Barbuda is a small island (162 sq km, or 62.5 sq mi) located in the Leeward Islands chain of the eastern Caribbean, 62 km (38.5 mi) from its sister island, Antigua. It is a flat, limestone-based island with a maximum elevation of only 42 meters (46 yards) and a population of 1,700 people in its one town of Codrington. So few are Barbuda’s human residents, in fact, that the donkeys, goats, horses, dogs, and cats that roam the island likely outnumber the people. Although not globally known as a tourist destination, Barbuda boasts numerous pristine white and pink beaches, on which nest substantial populations of hawksbill, leatherback, and green sea turtles. Loggerheads, too, are known to periodically forage around the island’s seagrass beds and offshore reefs, and a leatherback is occasionally spotted.

Research on Barbuda’s turtles over the past eight years suggests that this is a very important nesting site in the eastern Caribbean. Four index beaches have been identified as areas of high nesting activity for hawksbills and greens, and their physical characteristics have been mapped and described. Currently, there is an initiative to create a sea turtle monitoring program on Barbuda that will help (a) to estimate nesting population sizes and trends and (b) to fully illustrate the importance of this tiny island for the production of future generations of Atlantic turtles. Barbudan culture has historically welcomed the harvest of both adult turtles and eggs, yet today there is little legislation to protect turtles and inadequate surveillance and enforcement by governing bodies. As such, much work remains to be done to ensure the protection of such vulnerable reptiles.

On September 6, 2017, the face of Barbuda changed forever with the arrival of Category 5 Hurricane Irma. The tiny island experienced Irma’s first landfall and found itself at Mother Nature’s mercy. Irma left a trail of destruction. Surprisingly, only one human death was recorded, but more than 90 percent of the island’s buildings were damaged, livestock was killed, vegetation was uprooted, and the storm surge caused massive flooding. The entire population of Barbuda had to be evacuated to Antigua; it was the first time in 500 years of recorded history that there was not a single human soul on the island. The recovery effort has been slow, compounded by the evacuation of all the residents, scant financial resources, and legal conflicts relating to unsettled property rights. However, the rebuilding of schools and homes is taking place, and the restoration of Barbudan life is under way. A GoFundMe campaign started by the Barbudan Ecological Research Group has raised nearly $14,000 to help some of the families that lost everything to Irma.

In the early days after the hurricane, National Park Service rangers disentangled a number of turtles that had washed up alive on debris-filled beaches. The 2017 sea turtle nesting season was negatively affected, as newly laid nests were most certainly washed into the sea. The hurricane also severely damaged some important turtle nesting beaches along Barbuda’s western coast; in some cases, beaches were completely wiped out. The future for sea turtle nesting beaches on Barbuda is not entirely clear, but signs of hope are seen in the natural beach restoration that is occurring. Some beaches that were completely washed away are forming as coastal currents allow sand to build up, and turtles will surely find these suitable nesting sites. In fact, very soon after the hurricane, numerous turtles were nesting on Barbuda once again.

Satellite images reveal the significant impacts on Barbuda of Hurricane Irma, which made landfall on September 6, 2017. © NASA EARTH OBSERVATORY; AT LEFT: Barbuda boasts pristine beaches that are home to nesting hawksbill, leatherback, and green turtles. © WENDY MCFARLANE

Sea turtle research in Barbuda has taken two forms: a survey of nesting distribution and a study of the determinants of nesting site choice, plus ongoing education and outreach efforts. Barbudan youth have been taken out into the field to learn data collection techniques, and a variety of programs in schools and summer camps allow students to learn the importance of endangered sea turtles and island biodiversity. Although a primary research goal is to assess beach conditions and turtle nesting post-Irma, it also is important to continue outreach programs about sea turtles and to better understand the resilience of species and ecosystems in the face of hurricanes and other climate-related impacts.

For now, the focus for Barbudans needs to be not only on recovering from the effects of Hurricane Irma but also on preparing for the next hurricane season. Readiness takes the form of rebuilding structures to withstand higher winds, but it also could include managing beach habitats that are important to sea turtles. This is an opportunity to redevelop resorts as ecotourism destinations and to plan around beach sites to ensure the preservation of ecological systems and habitats. Strategies that are being considered include reducing unnecessary light sources and planting vegetation to anchor sands in vulnerable areas along the western coastline of the island. At this point, education and outreach remain key factors in such changes. The hope is that through collaboration with this small population of islanders, good investment can safeguard the future of endangered turtles on Barbuda and throughout the Caribbean.

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