

Loggerhead turtle protection around the Maltese Islands.

Edward Busuttil

Kingdom:	Animalia
Phylum:	Chordata
Subphylum:	Vertebrata
Class:	Reptilia
Order:	Testudines
Family:	Cheloniidae
Genus:	Caretta
Species:	<u>Caretta caretta</u>

The largest hard-shelled living sea turtle species is the loggerhead turtle (*Caretta caretta*). Locally, the last recorded nesting by a turtle on a Maltese beach was in 1960 at Golden Bay, which, at the time was a reserved, undisturbed and peaceful part of the island, a far cry from what it has now become, shadowed by a 5 star hotel.

Until recent years, only a little, if any, work was being done to protect Loggerhead turtles around the Maltese islands. These turtles are either injured by swallowing fishing hooks, by getting entangled in fishing nets, by being hit by jet skis or being involved in a collision with a boat amongst others. The Marine Rescue Team of Nature Trust in Malta is a team of dedicated volunteers whose main objectives are to rescue and rehabilitate dolphins, whales and turtles which are found in the Maltese waters. These have collected and compiled data in order to identify and monitor their work regarding turtles which has also aided in identifying what must be done to decrease turtle incidents and hence stop their bycatch. The following data has been compiled by the Malta Centre for Fisheries Science in the last ten years.

Year	Received	Dead or Died	Released	Necropsy	
2000	1				
2002	28	1	10	1	
2003	7		Nan		

2004	14	7	9	7	
2005	14	5	8	4	*
2006	17	10	11	10	
2007	7	6	Nan	6	
2008	16	10	11*	10	
2009	28	10	21		
Total	132	49	70	39*	

2005* One turtle was a Hatchling of about two month old, was found by same boys that kept it in fresh cold water.

25-07-08* Two turtles where released in conjunction with MEPA, and Stazione Zoologica Anton Dohrn Napoli, stapled by RAC/SPA

Vicky, 19 07-03-04 Transmitted for 7 months, travelled 3987 Km.

Zeus, 09 25-02-08 Transmitted for 6 months, travelled 2458 Km.

MEPA; is Malta Environment, Planning, Authority

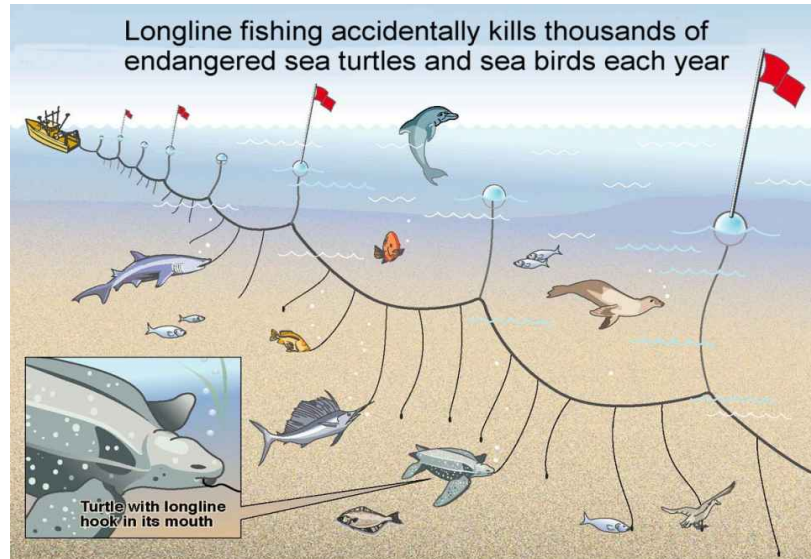
RAC/SPA; the Regional Activity Centre for Specially Protected Areas, of UNEP/MAP in Tunis.

This research showed that most of the cases of injured and killed turtles were due to by- catch during fishing journeys, especially common during the summer months. By catch is the unintentional capturing of living creatures and most of the damage is caused during the frantic attempts of escaping the net or the hook, often causing suffocation and fatal bleeding respectively. Most of the fishing in Malta is done by using the purse seine or longline methods.

