

Project Update: April 2013

Marine turtles in Madagascar

Five species of marine turtle are present in Madagascan waters

Common name	Malagasy name	Latin name	<i>International Union for Conservation of Nature (IUCN) RedList status</i>
Hawksbill	<i>Hara</i>	<i>Eretmochelys imbricata</i>	<i>Critically Endangered</i>
Leatherback	<i>Valo zoro</i>	<i>Dermochelys coriacea</i>	<i>Critically Endangered</i>
Green	<i>Zaty</i>	<i>Chelonia mydas</i>	<i>Endangered</i>
Loggerhead	<i>Apombo</i>	<i>Caretta caretta</i>	<i>Endangered</i>
Olive Ridley	<i>Tsipioke</i>	<i>Lepidochelys olivacea</i>	<i>Vulnerable</i>

Indigenous communities of Madagascar have a great linguistic and cultural diversity. Many rural communities (around 75%) are still governed by social codes; this pre-established rule is generally in the form of oral traditions. These verbal and unwritten codes and/or 'Dina' (local written law) are passed down from one generation to the next.

Communities of the southwest coast are referred to as Vezo the imperative of the verb 'mive' meaning to row, are specialist marine foragers, the Vezo obtain 84% of their income from the ocean. However, the Vezo have hunted marine turtles for meat, eggs and oil for centuries. Vezo community leaders and/or elders have many, many stories that include marine turtles; elders were once the only people in the community allowed (and to be an elder required) to consume turtle meat. The symbolic act of eating turtle meat was also steeped in tradition, and had to be done without actually touching the meat with the hands. Turtle meat was sacred, considered as an offering and a way to communicate with the ancestors, bring good fortune to the families involved. However, recent research pioneered by ReefDoctor has revealed that the capture, trade, and wholesale of turtle meat is becoming widespread, suggesting that *all* segments of society may be partaking in its consumption.

Though the coastal people used these animals sustainably in the past, the cultural inhibitions that prevented many people from over-exploiting marine turtles have mostly died off. Thus the threat to marine turtles is greater than ever.

Legal status of marine turtles in Madagascar – as early as 1923; laws were passed to protect marine turtles in Madagascar. Decree 23 May 1923 prohibited the capture of nesting females and individuals with a carapace diameter of less than 50cm, measured beneath the plastron (underside of the carapace). Madagascar ratified the Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora in 1975 (decree 75-014) and a decree of 1988 (88-243) Madagascar's commitment to sea turtle conservation is ineffectual; a shortage of

trained personnel; limited capacity and funding to implement policies; political unrest and language barriers (18 officially recognized Malagasy tribes with unique dialects/taboo) all contribute to the inadequate protection of marine turtles.

Experienced marine biologists Berthine Rakotonirina and Andrew Cooke in the 1994 peer reviewed article; *Sea turtles of Madagascar - their status, exploitation and conservation*, state that 'the law is not enforced for domestic exploitation and is inconsistent, with some provinces Table 1: biological information collected on the marine turtle fishery in the rural community of Ifaty in the Bay of Ranobe, Southwest Madagascar.

In Madagascar granting licenses to sell turtle meat'. It is therefore critically important that the illegal but active marine turtle fishery is monitored. ReefDoctor's study of the social, economic and biological aspects of the marine turtle fishery in Ifaty has revealed that turtles represent enormous wealth to the Vezo community owing to the capture, trade, and wholesale of turtle meat. All five species of marine turtle present in Madagascan waters are targeted by hunters

SPECIES	NUMBER OF TURTLES RECORDED IN THE FISHERY				TOTAL	PERCENTAGE OF THE FISHERY
	2009	2010	2011	2012		
GREEN	143	137	157	459	924	97
HAWKSBILL	4	9	0	3	16	0.9
LOGGERHEAD	1	1	0	6	8	1.7
OLIVE RIDLEY	0	0	0	4	4	0.4

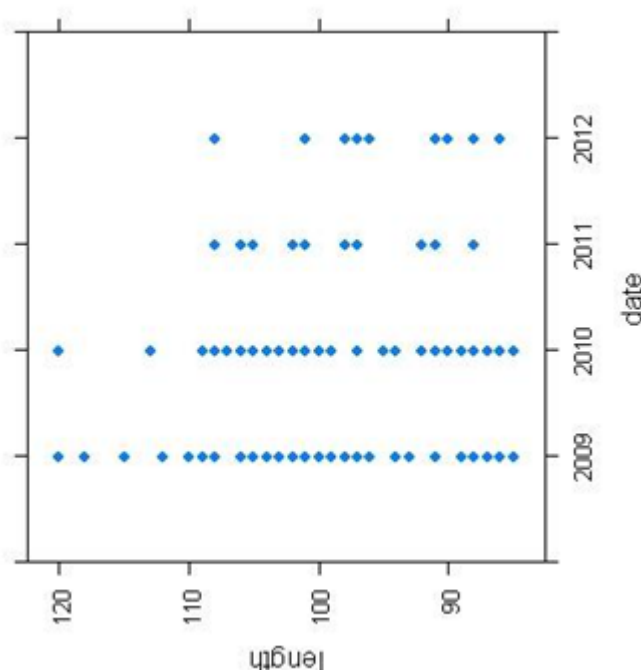


Figure 1: curved carapace length of green turtles captured in the turtle fishery in Ifaty, Bay of Ranobe from 2009 – 2012. Although 459 turtles were captured in the fishery in 2012 very few large turtles were recorded and sizes are clustered suggesting high exploitation.

Eretmochelys imbricata (hawksbill), *Caretta caretta* (loggerhead), *Lepidochelys olivacea* (olive ridley), *Dermochelys coriacea* (leatherback) with *Chelonia mydas* (green turtle) significantly dominating the fishery (95%).

Estimates of annual income indicate an increase from US\$5365 in 2009 (US\$1.48 per kg) to US\$12200 in 2012 (US\$2 per kg). Over the same time period, average length (straight carapace) decreased from 78 cm in 2009 to 69 cm in 2012; the capture of large individuals has become rare.

Fisheries data suggest that catches of marine turtle have increased whilst average size has decreased; this has resulted in concerns being expressed over the stability of marine turtle populations that utilise the coastal areas of southwest Madagascar. It is therefore essential that ReefDoctor continue this vital research and provide support to the rural communities in the Ranobe region to protect the remaining marine turtles present in Madagascar waters.



