

Report at a Glance

INTRODUCTION

To fill the gap in biological information, both nationally for Madagascar and for the broader Western Indian Ocean (WIO) region, Conservation International conducted a marine Rapid Assessment Program (RAP) in the Northeastern Coast of Madagascar from the Bay of Ambodivahibe to Vohemar. This was a third initiative following two other marine RAPs. The first covered approximately 200 km of coastline from Nosy Be to Nosy Hara on the northwest coast in 2002 (McKenna et al. 2005). The second RAP covered approximately 50 km of coastline from Cap d'Ambre at the northern tip of Madagascar to Ambodivahibe, down the Northeast coast, in 2007 (Maharavo et al. in press). This survey covered approximately 130 km of coast. For a thorough review of the existing marine biodiversity studies in Madagascar, and the institutional and policy context for the three expeditions in support of MPA planning and selection, see McKenna et al. (2005).

Madagascar is the world's fourth largest island, covering 587,045 square kilometers, and with a coastline length exceeding 5,000 km and an estimated length of all reefs (including fringing reefs, islands, platforms, and both emergent and submerged barrier reefs) of 3,459 km (Cooke et al. 2000). Coastal marine habitats are predominantly mangroves, seagrasses and coral reefs, with an exposed rocky shore along the eastern ocean-facing coast. Past work has counted over 320 coral species, and over 750 reef-associated fish species (McKenna et al. 2005). In 1999, an ecoregional approach was proposed by the Association Nationale pour la Gestion des Aires Protégées (ANGAP 2001) for the establishment of Marine Protected Areas, later expanded on through the establishment in 2006 of an inter-ministerial body, the Commission Environnement-Pêche (CEP). In partnership with international conservation NGOs, 20 potential MPAs were initially identified based on their extraordinary biodiversity or the presence of special organisms such as turtles, lemurs, and sea birds.

Existing threats to Madagascar's marine biodiversity include fishing, sedimentation from rivers, coastal development and pollution, and increasingly oil and gas exploration and mining (WWF 2010). Growth of coastal populations is taking place more rapidly than across the country as a whole, with women giving birth to an average of > 6 children in coastal provinces. Most coastal communities are poor and highly dependent upon fisheries for survival and livelihoods. Large-scale development programs are being planned for oil and gas exploitation in the western Madagascar and Mozambique Channel, with exploration concessions already parceled out. Sedimentation from deforestation on land has long been recognized as a primary threat to marine resources. Since coastal and offshore marine resources are major contributors to the national economy, as a source of food for their people, and through tourism, commercial fishing agreements, and revenues from offshore oil and gas development, pressures are expected to increase with both population growth and increasing development, and the likely increase in inequitable distribution of wealth and resources.

Climate change has become an overarching concern for coral reefs globally (Hoegh-Gulberg et al. 2007). In 1998, the WIO showed the highest levels of coral bleaching in response to climate change globally (Wilkinson 2004). Madagascar's coral reefs bleached during the Indian