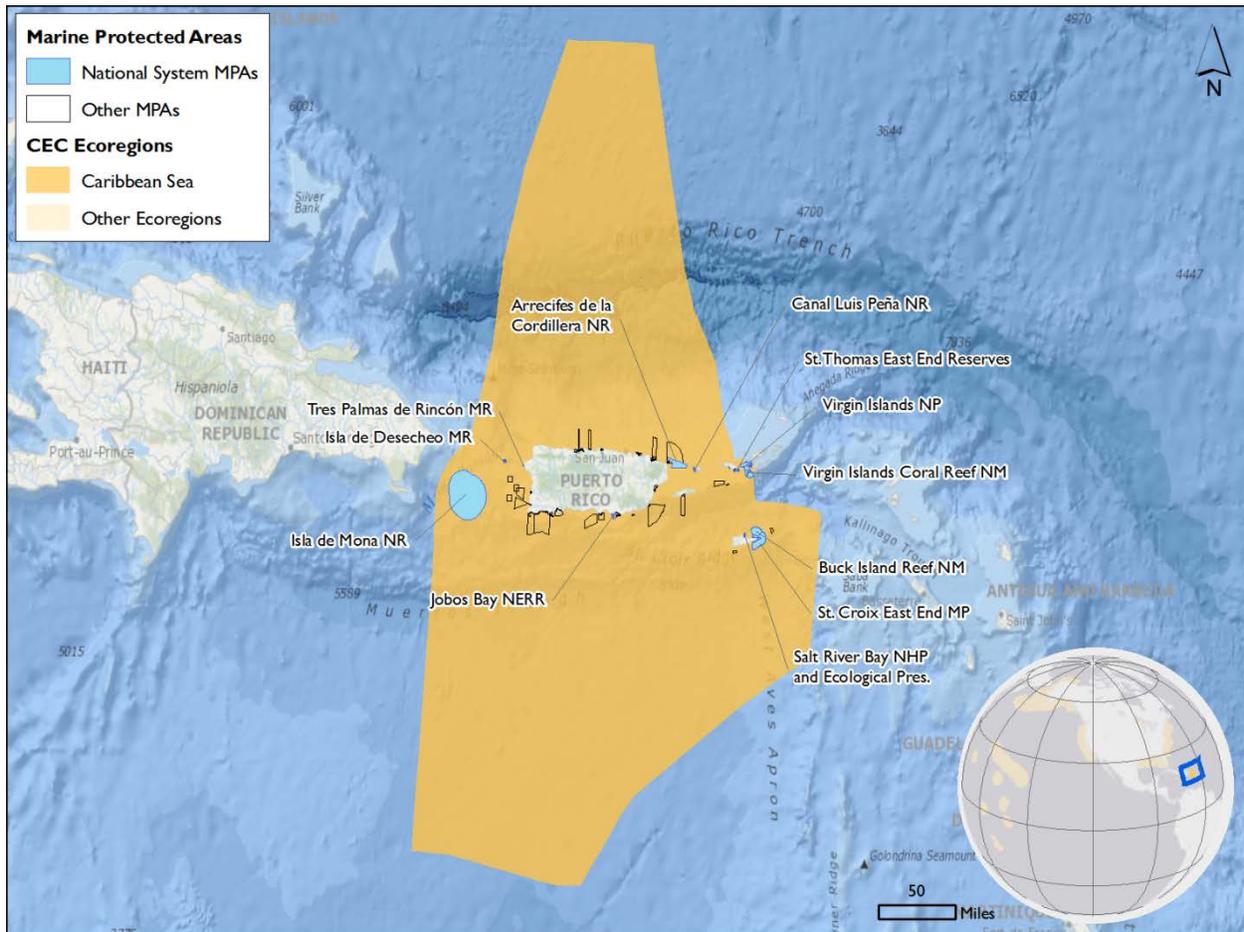


Caribbean Sea (Ecoregion 15)

Background

The Caribbean Sea Ecoregion in the waters of the United States is the marine areas around the Commonwealth of Puerto Rico, the Territory of the U.S. Virgin Islands and Navassa Island. The ecoregion is tropical in nature and experiences a high degree seasonal rainfall patterns. The waters of the Caribbean are influenced by two highly significant river systems to the south, the Orinoco and Amazon Rivers. Shallow banks and very deep trenches and canyons separate many islands of the Caribbean Sea. The Puerto Rico Trench, for instance, reaches a depth of 8,380 m. The shallow banks (depths of 200 m) and deep trenches tend to contribute to a diverse tropical and deep-sea fauna.



