

PROJECT PROFILE

# GUAM



## Helping to revive the once fruitful watersheds, vibrant coral reefs, and abundant near shore fisheries of Guam.

Coral reefs provide us with protection from waves, food for our tables, and pump \$27 million into Guam's economy each year. Coral reefs are part of watershed ecosystems. A coastal watershed is a catchment area between the divides of mountains where rain water collects, flows through streams and wetlands, and discharges onto the coral reefs in the ocean below. Land-use activities such as construction and farming can impact on the quality of that discharge (i.e. pesticides, fertilizers, sediment).

Corals need clear water and sunlight to thrive. Corals get up to 90% of their energy through photosynthesis from the single-celled plants that live within them. Unfortunately, poor land-use practices such as improper development methods and arson fires ignited by deer poachers accelerate erosion. When heavy rains come, exposed soil in the watershed is flushed into the ocean

## PROJECT PROFILE

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where it harms and kills corals by directly smothering them or blocking out sunlight in the water column.

When coral reefs die, we lose essential fish habitat. In Guam, we gather around fish at our dinner tables and village fiestas. After realizing they weren't catching the same size and quality of fish they used to, the people of Humåtak decided to take action to revive their island.

In order to build resilience against the effects of climate change, our island community is taking action to address local environmental threats, through the following programs:

### **Educational and Community Outreach**

- Engages thousands of community members in Humåtak Watershed Adventures.
- Teaches students about the importance of coral reefs and watershed ecosystems.

### **Watershed Management**

- Contributed more than 2,000 volunteer hours to reviving Guam's watershed and coral reef ecosystems.
- Planted over 1000 trees to reforest eroding hillsides.
- Installed 330 feet of sediment filter socks to decrease erosion.

### **Scientific Research**

- Data is collected to determine and promote effective watershed restoration practices .
- Findings of research will be used to improve mitigation strategies intended to offset adverse impacts to aquatic resources.

### **The social and environmental issues addressed by this project:**



Improving the health of watersheds and coral reefs is essential for supporting the vital services these ecosystems provide to the people of Guam

- Protection from waves: Coastlines are vulnerable to high wave action and storms. Coral reefs are important structures that dissipate wave energy and protect shorelines from eroding.
- Food for our tables: Over 1,000 species of reef fish swim in Guam's nearshore waters. The local community depends on fish for everyday sustenance and for family gatherings.
- Tourism revenue: Guam welcomes over 1.5million tourists each year. Many of them come to enjoy the beautiful natural resources the island has to offer. Tourists sunbathe and enjoy the scenery of the coastlines, and snorkel and dive in the colourful coral reefs. Recreational and tourism activities generate \$127 million U.S. for Guam's economy each year.

## PROJECT PROFILE

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### The Sustainable Development Goals (SDGs) addressed by this project:

- #13. Climate Action
- #14. Life Below Water



### Learning outcomes for students

- Team work and collaboration with their fellow students and the local community
- Taken outside of their comfort zone to build resilience and independence
- Understanding of the environmental connections between the land and sea
- Understanding of the importance of coral reefs and how local communities are taking action to reduce environmental threats.

### Partnership

World Youth Adventures partners with the University Of Guam Centre for Island Sustainability.