

Efforts to Safeguard the Antillean Manatees of Belize



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WHO WE ARE

CMARI works to protect and conserve our world's **fragile coastal ecosystems** and the **endangered species** that call them home.

We focus on the conservation of flagship species, such as the endangered Antillean manatees in Belize.



What We Do

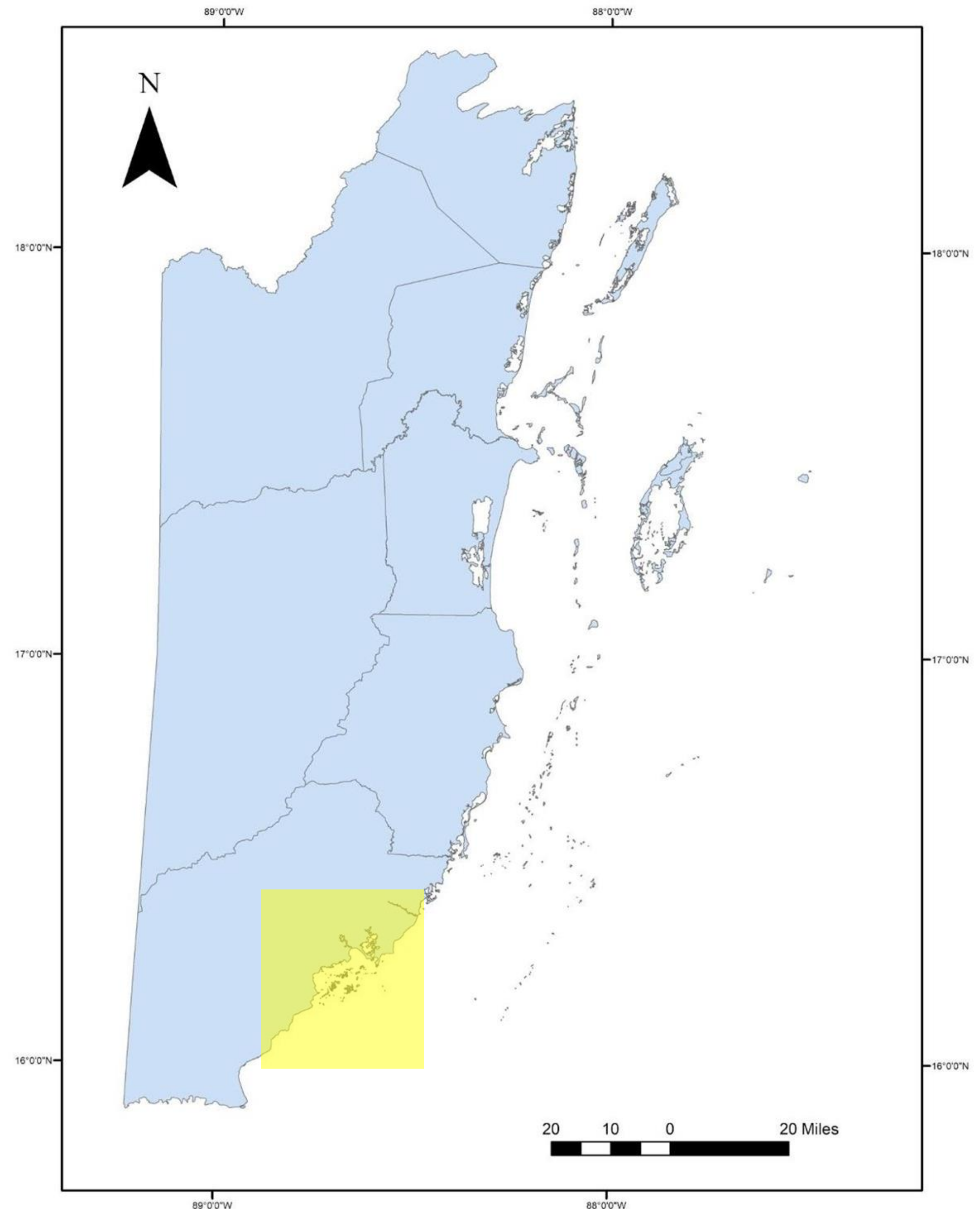
- RESEARCH
- CONSERVATION
- EDUCATION
- RESCUE
- INSPIRATION



