

ABSTRACT

Protecting the precious marine environment surrounding King Abdullah University of Science and Technology (KAUST) is one of the key guiding principles of KAUST's Environmental Stewardship Policy. KAUST Health, Safety and Environmental Department (HSE) is chartered with the management of environmental impacts of KAUST operations and new developments, including the marine environment. In carrying out its mandate, HSE adopts an integrated Environmental Management System approach to ensure habitat protection and sustainable use of marine resources.

On a regular basis, HSE monitors around sixty wastewater discharge parameters for marine ambient water quality protection. In addition, new developments with potential marine environment impact are critically reviewed at the concept design, construction and operational stages in an effort to embed environmental requirements into all facets of KAUST operations.

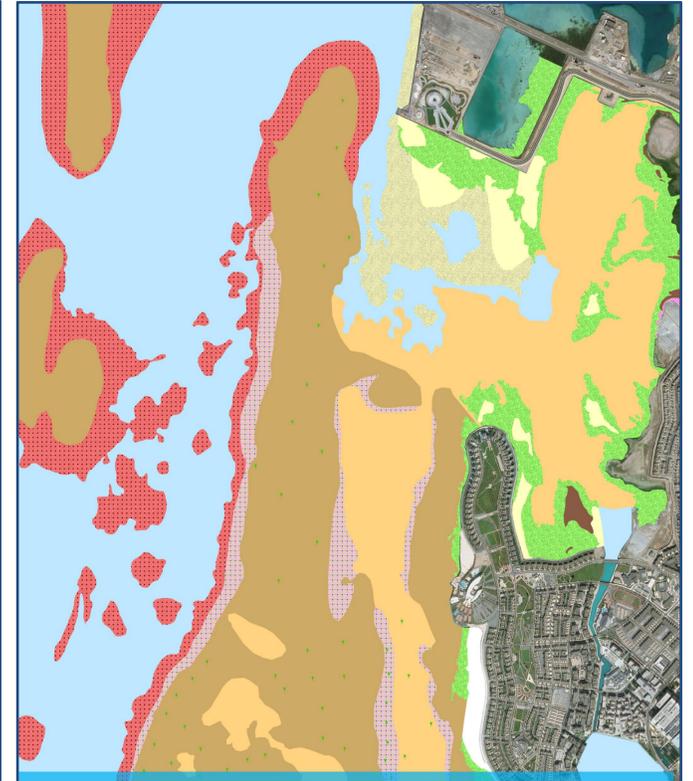
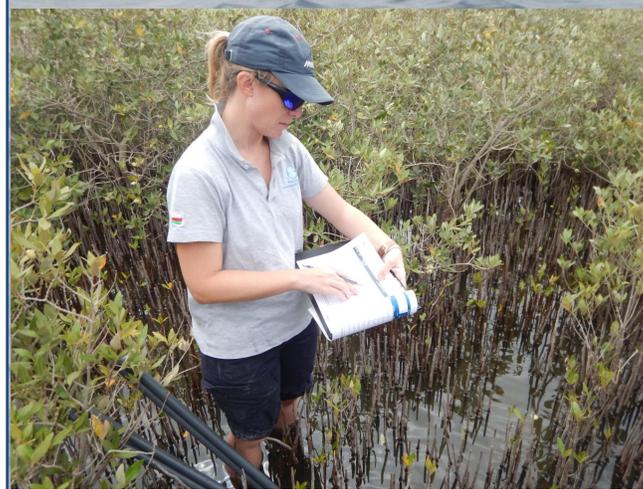
Confirmatory in-depth marine water quality and habitat surveys, along with environmental audits of new projects have indicated positive value of KAUST's Marine Environmental Governance and Compliance that could be a model for similar municipalities on the Red Sea shores.



- **Marine Environmental Governance and Compliance is part of** KAUST Environmental Management Systems that provides, a framework for the protection of marine environment surrounding the University. It identifies University's interactions with marine environment, analyses associated potential adverse impacts and develops effective mitigation and monitoring strategies..



- KAUST Marine compliance monitoring program encompasses regular reviews of discharges, seawater and sediment quality, and monitoring the status of major marine habitats including shoreline areas, mangroves and coral communities.
- Around sixty wastewater discharge parameters are monitored on regular basis for marine ambient water quality protection.
- Marine recreational activities are carried out in a protective manner to avoid damage to benthic fauna and flora.
- Marine protection education awareness campaigns and events are organized for community members.



Recent marine habitat survey of KAUST shorelines by HSE indicated KAUST is not immune to regional and global forces that impact marine environment such as recent coral bleaching events.

However, local **KAUST Marine Governance and Compliance** strategies are trending in positive direction as indicated by recent marine survey:

- About 17.6 % increase of mangrove population, current mangrove areal coverage is 91.2 hectares, compared to 75.9 hectares in 2005.
- Seawater quality is comparable to conditions prior to the construction of KAUST.
- Existing ecology and habitats were compared to the pre-construction baseline: most habitats were still present and in similar condition.



Health, Safety and Environment Department

KAUST Health, Safety and Environment Department (HSE) is part of Office of Executive Vice President for Administration & Finance, and is responsible for fostering a culture of health, safety and environmental protection among KAUST community by providing leadership and guidance related to HSE.

Environmental Protection division of HSE is the custodian of the University's Environmental Stewardship Policy that calls in part University's "operations and new developments should be a model of global environmental responsibility." KAUST efforts in this regard has been recently recognized with ISO 14001 Environmental Management System certification.

Environmental Protection division of HSE office can be contacted: environmentmatters@kaust.edu.sa

KAUST Near Shore Marine Habitat Facts

Recent HSE led marine study found;

- 91.2 hectares of total mangrove area
- *Avicennia marina* is the predominant mangrove species
- 181 coral species
- 77 species of benthic fauna (Non-Coral)
- 176 species of reef associated fish
- 42 infauna species