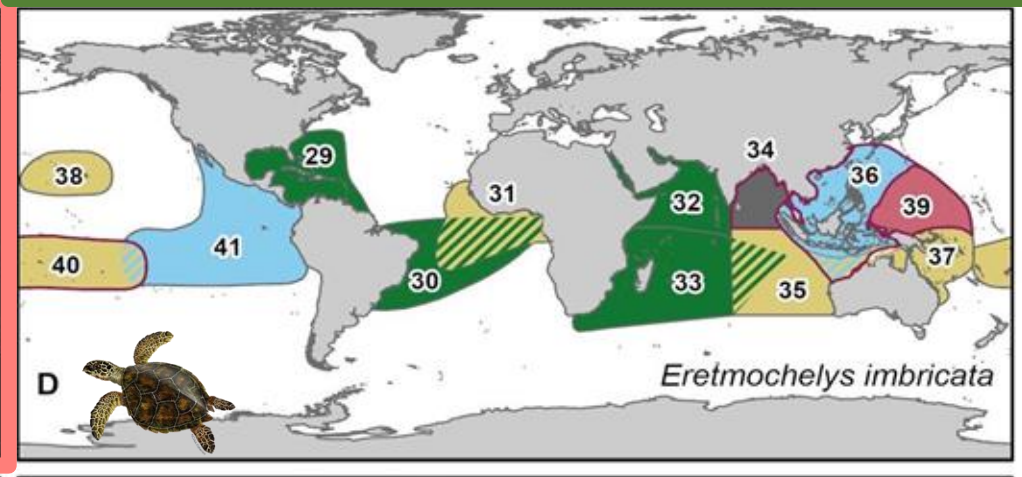
Paper available open access:
https://www.int-res.com/journals/esr/articles/esr01385