When using the purse seine method, a large, flat fishing net is vertically hung in the water. This is done by passing a rope through rings along the bottom edge and it floats along the top. The boat drives around the fish in a circular manner in order to prevent the fish from swimming down and escaping. It is usually used to catch tuna. The rope is then pulled and the fish are trapped. Unfortunately, if the boat encircles a turtle as well, it would result in its entanglement.

Turtle excluder devices or “TEDS” reduces sea turtle by-catch by up to 97 percent. The way that TEDS work is that they have a grid and trapdoor system which is installed inside a trawling net. This allows fish to pass to the back of the net and directs sea turtles out.





A longline (or the main line), holds hooks with bait which are attached at intervals by means of branch lines on a short length of line. These hooks, also known as 'snoods', are attached to the main line by using a clip or swivel, with the hook at the other end. They are mainly used to catch swordfish, tuna and Dorado fish next to the south of the island. These lines are usually set at depths which are critical for the turtles. Shallower longlines are more dangerous to turtles as they swim in a high part of the water column. Longer leaders could also prove very effective as it would allow the turtles to come to the surface to breathe if they are hooked or stuck. Turtles often try to feed on the bait thus resulting in their accidental death. This can be avoided by using circle hooks instead of the more traditional J hook and mackerel bait instead of squid. This also has other benefits as mackerel bait was shown to be more efficient in catching swordfish and circle hooks more effective whilst fishing for tuna. Also, using line cutters to cut the longline in the eventuality of a hooked turtle would also reduce the risk of even more injury in the process of taking the turtle onto the boat.

Research and development must hence be done to understand fish behavior so that the equipment used can be further developed to reduce the risk of bycatch. This must in turn be applied during daily work which is only possible through educating and cooperating with the fishermen. Apart from reducing the injured turtle numbers, this will also result in a bigger yield for them. They must also be encouraged to take the injured and wounded turtles to the Malta Centre for Fisheries Sciences (MCFS) at San Lucjan Tower in Marsaxlokk, which has the required know-how and equipment to fully take care of the turtles until they are well enough to be released back into the sea. The NGO MEDASSET (Mediterranean Association to Save the Sea Turtle) is working hard to reduce unnecessary injuries throughout the Mediterranean by promoting the Bern Convention, RAC/SPA Protocol and Barcelona Convention which aim to protect the decreasing populations from longlines, speedboats and fishing nets by educating other schools around the sea.

References

http://www.mongabay.com/sea_turtles/fisheries.html

Petruny-Parker, M. E., K. M. Castro, M. L. Schwartz, L. G. Skrobe, and B. Somers (eds.) 2003. *Proceedings of the new England Bycatch Workshops*. Rhode Island Sea Grant, Narragansett, R.I. 52pp.

(http://seagrant.gso.uri.edu/bookstore/bycatch_proceedings03.pdf)

FAO publications 2004. *Report of the Technical Consultation on Sea Turtles Conservation and Fisheries*. Bangkok, Thailand. 32pp. (http://books.google.hu/books?id=Co6FgS4I0X8C&pg=PA27&lpg=PA27&dq=Guidelines+to+reduce+sea+turtle+mortality+in+fishing+operations.&source=bl&ots=V904V3uLHx&sig=UY508vkJF486KIt2kJCo3lEwkec&hl=hu&ei=58SFS9zPHJHwngPxxrTqCw&sa=X&oi=book_result&ct=result&resnum=6&ved=0CCQQ6AEwBQ#v=onepage&q=Guidelines%20to%20reduce%20sea%20turtle%20mortality%20in%20fishing%20operations.&f=false)

Deidun A. In Press. 2008. *Marine Turtles*. Malta. 3pp.

<http://alandeidun.webs.com/downloads.htm> ; the article is called 'Marine Turtles.doc' and can be found at the very bottom of the webpage. Since it is a newspaper article it has no direct link and hence it must be downloaded.

Credit is also due to the MALTA CENTRE FOR FISHERIES SCIENCES (Turtle Rehabilitation Unit) for their help and information.