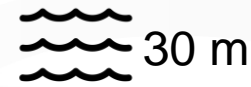


Dugongs in the United Arab Emirates: Research and Conservation Status

Hind Al Ameri, Maitha Al Hameli, Ibrahim Bugla, and Himansu Das
*Marine Assessment and Conservation
Environment Agency – Abu Dhabi*

The Gulf: a young sea in decline



Shallow sea



Poor water circulation



High sea surface temperature



High salinity



High evaporation/transpiration rate



High water turbidity



Insignificant freshwater inflow



Meagre rain

The Gulf: a young sea in decline



Large scale coastal developments



High sea traffic



Oil and energy sector

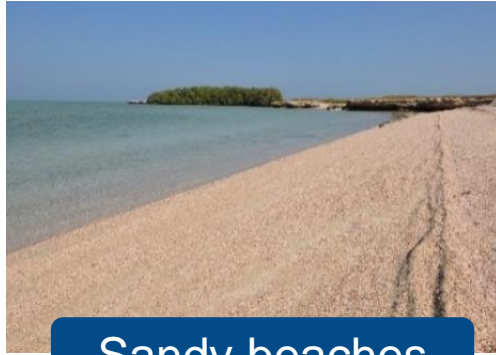


Seismic survey



Desalination plants

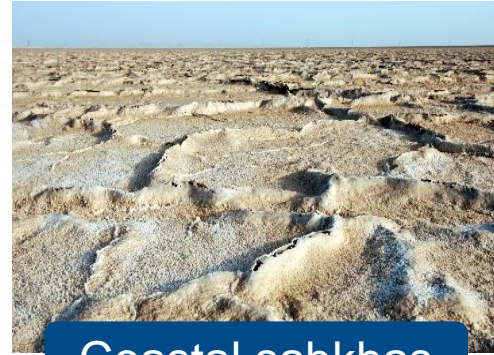
Coastal and marine habitats of the UAE



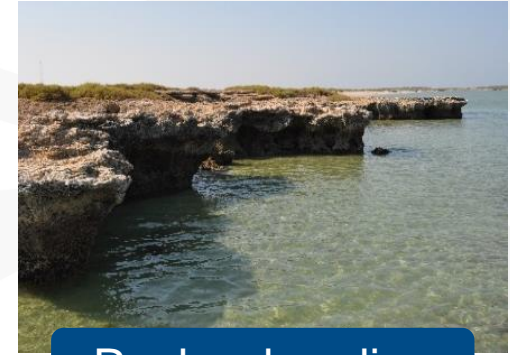
Sandy beaches



Tidal flats



Coastal sabkhas



Rocky shoreline



Saltmarsh



Mangroves



Seagrass & Algae

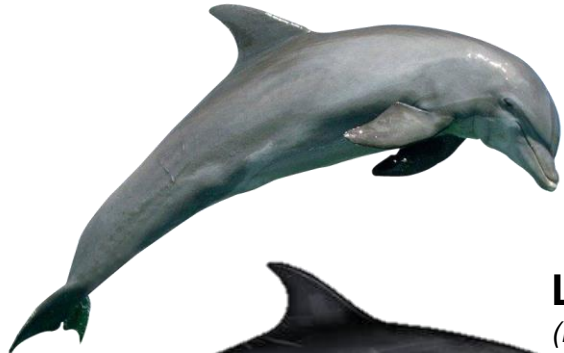


Coral reefs

Coastal and marine species of the UAE



Indian Ocean humpback dolphin
(*Sousa plumbea*)



Indo-pacific bottlenose dolphin
(*Tursiops aduncus*)



Long beaked common dolphin
(*Delphinus capensis*)



Finless porpoise
(*Neophocaena phocaenoides*)



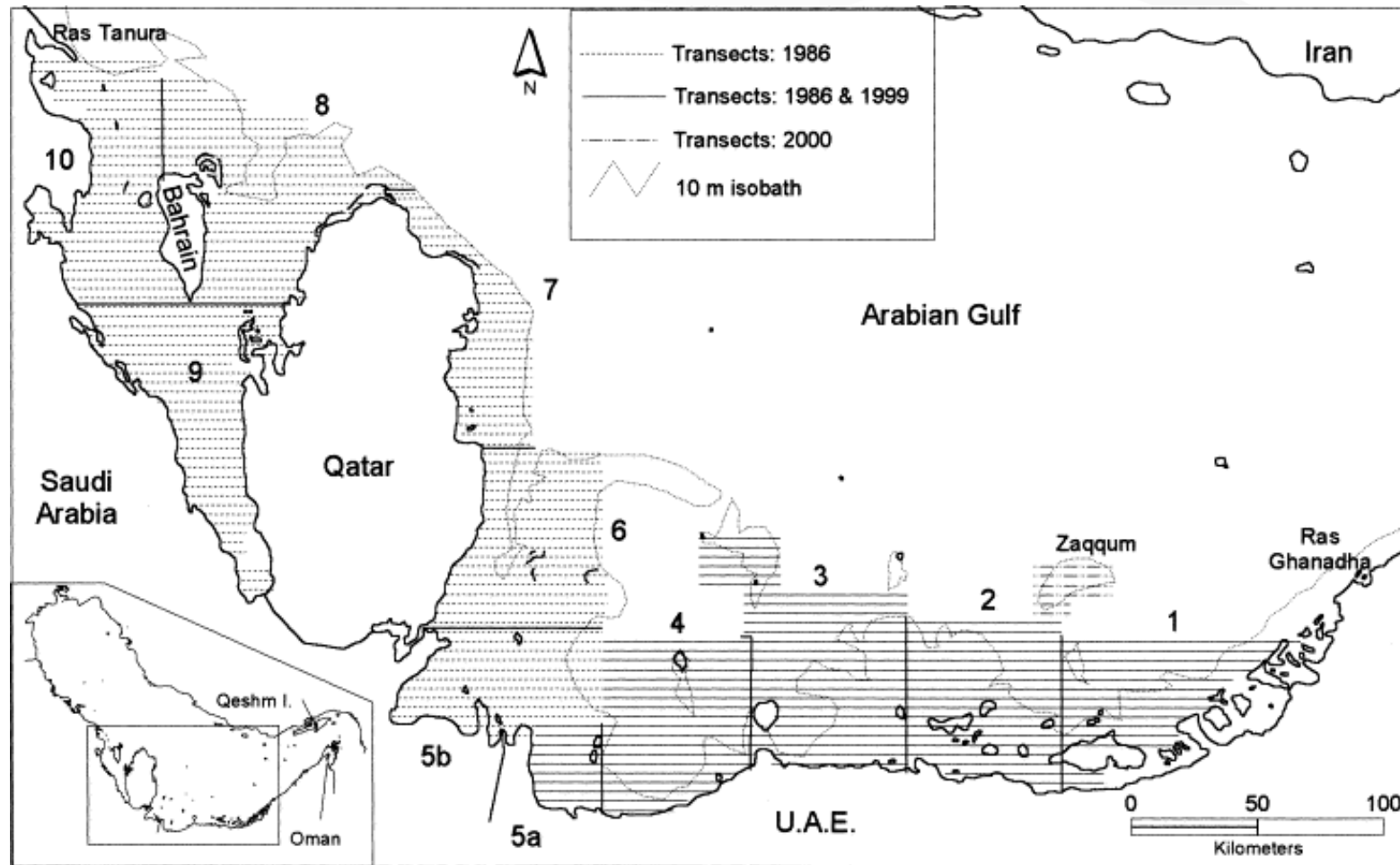
Hawksbill turtle
(*Eretmochelys imbricata*)



