

# Yucatan State Coast

A framework for developing  
a report card



Laboratorio Nacional  
de Resiliencia Costera

# The Yucatan Coast is **Important!**

The Yucatan Coast provides habitats that support a high biodiversity of plants and animals

The interaction between coastal wetlands and back-barrier lagoons present in most of the Yucatan Coast, forms a unique environment that provides habitat for innumerable species including the iconic pink flamingos. The mangrove forest provides important ecosystem services like carbon sequestration and protection from extreme weather events. The beaches and seagrasses provide food and breeding habitat for migratory birds and sea turtles.



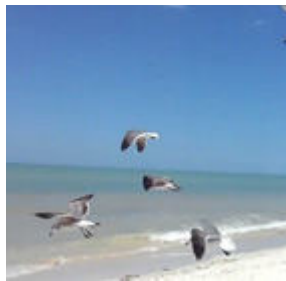
Jane Hawkey



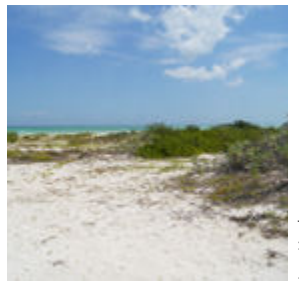
www.yucatan.com.mx



www.tortugamarinas.info



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Jane Hawkey

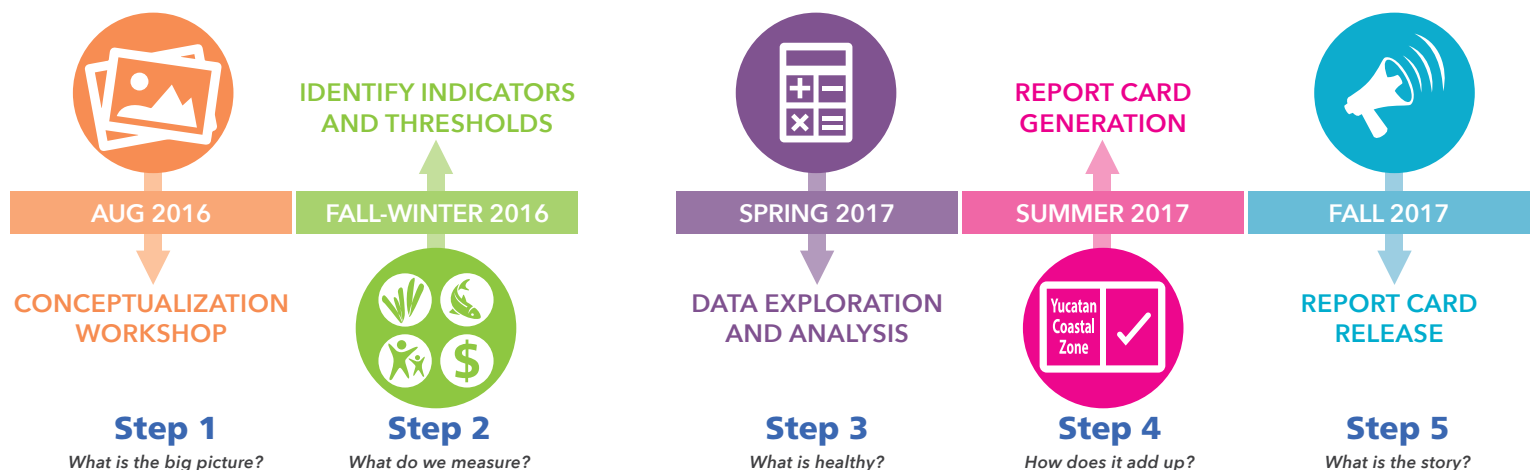
The Yucatan Coast supports important economical activities like fisheries and tourism

The Yucatan Coast supports important commercial fisheries for local and national (octopus) as well as international (sea cucumber) markets. Tourism is growing rapidly in Yucatan and with it, delivering vital economic benefits to the region. However, poorly planned coastal developments are damaging the protective sand dunes, leading to significant coastal erosion.