BELIZE IS HOME TO THE LARGEST KNOWN POPULATION OF THE ENDANGERED ANTILLEAN MANATEES

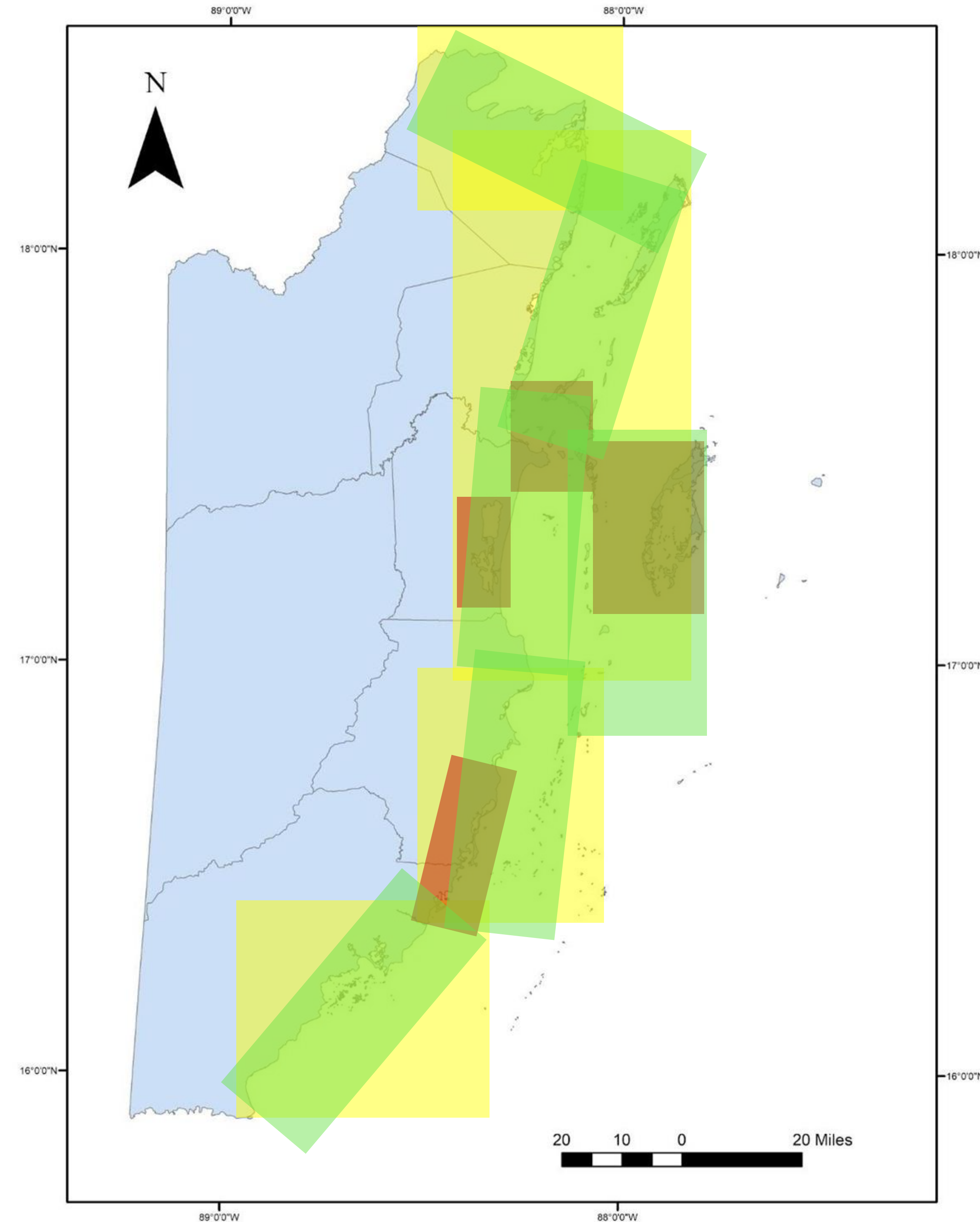
Population threats

- Poaching
- Watercraft
- Entanglement
- Habitat loss
- Pollution



CMARI-BZ Research Initiatives

- Marine Mammal Stranding (1995)
- Manatee Health Assessment (1996)
- National Population Assessment (1997)