Green turtle
(*Chelonia mydas*)

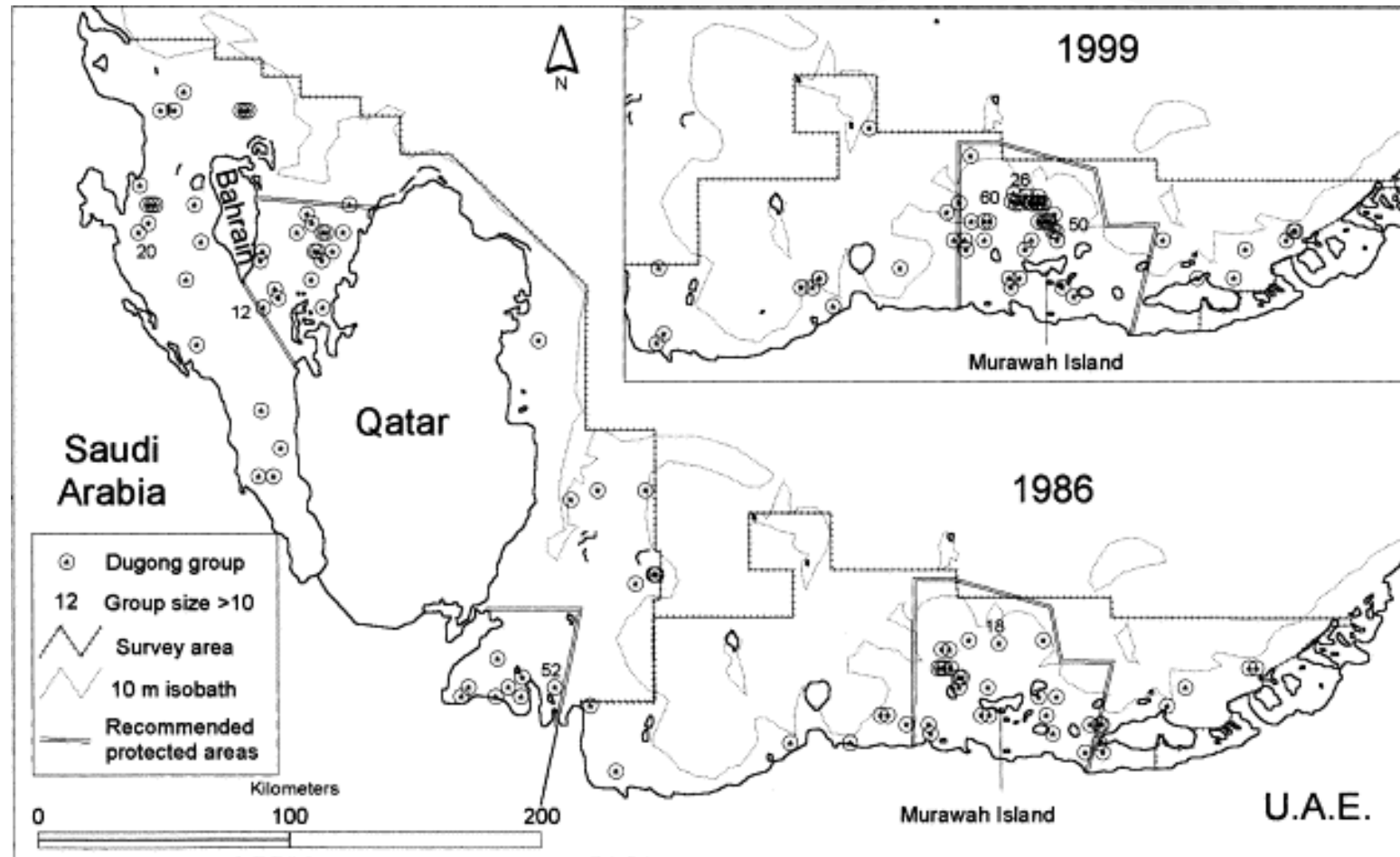


1980s – 1990s: Dugong research in the region



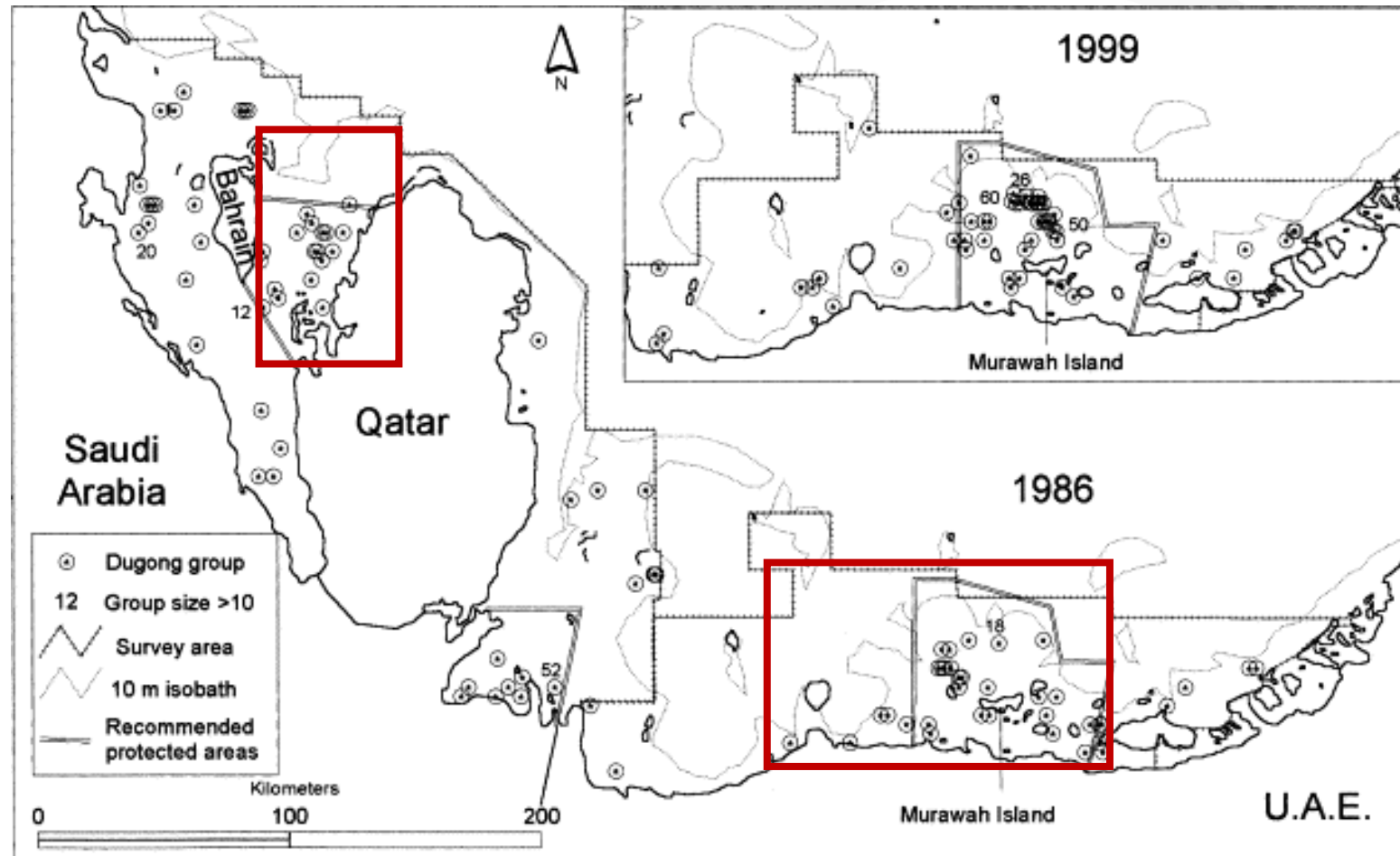
Preen, A. (2004). *Distribution, abundance and conservation status of dugongs and dolphins in the southern and western Arabian Gulf*. *Biological Conservation*, 118(2), pp.205–218

1980s – 1990s: Dugong research in the region



Preen, A. (2004). *Distribution, abundance and conservation status of dugongs and dolphins in the southern and western Arabian Gulf*. *Biological Conservation*, 118(2), pp.205–218

1980s – 1990s: Dugong research in the region



Preen, A. (2004). *Distribution, abundance and conservation status of dugongs and dolphins in the southern and western Arabian Gulf*. *Biological Conservation*, 118(2), pp.205–218