## How can a Report Card Help?

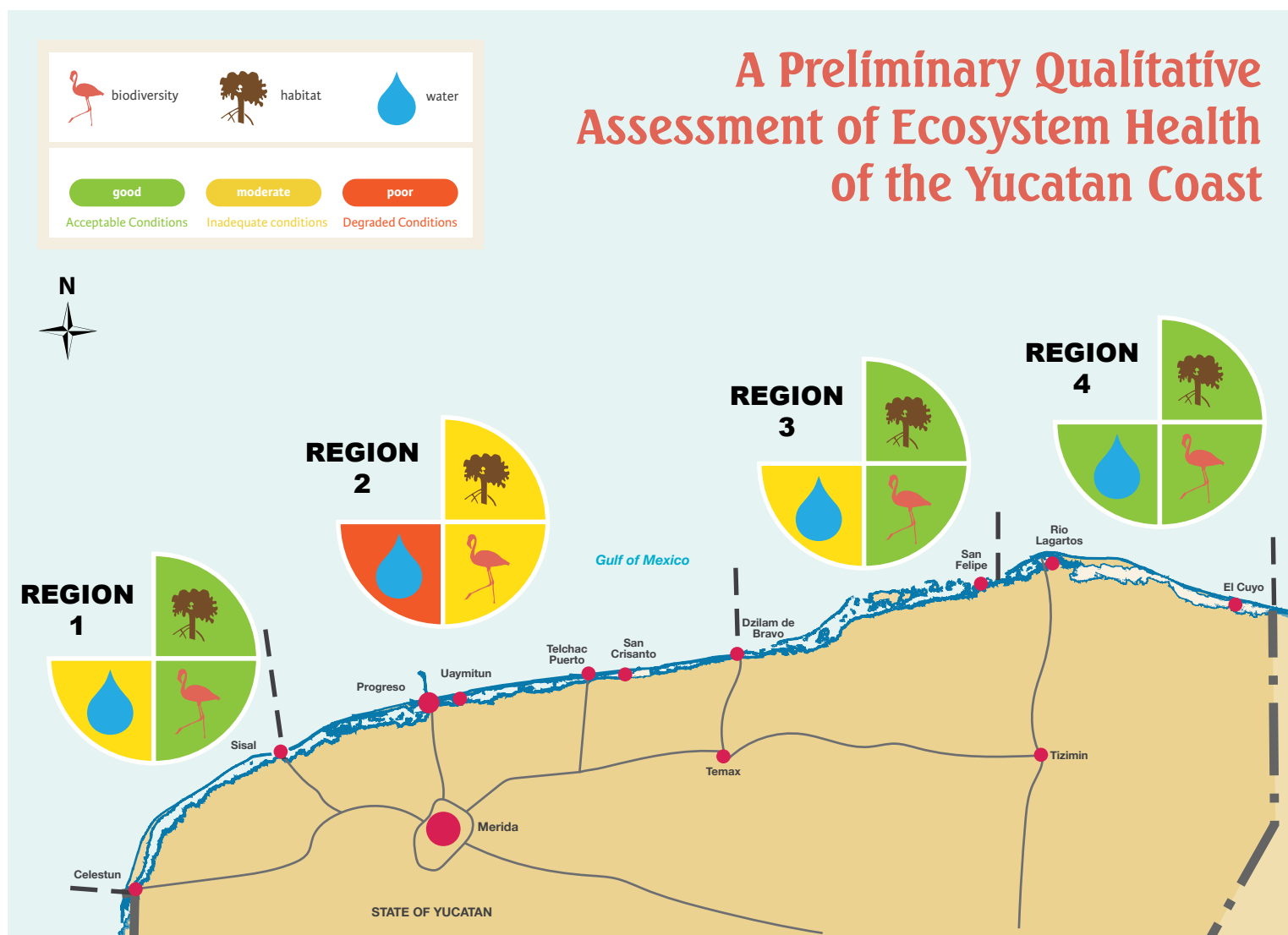
Report cards are designed to track positive and negative changes in ecosystem health, and add to the current scientific understanding of the plants and animals, habitats and key processes. The trends of change revealed in this first and future Yucatan State Coast Report Cards will provide data-based guidance for on-going monitoring, research, and effective resource management.

