

Status of leatherback turtles in Eritrea

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1. Introduction

Eritrea is located in the Horn of Africa and is bordered on the northeast and east by the Red Sea. It is home to globally important coral reefs, mangroves, seagrasses and other habitats, as well as numerous vulnerable or globally endangered species including leatherback turtles. Eritrea's coastal, marine and island shores front more than 2,200 km of the Red Sea. There are over 350 islands in Eritrean waters (a large proportion of which form the Dahlak Archipelago which spans some 15,000 km²), but many are small and a full survey is still pending. Only fifteen of the islands have a land area >10 km². The mainland coast spans some 1150 km and another 1083 km of coastline are contributed by the islands. The long struggle for independence with Ethiopia, which ended in 1991, resulted in some 30 years of minimal levels of human impact on Eritrea's coastal and marine areas, and the marine resources and environment of Eritrea are therefore generally in very good condition.

2. The legal protection status for leatherback turtles

2.1 Overview

Responsibility for the conservation of marine turtles in Eritrea lies with the Ministry of Fisheries and the Ministry of Agriculture. At a National level, marine turtles are addressed by the Coastal Zone Management Proclamation (although this is as yet unsigned) and the Ministry of Agriculture is including marine turtles in other upcoming laws. However, it is likely that in future the responsibility of implementing the National Action Plan and activities related to the IOSEA MoU (which Eritrea recently signed) will be borne by the Ministry of Fisheries after a transfer of authority from the Ministry of Agriculture.

At a greater regional level, Eritrea is a signatory to the Convention on International Trade in Endangered Species and Wild Flora and Fauna (CITES), and the Convention on Biological Diversity (CBD), both of which address marine turtles due to their globally endangered status. Eritrea is also a signatory to the IOSEA Marine Turtle MoU.

2.2 Management agencies responsible for marine turtle conservation

Responsibility for the conservation of marine turtles in Eritrea lies with the Ministry of Fisheries and the Ministry of Agriculture. In addition, Eritrea benefits significantly from a GEF-funded (US\$5m) Eritrea Coastal, Marine and Island Biodiversity (ECMIB) project to ensure the conservation and sustainable use of the globally significant biodiversity of the coastal, marine and island (CMI) ecosystems.

While there is still a substantial lack of data on direct harvests and distribution of marine turtles and their habitats in Eritrea, particularly foraging sites, and while many of the key population statistics such as nesting season and population sizes and trends are also lacking (due to the relatively recent commencement of research and monitoring activities), there are a number of known population parameters, key threats and knowledge and enforcement gaps. The development of the National Action Plan for Marine Turtles in Eritrea falls within the scope of the greater ECMIB project. It follows as a logical progression the development and implementation of in-situ training and oversight to develop capacity to design and implement marine turtle surveys, and subsequent monitoring and conservation of marine turtles within the scope of the ECMIB Project, in collaboration with the Ministry of Fisheries, the Ministry of Agriculture, and other key stakeholders.

3. Nesting populations

Previous work in Eritrea (Hillman and Gebremariam 1995; Howe et al. 2003) and in the region (Frazier and Salas 1984; Gasparetti et al. 1993) have indicated the presence of the leatherback turtles in the Red Sea, but none suggest nesting had ever been documented, and no contemporary records suggest otherwise. No leatherback turtle nesting was recorded during extensive surveys by the Eritrea Coastal, Marine and Island Biodiversity (ECMIB) project staff in 2004 or 2005.

4. Foraging populations

4.1 Overview

Bycatch records from the foreign trawl fleet, which carries 100% observer coverage, recorded 39 leatherback turtle catches between 1996 and 2005 (Eritrea Ministry of Fisheries, unpub. data) out of a total 2404 marine turtles that were caught (about 1.6%). This represents the single, largest confirmed record of leatherback turtles in the Red Sea to date, and while the records span a decade, and take rates per year are not high, they do suggest a significant population of leatherback turtles reside in the southern Red Sea, rather than just existing only as transients. The geographical distribution of these takes is illustrated in Figure 1a,b. While the reliability of the observer coverage is not high, it is believed for the most part that all records under-represent actual catch rates – that is, if anything, these numbers are lower than actual take rates. In addition, while the identification accuracy among hard shelled turtles may be in question (a full 45% of all bycatch was classified as ‘unidentified’), it is unlikely that the leatherback turtle’s distinctive carapace would be as easily misidentified.

There is currently no research conducted on leatherback turtles in Eritrea. However, with the advent of the ECMIB project, significant effort is being invested in marine turtle conservation, and leatherback turtles will benefit from project activities. For instance, the ECBMIB project has conducted several training sessions on the biology and conservation of marine turtles, and has conducted a baseline survey along the entire coastline, focused on beach monitoring and involving interviews and field site visits. Future plans include extensions of this work to the fisheries sector, with the possible introduction of Turtle Excluder Devices for all trawlers, trawl soak time limits, and time/area closures.

4.2 Threats to leatherback turtles

Eritrea’s coastal areas are now threatened by industrial development, tourism, fisheries and oil exploration, by natural and synthetic organic pollutants, and loss of infrastructure from civil warfare. Bycatch in artisanal and commercial fisheries (trawlers) is significant, and likely the largest source of mortality in the country after artisanal take. Coastal villagers take turtles both opportunistically and as directed take using home-made harpoons, but records suggest they prefer only green turtles, and no leatherback turtle carcasses or bones have ever been found during the beach surveys.

