

Sailing Towards Sustainability- How the Circular Economy Can Save the Caribbean Sea



By Rachel Ramsey

The Caribbean Sea, with its vibrant ecosystems and stunning biodiversity, offers a lifeline for millions. Approximately 115 million people live in its proximity, it accounts for 1% of the global ocean area and 14% of the global ocean economy, . From coral reefs that shelter countless species to the sustainable fisheries that preserve marine life, the Caribbean's blue economy is rich and is integral to our identity and survival. The insular Caribbean's gross revenues from marine and coastal tourism alone recently totalled an estimated US\$57 billion. Yet, this precious resource faces mounting threats that demand urgent action. In the context of the preservation of the blue economy, circular economy principles can be applied to reduce pollution and waste, and to minimize environmental impacts while also reducing our carbon footprint. We can consider creating circular systems that not only support economic growth but also regenerate natural ecosystems, help us combat climate change, conserve our biodiversity, and ensure long-term ecological balance. By integrating circular economy principles into blue economy strategies, the Caribbean and other coastal regions can maximize the sustainability of our ocean-based economies.

We are all very much aware of the challenges of marine pollution in our region. Any recent visit to the beach or river may have provided a vivid illustration of the firsthand impacts of pollution for us—where the sight of trash mars the beauty of our natural spaces. Marine pollution, especially plastic waste, is an established and significant threat to the Caribbean Sea and the amount of plastics found here far exceeds the global average, with 2,014 litter items per kilometre, compared to 573 worldwide. A circular economy can help us and the Caribbean Sea as it will minimise waste through practices including recycling, reusing, and redesigning materials. By encouraging the use of biodegradable alternatives and promoting extended product lifecycles, we can reduce the volume of plastics and other pollutants entering the ocean. Initiatives such as recycling fishing gear, converting plastic waste into usable materials, or encouraging industries to adopt zero-waste principles can drastically reduce oceanic pollution.

Unsustainable fisheries and poorly managed aquaculture also pose significant threats to our region. Overfishing is rapidly depleting fish populations, disrupting the delicate balance of the marine ecosystem and damaging coral reefs and seagrass beds, which are vital to marine biodiversity. Our region's fishery resources are among the most overexploited in the world with up to 55 percent of

commercially harvested fishery stocks overexploited and 40 percent of stocks currently fully exploited. Destructive fishing methods scar our seafloor, while large-scale fish farms pollute our coastal waters with waste and excess nutrients, further endangering coral reefs and marine species. If left unchecked, these practices can turn our Caribbean's rich waters into barren stretches, jeopardizing both the environment and the livelihoods of coastal communities. During recent times, the value of marine capture fisheries production and aquaculture fisheries was recorded at US\$ 460 million annually with an estimated 341,668 persons employed (4.3% of the workforce of the region). As such, it is imperative that these issues are addressed. Incorporating circular economy principles into fisheries can ensure that resources are harvested and used efficiently, reducing overfishing and bycatch. For instance, we can consider using fish by-products such as bones, skin, and organs in other industries (e.g., pet food, fertilizers) rather than discarding them as waste. Sustainable aquaculture practices that mimic natural ecosystems and utilize waste products as inputs for other processes (such as feed for fish or seaweed farming) can also help us maintain the ecological balance of the sea.

Tourism is one of our major industries in the Caribbean, accounting for 15 percent of the region's GDP, but it also generates a significant environmental footprint. Recent estimates suggest that regional tourism contributed 62 billion kg of CO₂ to global emissions and in 2020 the tourism sector generated approximately 8,851 tonnes of waste in the region. A circular economy in tourism promotes the reuse of materials, reduction of energy and water consumption, and the integration of eco-friendly designs in hotels, restaurants, and at attractions. This can involve implementing energy-efficient systems, reducing plastic use, promoting sustainable transport options, and encouraging local sourcing. These steps will help us reduce the ecological strain on marine ecosystems by curbing pollution and conserving resources.

We can all agree that climate change is significantly impacting the region. Rising sea levels and more frequent hurricanes continue to wreak havoc on our coastal communities and marine environments. Recent storms have underscored the urgent need for resilience-building measures to safeguard our ecosystems. By integrating circular economy principles into disaster preparedness, we can build more resilient communities. This means designing infrastructure with sustainable materials, restoring natural buffers like mangroves, and creating systems to manage waste and debris more effectively during and after disasters. A circular economy approach to climate resilience involves designing adaptive strategies that reduce vulnerability. This includes energy-efficient buildings, sustainable land use planning, and community-led adaptation initiatives.

The circular economy emphasises regeneration, which aligns with our efforts to restore the Caribbean's marine ecosystems. For example, waste materials from land-based industries, such as seaweed or algae biomass, can be used to restore degraded coral reefs or create artificial reefs that promote biodiversity. By focusing on regenerative practices, such as the restoration of mangroves, seagrass, and coral reefs, a circular economy can actively contribute to healing our marine environment. Caribbean coastal communities can contribute here by adopting circular models which close resource loops through composting organic waste, turning food scraps and organic materials into natural fertilizers for agriculture or coastal vegetation.

The Caribbean Sea stands at a crossroads, with its future hanging in the balance. By embracing the circular economy, we can turn our regional challenges into opportunities and ensure that our vital resource thrives for generations to come. From innovative waste management to sustainable tourism and climate resilience, the circular economy offers a beacon of hope in our quest to protect and preserve the Caribbean Sea. As we navigate these waters together, let us harness the power of circular thinking to safeguard our valuable and indispensable marine treasure.

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About the Caribbean Biodiversity Fund

With around 1,600 globally threatened species, the Caribbean is a hotspot for some of the most critically endangered plants and animals. The Caribbean Biodiversity Fund (CBF) was established in 2012 to create reliable, long term funding for conservation and sustainable development in the Caribbean region. The CBF was designed as part of the Caribbean Challenge Initiative, today the CBF is a regional umbrella environmental fund that uses a flexible structure to implement innovative solutions and consolidate resource mobilization in the Caribbean through a range of financial instruments.

Working towards the vision of a Caribbean region where both its natural environment and people thrive, the organization measures total assets under management, annual return on investments, competency improvements and global initiatives as the key performance indicators that directly contribute to its mission. Currently, the CBF has 3 programs, the Conservation Finance Program, based on an endowment fund, Climate Change Program, focused on Ecosystem-based Adaptation (EbA) strategies, and Nature-based Economies Program with an Advancing Circular Economy focus.

To date, the CBF has provided financing for more than 100 projects across the Caribbean, valued at over US\$30 million, demonstrating a significant commitment to the preservation of the region's biodiversity.

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