CONSERVATION STATUS AND HABITAT USE OF SEA TURTLES IN THE EASTERN PACIFIC OCEAN

INTER-AMERICAN CONVENTION FOR THE
PROTECTION AND CONSERVATION OF SEA TURTLES

CONSERVATION STATUS AND HABITAT USE OF SEA TURTLES IN THE EASTERN PACIFIC OCEAN

- At the 5th Conference of the Parties for the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC; Bonaire, June 2011), a Memorandum of Understanding (MOU) was signed between the IAC and the Inter-American Tropical Tuna Commission (IATTC).
- Under this agreement, the IAC believes that a first step to strengthen potential collaborations is to provide the IATTC with information about the conservation status, habitat use, and movements of sea turtles in the eastern Pacific Ocean (EPO).
- This report provides the current state of knowledge regarding the five sea turtle species occurring in the region, including leatherback turtles (*Dermochelys coriacea*), green or black turtles (*Chelonia mydas*), loggerhead turtles (*Caretta caretta*), olive ridley turtles (*Lepidochelys olivacea*) and hawksbill turtles (*Eretmochelys imbricata*).
- The IAC is well aware of the superb efforts of IATTC to address sea turtle bycatch issues in the eastern Pacific, and feels that the IAC - IATTC MOU has strong potential for integrated conservation and monitoring of sea turtles in the eastern Pacific

5 species of sea turtles in the eastern Pacific

Leatherback

Olive Ridley

Loggerhead

Hawksbill

EP green turtle

a.k.a. black turtle

WP green turtle

a.k.a. yellow turtle

Conservation status listings of sea turtles in the eastern Pacific

Common Name	*ESA*	*IUCN*
Olive ridley turtle	Threatened	Vulnerable
Loggerhead turtle	Threatened*	Endangered
Green turtle	Threatened**	Endangered
Hawksbill turtle	Endangered	Critically Endangered
Leatherback turtle	Endangered	Critically Endangered