4.3 Protection of foraging areas

There are no current MPAs in Eritrea, although plans exist to establish a small number of test sites through which public participation and acceptance will be gauged. Some plans include creating a multiple-use MPA which covers the entire maritime and coastal zone of Eritrea, others suggest zoning the Dahlak archipelago, off Massawa, while others propose a network of smaller sites. These are all currently under deliberation.

4.4. Gaps in capacity and requirements for improved conservation

At present there is little effort aimed at protecting foraging turtles of any species. While the ECMIB project has begun focused work on marine turtles, and their efforts are constantly expanding, the logistics of conducting foraging area studies, coupled with the wide and scattered distribution of leatherback turtle encounters with the fishery and vast coastal area, suggest this will be a continuing problem. Certainly there is a need for better trained observers, and better fishery practices, bycatch handling and release methods, along with more vigilant and effective enforcement. Finally, the ECMIB project will one day come to an end, and it is imperative that the skills that are being transferred to the relevant Ministries are not lost and that the valuable conservation efforts do not simply end at that time.

5. References

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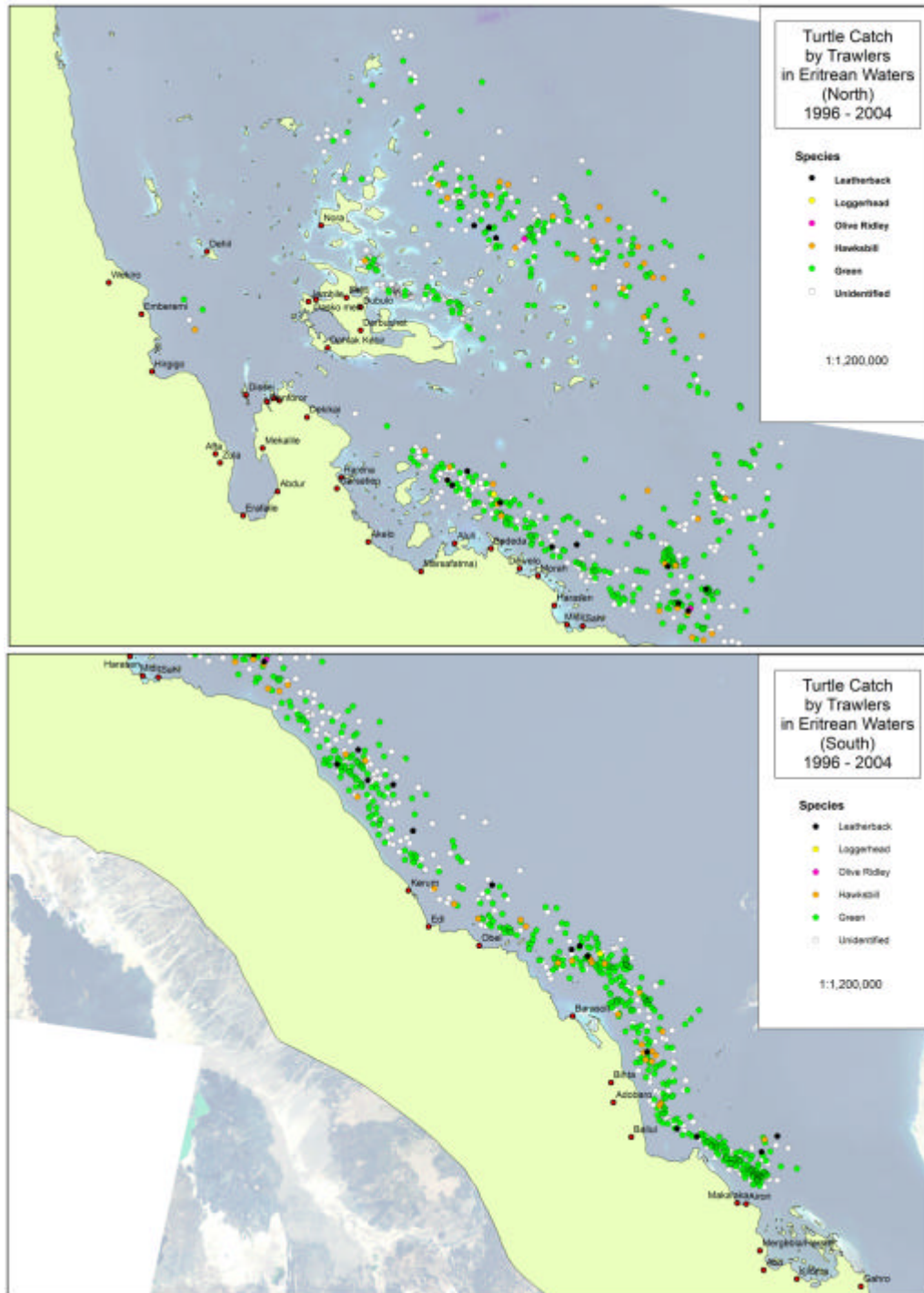


Figure. 1 Turtle bycatch by trawlers in Eritrea 1996-2005; a = northern region and b = southern region. Black dots equal leatherback turtle captures. Source: Ministry of Fisheries / ECMIB Project, Eritrea, 2005.