



Project Overview: Leatherback Turtle Conservation and Debris Removal in Dorado, PR

Ama Earth Group, in collaboration with Chelonia, has been awarded a \$2,000.00 grant from Sustainable Ocean Alliance (SOA) to support the conservation of Leatherback turtles (*Dermochelys coriacea*) in Dorado, Puerto Rico. This project aims to mitigate environmental challenges and restore critical habitats by removing large debris from nesting beaches and implementing dune restoration efforts. By combining ecological restoration with data-driven strategies, we aim to support the survival of this critically endangered species while improving coastal resilience.

Key Project Activities

1. Large Debris Removal

Large debris, including tree trunks and other obstacles, has accumulated on Leatherback nesting beaches, obstructing the turtles' access to suitable nesting sites. We plan to remove this debris by late January to create safer and more accessible conditions for the turtles during their nesting season.

2. Dune Restoration

Coastal dunes are vital for protecting beaches from erosion and providing habitat stability for nesting turtles. Our project will include the restoration of damaged dunes in February/March, replanting native vegetation to stabilize sand and enhance the natural protective barriers against storms and rising sea levels. This will improve the resilience of the nesting habitat, providing a long-term safeguard for the turtles.

3. Data Collection and Analysis

Geospatial data, including drone imagery and water quality assessments, will be collected throughout the project. This data will help us identify debris hotspots, track dune erosion, and monitor environmental conditions. Using this information, our team can make informed decisions about debris removal, dune restoration, and future conservation efforts. Leveraging publicly available geospatial sources will also improve the accuracy and sustainability of our interventions.

4. Dredging Discussions with Local Authorities

Coastal dredging can have significant impacts on Leatherback habitats. To address this, we will meet with local authorities, including the municipality and the DRNA (Department of Natural and Environmental Resources of Puerto Rico), in November to discuss sustainable dredging practices and water flow management. This collaboration will help ensure the long-term success of our conservation efforts.

Project Timeline

- **November 2024:** Planning and Stakeholder Alignment (Meetings with Alcaldía and DRNA)
- **December 2024:** Data Collection Phase (drone surveys, labeling, water quality assessments)
- **Late January 2025:** Large Debris Removal & Dune Restoration
- **February/March 2025:** Nest Identification Poles & Beach Cleanup

Importance of Leatherback Turtles

Leatherback turtles are vital to marine ecosystems, maintaining the health of seagrass beds and coral reefs, which serve as nurseries for many marine species. However, they face numerous threats, including habitat destruction, pollution, and climate change. Preserving their nesting habitats is crucial for their survival and the overall health of coastal ecosystems.

Leveraging Geospatial Data

A key component of this project is the use of publicly available geospatial data and advanced data collection techniques. Our data engineer will build ETL pipelines to process drone imagery, GIS data, and environmental metrics, allowing us to analyze changes in dune topography, debris accumulation, and water quality. These insights will guide our restoration efforts and ensure the sustainability of our interventions, providing real-time data to optimize project outcomes.