



Coral Reef Projects in the NE Puerto Rico Habitat Focus Area

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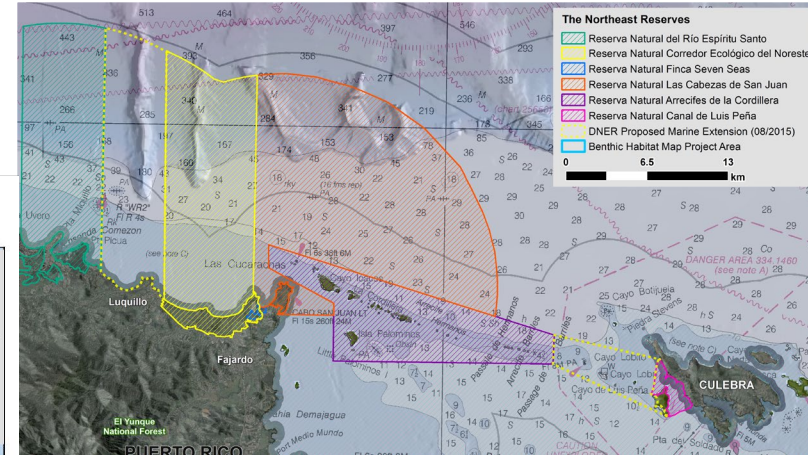
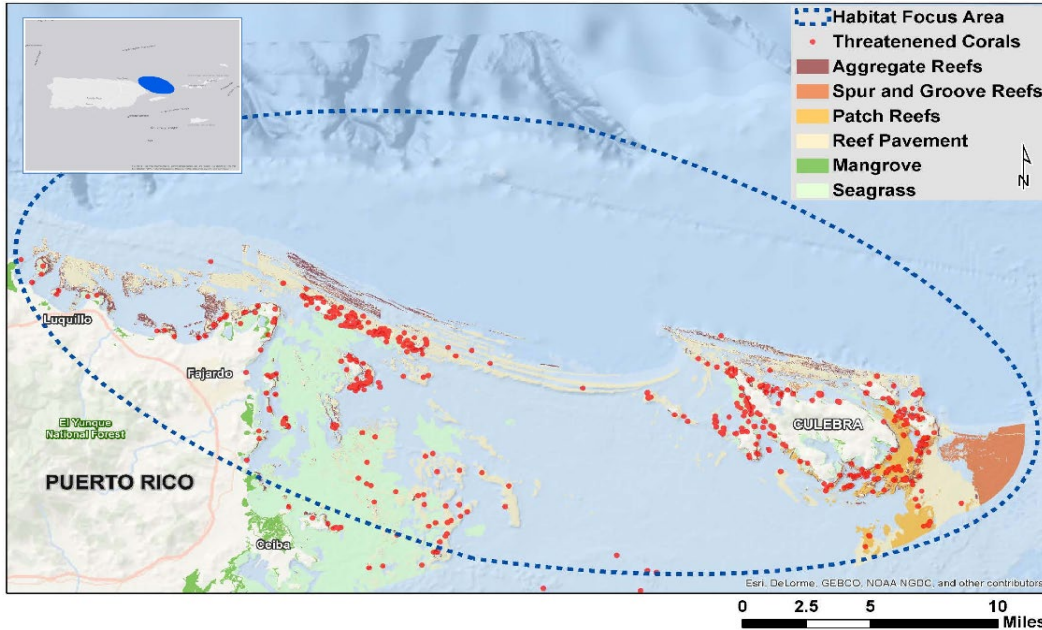
NOAA Office for Coastal Management

**Since 2018 on detail to FEMA Natural and Cultural
Resources-Recovery Support Function for Puerto Rico**



Northeast Marine Corridor and Culebra Island Habitat Focus Area, Habitat Blueprint Initiative

The Northeast Marine Corridor and Culebra Island Habitat Focus Area



<https://www.habitatblueprint.noaa.gov/habitat-focus-areas/puerto-rico/>



2011- Habitat Blueprint Initiative

2014 NEMC & Culebra Island designated as HFA

Objective and threats addressed

Objective:

To address the growing challenge of coastal and marine habitat loss and degradation by integrating habitat conservation projects throughout NOAA by leveraging internal and external collaborations and achieve measurable benefits within a short time frame.

