NOAA
Habitat Blueprint

NOAA Selects Guam's Manell-Geus watershed as next Habitat Focus Area

The Manell-Geus watershed on the southern tip of Guam has been selected as the next Habitat Focus Area under NOAA's Habitat Blueprint.

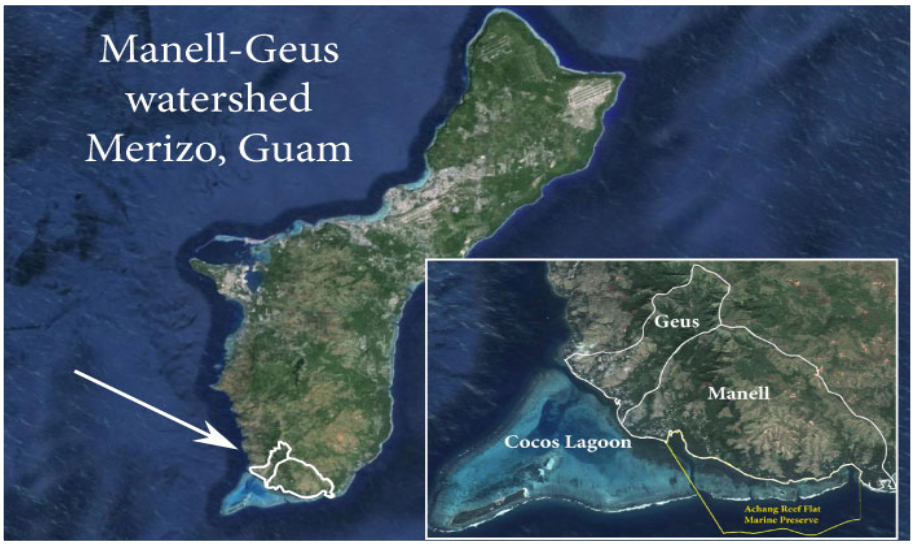
A Traditional Fishing Village

The Manell-Geus watershed—primarily located in the village of Merizo—contains extensive seagrass beds and coral reefs. These habitats support the area's strong fishing tradition. The extensive seagrass beds and patch reefs in Cocos Lagoon provide important forage and resting habitat for sea turtles. These beds extend eastward into the Achang Reef Flat Marine Preserve, providing valuable nursery habitat for a variety of desirable food fish including:

- the mafute (*Lethrinus harak*, the thumbprint emperor)
- tiao (juvenile *Mullids* or goatfish)
- mañahak (juvenile *Siganids*)

The area is also important habitat for both green and hawksbill sea turtles and contains the largest aggregations of sea turtles observed on Guam.

Photo courtesy of Guam Coastal Management Program.



A Habitat in Need

Although Manell-Geus has amazing marine resources, the reef ecosystems are impaired by poor water quality. The conditions are a result of erosion on the steep hillsides and along the streambanks. Wildland fires, feral animals, and off-roading vehicles have accelerated this erosion. Downstream flooding affecting the communities and the adjacent reef in Merizo can also be attributed to the erosion.

Sedimentation also has serious impacts on coral health by increasing susceptibility to disease, decreasing growth rates, and affecting coral settlement. These problems may be exacerbated by outbreaks of crown-of-thorns starfish (this species preys on reef coral polyps).

The Geus is one of 11 rivers connecting the upland areas of the Manell-Geus watershed to the coral reefs in Achang Reef Flat Marine Preserve and Cocos Lagoon. NOAA's Habitat Blueprint efforts will target erosion that affects both the rivers and coral reefs. Photo courtesy of Guam Department of Aquatic and Wildlife Resources.

Collaboration

NOAA is currently working with partners and the local community to develop and test watershed restoration techniques such as streambank stabilization, bamboo removal, and placing riparian buffers in the Geus, Liyog, and Asgadao sub-watersheds. NOAA is also working with local partners to provide training and start-up funding to enhance the propagation of native plants suitable for erosion control and streambank stabilization.

Through NOAA's Coral Reef Conservation Program's grants and cooperative agreements with local partners, we are also funding projects such as conservation action planning, development of a watershed management plan, household surveys, and an assessment of turbidity in the Geus River.

Partners

Bureau of Statistics and Plans—Guam Coastal Management Program
Merizo Mayor's Office
Guam Department of Agriculture
- -Division of Aquatic and Wildlife Resources
- -Forestry and Soil Resources Division

The Nature Conservancy
Guam Environmental Protection Agency
University of Guam
- -Water and Environmental Research Institute
- -Center for Island Sustainability
- -Marine Laboratory

USDA Natural Resource Conservation Service
Environmental Education Committee
Marianas Resource Conservation and Development Council
Ayuda Foundation

Focus Area Objectives At a Glance

3-5 years

Coral Reefs – Decrease sedimentation impacts

Seagrass Beds – Maintain or increase extent and density

Mangroves – Establish monitoring plan to detect changes in the health of the mangrove forests

Stream Beds – Improve stream habitat and increase presence of native fauna in at least 3 streams

Community – Increase community engagement in conservation programs

Longterm

Resilient reefs and terrestrial habitats that will be able to sustain the people of Merizo well into the future.

A safer, more resilient and engaged human community