Dugong research in the UAE

2004

Six complete aerial surveys over seagrass and known dugong areas

**10 000
km²**

36 transects of different lengths covered using helicopter surveys

2015

Circumstantial survey by rangers

2017

Vessel based surveys

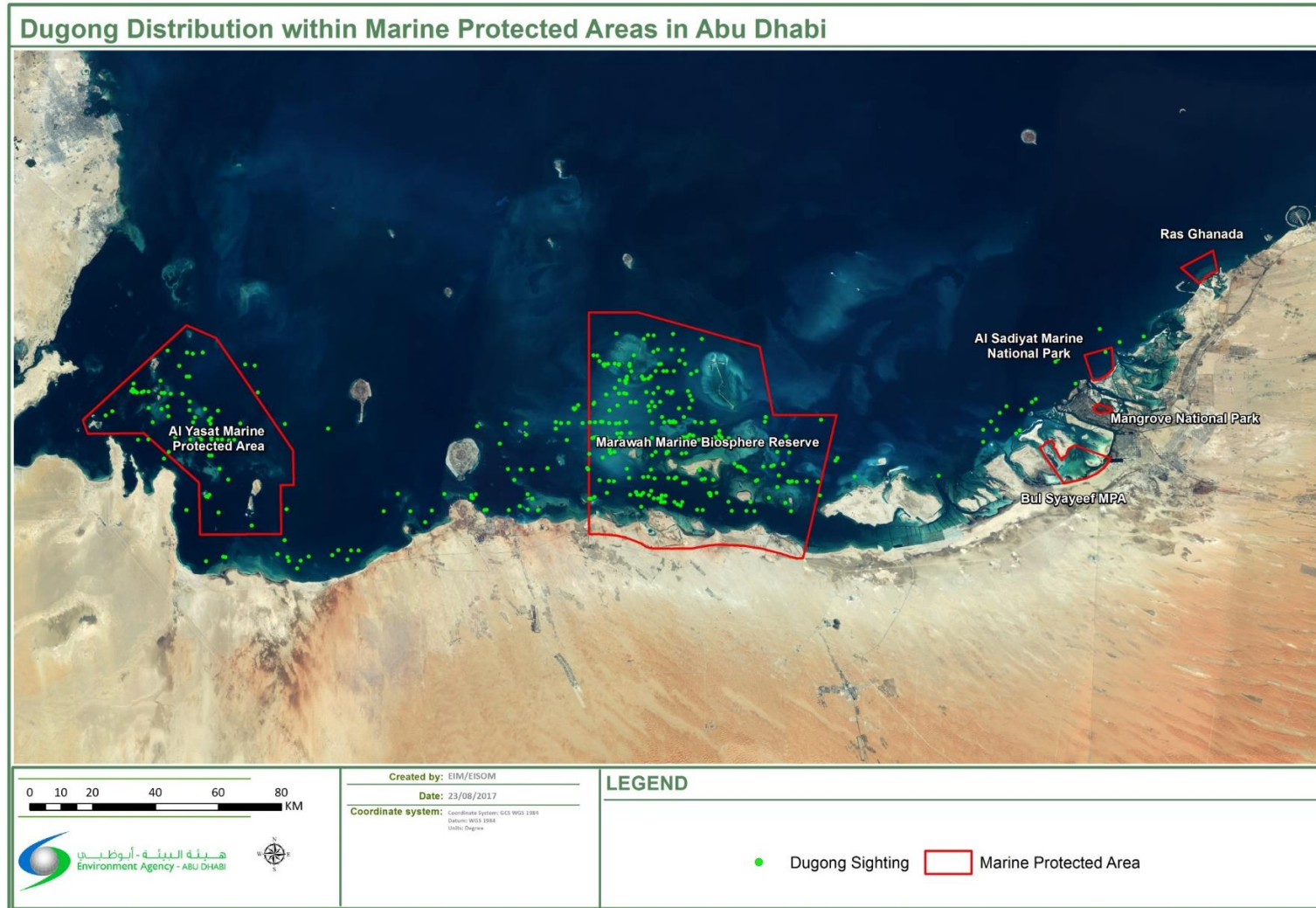
2023

Drone survey using multispectral and normal camera

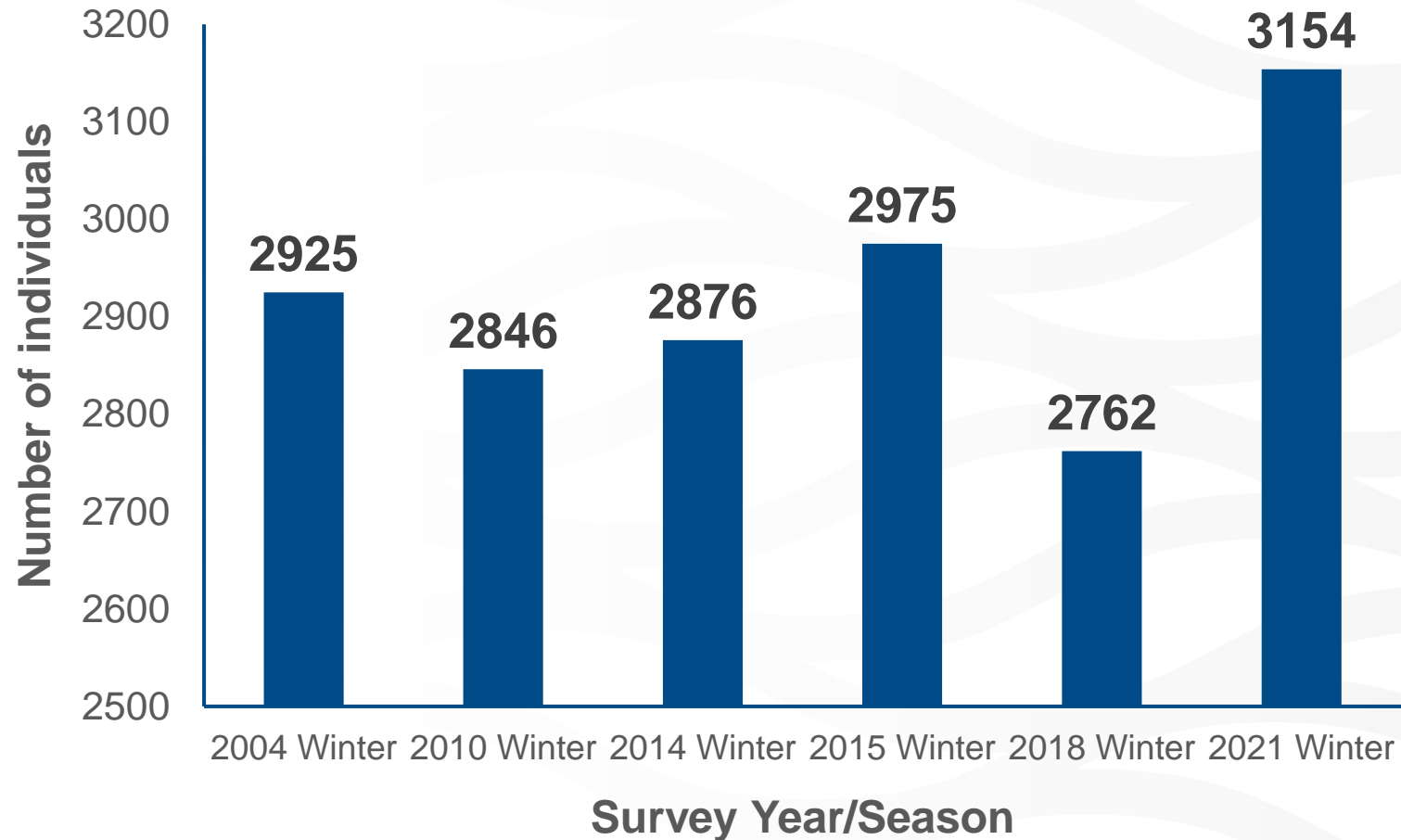
Dugong research in the UAE



Abu Dhabi: Aerial survey findings