The Yucatan State Coast Report Card will be developed using a 5-step process. The results will reflect an analysis of indicators representing key resources and drivers. Data for each indicator will be measured against a desired value and converted to a numeric score.



# Workshop Provides Preliminary Scores

On 4-5 August 2016, a Report Card Workshop at the National Coastal Resilience Laboratory in Sisal assembled stakeholders and scientists interested in the sustainability of coastal resources in Yucatan, and to begin the process of creating a report card. The focus was on the coastal municipalities of the State of Yucatan, from el Cuyo to Celestun, and was further divided into four regions according to hydrogeological data. Participants first identified the key values or resources of and the greatest threats or drivers to the sustainable processes in the area. A series of indicators were then integrated into a 3-level qualitative score (good/ moderate/poor) for (i) Water Quality, (ii) Biodiversity, and (iii) Habitat. As a preliminary workshop exercise and based solely on their collective expert knowledge, qualitative scores were assigned to each region.

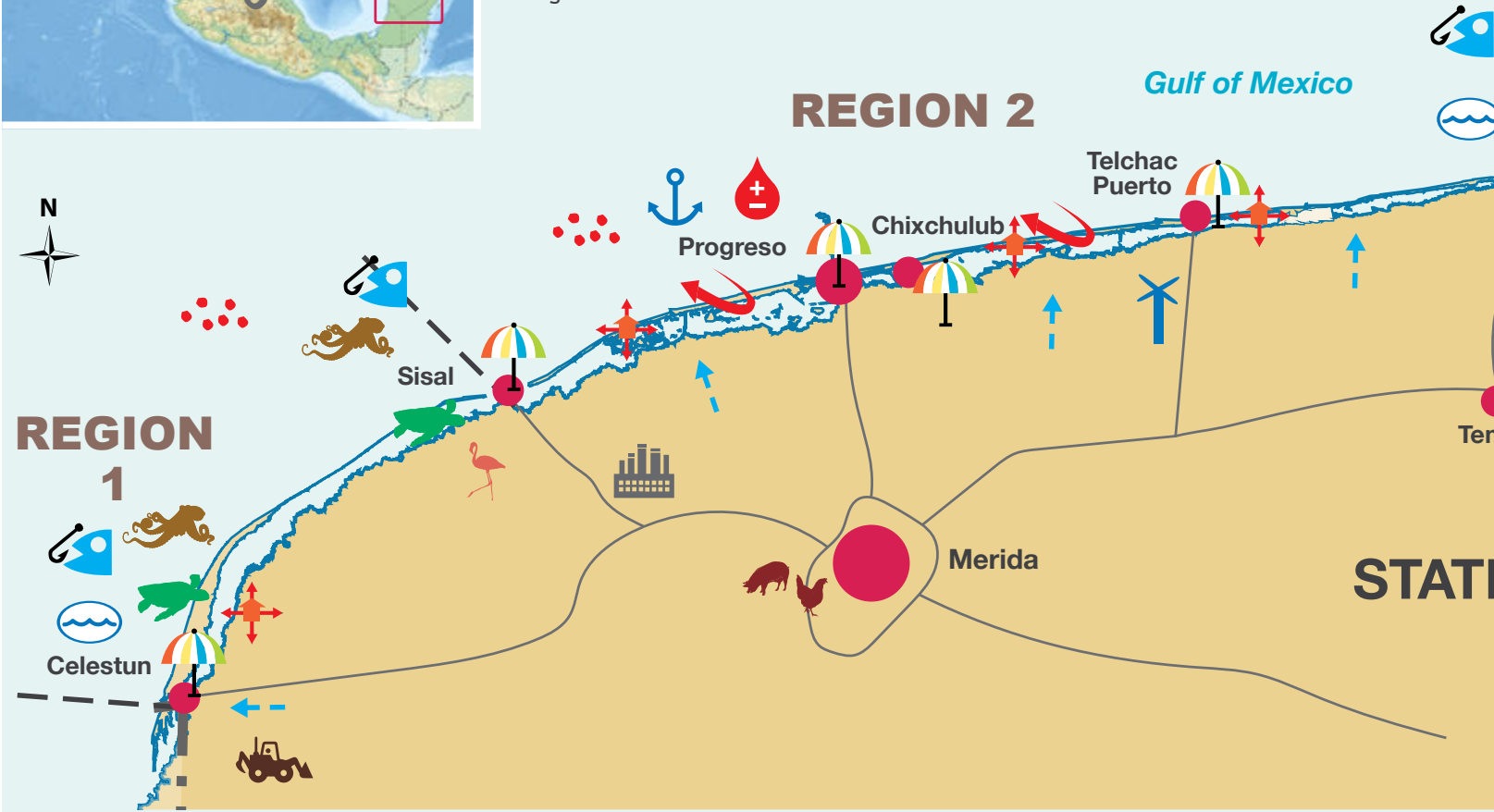


Based on the expert opinion of participants while at the Workshop, the objective of this qualitative assessment exercise, as shown on the map above, was to advance the discussion of creating a data-based report card. By having an overview of the report card process and assigning qualitative assessment scores, the Workshop participants were able to envision the future quantitative report card, and recognize where challenges may lie ahead. These might include: to develop different or additional environmental indicators or thresholds as needed; seek input from additional stakeholders with specific areas of expertise and locate new sources for gaps in data.



# Yucatan Coast Divided into

This map notes the locations of the key resources and drivers in the coastal areas of Yucatan. Each of the four designated hydrogeological regions will be assessed independently using the same indicators and thresholds.