MPAs in the Caribbean Sea

There are 42 MPAs in the Caribbean Sea Ecoregion. Of the ecoregion's 42 MPAs, 12 (29%) are National System members, 26 (62%) are eligible to become but are not currently National System members and 4 (9%) are not eligible to become members (Figure 1). There are a diversity of National System MPAs, including a national park, national monument, national estuarine research reserve, and several state marine reserves. Ecologically important biogenic habitats found in other tropical ecoregions (even in high-latitude seas) such as seagrass (found

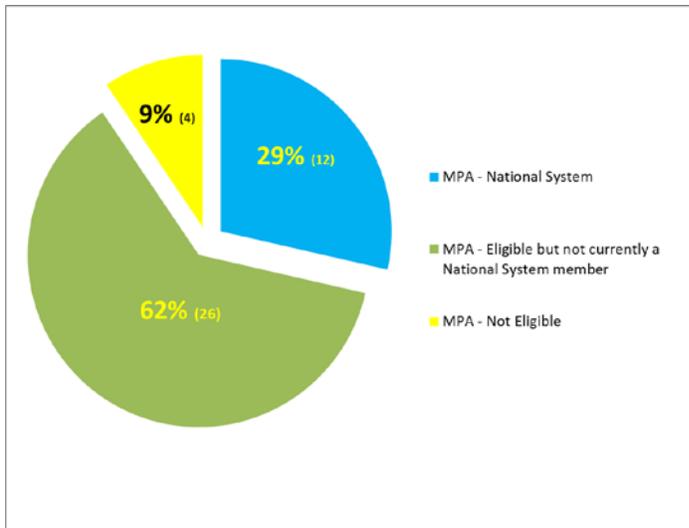


Figure 1. Percent of the Marine Protected Areas within the Caribbean Sea (Ecoregion 15) that are currently members of the National System of MPAs (n=42)

in 40% of the ecoregion's MPAs), mangroves (55%), wetlands and mudflats (21%), kelp/algae (33%) and corals (69%) are all found in several of this ecoregion's MPAs (Figure 2). These ecologically important habitats form complex coastal ecosystems and provide many feeding and breeding areas to more than 1,300 fish species, numerous marine mammals and sea turtles found in the ecoregion's MPAs.

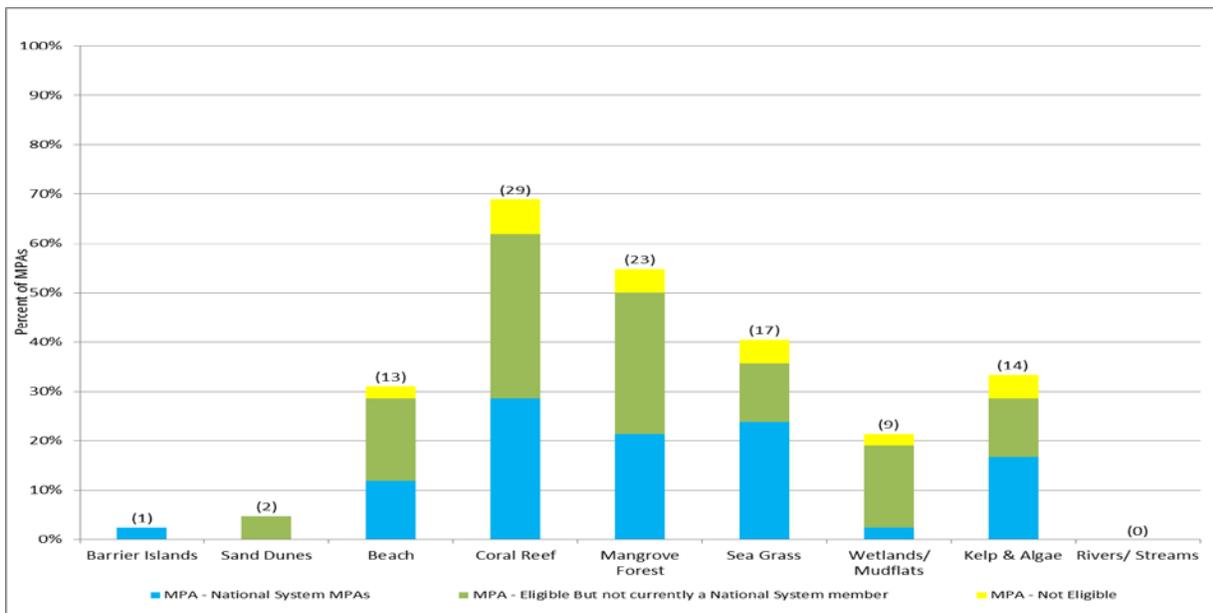


Figure 2. Percent of MPAs that contain certain Habitat Groups in the Caribbean Sea (Ecoregion 15)