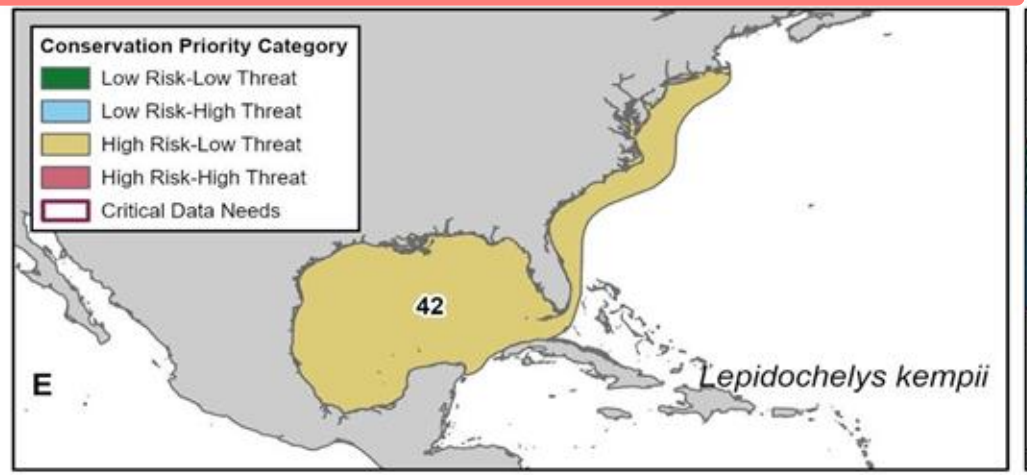


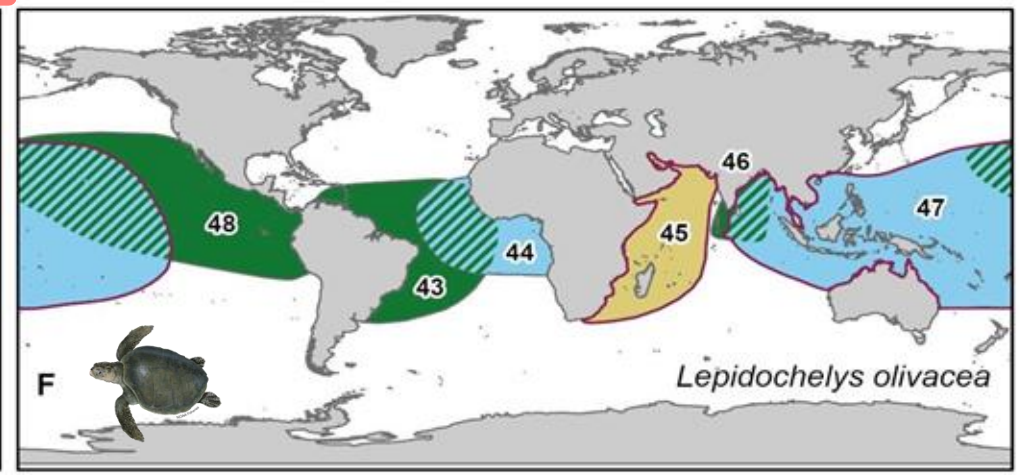
RED = BAD



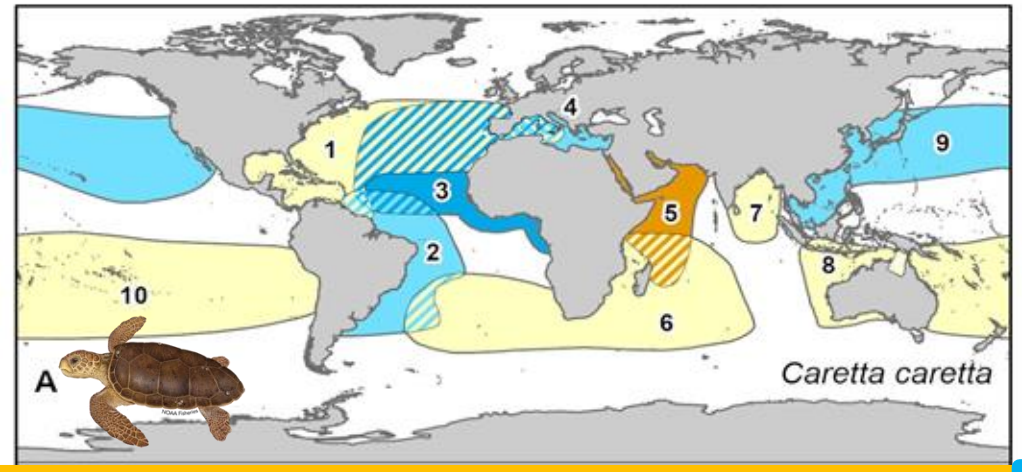


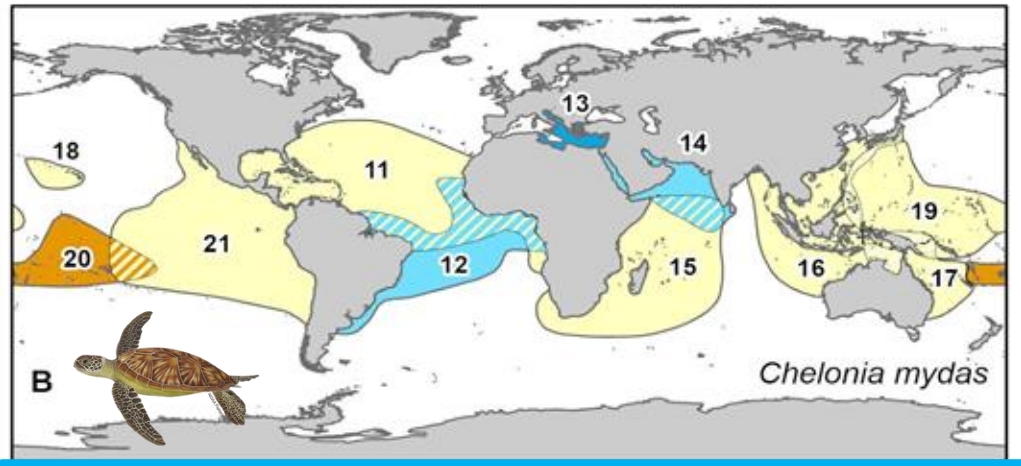
GREEN = GOOD