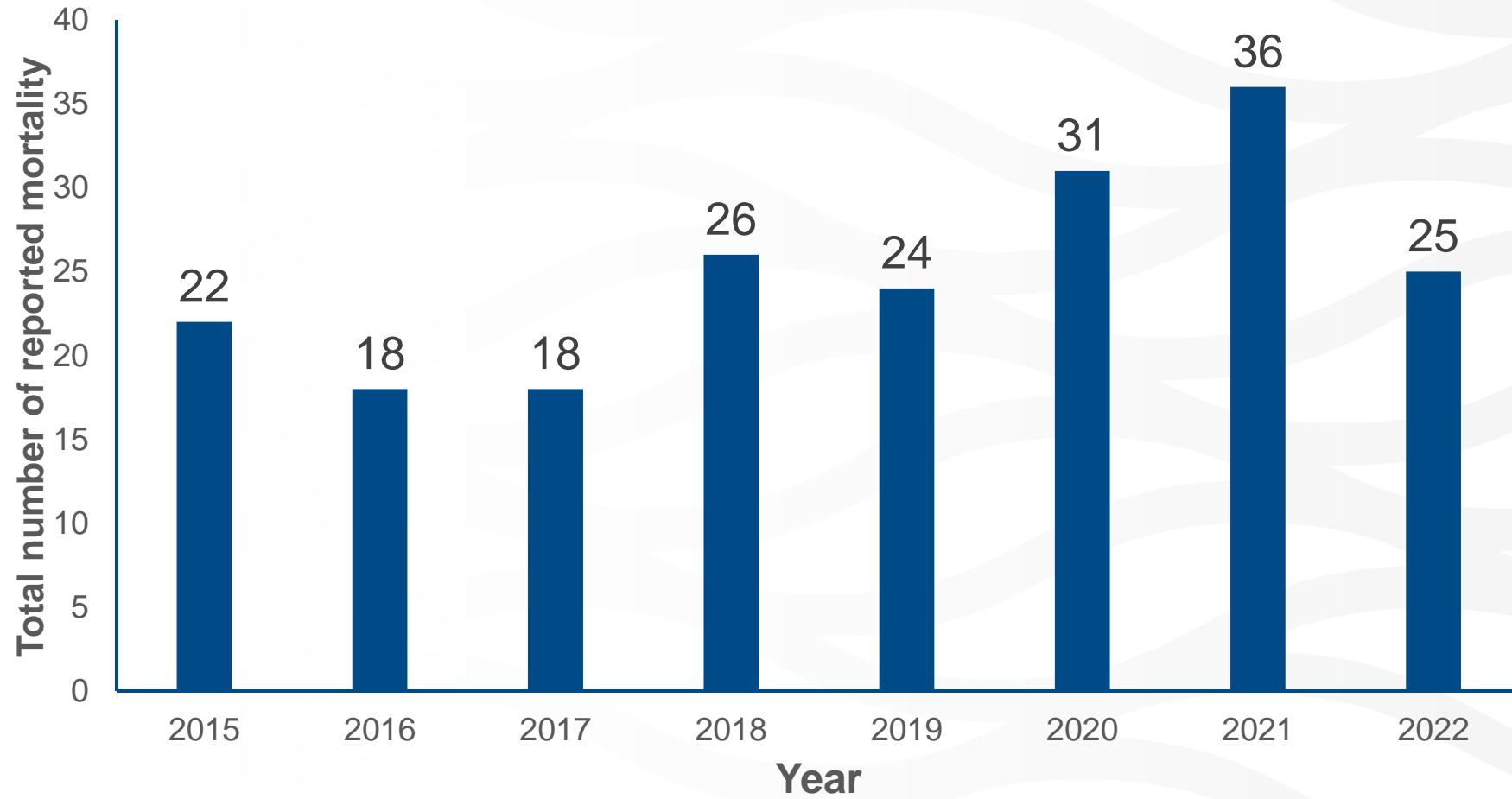


Abu Dhabi: Aerial survey findings



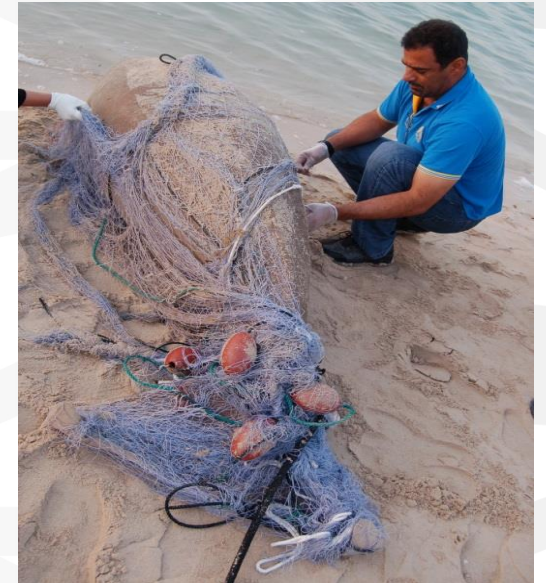
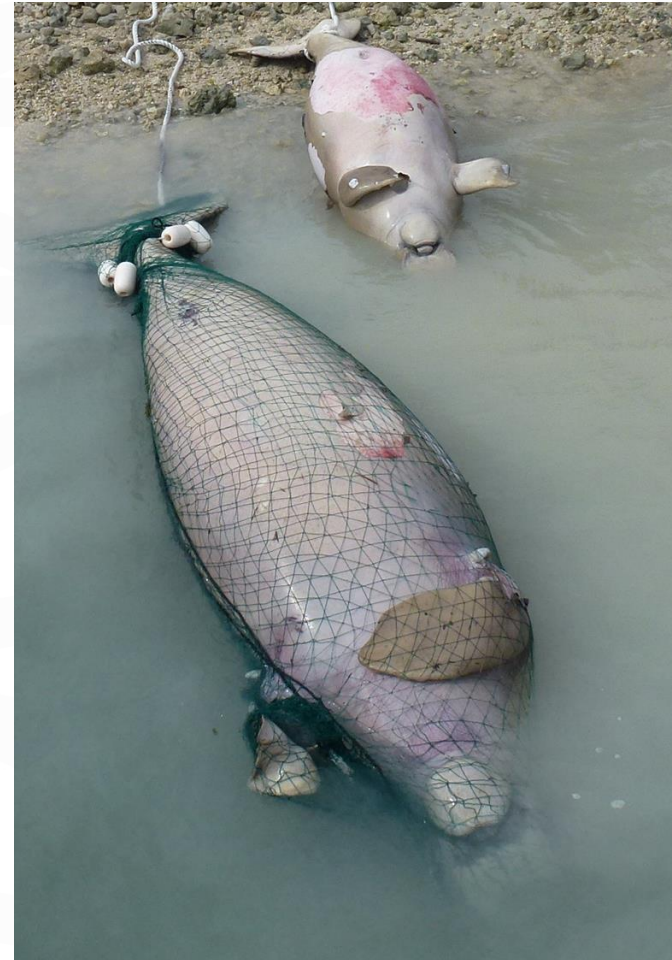
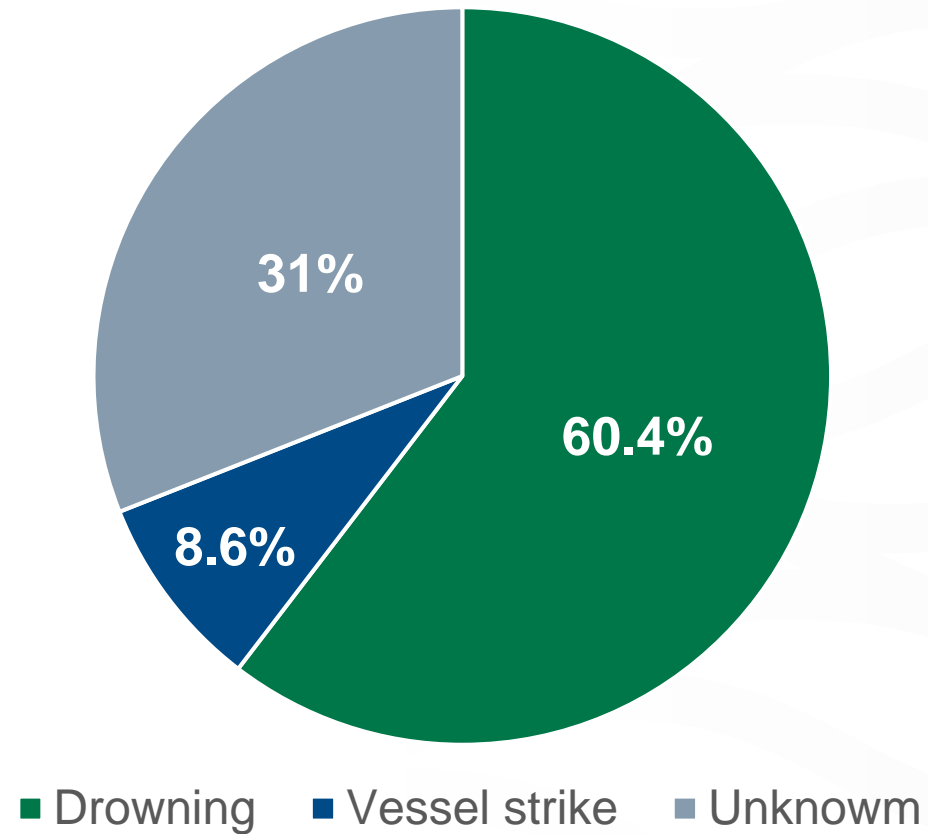


