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Seaflower marine protected area: Governance for sustainable development

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ABSTRACT

The Seaflower MPA was declared in 2005 following a highly participatory process that culminated in local stakeholders formalizing MPA objectives, zoning, and management planning. It aims to conserve biodiversity, ensure sustainable use of the San Andres Archipelago's coastal and marine resources and enhance equitable benefits for the local community. The decentralized, collaborative governance structure, complemented by an extensive interpretive program, remains strong. However, a lack of technical and financial resources has limited the systematic, sustainable implementation of management priorities such as enforcement and economic development. The implementation of forthcoming community-based programs, self-financing mechanisms, and increased national funding will enable advancement of these strategies.

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1. Introduction

The Seaflower Marine Protected Area (MPA) is Colombia's first MPA. Covering 65,000 km^2, it is the largest MPA in the wider Caribbean and protects about 2000 km^2 of coral reefs, atolls, mangroves, and seagrass beds in conservation zones. The MPA is divided into 3 administrative sections – Northern (37,522 km^2), Central (12,716 km^2) and Southern (14,780 km^2) – and is part of the larger Seaflower Biosphere Reserve that encompasses the entire San Andres Archipelago (Fig. 1). CORALINA, the regional autonomous government agency with authority over the environment of the San Andres Archipelago, has a sustainable development mission and was established by Congress as part of the country's decentralised system of regional environmental governance (law 99 of 1993). To advance proper management of coastal and marine resources, CORALINA established the MPA in collaboration with the community and is responsible for day-to-day management of its three sections. Seaflower has a clear sustainable development goal that combines conservation of coastal and marine biodiversity and ecosystems with local sustainable use and a more equitable distribution of benefits.

The Seaflower MPA includes the largest open-ocean coral reefs in the Caribbean. Its location means that it protects not only one of the most extensive reef areas in the Western Atlantic, but also a particularly complex one due to exposure to currents, wave action, and other physical oceanographic factors [1]. The San Andres Archipelago's most significant coral reef, mangrove, and seagrass ecosystems are found in the MPA: San Andres barrier reef, southern atolls, and lagoons in the Southern Section; Old Providence and Santa Catalina barrier reef and lagoon in the Central Section; and well-preserved atolls and banks (Quitasueño/Queena, Serrana, and Roncador) in the Northern Section. The MPA has legally defined zones consistent in the three sections designated for: (i) artisanal fishing (traditional methods and users only); (ii) no-entry (research and monitoring only); (iii) no-take (non-extractive activities only); (iv) special use (as required to assure achievement of MPA objectives; e.g., ports, shipping lanes, cruise-ship anchorage, etc.); and (v) general use. Representative examples of tropical marine ecosystems found in the Caribbean including coral reefs, lagoons, seagrass and algal beds, and unvegetated soft bottoms are found in each section and protected in no-take and no-entry zones. These ecosystems are important locally for fisheries, tourism, and shoreline protection. They are integral to the islanders' socio-cultural identity, but are also important for national and global conservation. In addition, while the deep water between sites is mostly unstudied, the available evidence suggests them to be important for maintaining marine food webs and deep sea habitats, flows, spawning aggregations, and connectivity, e.g., through larval dispersal [2].

1.1. Social and economic factors

The archipelago has a long social, economic, and political history distinct from that of mainland Colombia. Indigenous islanders, now known as *raizales*, are descended from English settlers, African slaves, and migrants from other Caribbean islands who came to the archipelago in the 17th, 18th, and 19th centuries. Ethnically distinct