The warm tropical water masses passing through coastal habitat and over important bathymetric features (seamounts, canyons) make the ecoregion rich in fisheries (Figure 3). The ecoregion supports internationally significant marine mammals, including cetaceans (26%), sirenids such as the manatee (14%) and sea turtles such as the loggerhead, green, hawksbill and leatherback (17%). Various types of marine fishes are found throughout many of the ecoregion's 42 MPAs, including coastal pelagics in 5%, reef fish associated with tropical corals (57%), and important demersal species such as giant manta rays and sharks (12%).

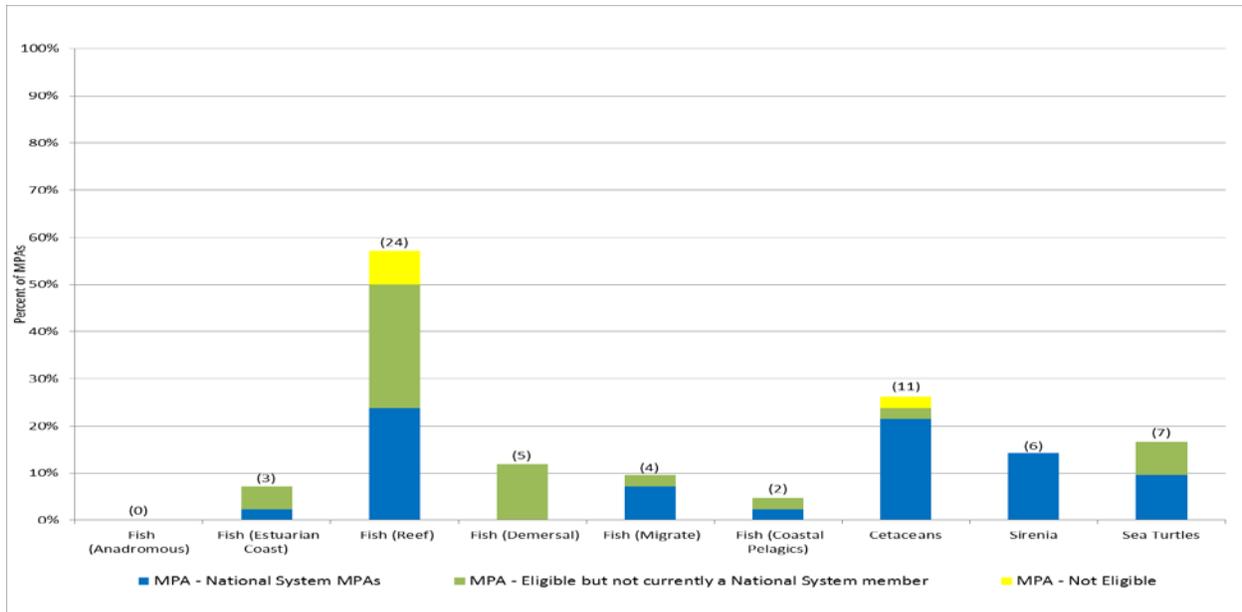


Figure 3. Percent of MPAs that contain certain Fish and Marine Mammal Groups in the Caribbean Sea (Ecoregion 15)

Birds are classified as waterfowl, estuarine or seabirds, signifying where their principle feeding areas occur and are found in several of the ecoregion's 42 MPAs, 33%, 52%, and 55%, respectively (Figure 4). Some well-known birds of these classifications include the roseate tern, roseate spoonbill, various species of pelicans and cormorant. Birds not classified in any of these feeding guilds are found in 40% of the ecoregion's 42 MPAs and contribute to this highly productive tropical ecosystem.