Mortality investigations



Mortality investigations

Causes of dugong mortality (2015-2022)



Dugong migration: satellite telemetry



2008: three dugongs

2012: four dugongs

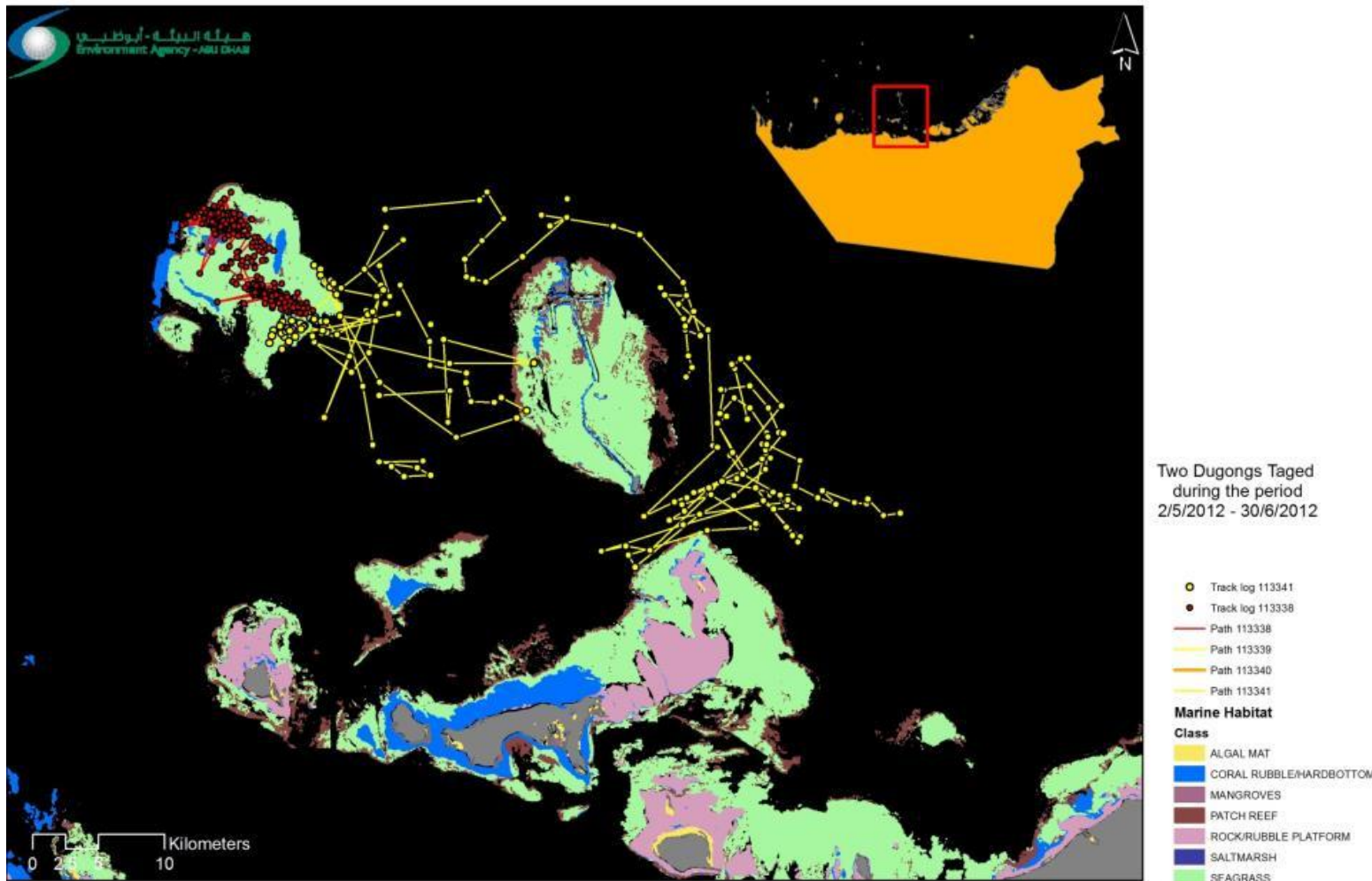
Detailed data on dugong habitat

Understand migration patterns

2-10 weeks

Dugong migration: satellite telemetry

Track Log of tagged Duggongs in respect to Marine habitat



Max distance traveled:
32.4 km

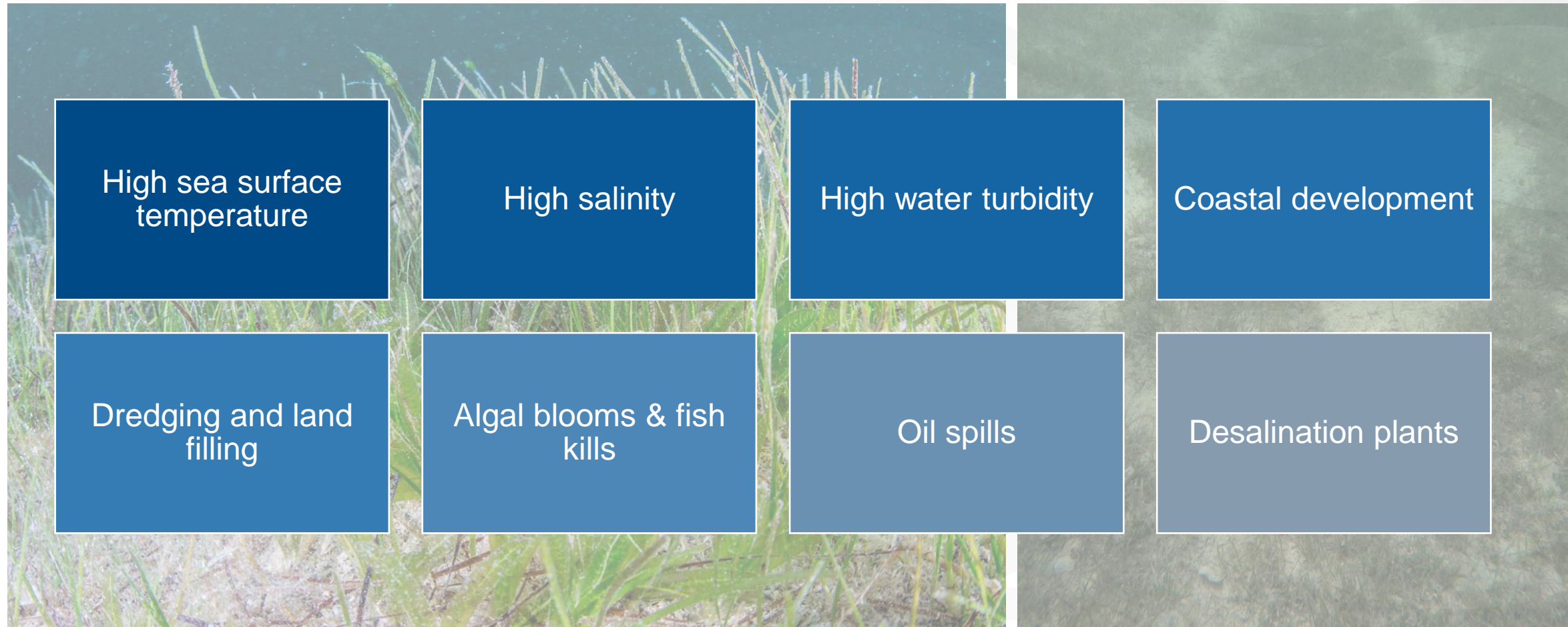
Average distance/per day:
7.2 km

No tagging since 2012

Status of habitats