CONSERVATION STATUS AND HABITAT USE OF SEA TURTLES IN THE EASTERN PACIFIC OCEAN

Nesting biology & distribution

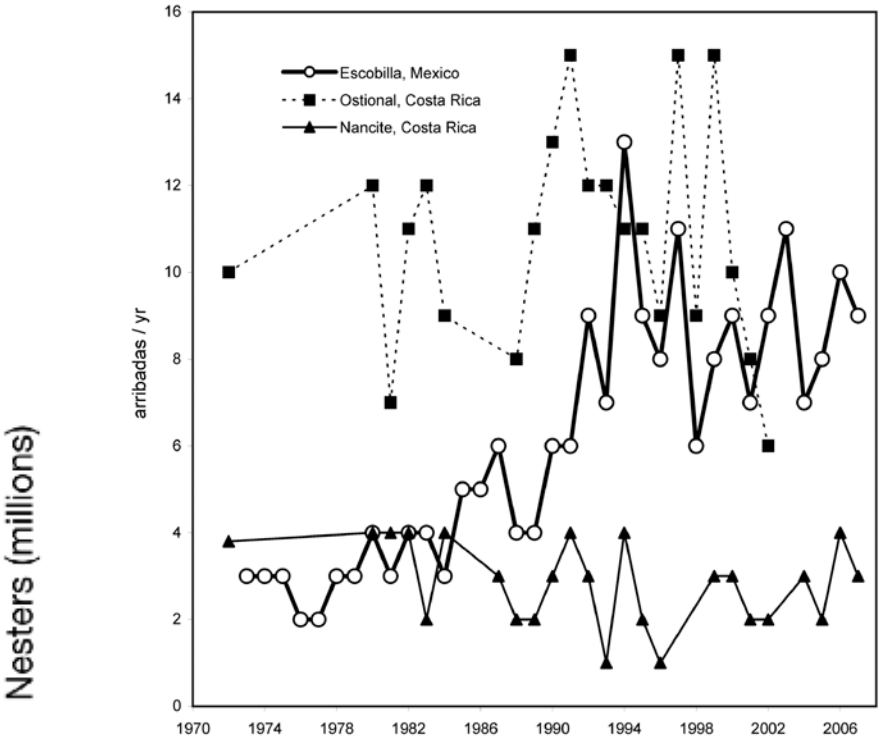
In-water biology & distribution

Abundance and trends

Conservation status

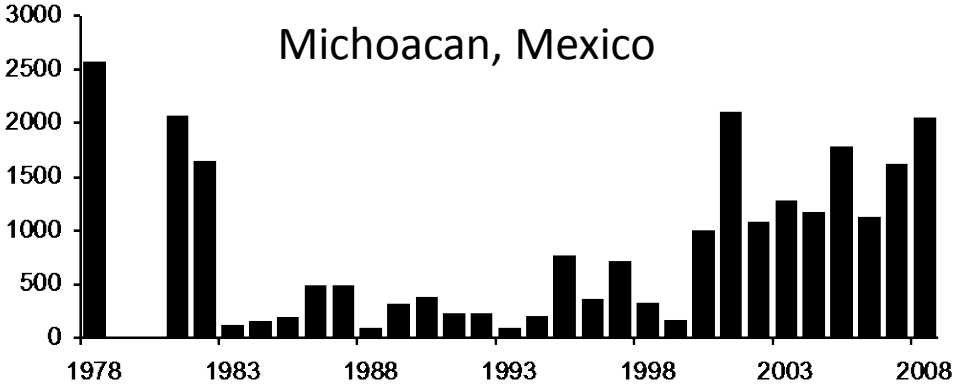
Lepidochelys olivacea

- Long-term monitoring at many sites
- Escobilla and Ostional the two largest arribada sites
- Increasing trends ongoing throughout range, some sites decreasing
- IUCN: **Vulnerable** (global)
- ESA: **Threatened** (global)

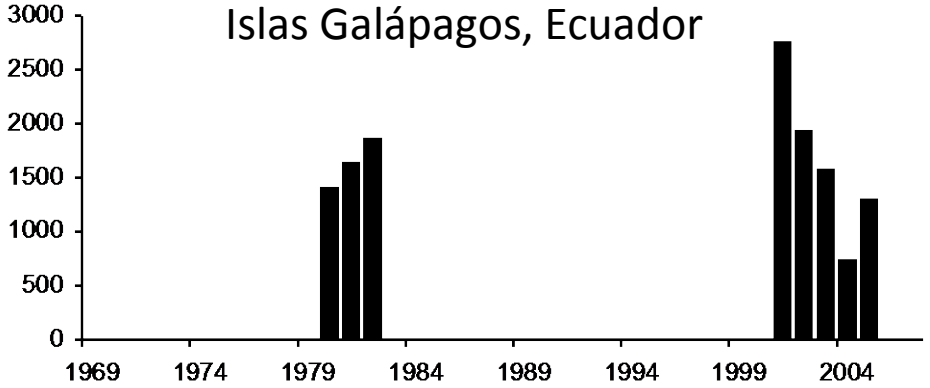


Change in nesting arribada abundance for olive ridley turtles at three major arribada sites in the eastern estimated nesting abundance of two major olive ridley nesting populations from the eastern Pacific (Plotkin et al. 2012)