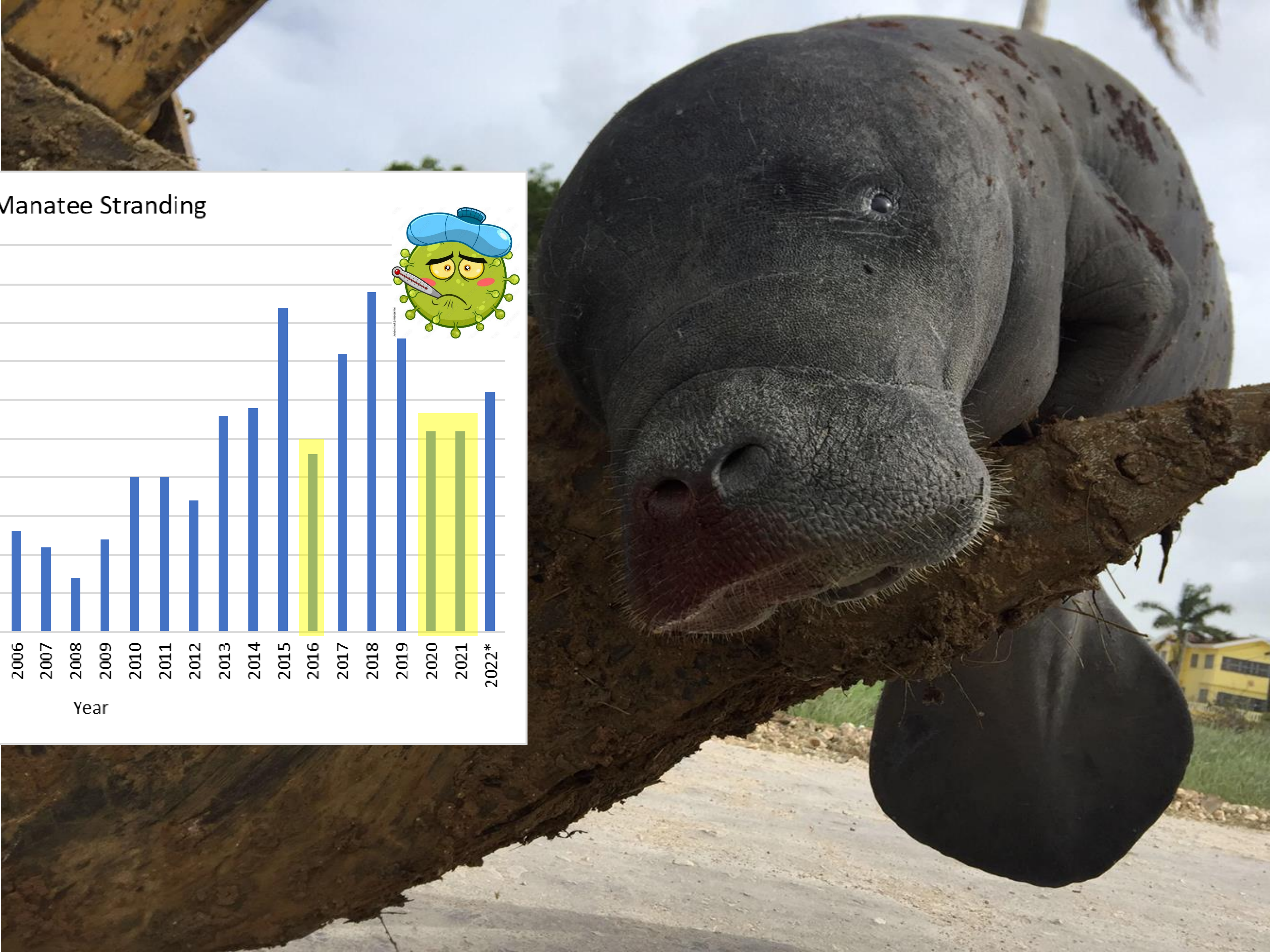
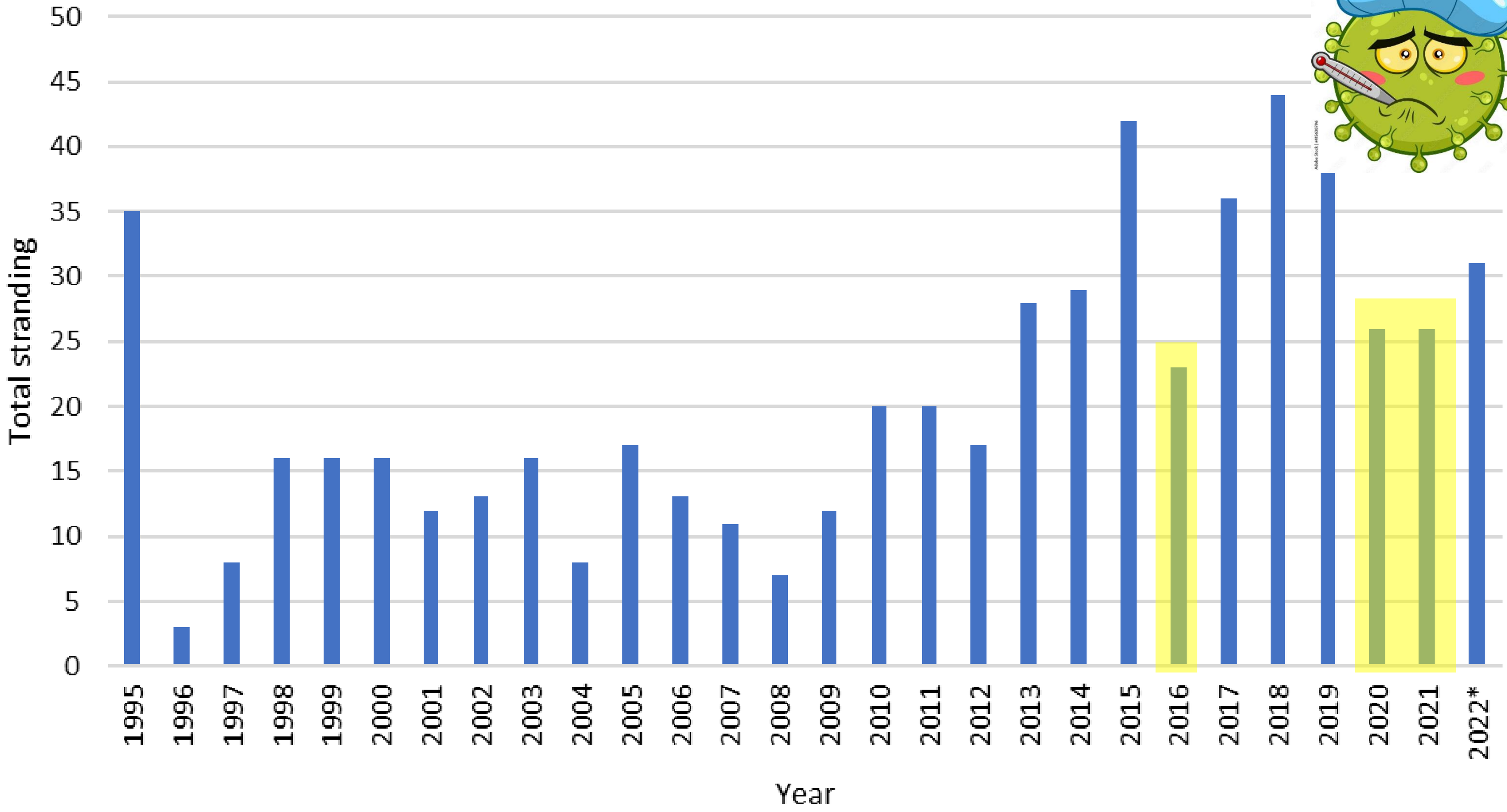