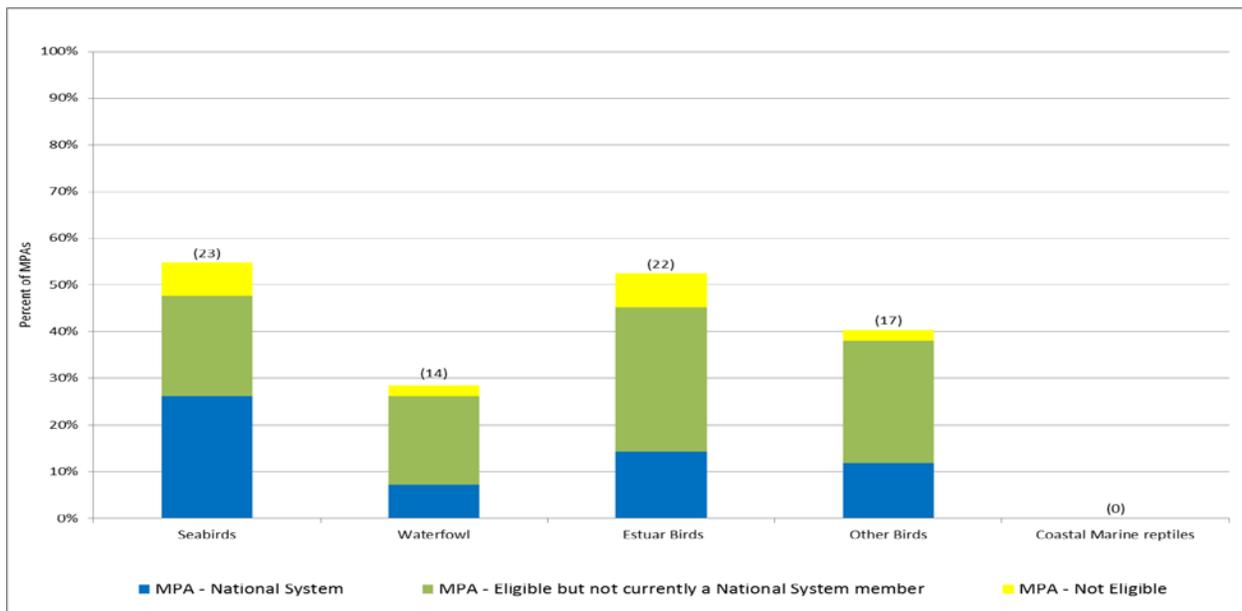


Figure 4. Percent of MPAs that contain Marine Birds and reptiles in the Caribbean Sea (Ecoregion 15)

Dominated by warm, clear tropical water where coral reefs dominate, mobile and sessile benthic invertebrates are common, being found in 69% of the ecoregion’s MPAs (Figure 5). The well-known crustacean, the Caribbean spiny lobster and mollusk, the queen conch, are likely found throughout the ecoregion’s coral, seagrass and mangrove habitats. The Caribbean Sea is showing signs of stress for a variety of reasons, particularly in the shallow waters of seagrass and coral reefs. Excess nutrients from land runoff and decline of herbivores such as reef fish and the long-spined sea urchin have resulted in increased benthic algae in the ecoregion over time, being found in 33% of the MPAs