Chelonia mydas

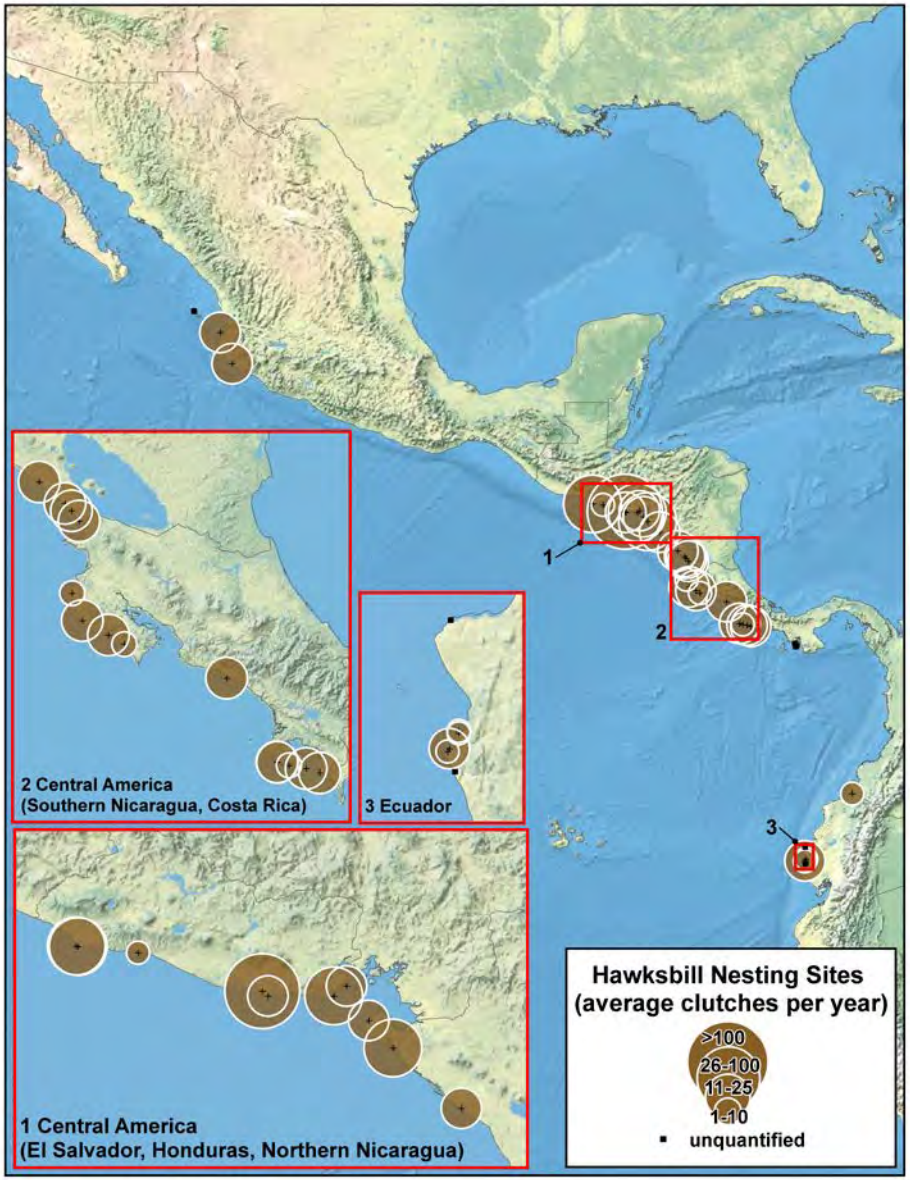


- Long-term monitoring at sites in Michoacán, Mexico, and Galapagos Islands (4 sites)
- Increasing trend in Michoacán
- IUCN: **Endangered** (global)
- ESA: **Endangered** (Pacific Mexico)
- Action: ESA Assessment in 2010



Eretmochelys imbricata

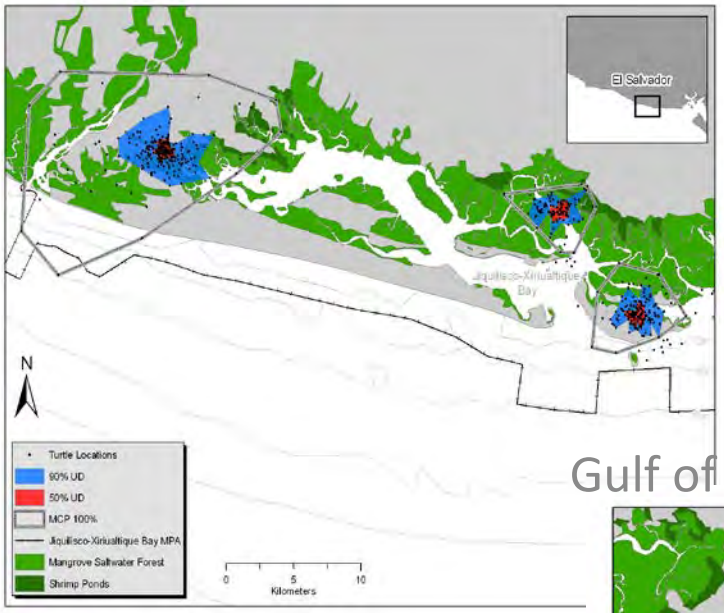
- No long-term nesting data
- Largest assemblages in →
  El Salvador (~300 nests/year)
  Nicaragua (~200 nests/year)
- IUCN: **Critically Endangered** (global)
- ESA: **Endangered** (global)
- Action: IAC resolution, new projects throughout region