Belize Marine Mammal Stranding Network

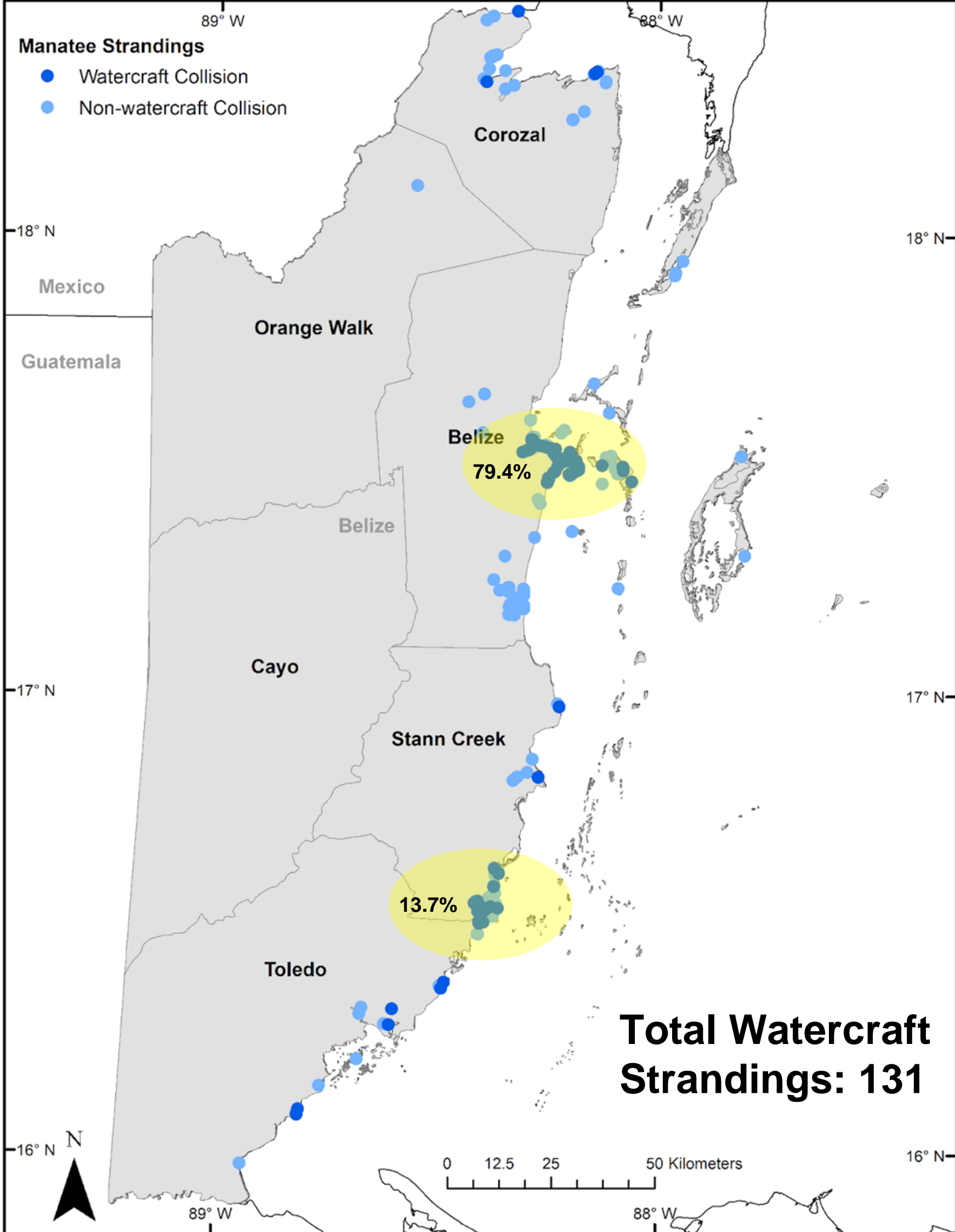
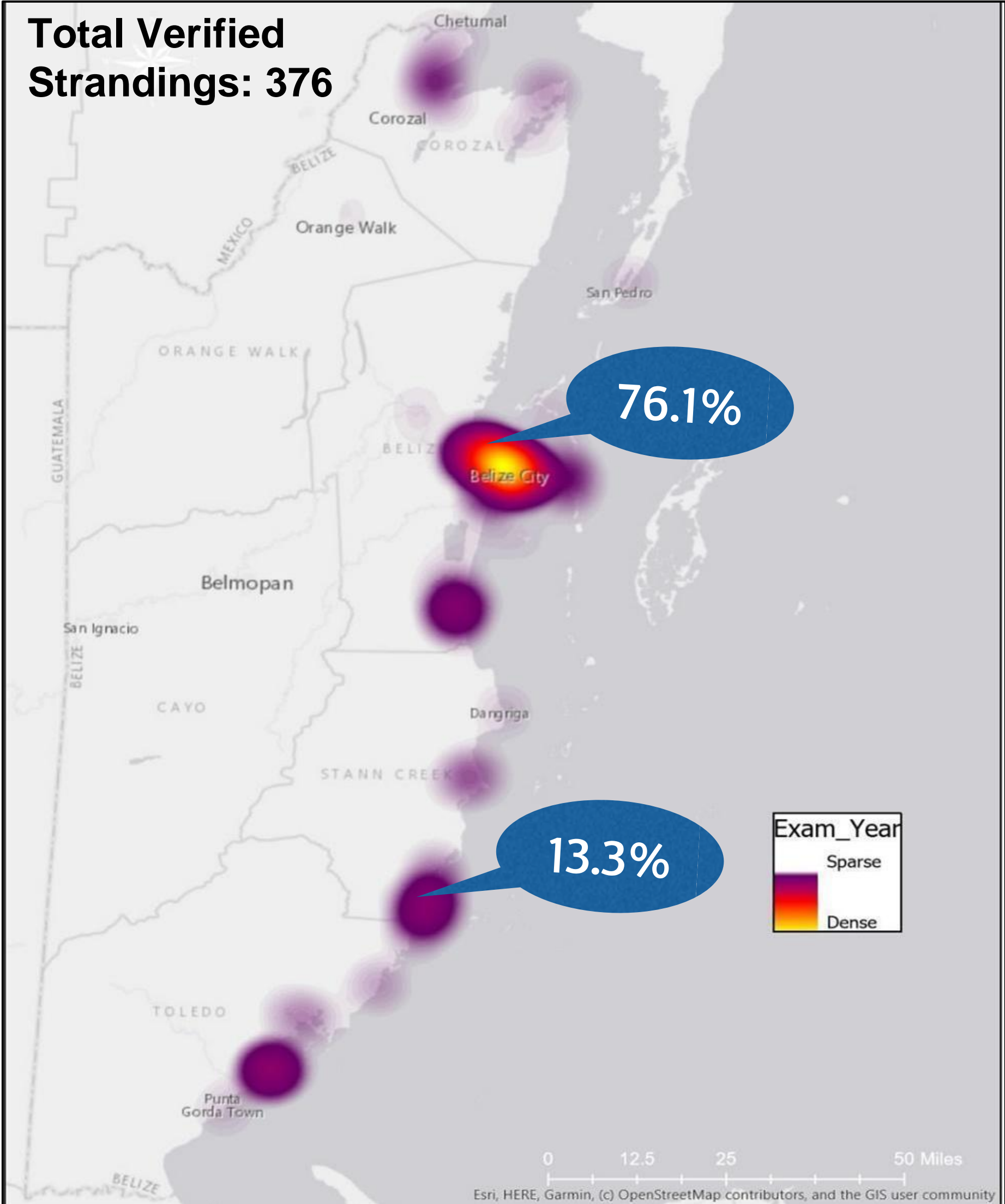
- Data collection 1995
- BMMSN established 1997
- Network training & equipment
- Data housing