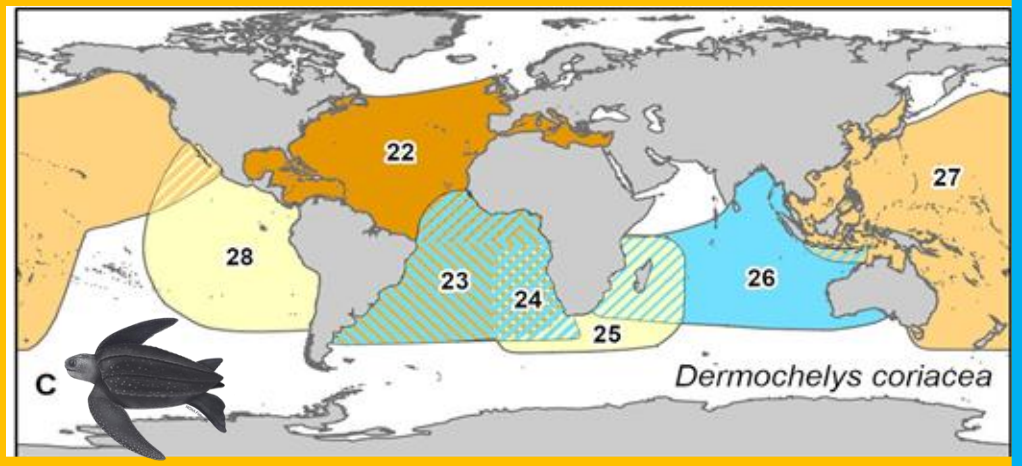


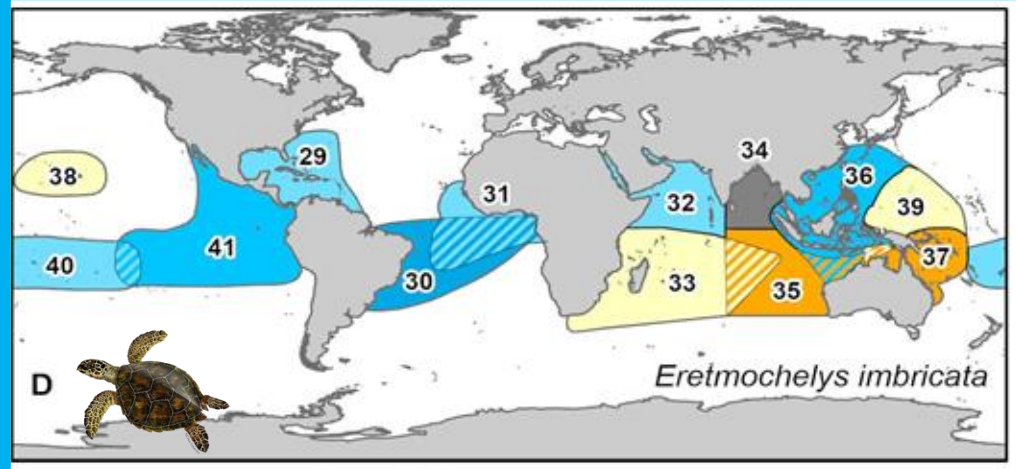


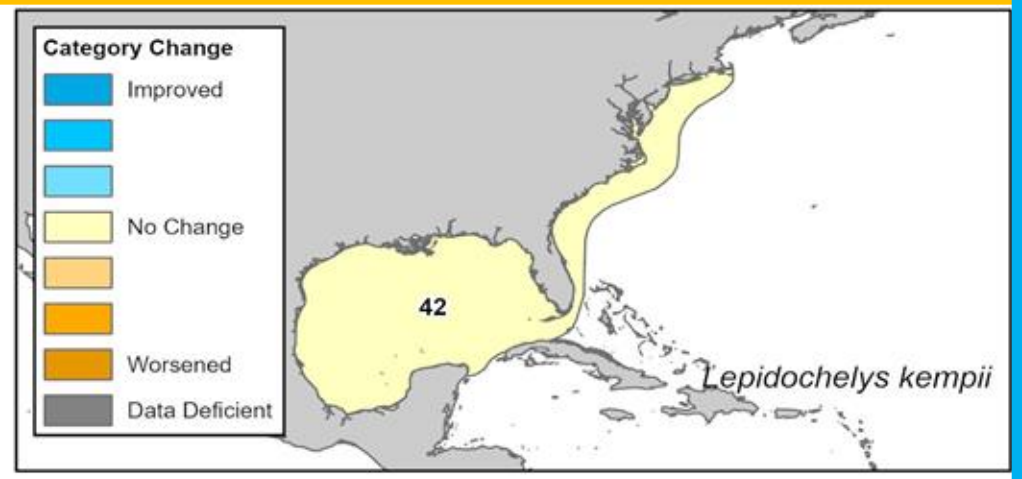
Wallace, Bandimere et al., *Endangered Species Research (2025)*