Status of habitats



Status of habitats: seagrass mapping & assessment

Mapping and characterization of seagrass

Seasonality study and phenology

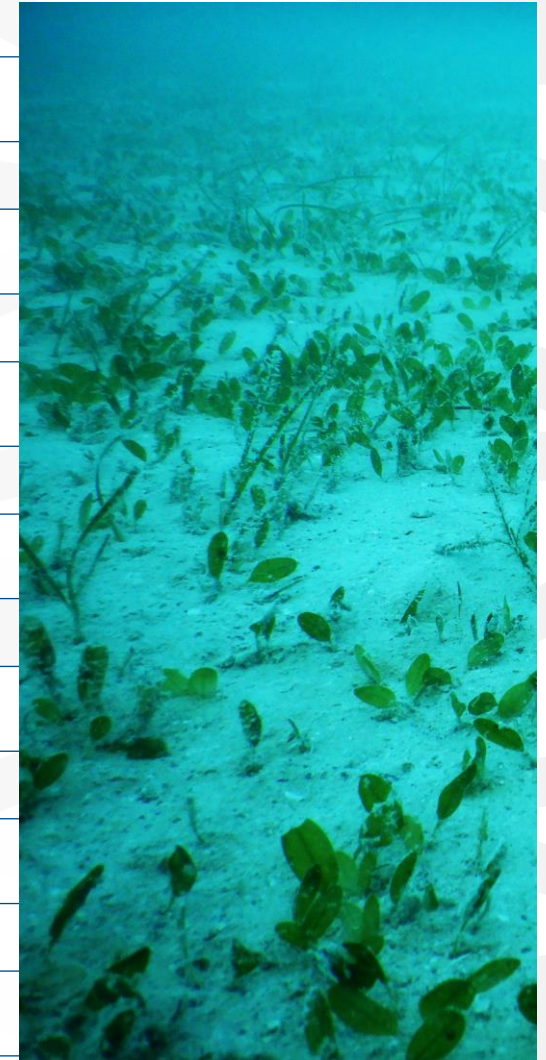
Species composition and biomass

Ecological values including blue carbon study

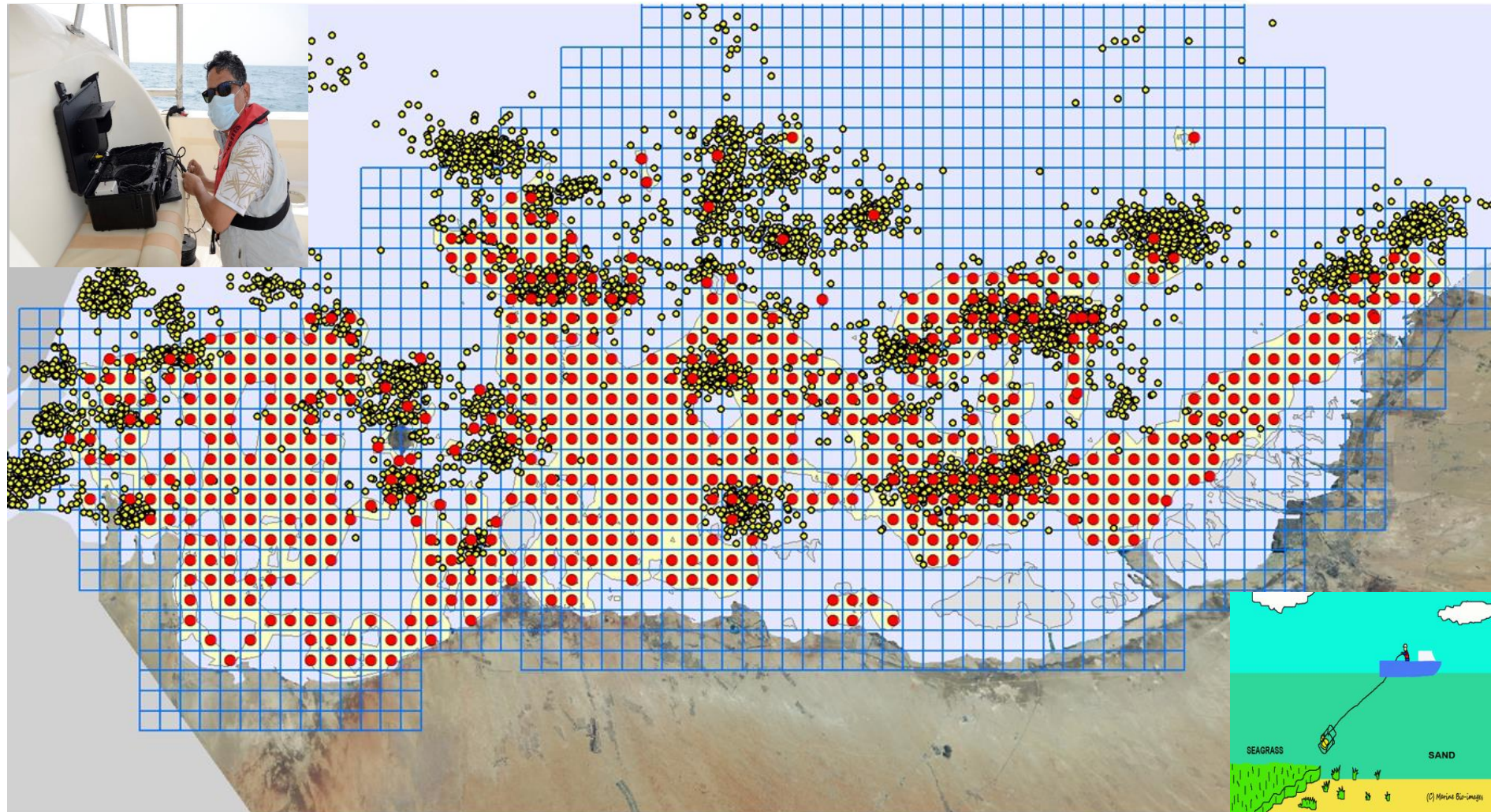
Benthic fauna including invertebrates

Water quality and soil chemistry

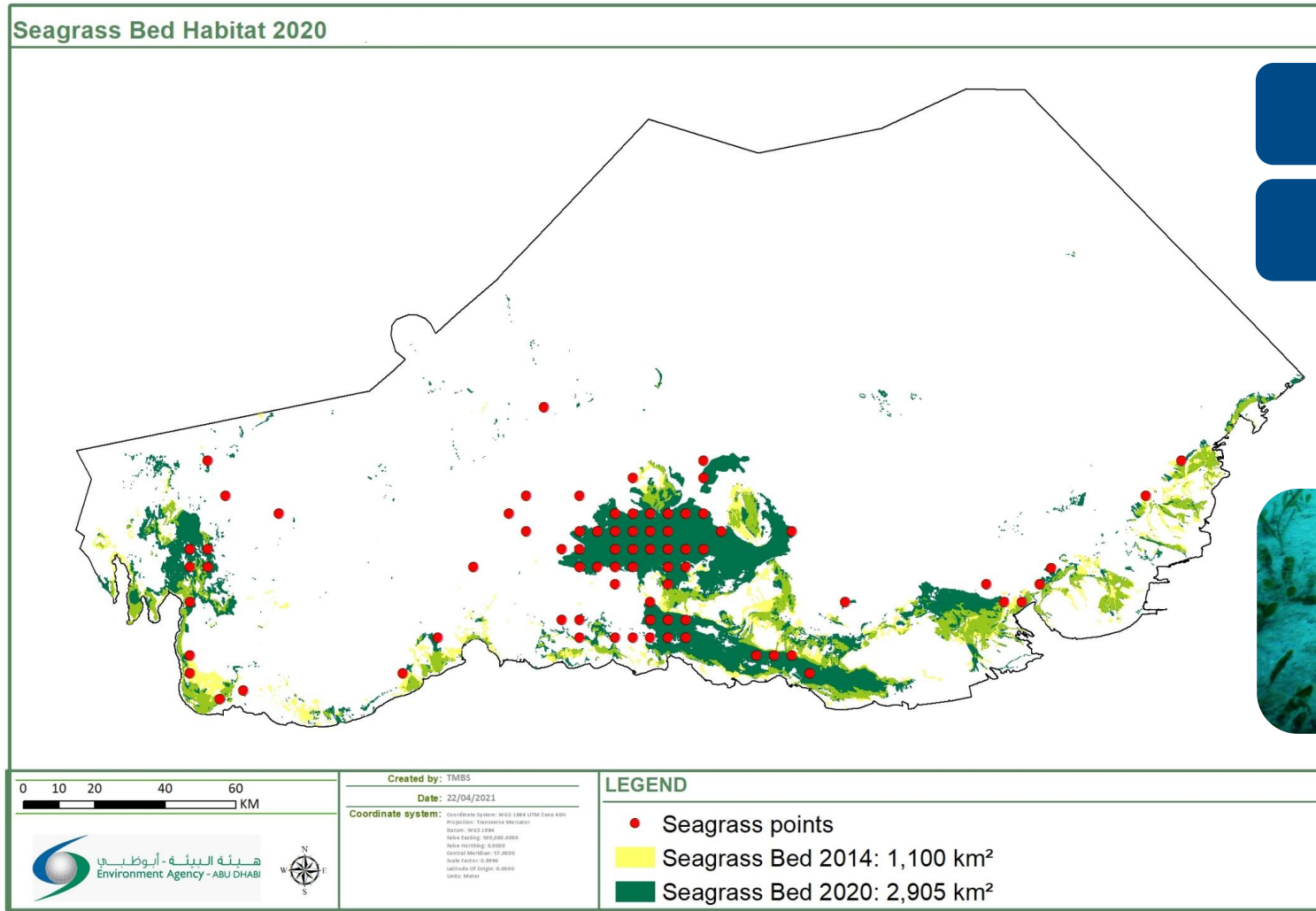
Daily temperature data using underwater data loggers



Status of habitats: seagrass mapping & assessment



Status of habitats: seagrass mapping & assessment