Annual Manatee Stranding



Results 1995-2022



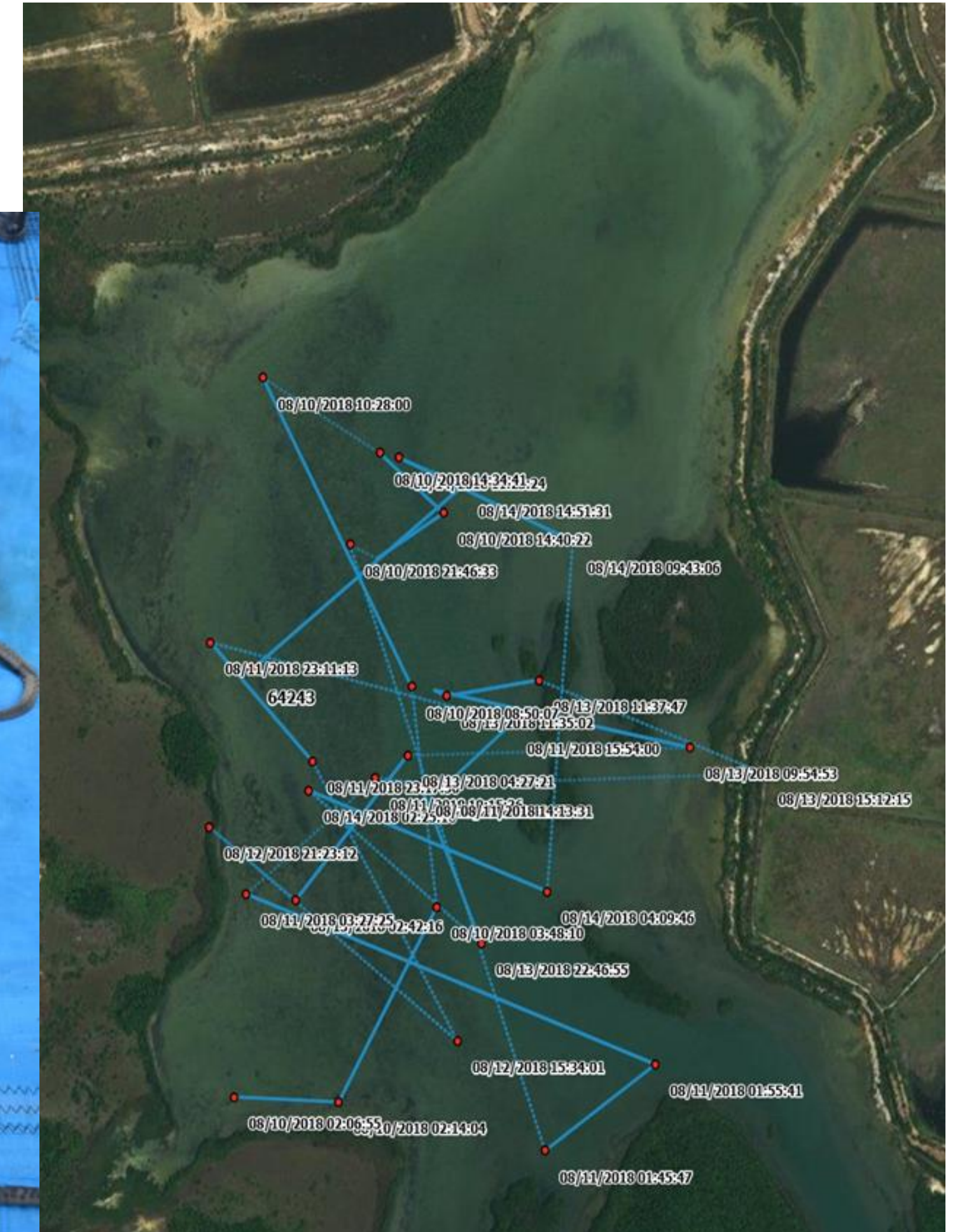
Manatee Health Assessment & Tagging Research

- Started 1997
- Longest longitudinal study of this subspecies
- **Study sites** (Southern Lagoon, Belize City Drowned Cayes, Turneffe Atoll, and Placencia Lagoon).
- >300 manatees assessed
- >30 manatees tagged
- National & International partnership



