



CARIBBEAN DIVISION | THE WORLD WE DEPEND ON DEPENDS ON US

From fragile reefs to endangered sea turtles this Caribbean paradise needs protecting

At about 134 square miles, the U.S. Virgin Islands is not expansive when compared with many archipelagos, but it is brimming with enough natural beauty to fill an area several times its size. This U.S. territory consists of three main islands — St. Croix, St. John and St. Thomas — that boast verdant hillsides and breathtaking beaches surrounded by colorful coral reefs woven through crystal waters.

These islands are home to hundreds of species of plants, fish and birds, as well as endangered sea turtles that rely on the islands' shores to nest. Millions of tourists visit each year to explore the rich natural treasures of these islands, supporting local economies, livelihoods and communities. In fact, the tourism sector in the U.S. Virgin Islands constitutes almost 32 percent of Gross Domestic Product and supports 29 percent of employment. However, the impacts of climate change, overfishing and unsustainable coastal development all pose grave threats to people and nature in this Caribbean paradise.

The Nature Conservancy has been working in the U.S. Virgin Islands since we first began to address conservation challenges in the Caribbean more than 40 years ago. Almost three decades ago, the Conservancy established a nature preserve on St. Croix called Estate Little Princess, which became the headquarters of our Virgin Islands' program. Today, the Conservancy is implementing ecosystem-based solutions to conserve the vital marine and coastal habitats, like coral reefs and mangroves, that protect vulnerable shorelines, support livelihoods, preserve biodiversity and safeguard wildlife.





A New Era for Coral Conservation

The U.S. Virgin Islands was one of the first areas of the Caribbean where the Conservancy began its coral restoration work. **As in the rest of the region, coral reefs in the Virgin Islands are essential for a healthy ocean, thriving economies and prosperous communities.** They also provide coastal protection against the impacts of climate change like erosion, flooding and dangerous tropical storms. However, increased ocean temperatures and acidity, overfishing and pollution have damaged reefs in the Virgin Islands to the point that they are struggling to survive. **Populations of elkhorn corals, a key reef-building species, in parts of the Virgin Islands have decreased by 90 percent since the 1980s.**

In 2017, the Conservancy launched a transformative coral conservation initiative that combines cutting-edge science to rebuild reefs at scales never before possible with long-term marine protections to conserve the critical reefs that remain today. In partnership with some of the world's leading coral science organizations, the Conservancy is developing, testing and implementing two techniques — microfragmentation and facilitated sexual reproduction — that have the potential to grow large numbers of new corals faster than ever and with greater survival rates. These techniques have already been proven effective at multiple Caribbean pilot locations.

The Conservancy and partners completed a pilot expedition on St. Croix, in which elkhorn coral gametes were collected during a spawning event and about 750,000 new coral embryos were created using facilitated sexual reproduction — the first time in the Virgin Islands that this groundbreaking technique successfully grew new baby corals. **This expedition and others like it provide proof of concept that facilitated sexual reproduction can produce large amounts of healthy new corals with just one natural spawning event, so that restoration efforts can be scaled up to outpace today's rate of reef degradation.** Also during this St. Croix expedition, elkhorn corals outplanted onto damaged reefs by the Conservancy in 2012 were seen spawning — a triumph for Conservancy scientists as it showed that the outplanted baby corals had flourished on their own and were now reproducing naturally.

As a core part of this revolutionary coral conservation work, The Conservancy is evolving Estate Little Princess into a Coral Conservation Hub that will house land-based coral nurseries and a laboratory. **This Hub will serve as an incubator for ideas on global coral conservation. It will not only play an essential part in advancing coral conservation science and technology but will also play a vital role in disseminating these advancements through an interdisciplinary network of conservationists, scientists, partner organizations, local stakeholders and educational institutions.** By sharing our expertise and engaging diverse audiences in this way, the Conservancy aims to mobilize unprecedented coral conservation action throughout the Caribbean and globally.



CLOCKWISE Young staghorn corals outplanted by the Conservancy thrive on a reef in St. Croix. © Kemit-Amon Lewis/TNC; Conservancy scientists and partners prepare healthy, young staghorn corals for transport to a damaged reef. © Jennifer Idol; Elkhorn coral gametes collected during the Conservancy's coral spawning expedition in St. Croix © Paul Selvaggio



Promoting Marine Protection and Management

Through the Caribbean Challenge Initiative (CCI), the government of the U.S. Virgin Islands committed to a goal of protecting at least 20 percent of its nearshore marine environment, and has in fact surpassed this goal by reaching 31 percent protected area coverage. The CCI is a historic initiative that joins Caribbean countries and territories together to achieve a shared goal of tripling the amount of marine protected area across the region and ensuring these areas receive long-term, reliable funding to sustainably manage them into the future. The Conservancy is working closely with local partners and government in the U.S. Virgin Islands to help guide effective management of the territory's protected areas and to establish sustainable financial support so that protected areas are successfully managed for the long-term.