Threats

Land based activities resulting in erosion and run-off

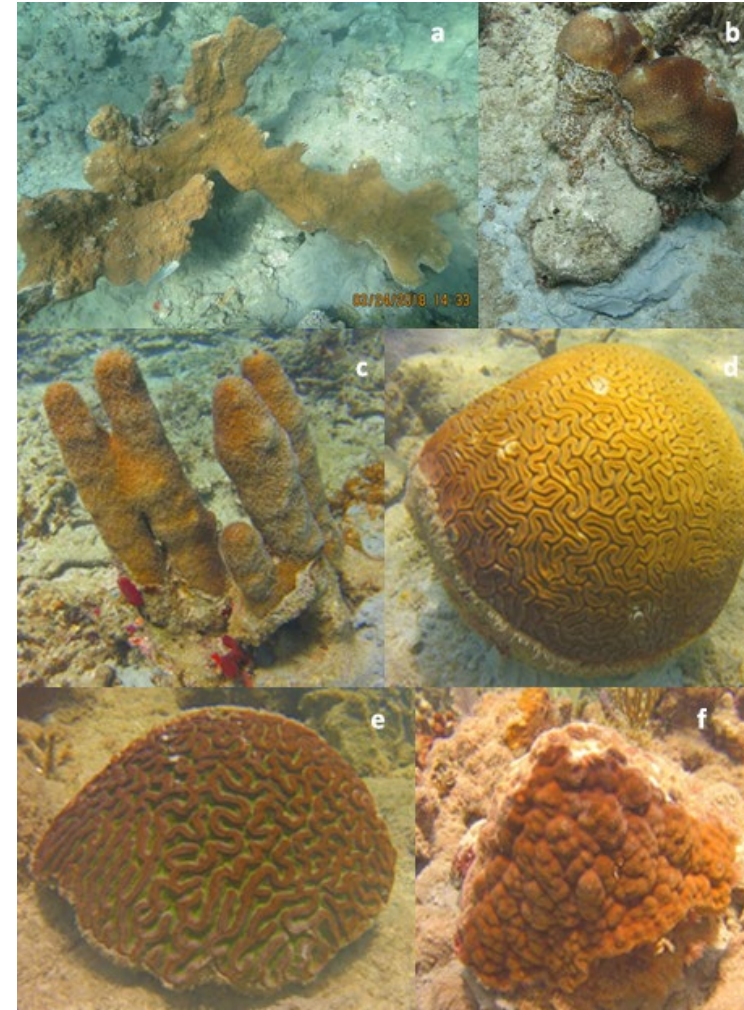
Recreational pressure that affects habitats and species

Fishing impacts that affect biodiversity and quantity

Emergency Coral Assessment and Restoration – 2018

<https://www.drna.pr.gov/wp-content/uploads/2018/06/Coral-Assessment-Report.pdf>

- Focused efforts on high value sites, large number of corals, logistics
- Coral reattachment with cement
- Over 16,000 coral fragments reattached at 32 sites
- Some corals were moved due to site condition or safety/logistics



[Overview](#)[Data Dashboard](#)[Assessment Images](#)[Restoration Images](#)[Funding and Collaborators](#)

Project Summary

In 2017, major hurricanes Irma and Maria had significant impacts on Puerto Rico, including their coral reefs. Damage to Puerto Rico's coral reefs included broken and overturned corals, and coral burial by sand. This story map highlights data and images collected as part of a recent study examining the impacts to the shallow water coral reefs surrounding the archipelago of Puerto Rico.

HEALTHY

Reefs provide a natural barrier of coastal protection from storms.

DAMAGED

Storms can break apart reef structure, decreasing coastal resiliency.

RESTORED

Restoration post-damage minimizes impacts by saving corals and rebuilding the reef.

<https://noaa.maps.arcgis.com/apps/MapSeries/index.html?appid=b0a4046c33d04a829bd41dfc3061502a>

Proposal for FEMA PUBLIC ASSISTANCE for 4 Culebra sites



FEMA Funding for Puerto Rico coral reefs

As of today, NO FEMA post-storm recovery funding has been obligated to DNER for coral reef restoration. Projects are still in development.

The Culebra Public Assistance request WAS deemed eligible:

- The reefs were an improved and maintained natural feature

The Statement of Work and budget have been completed.

Next steps:

- Mitigation measures
- Environmental Compliance evaluation
- Obligation of funds to DNER

Other Coral Restoration projects in the HFA

- NOAA Restoration Center and CRCP are funding 3 year coral reef restoration project at Palominos Reef (Fajardo), utilizing a comprehensive approach including branching and boulder corals as well as Diadema.
- RC will also implement a restoration project focused on testing wave attenuation services obtained from coral restoration by implementing the recommendations from detailed wave modeling already conducted by UPR researchers under another RC grant.

Other Coral Restoration projects in the HFA

- FY2020 NOAA Community-based Restoration Program: Restoring the seagrass-coral reef continuum habitats across heavily hurricane-impacted coastal areas at 2 sites in Culebra Island, Puerto Rico
- National Fish and Wildlife Foundation National Coastal Resilience 2019 Grant: Restore the three-dimensional structure across of coral reefs that were severely damaged by Hurricanes Irma and Maria. Project is using live coral fragments and artificial coral colonies created with emerging 3D printing technology. (Sociedad Ambiente Marino)

Other Coral Restoration projects in the HFA

- Puerto Rico Port Authority coral project: Relocation of corals that were attached to port piles; monitoring of relocated fragments as well as seagrasses and sediments.

Social Science project in the HFA

- Limits of Acceptable Change study for the NE HFA: Currently conducting interviews among user sectors to recommend management actions. Users: fishers, beach goers, customers of commercial operators and private boaters.

Questions?



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