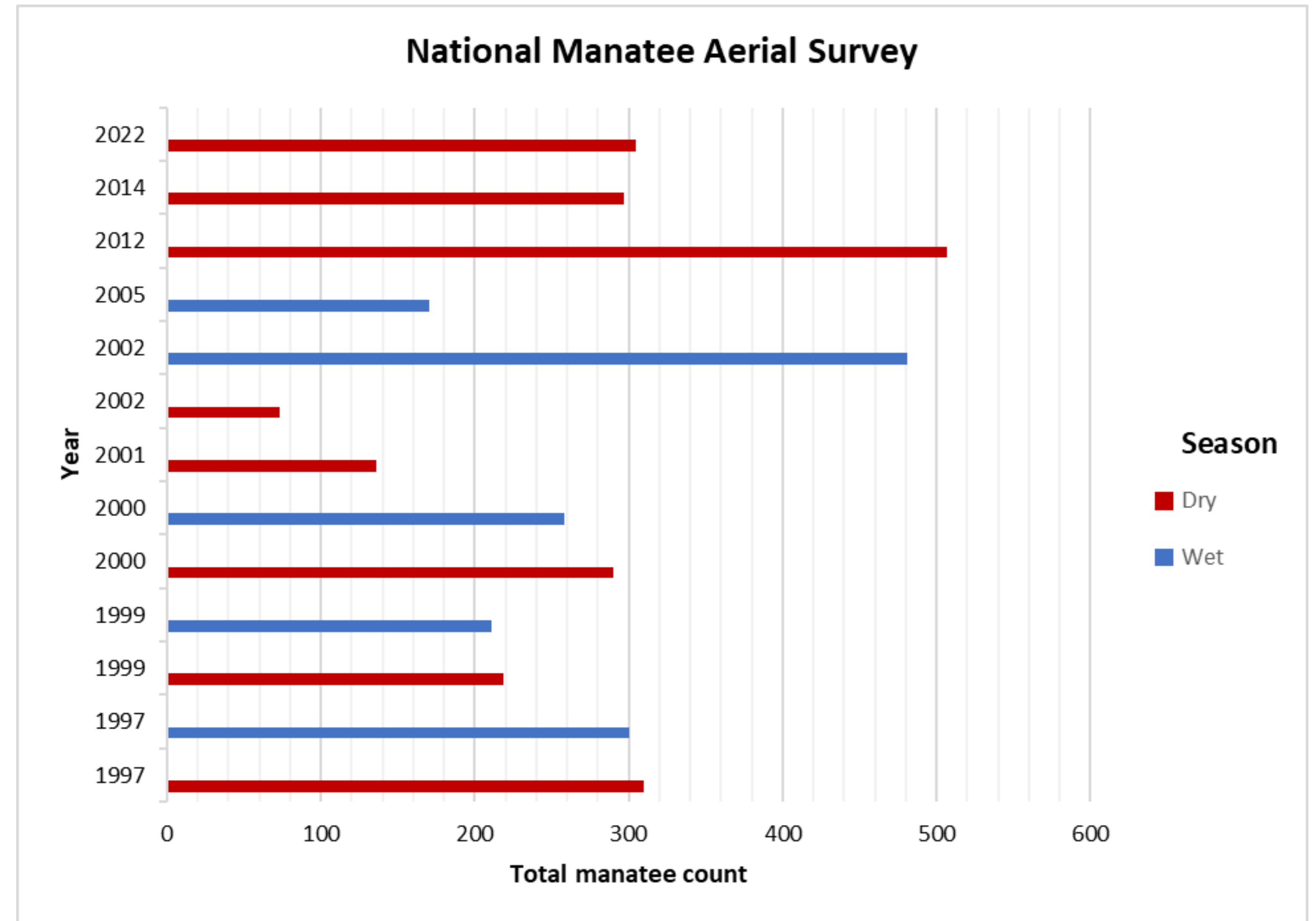
Monitoring

- Animal Health
- Habitat Usage
- Travel Corridors
- Behaviors
- Human Wildlife Conflict



National Population Assessment

- Started in 1997
- Wet & dry season until 2002
- 1997, 1999, 2000, 2001, 2002, 2005, 2012, 2014, 2022
- Distribution, abundance, and population trend