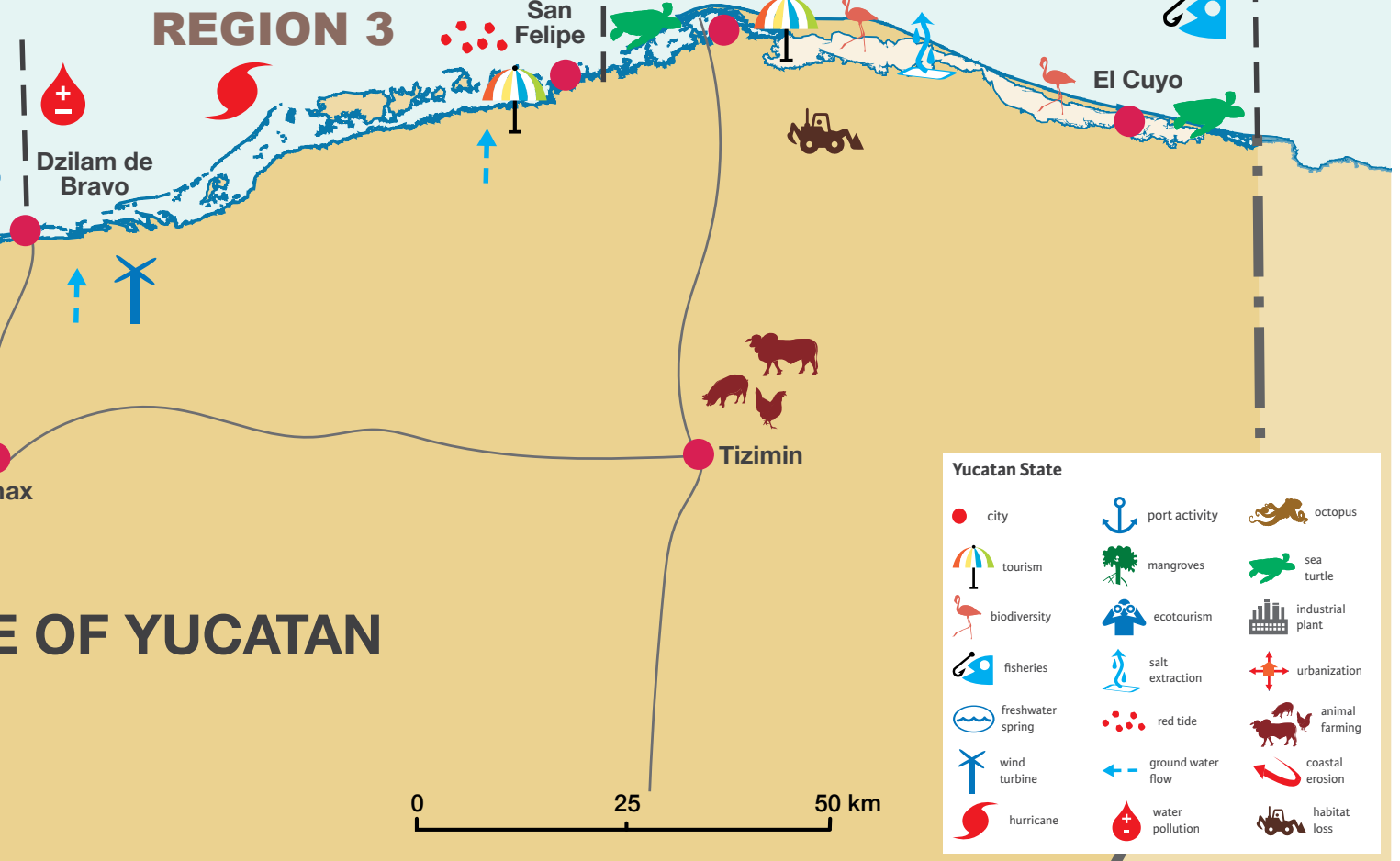
## The Yucatan Coast has an Abundance of Natural and Economic Benefits and yet Faces Challenges

The Yucatan has large coastal areas of mangroves (🌿) and wetlands that provide critical nesting habitat for birds (🦩) and nursery habitat for young fish (🐟) and other marine species. These natural areas protect the coastline from erosion (🌊), hurricanes (🌀) and support tourism (🏖️), while the natural resources support the local fishing economy (\$). However, there are current and future challenges to the sustainability of these ecosystems. Legal and illegal coastal construction (🏗️) can destroy mangroves and erode the shoreline. Uncontrolled dumping of garbage (🗑️), septic tanks (🚽) and livestock areas (🐄) can contaminate the underground fresh water supply (💧). Urban sewage runoff (🌊) sends nutrient pollution (N+P) into coastal waters, fueling red tide events (🔴). Finally, the geographical location of the coast makes it vulnerable to hurricanes (🌀).



# Four Regions

State.



## OF YUCATAN



# Workshop Results and Beyond...

Building on the 4-5 August 2016 Report Card Workshop in Sisal, Yucatan, Mexico, the next steps will be to engage additional stakeholder groups and complete the selection of relevant indicators. Quantitative data for each indicator will then be collected and evaluated, and desired conditions will be established. Results of the data analysis will be compiled into overall scores for each indicator for each of the four coastal regions, and ultimately for an overall ecosystem health score for the Yucatan State Coast. This data-based Report Card, designed to clearly communicate the most important values and threats related to the Yucatan coast to a broad audience, is expected to be released in 2017.

Beautiful Views  
Vegetation Distribution  
Karstic Condition  
Sustainability  
Hydrology & Waterflows  
Littoral Processes  
Preservation & Conservation  
Coastal Dynamics  
Watershed Management  
Seafood & Local Cuisine  
Economic Development  
Biodiversity



Nuno Simoes

## August 2016 Workshop Participants



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Cover photo: American Flamingoes at Rio Celestún, courtesy of Gerardo Santos, Flickr Commons  
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