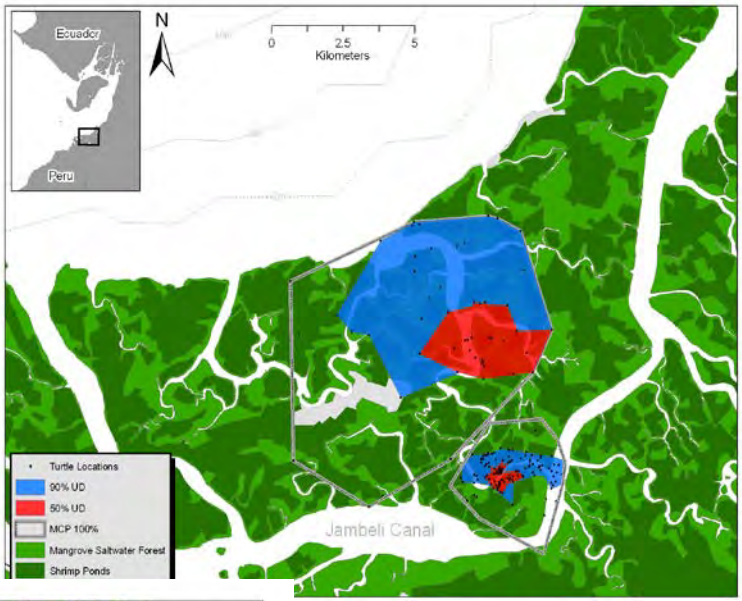
Eretmochelys imbricata

Foraging in mangrove estuaries

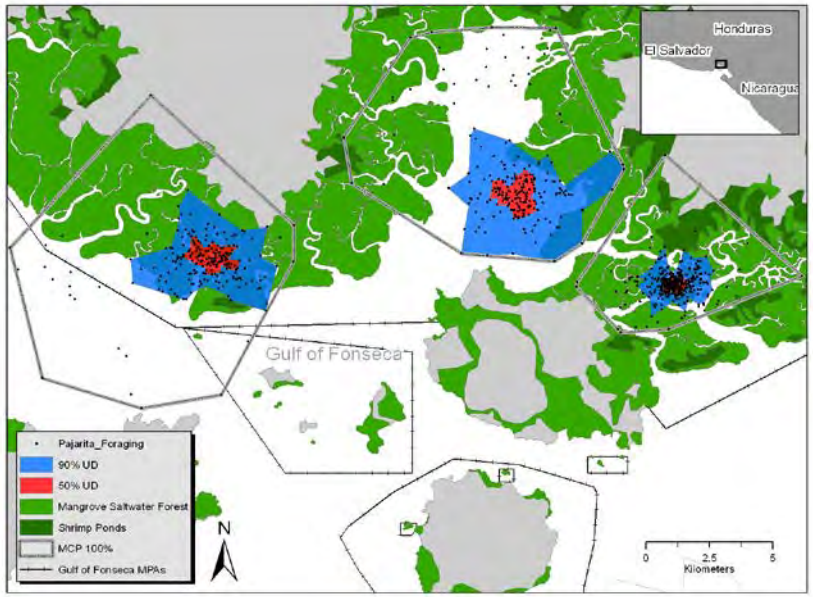
Jiquilisco Bay, El Salvador



Jambeli Canal, Ecuador