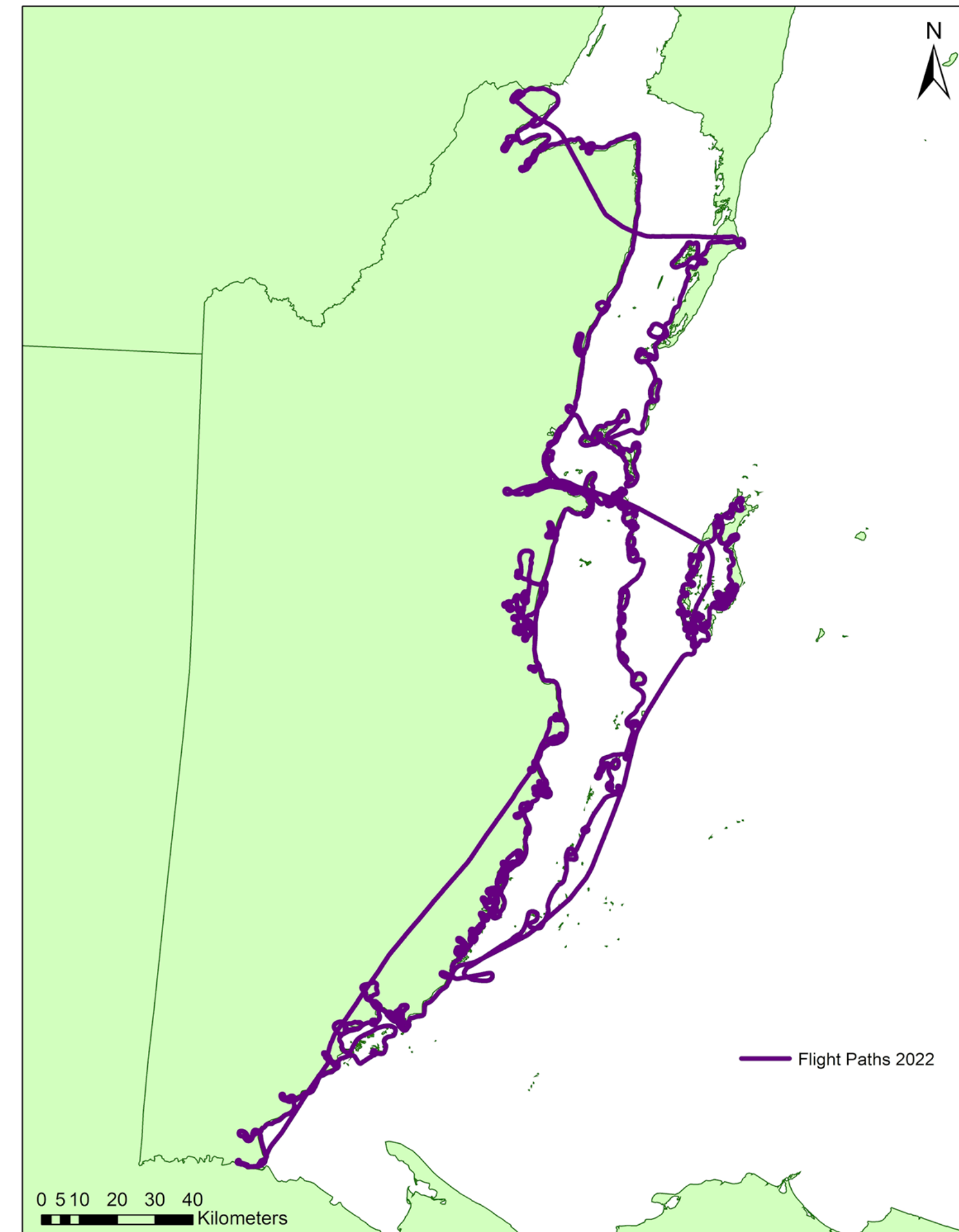
Belize Manatee Abundance Estimate

- Regional manatee population surveys (Belize, Mexico, Guatemala)
- Development of a population model for the Antillean manatee
- Funded by Belize Marine Fund & Belize Island Holdings and special support from FWC & WCS
- Permits under Ministry of Blue Economy & Civil Aviation, and MoU with Belize Fisheries Department



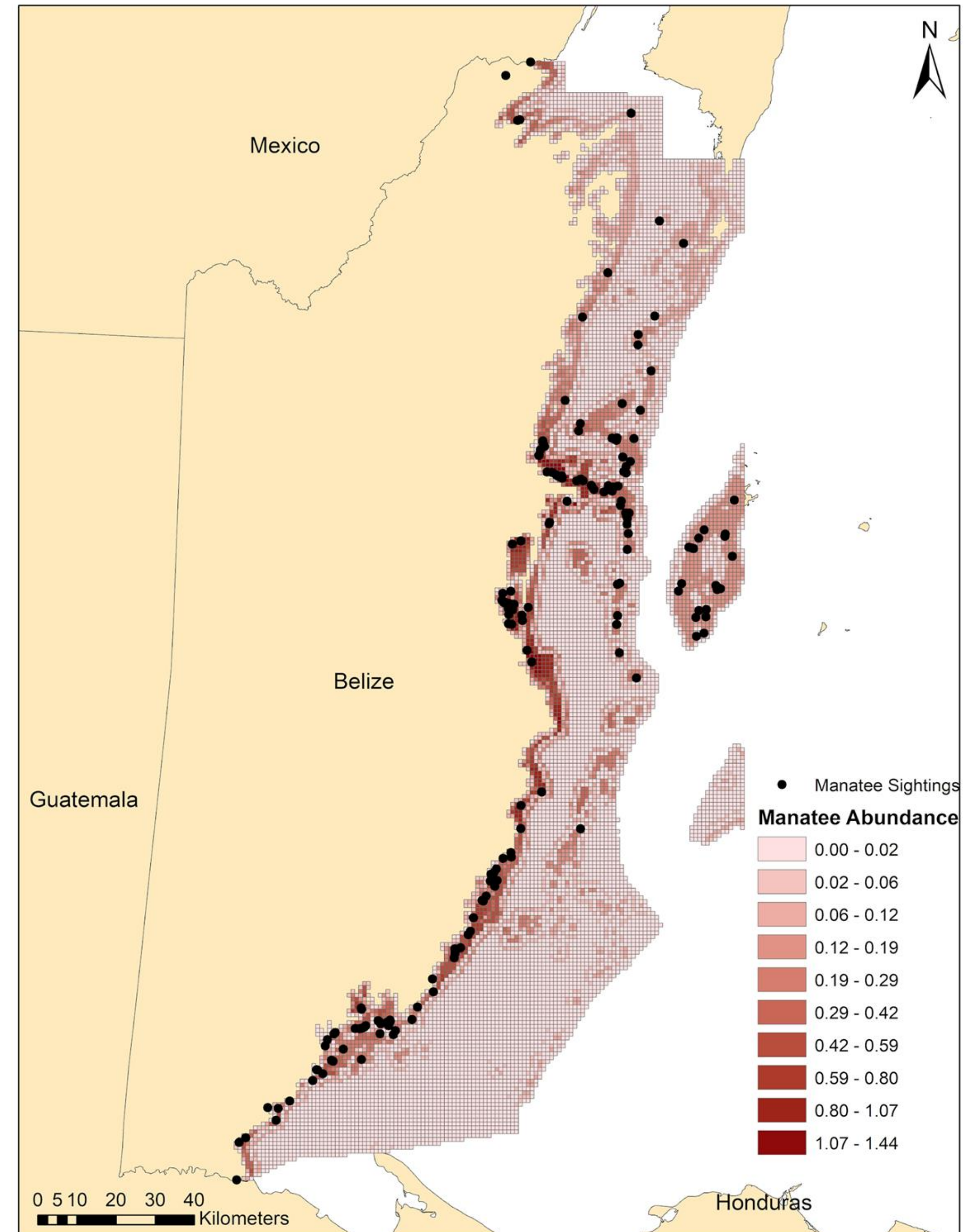
Where did we survey?

