Inter-american Convention For The Protection And Conservation Of Sea Turtles

Decline of the *Dermochelys coriacea* turtle in the Pacific of the Americas!

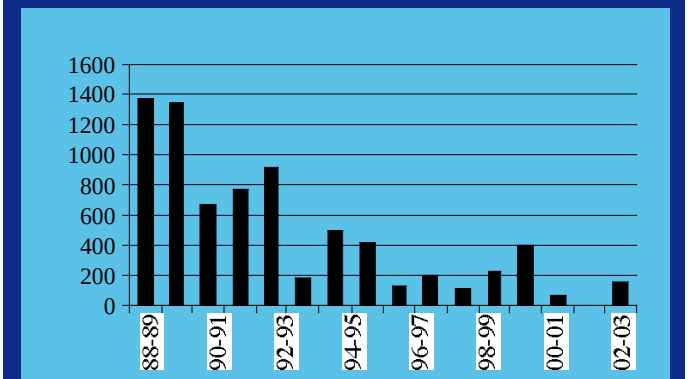
Photo: Karumbe, 2005

The *Dermochelys coriacea* or leatherback turtle, has inhabited the planet for 110 million years, surviving even the extinction of the dinosaurs. Today, the IUCN classifies it as a critically-endangered species, due to a decline of 80% of the global population during the past 10 years. The main causes are related to human activities. If concrete actions are not taken to ensure conservation of the leatherback, we could very well witness its extinction in our lifetime.

The total current population of adult and sub-adult *Dermochelys* in the Eastern Pacific numbers 2,995, in comparison to over 91,000 adults in 1980[1].

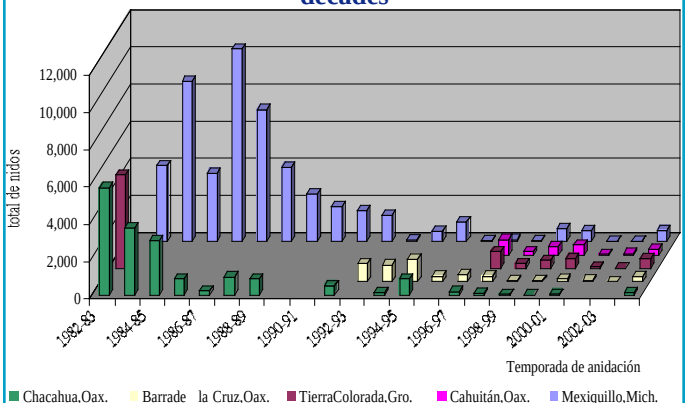
Why is the population in decline? The leatherback turtle is a highly pelagic animal and approaches the shore when ready to nest. The number of eggs deposited in each clutch is relatively large, each clutch may have around 80 eggs plus a varied number of infertile, or yolkless, eggs. The leatherback lays several clutches of eggs during a nesting season, on average 6 times per season, but returns to nest only every 2-3 years. This is an evolutionary strategy due to the fact that very few, perhaps only one of 1,000 turtles born, survive to maturity. When anthropogenic threats, particularly those causing mortality of adult specimens, are factored in to the equation, the survival rate presents a very steep decline. It is clear that sea turtles must be protected throughout all stages of their life cycle, from nesting to migrations among the open seas.

Nesting of *Dermochelys* in Playa Grande, Costa Rica. At the end of the 80s, 1,367 turtles nested at this site. The observed trend suggests that by 2009 no more than 50 specimens will nest[1].



(Data from www.leatherbacktrust.org)

Nesting of this species along the beaches of Mexico's Pacific coast has also shown a dramatic decline over the past two decades



(graph provided by L. Sarti, 2004).