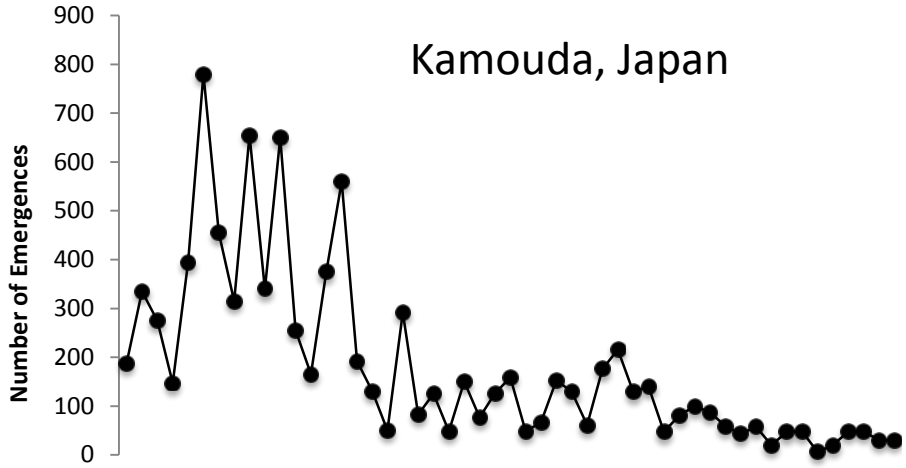


Gulf of Fonseca, Honduras

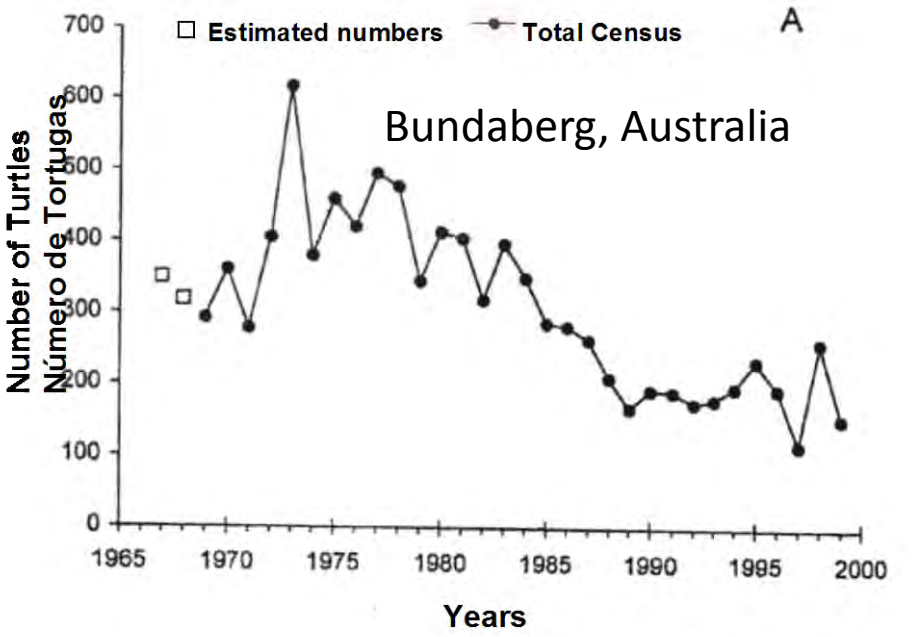


Gaos et al. In Prep

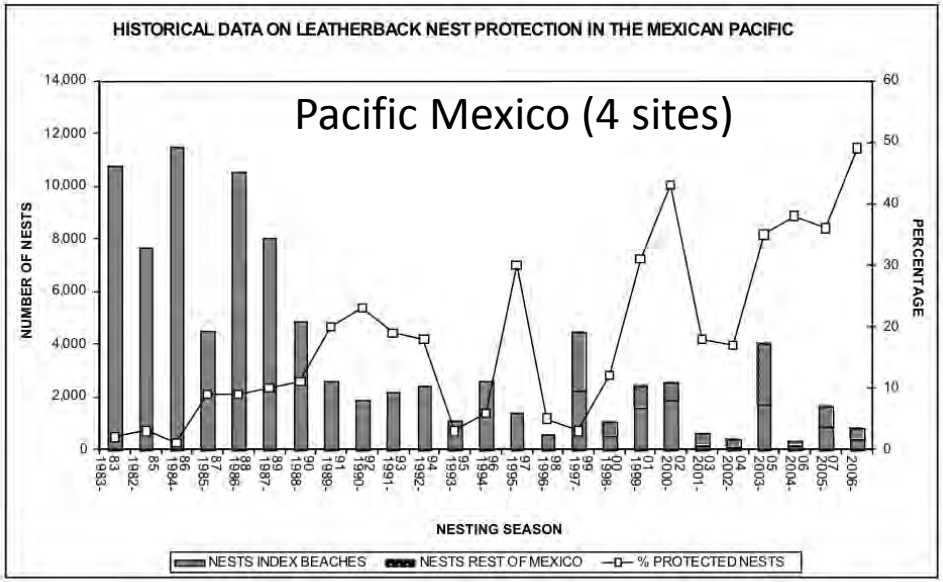
Caretta caretta



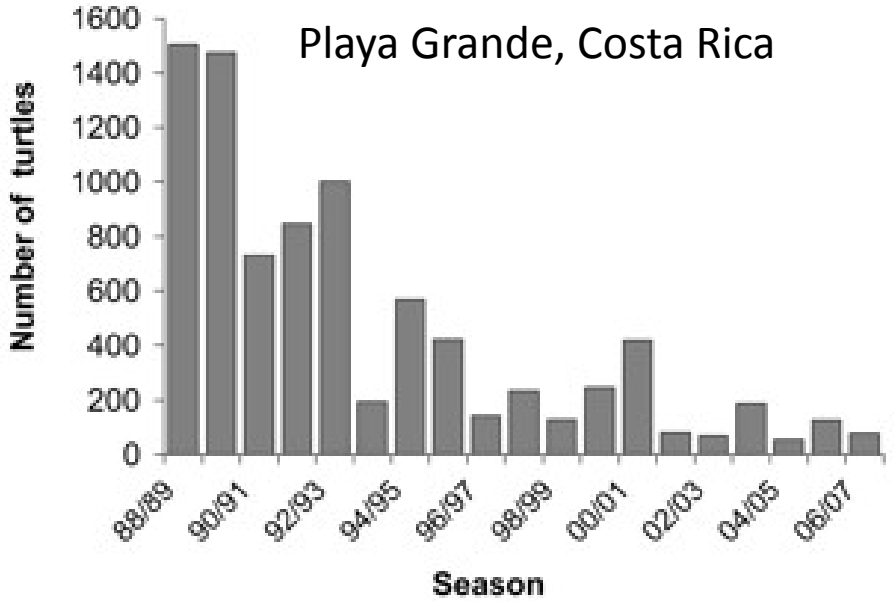
- Long-term monitoring at multiple sites in Japan and Australia
- Depleted populations at most sites
- Short-term increase in Japan
- IUCN: **Endangered** (global)
- ESA: **Endangered** (NP / SP)