- Flight path
- Survey area = Flight path + 500 m buffer.
- Model spatial distribution (Grid cells + Manatee Locations + Flight Paths w/ Buffer + Spatial Covariates = Predicted Distribution)
- Spatial Covariates (X,Y Coordinates, Bathymetry (depth), Proportion of seagrass at site, Distance to seagrass, Distance to coastline, Distance to freshwater)

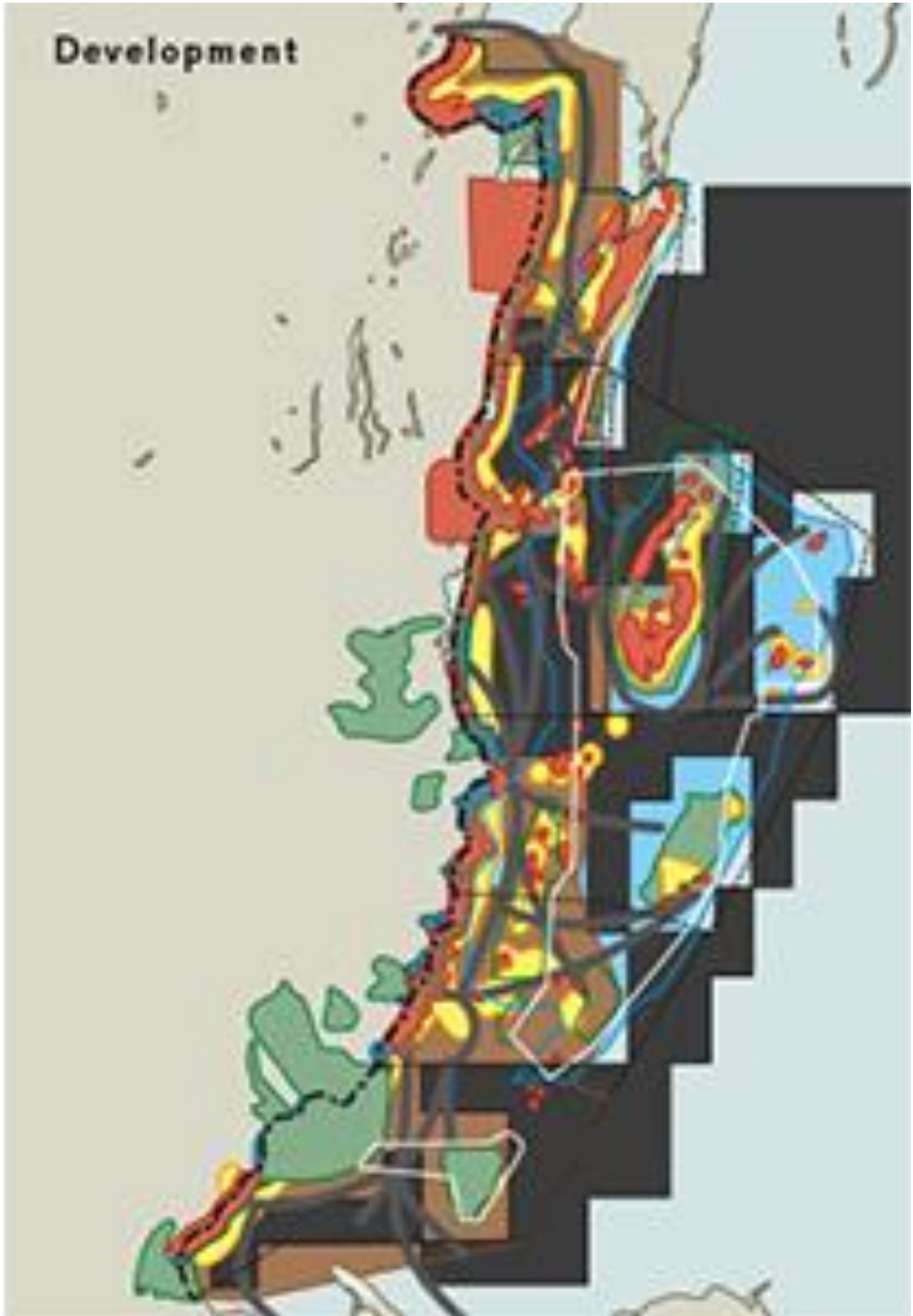


2022 Manatee Distribution & Abundance

- 305 manatees were detected by the observers



Contributing to the Belize Marine Spatial Plan



Conservation Action/Recommendations

- National Awareness
- Continued Research & Monitoring
- Long-term funding to support research initiatives
- Government engagement & Partnership
- Conservation interventions in stranding hotspots
- Updated and Improved manatee regulations



Conservation Action/Recommendations

- Finalization & Implementation of Manatee Recovery Plan
- Expand research in gap areas
- Protection for known manatee hotspot (BZ-River, Placencia lagoon)
- Strengthen partnership with Belize Port Authority to reduce manatee-watercraft incidents
- Marine mammal rescue center in close proximity to incidents to complement current efforts



Achievements

- Longest longitudinal study of this subspecies
- Research supported the establishment of wildlife sanctuaries & protected areas
- Research informs policy
- > 40 scientific publications
- Trained and support Biologists locally and internationally
- Strong international partnerships



Achievements

- First ever population model for the Antillean manatees
- Conservation actions maintaining stable population
- National and international awareness of the species
- Rescued numerous injured & orphaned manatees
- Establishment of MOU with the Government of Belize



HELP US SAVE MANATEES

MarineLifeRescue.org

Marine Life
RESQUE
PROJECT



THANK YOU!



Questions?