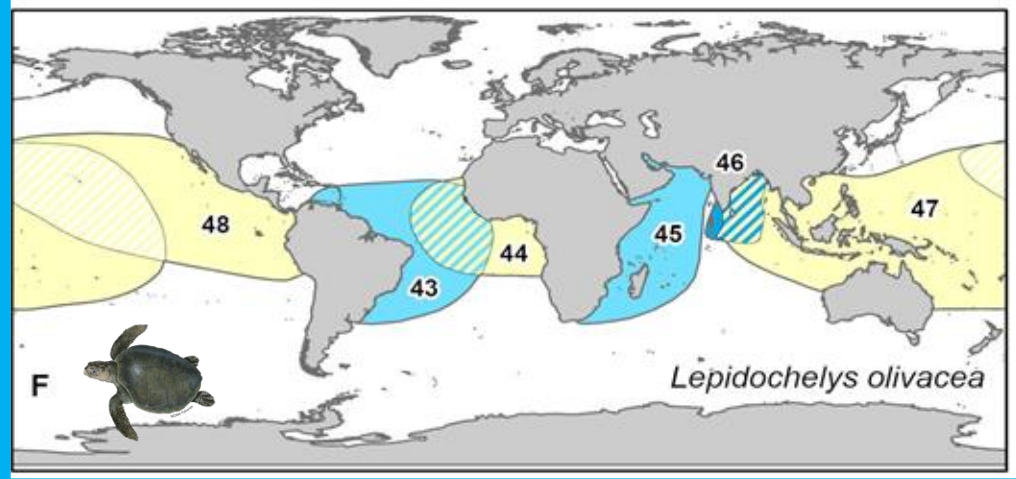










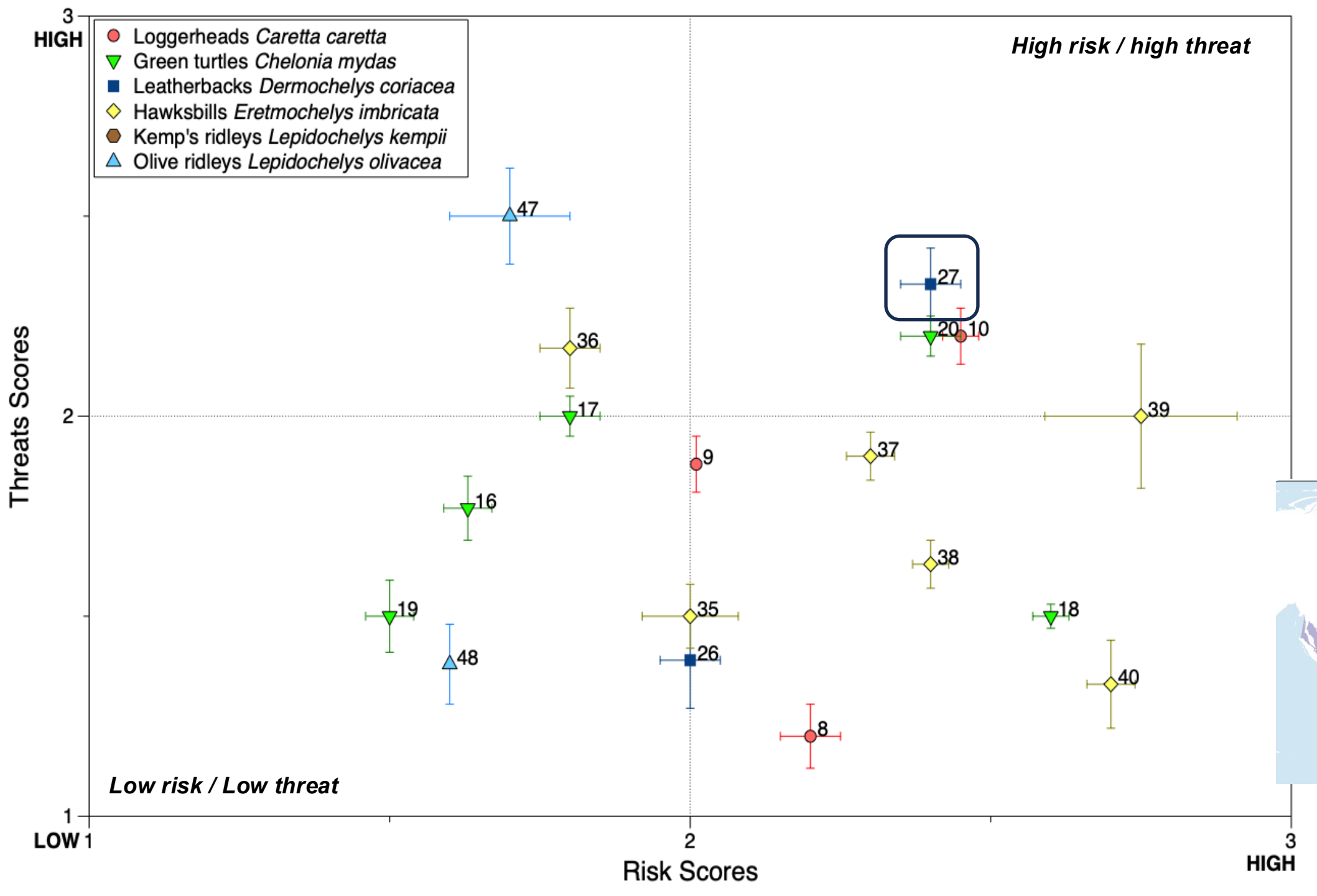


BLUE
= BETTER

ORANGE
= WORSE

Wallace, Bandimere et al., *Endangered Species Research (2025)*

What about WCPO RMUs?