Dermochelys coriacea

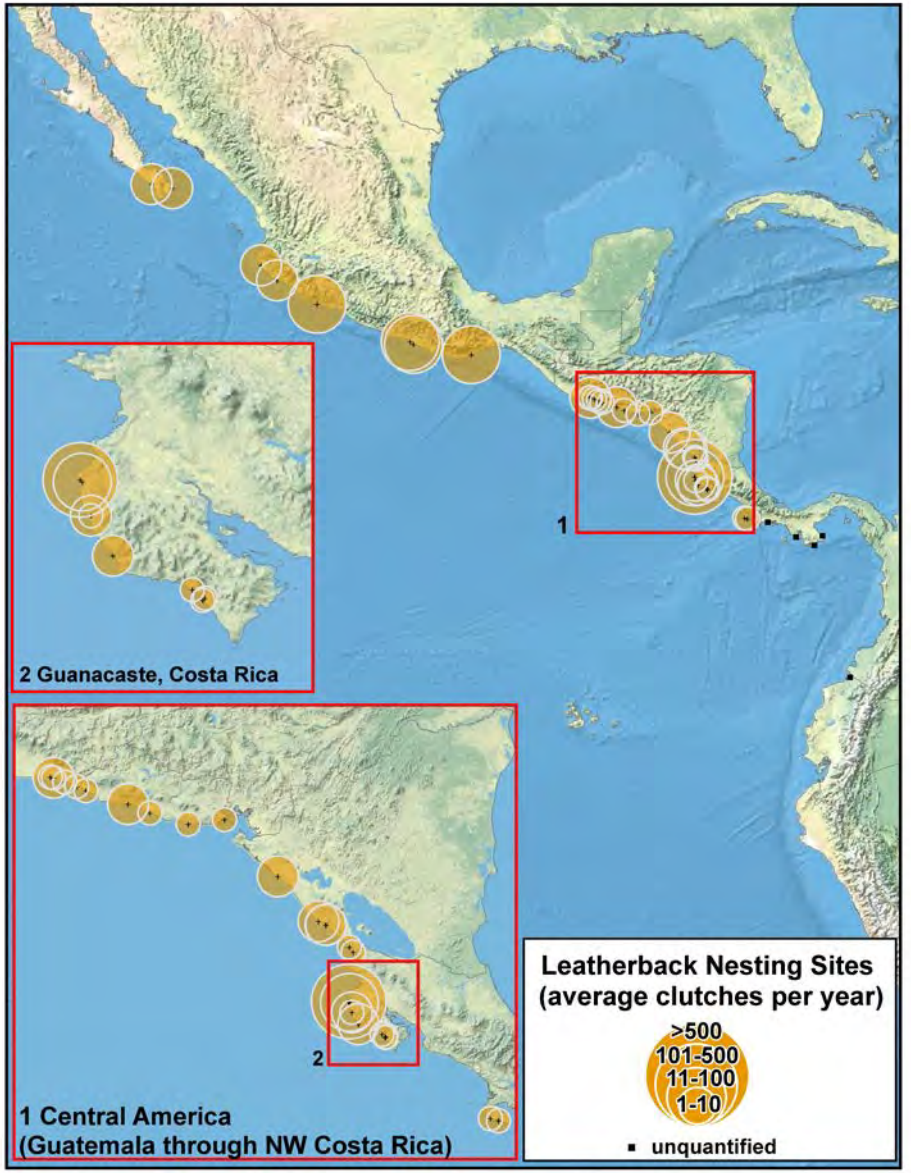


- Long-term monitoring at 4 primary sites in Mexico, and at Playa Grande, CR
- Population crash at all EP sites
- IUCN: **Critically Endangered** (global)
- ESA: **Endangered** (global)
- Action: IAC resolution, US critical habitat

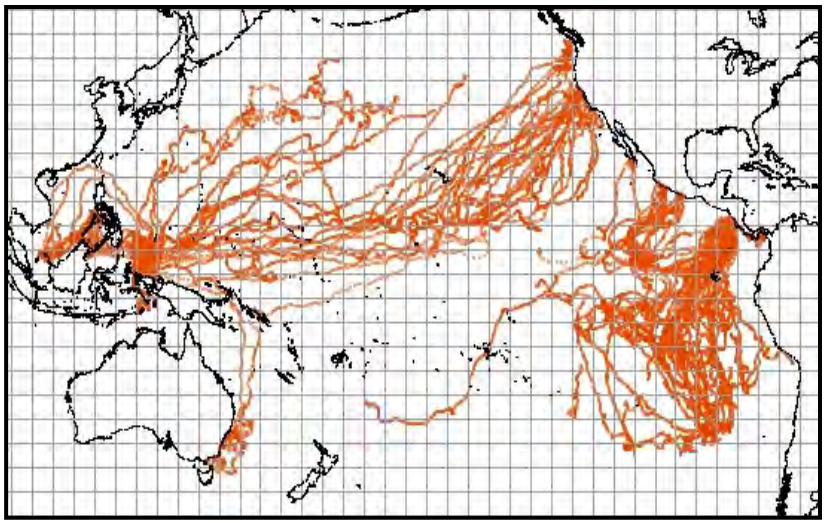


Dermochelys coriacea

- **Laúd, Baula, Leatherback**
- Nesting from Baja to Costa Rica
- Primary nesting sites in Mexico and Costa Rica
- Nests every 2-4 years
- 5-10 nests per season
- ~ 70 eggs / nest
- Age to maturity ~ 15 yrs

