

# More Turtles, Less Plastic

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If there is an iconic animal for the worldwide epidemic of plastic pollution, it is certainly one of the world's seven sea turtle species. Although the public is newly aware of the actual impacts of plastic pollution on sea turtles, researchers have known about the threat for decades, and many organizations that work on nesting beaches have been cleaning up plastic pollution since long before it became a popular cause.

Beach cleanups can help keep nesting beaches clear for nesting females and can lessen the impacts of plastic pollution, but cleanups can create a secondary challenge: what to do with collected waste to ensure that it does not simply reenter the environment. Many places where sea turtles nest lack adequate waste management systems, and even in countries with well-developed infrastructure, it is well known that less than 10 percent of plastic is actually recycled. Much of the rest litters the land and water, becomes part of overburdened landfills, or is burned, thereby damaging both human health and the climate.

The nonprofit organization SEE Turtles recently noticed that a number of sea turtle projects were starting to invest in efforts to recycle the waste they collect and to convert it into products that support conservation efforts and community livelihoods. To support those efforts, SEE Turtles launched the Sea Turtles & Plastic program, which provides financial support so community organizations can create recycling infrastructure. Projects thus far supported include the purchasing of recycling equipment, training of local residents, and more. To date, the program has made 15 grants totaling more than US\$75,000. The funded projects have recycled more than 13,608 kilograms (30,000 pounds) of plastic and have made a positive effect on the lives of nearly 1,000 coastal residents.

Supported projects include the following:

**KENYA** | In Kenya, COBEC (Community Based Environmental Conservation) is dedicated to protecting and restoring the marine and coastal ecosystems, which are crucial to the region's well-being and vitality. COBEC's work includes efforts to tackle marine waste through beach cleanups and mangrove restoration. To date, COBEC has recycled more than 12 tons of marine debris while creating new business opportunities in local communities

by shredding and crafting products from used plastic bottles and flip-flops. The project has had a significant effect by improving livelihoods, resilience, income generation, and overall environmental health.

**SÃO TOMÉ & PRÍNCIPE** | Fundação Príncipe is a nonprofit conservation organization based in Príncipe. After leading small initiatives focused on recycling glass beads and flip-flops, the organization began a larger-scale project to (1) understand plastic pollution on the island, (2) work with regional authorities

to develop legislation to address the problem, and (3) support five business ideas to transform plastic into useful products such as bricks and furniture. The organization also launched a project to build community capacity that would monitor Príncipe's growing scourge of marine plastic, as well as to introduce alternative revenue opportunities that deal with existing plastic. Work includes the creation of a Plastic Re-use Women's Hub, which will make advanced recycling and upcycling equipment available to the five pilot recycling businesses. Fundação Príncipe also implemented the Captain Fanplastic program, a global environmental literacy curriculum, which now reaches every child on the island. Today, with support from SEE Turtles, the Darwin Initiative, and the Whitley Fund for Nature, Príncipe has a powerful strategy in place for combating plastic pollution.

**CURAÇAO** | Green Phenix was founded in 2019 as an offshoot of Sea Turtle Conservation Curaçao to combat the extensive marine debris along Curaçao's windward shoreline. Inspired by Precious Plastic, a global open-hardware plastic-recycling project, the program repurposes waste into meaningful products. Starting with two extruders, a shredder, and a 3D printer, as well as 12 learn-and-work participants, Green Phenix has made significant strides. Today, it is transforming plastic waste into bricks, beams, and a variety of items such as vases, wall decorations, and tables. It conducts tours, hosts an e-learning course, and oversees collection points and partnerships throughout the island. Since October 2021, Green Phenix has removed 12,871 kilograms

(28,376 pounds) of marine debris and has collected 20,230 kilograms (44,600 pounds) of post-consumer plastic. The team now comprises 14 staff members and 24 learn-and-work participants.

**URUGUAY** | Karumbé is pioneering an innovative circular-economy project to combat marine plastic pollution. Alongside local communities, Karumbé conducts beach cleanups in areas frequented by sea turtles. It then sorts and cleans waste materials for recycling by Plasticoin, a project that exchanges waste by weight for virtual currency. Next, Karumbé reinvests its virtual revenues in veterinary supplies and other resources for rehabilitating sea turtles, thereby completing the economic circle and turning the tide on plastic pollution. The activities aim to increase environmental awareness about plastic pollution in coastal communities, thus providing a hands-on approach for creating a positive effect.

Given the tremendous amount of plastic waste in the environment today, cleaning our oceans and coasts and finding ways to ensure that waste does not reenter the environment are critical to protecting wildlife and people. Nevertheless, we all know that such cleanup efforts, though undeniably important, are symptomatic treatments that do not address the root cause of the pervasive global crisis of plastic pollution. Solving that crisis will require that we ultimately end the production of single-use plastic. But as we work toward that goal, strategies like those described herein can help to minimize the negative impact of plastic pollution on sea turtles. ●



AT RIGHT: A volunteer participates in a beach cleanup with Green Phenix in Curaçao. © Green Phenix