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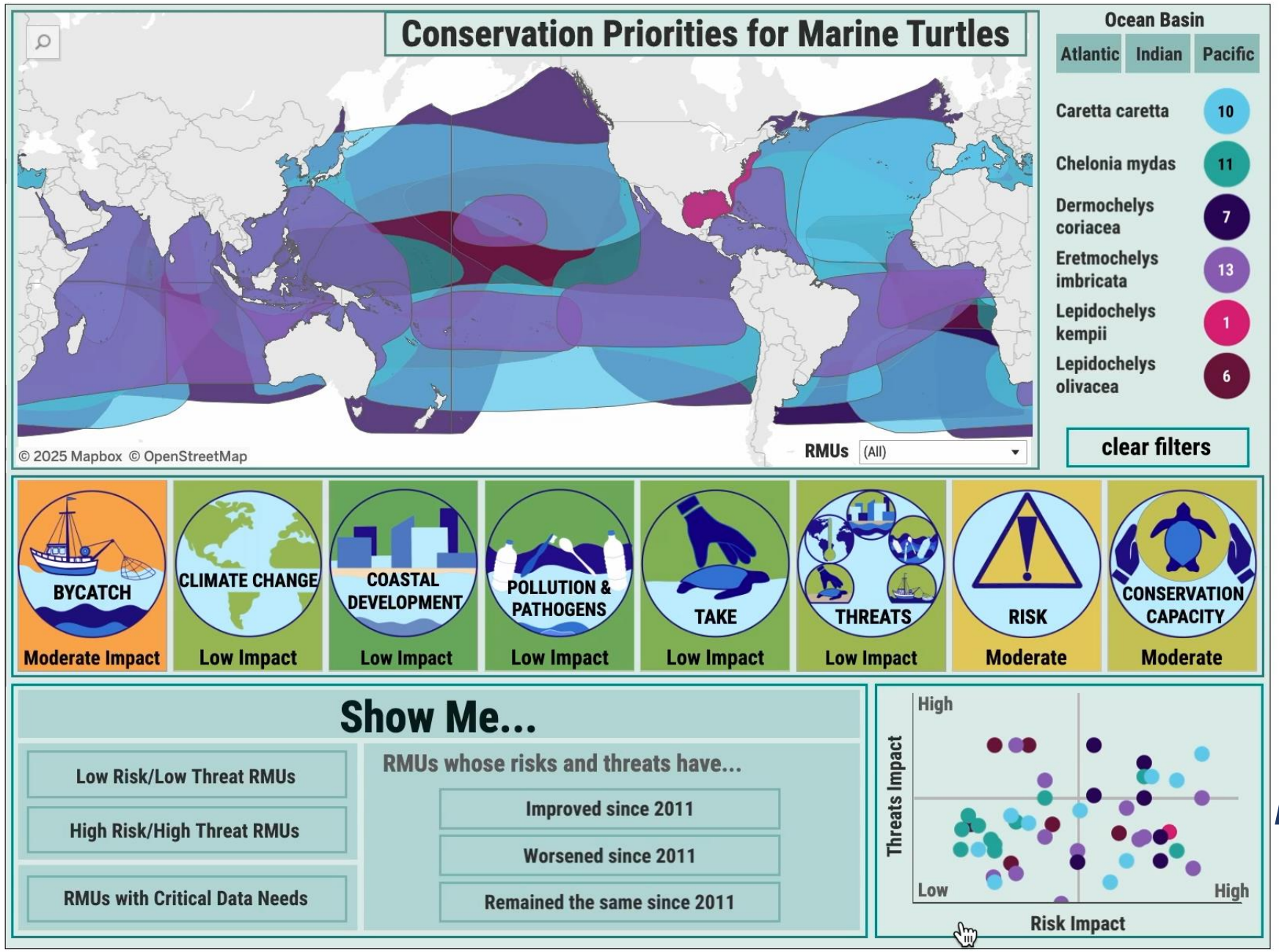
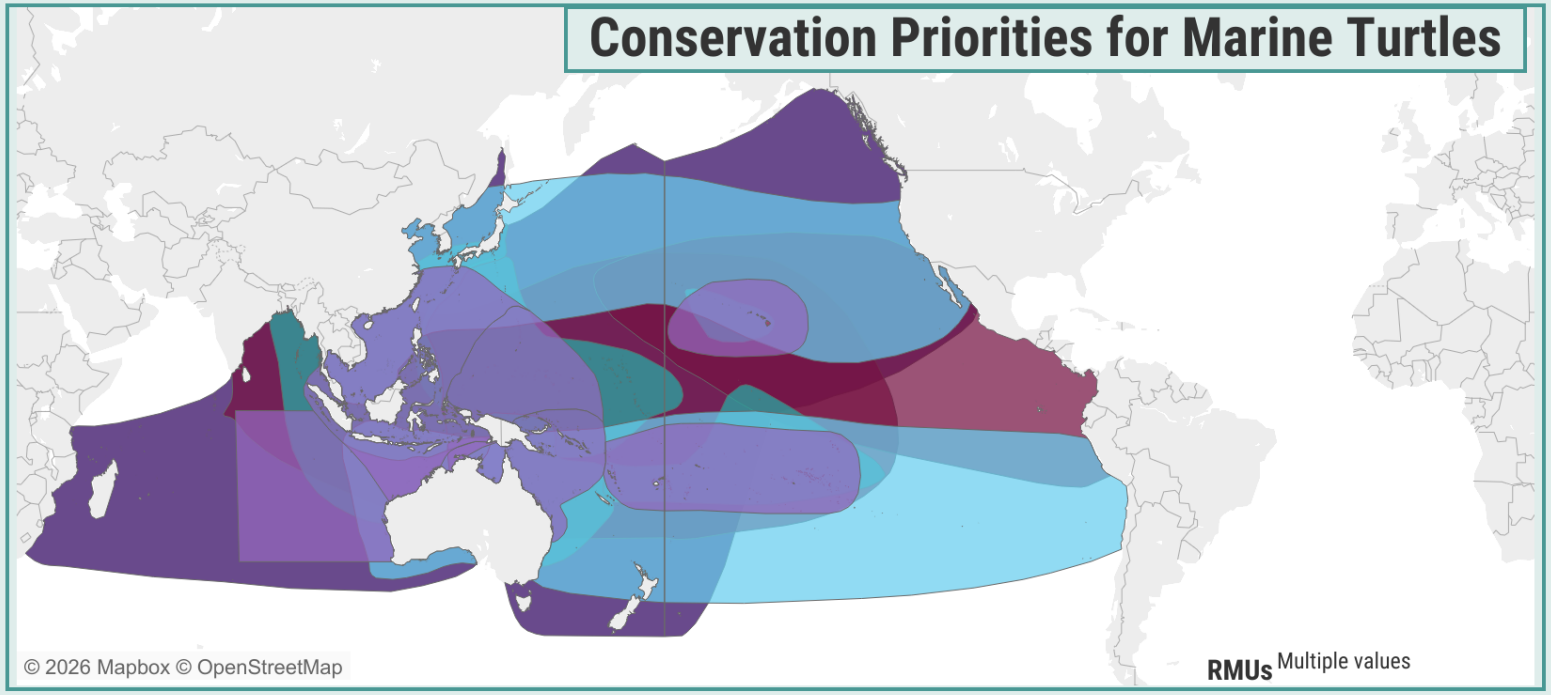