PRINCIPAL THREATS

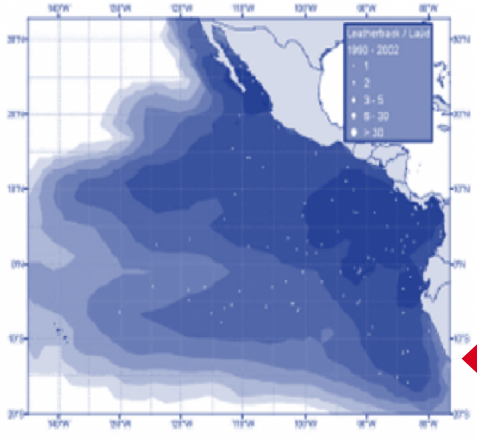
– Egg harvesting

– Destruction and alteration of habitat

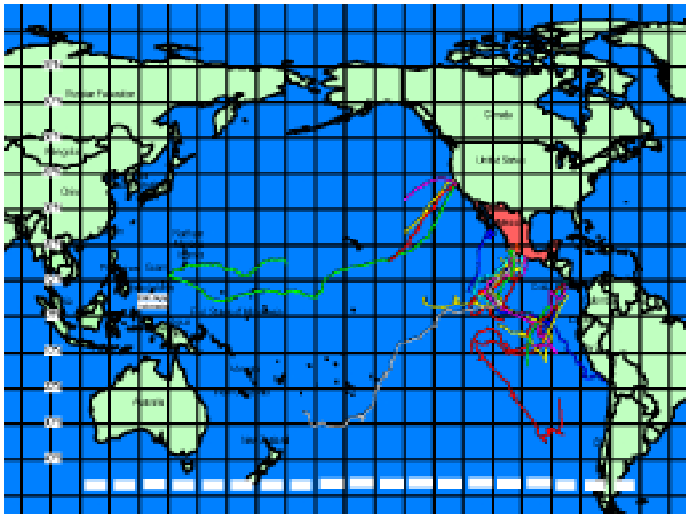
– Artificial lights on nesting beaches

– Incidental capture in fisheries

The leatherback turtle is very special since it is the only species of sea turtle that is capable of maintaining large temperature differences between their body and the surrounding water. It is common to find them in cold waters, from Canada to the south of Chile. During their extensive migrations in search of food, they are at constant risk of being captured incidentally by fishermen, since their migration routes and prey (mostly jellyfish) overlap with areas of intense use by fisheries.



Distribution of leatherback sightings registered by on-board observers in purse-seine ships, 1990-2002



The installation of satellite transmitters on turtles has provided important information about the migratory routes of the *Dermochelys* in the Pacific, yet there is still much more to learn about its habits (contribution by S. Eckert, WIDECAST).

Records of sea turtle sightings by tuna fleets provide valuable information for the joint development of measures to reduce incidental capture (contribution by Inter-American Tropical Tuna Commission, IATTC)

Some fishermen have expressed: "If we save sea turtles, we save our jobs"

Have you heard this phrase before? Sea turtles are keystone species which play a major role in determining the community structure. Their disappearance could cause a cascade of drastic changes in the ecosystem, as detailed in the following example[2]:

1- Leatherbacks eat jellyfish
2- Jellyfish eat larval fish
3- Surviving larval fish grow into adult fish
4- The fish are caught commercially, producing earnings ($$$)
5- Leatherbacks are caught incidentally in fisheries
6- When there are less Leatherbacks there is reduced predation on jellyfish, possibly resulting in an increase in their population
7- Large populations of jellyfish can cause a decline in larval fish populations. This in turn leads to a reduced number adult fish that can be caught, and a subsequent reduction in economic benefits for fishermen

¿What courses of action can we take? International cooperation is essential for achieving efficient management that guarantees species survival as well as the sustainability of economic benefits and the ecological services that coastal and marine ecosystems provide.

The Inter-American Convention for the Conservation and Protection of Sea Turtles (IAC) is committed to promoting the protection, conservation and recovery of sea turtle populations and the habitats on which they depend on, with an emphasis on developing bilateral and multilateral agreements and the exchange of information and technology. During the Second Conference of the Parties, celebrated in November 2004 **Resolution COP2CIT-001 Conservation of leatherback turtles (*Dermochelys coriacea)*** was approved, urging Contracting Parties to formulate and/or execute management plans and monitoring programs to help reverse the species' critical situation in the Eastern Pacific. At the meeting a **Memorandum of Understanding between OLDEPESCA and the IAC** was also subscribed in order to identify opportunities for cooperation and development of conservation activities related to sea turtles and their habitat.

Sources:
1. Spotila J.R., Reina R.D., Steyermark A.C., Plotkin P.T. y F.V. Paladino (2000) Pacific leatherback turtles face extinction. Nature (405): 529-530
2. Gulko DA & Eckert KL (2003) Sea Turtles: An Ecological Guide. Mutual Publishing, Honolulu, HI. 128 pp.

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