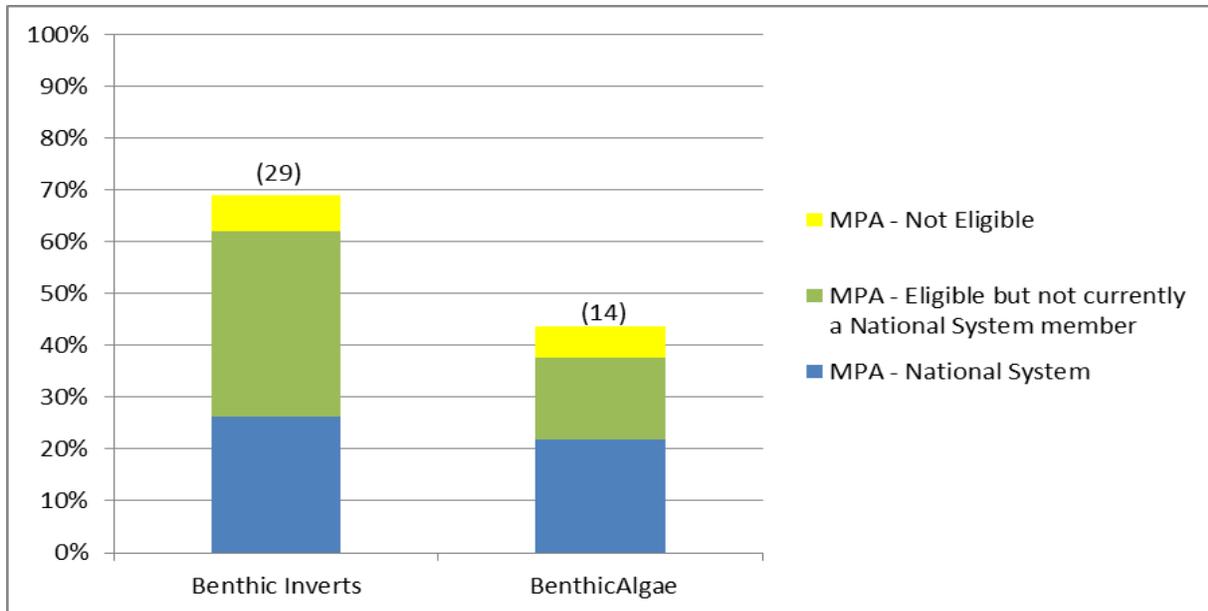


Figure 5. Percent of MPAs that contain Benthic invertebrates and Benthic Algae in the Caribbean Sea (Ecoregion 15)

Ecologically important areas that support where species breed/nest/spawn/rest can be found throughout many of the ecoregion’s MPAs (Figure 6). Sandy beaches, mangroves, seagrass and coral reefs all significantly contribute to bird (29%) and sea turtle (14%) nesting, fish spawning (26%) and cetacean nursery grounds (17%) and feeding and resting places for migrating birds (12%). The NOAA Fisheries Service has jurisdiction over 102 threatened and endangered (T&E) species, including marine mammals and sea turtles. This ecoregion has several of these T&E species present (found in 38% of the MPAs), including dolphins, sea turtles and overwintering whales.

Conclusions

The 42 MPAs in this ecoregion contain the major habitat and species groups and ecologically important areas found in the ecoregion as a whole. These resources are also frequently found in more than one MPA, resulting in some replication of ecological features (species, habitats and ecological processes) -- one of the criteria identified by the Convention on Biological Diversity (CBD) in designing effective MPA networks

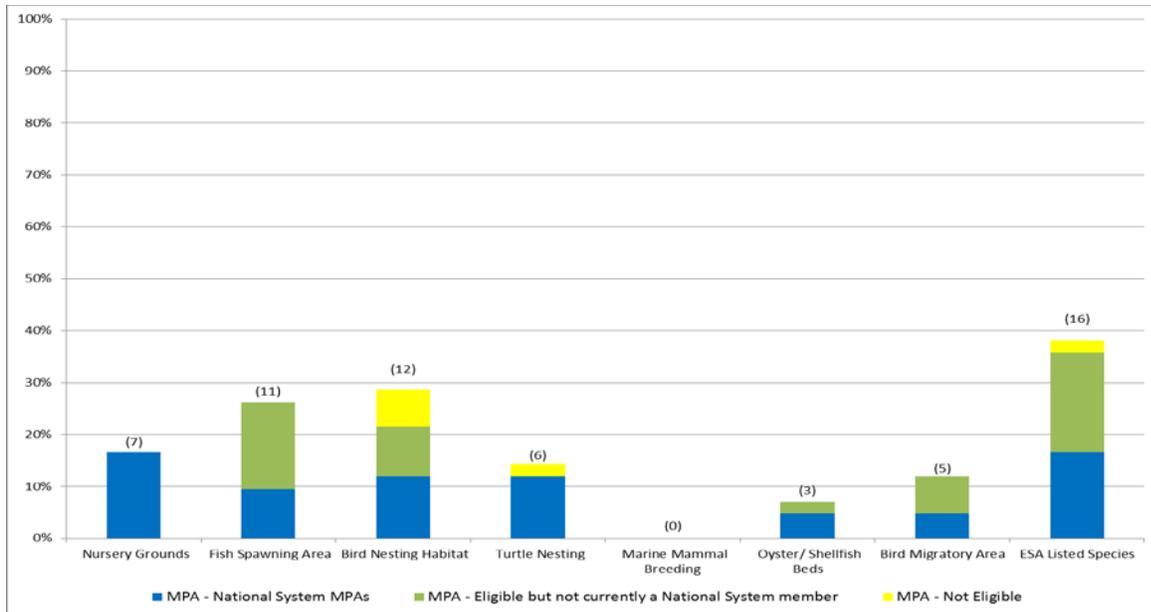


Figure 6. Percent of MPAs with ecologically important areas in the Caribbean Sea (Ecoregion 15)

Suggested Reading

[Caribbean Fishery Management Council](#), San Juan, Puerto Rico.