CPP Data dashboard

Conservation Priorities for Marine Turtles



Ocean Basin

Atlantic | Indian | Pacific

Caretta caretta	3
Chelonia mydas	5
Dermochelys coriacea	2
Eretmochelys imbricata	6
Lepidochelys olivacea	2

Moderate Impact

Moderate Impact

Low Impact

Moderate Impact

Low Impact

Low Impact

Moderate

Moderate

Show Me...

Low Risk/Low Threat RMUs

High Risk/High Threat RMUs

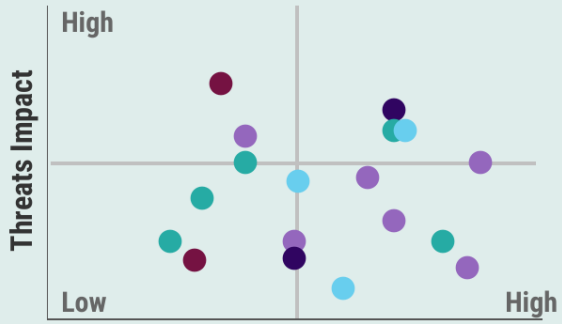
RMUs with Critical Data Needs

RMUs whose risks and threats have...

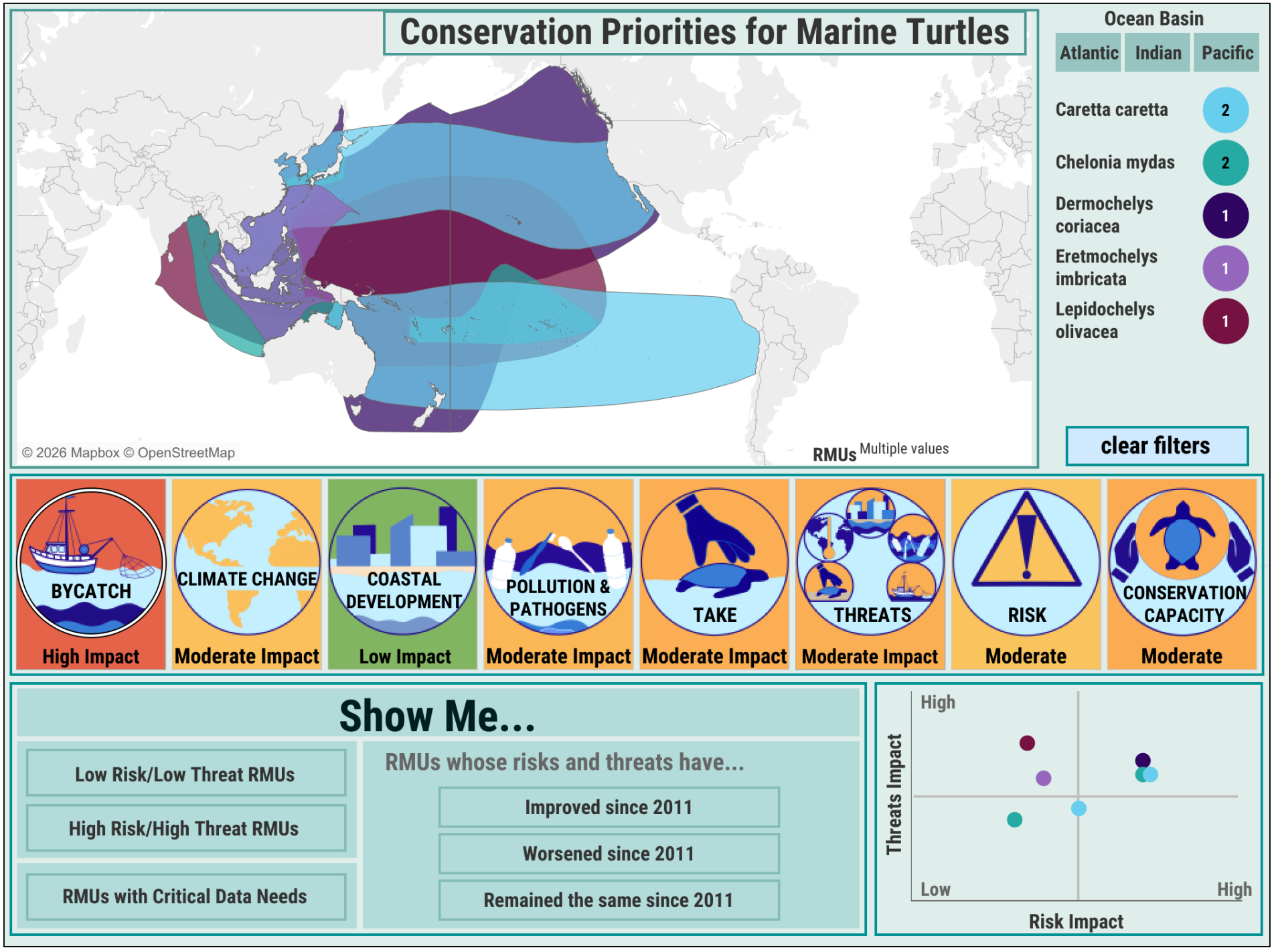
Improved since 2011

Worsened since 2011

Remained the same since 2011

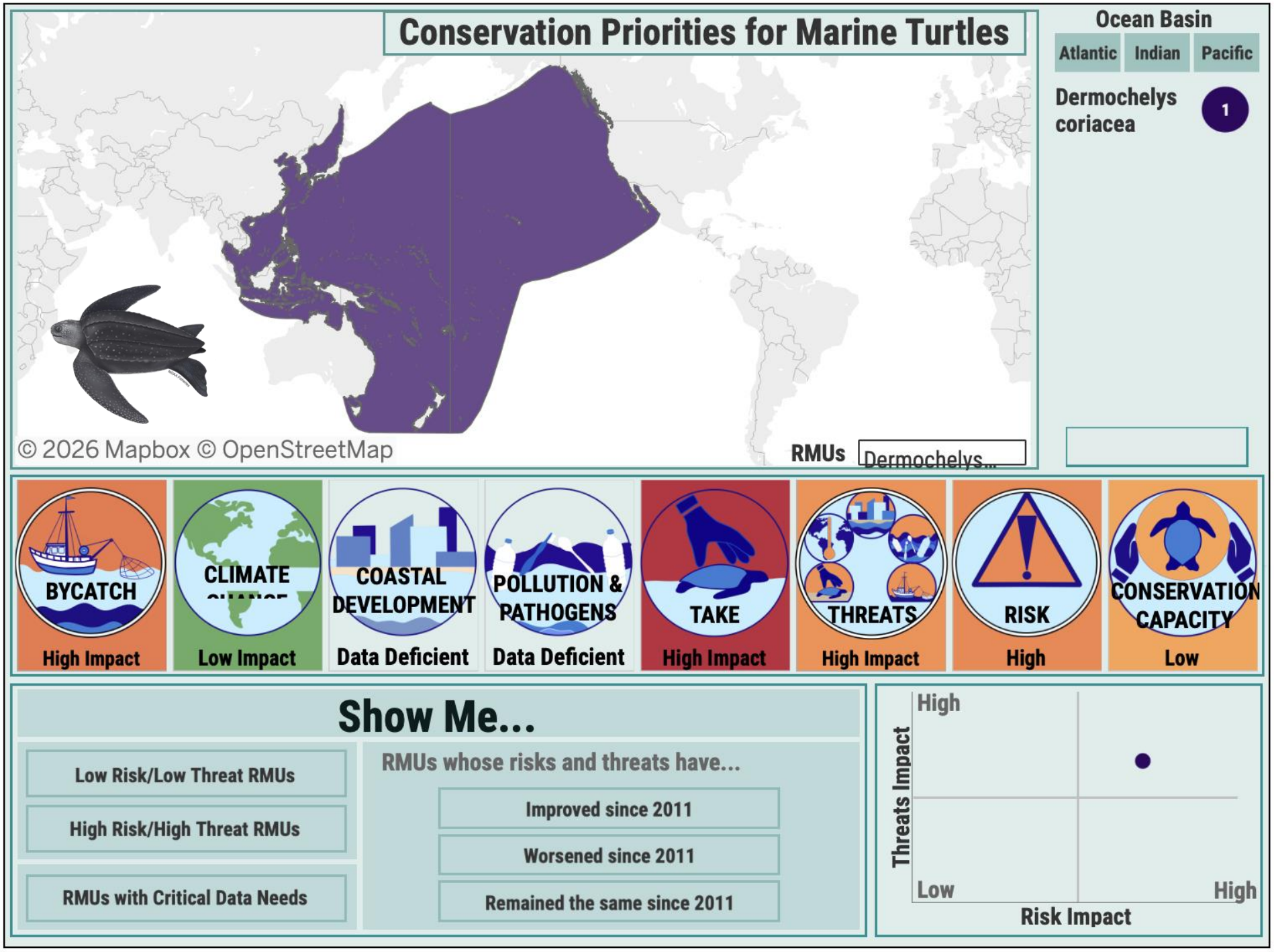


WCPO RMUs

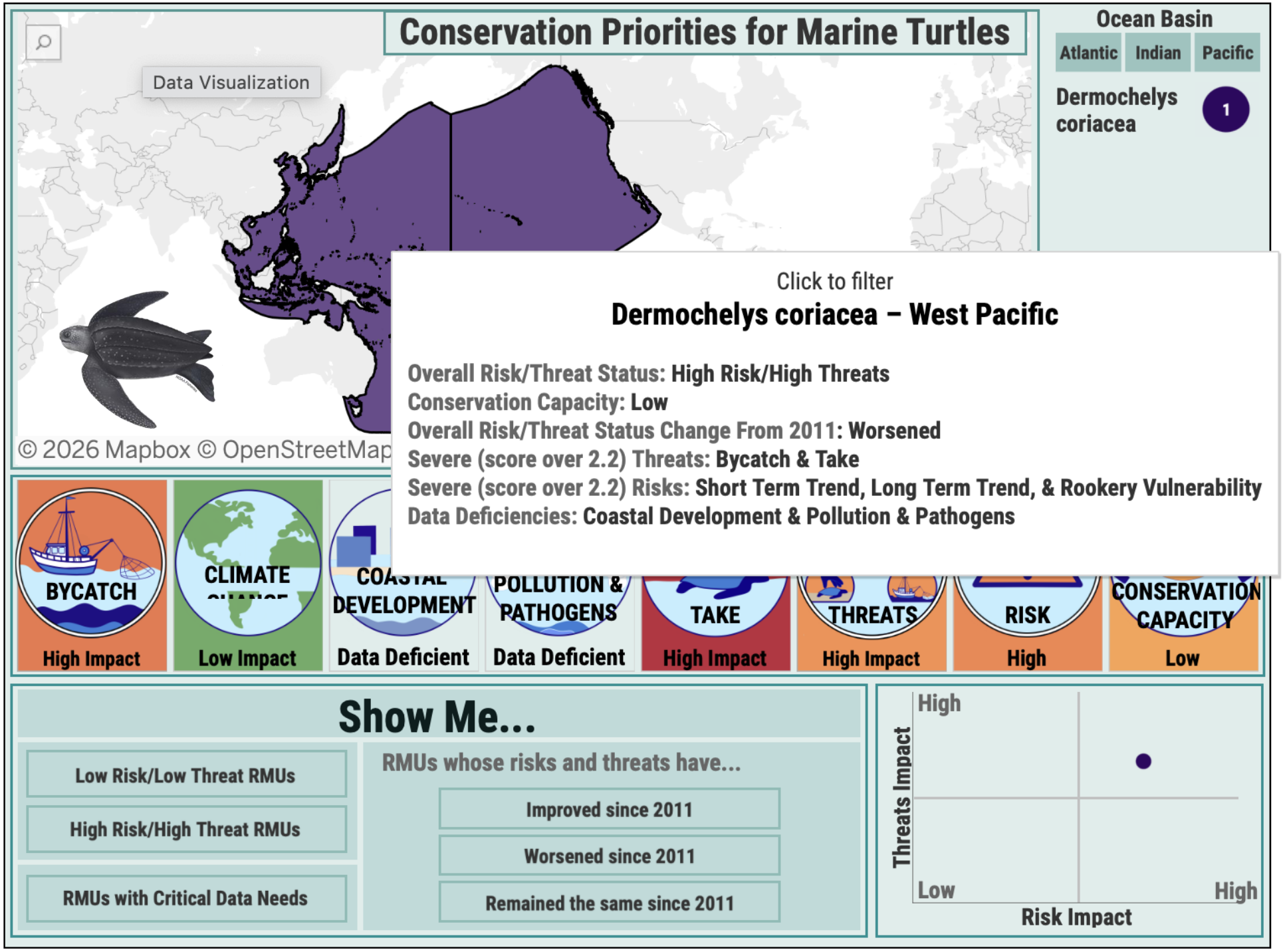


WCPO RMUs

High Bycatch



West Pacific leatherbacks: High Risk and High Threats



West Pacific leatherbacks: High Risk and High Threats

Take-home messages

WCPO is home to diverse and widespread sea turtle populations

Turtle ranges and life history make them vulnerable to bycatch impacts, which are still significant

Conservation status: not all bad news! Much to learn and apply


Questions?