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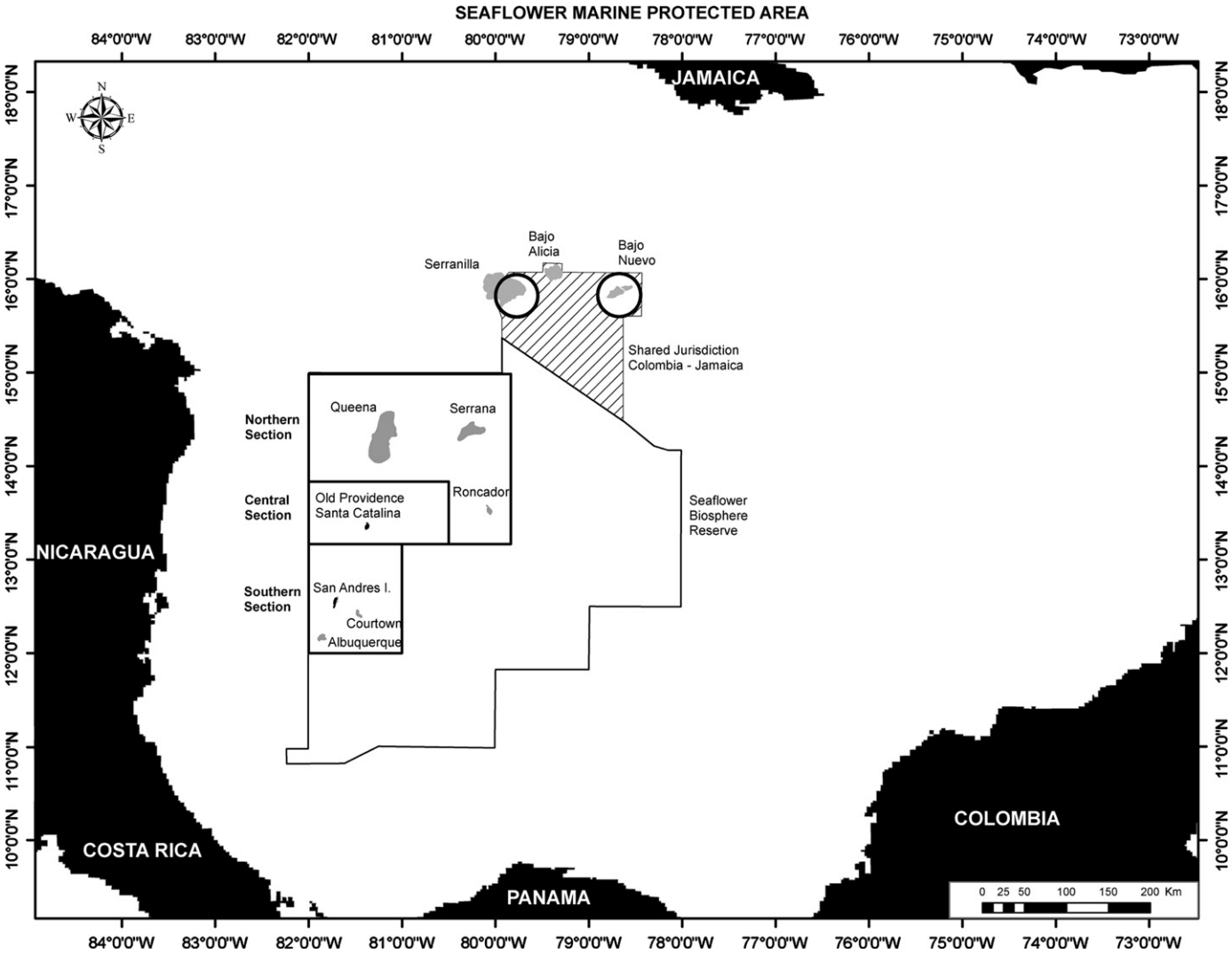

Fig. 1. Location, boundaries, and management Section 3 of the Seaflower MPA within the larger Seaflower Biosphere Reserve, Colombia (*Source*: A. Mitchell CORALINA).

within Colombia, they remain English-speaking Protestants. The islands' remoteness meant that for centuries the community had a high degree of autonomy, controlling their own resources and economy until the latter half of the 20th century. Islanders traditionally pursued a mix of livelihoods; within a single household it was normal for family members to fish, farm, go to sea on international ships, and own a small business or practice a trade.

In 1953 San Andres was declared a free port. Because Colombia had a closed economy at that time, the declaration facilitated the development of a commercial tourist centre that allowed continentals to visit San Andres to purchase foreign goods unavailable on the mainland. This shifted the island's economic base from small-scale agriculture and fishing, beginning a process of economic and political marginalization of native islanders. Contributing factors included the uncontrolled influx of mainland migrants seeking work in the tourism and commercial sectors; economic incentives that, for nearly 30 years, encouraged continental Colombians to move to San Andres; and the imposition of legal restrictions on livelihoods (such as fishing permits, price controls, single-buyer markets, etc.). Losing control of their livelihoods and knowing little about the introduced models of commerce and tourism, native islanders became economically marginalized and experienced impoverished social conditions, inequitable benefit distribution, ethnic tension, and a decline in quality of life [3]. This situation was exacerbated by the poverty and long-term civil conflict affecting mainland Colombia and the collapse of the free-port tourism model that resulted from loosening national trade restrictions as part of the neo-liberal economic policies, or *apertura economica*, that spread through Latin America and the Caribbean in the 1990s. The *raizal* culture and archipelago's natural resources are protected in the National Constitution of 1991 (Art. 310), but the reality for many *raizales* continues to be precarious.

In 2000, household surveys revealed that unemployment and under-employment had reached 53.6%, and that 48% of households lived on less than US$1 per person per day. Of the population 10 years and older who did receive an income, 32% received less than minimum wage [4,5]. The idea to set up a locally managed MPA emerged during CORALINA's extensive consultations with the community to seek solutions to the growing environmental and socioeconomic problems in the islands. The archipelago's socioeconomic situation meant that any solution had to take cultural and economic realities into account for conservation to be effective. The community and CORALINA agreed that a multiple-use MPA would be a viable tool to reduce human impacts and threats on productive, vulnerable ecosystems and also improve sustainable use [3].

2. Objectives

The MPA was designed following the declaration of the Seaflower Biosphere Reserve (National Law 99/93, UNESCO 2000) to

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