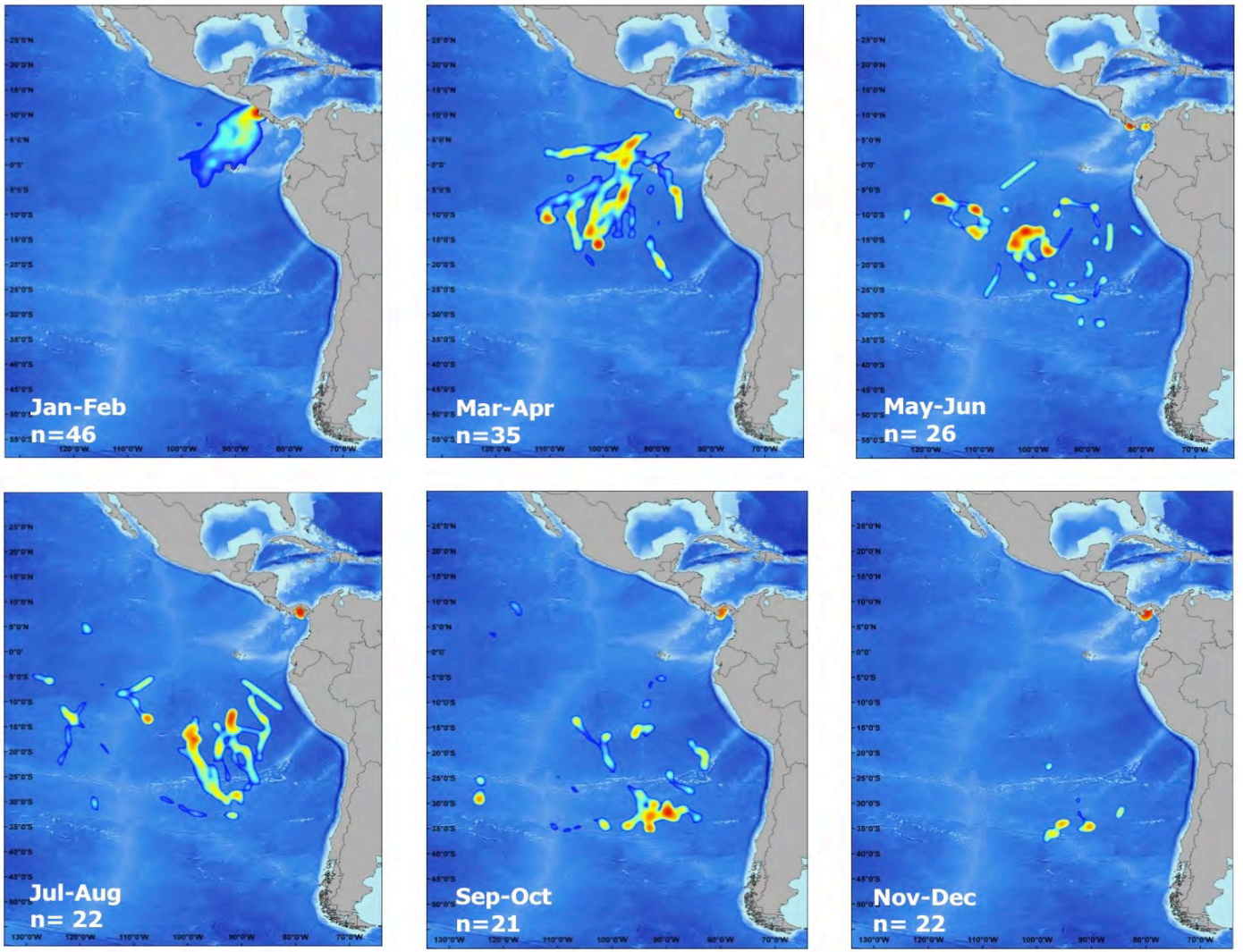


Dermochelys coriacea



- 258 satellite tracked turtles
- Multiple foraging hotspots in eastern Pacific
- Minimal overlap of EP and WP nesters in foraging grounds
- Distinct E / W nesting stocks based in mtDNA
- Largest rookery at Jamursba Medi, Indonesia (~200 turtles/yr)

Dermochelys coriacea



High use areas by month for leatherback sea turtles nesting at Playa Grande, Costa Rica, Shillinger et al. 2008, Shillinger unpubl. data).

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1. Conduct additional research of at-sea movements of all species of sea turtles, particularly leatherbacks and loggerheads, in relation to seasonal oceanographic conditions.
2. Conduct additional satellite-tracking research on internesting movements of leatherback turtles and green turtles along the Pacific coast of Mexico.
3. Maintain monitoring of green turtles at the primary beaches being monitored in the Galapagos Archipelago.
4. Increase the awareness that mangrove estuaries are important in both fisheries production and also serve as vital habitats for sea turtles, especially hawksbills in the eastern Pacific. Therefore, it is recommended that conservation efforts of mangrove estuaries be improved.
5. Encourage IUCN Red List regional assessments of all sea turtle species in the eastern Pacific using the RMU framework

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6. Collect additional data on sea turtle bycatch, to encourage a project that investigates fishery/sea turtle overlap areas, and options for the future (e.g. time-area closures, expansion of gear trials, etc.).
7. Implement inexpensive gear modification and measures to reduce entanglement of sea turtles in fisheries that use floating lines made from polyester or polypropylene fibers.
8. Each country undertake research to determine the feasibility and effectiveness of replacing J-hooks with circle hooks as a measure to reduce sea turtle bycatch.
9. Educate fishermen on how to reduce sea turtle bycatch and safe handling of incidentally caught turtles to improve their survivability.
10. Take measures necessary to ensure that longline vessels carry on board the necessary equipment (e.g. de-hookers, line cutters and scoop nets) for appropriate release of incidentally caught sea turtles.