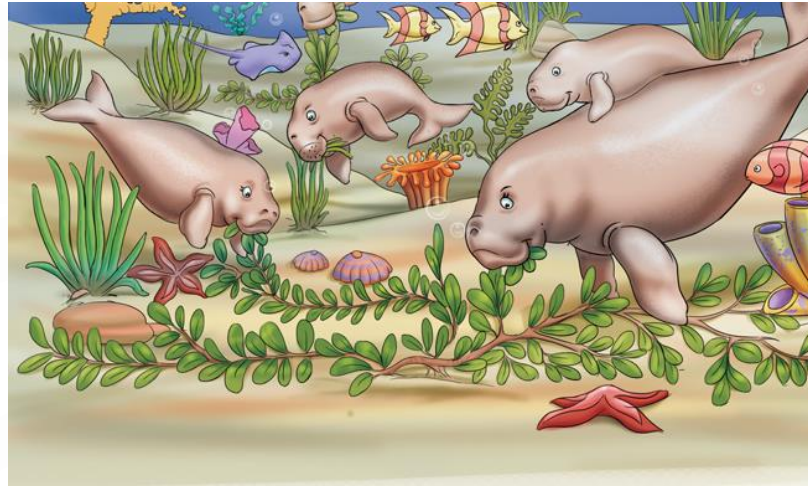


2905 km²

16.2 m



Outreach programs



Education awareness

School initiatives

Stakeholder engagement

Citizen science

Community participation

Podcast and talks



Research and conservation strategy for UAE dugongs

Species monitoring and research

Habitat protection and restoration

Conservation (including mortality investigation, rescue and rehabilitation)

Outreach programs (education, awareness, stakeholder engagement, citizen science, community participation)



Thank you