The Conservancy is also using innovative technology to monitor marine habitat and inform protections. BleachWatch, a mobile app launched by the Conservancy, allows divers and snorkelers to report coral disturbances, such as bleaching or disease, and is being used to guide marine protection and habitat restoration efforts in the U.S. Virgin Islands. In addition, the Conservancy helped develop and implement state-of-the-art marine spatial planning tools that allow those who manage protected areas in the U.S. Virgin Islands to make informed, science-based decisions that improve long-term marine management.

Encouraging Sustainable Seafood

Sustainable fishing practices not only help secure fisher livelihoods into the future, but are essential in order to preserve coral reefs and other habitat that naturally protect shorelines against the impact of climate change. **The Reef Responsible Sustainable Seafood Initiative was launched by the Conservancy and key partners in the U.S. Virgin Islands to raise awareness about the importance of catching, eating and selling only local, sustainably harvested seafood.**

Reef Responsible educates fishers, consumers and restaurants about what species are good choices for protecting reef health and what species should be avoided because they are overharvested or necessary for maintaining ecosystems. Because fishers are taught why certain species have closed seasons to protect their reproductive cycles, they are more likely to adhere to sustainable practices. Restaurants who volunteer to be Reef Responsible commit to serving only sustainable seafood, which helps consumers make informed choices and provides fishers with a market for their reef-friendly catch. Reef Responsible has demonstrated success on St. Croix, where many restaurants have joined the initiative, and is now expanding into neighboring islands.

The Reef Responsible Sustainable Seafood Initiative promotes the catching and consumption of lionfish, an invasive species in the Caribbean that harms coral reefs, and helps protect species like parrotfish that are beneficial to reefs.



Protecting Wildlife

Established by the Conservancy in 1999, the Jack & Isaac Bay Preserve on St. Croix is comprised of fragile ecosystems that provide a home to endangered sea turtles; several varieties of coral, starfish and conch; and over 400 species of fish, including parrotfish, blue tangs and four-eyed butterfly fish.

Sea turtles were once so abundant in the Caribbean that early mariners recorded extreme difficulty navigating their boats around them in the ocean. Today, loss of habitat, invasive species, poaching, pollution and fishery activities have devastated their populations. In the early 1990s, it was determined that one-third of all sea turtle nests were lost to these threats. **The Conservancy has been at the forefront of efforts that have resulted in strong signs of recovery in the sea turtle population on St. Croix.** A Sea Turtle Conservation Program was put into place at Jack & Isaac Bay Preserve, raising the number of green sea turtles nesting at the site from about eight to over 300 by removing the threats of poaching and coastal development. Today, the largest nesting populations of green and hawksbill sea turtles on St. Croix are found at Jack & Isaac Bay Preserve.

Supporting Hurricane Recovery

In 2017, back-to-back Category-5 Hurricanes Irma and Maria tore through the Caribbean. These catastrophic storms led to hundreds of lives lost, mass destruction across multiple islands and estimated economic losses in the hundreds of billions. All three U.S. Virgin Islands were directly hit by these storms and suffered severe damage to homes, businesses, infrastructure, landscapes and ecosystems.

In immediate response to the devastation, the Conservancy put together a hurricane relief team made up of fire and forest crew members from Conservancy chapters across the U.S. The team executed several relief missions to the U.S. Virgin Islands to aid with clean-up and restoration. Arriving with emergency supplies and gear, they removed hazardous debris, cleared roads, assessed native trees and helped restore critical wildlife areas and nature preserves. As the impacts of climate change escalate, tropical storms are predicted to become more frequent and more dangerous. For this reason, it is a priority of the Conservancy to protect and restore the coastal habitats that provide natural protection against these devastating tropical storms.

Building a Sustainable Future

Looking ahead, the Conservancy is committed to building a more resilient U.S. Virgin Islands in the face of climate change by strengthening coastal habitats like coral reefs. **Working with our partners, we aim to restore reef ecosystems in the U.S. Virgin Islands so that the majestic reefs of only a few decades ago are not just a memory but a reality within our grasp. Through this work, along with protecting the islands' waters and vast array of wildlife, the Conservancy will help preserve biodiversity, safeguard shorelines and sustain livelihoods for the benefit of nature and people in the U.S. Virgin Islands.**

INSET An endangered sea turtle hatchling at Jack & Isaac Bay Preserve is helped from its nest by a Conservancy scientist. © Kemit-Amon Lewis/TNC

Sea turtle hatchlings emerge from their nest at night. Once out of their nest, they orient themselves toward the sea and make a dash for the water. They go through a process called fingerprinting, where they take in cues to help them return, as adults, to the same beach to nest. Some hatchlings don't make it out of their nest with their siblings and end up falling prey to predators. Here, a Conservancy scientist helps a struggling hatchling make its way out of the nest before allowing it to crawl into the ocean — giving this little endangered mariner a second chance at life.



OUR MISSION: TO CONSERVE THE LANDS AND WATERS ON WHICH ALL LIFE DEPENDS



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