

# **Tompotika Sea Turtle Fact Sheet**

**For Law Enforcement Workshop  
AITo, March 2013**

## **Taxonomy and Legal Status**

- There are currently three species of sea turtles that nest on the beaches of the Tompotika peninsula: Olive Ridley turtles, *Lepidochelys olivacea*; Green turtles, *Chelonia mydas*; and Hawksbill turtles, *Eretmochelys imbricata*. Hawksbill turtles are already extremely rare here. A fourth species, the Leatherback turtle, *Dermochelys coriacea*, nested here as recently as a decade ago, but appears to be locally extinct now.
- Six of the world's total of seven species of sea turtles nest in Indonesia.
- Sea turtles are reptiles belonging to the order Chelonii, and have been swimming the world's oceans for more than 100 million years. One sea turtle ancestor, *Archelon*, grew to a length of 5 m and swam with the dinosaurs.
- Sea turtles are fully protected under Indonesian and international law. The IUCN (International Union for the Conservation of Nature) classifies Olive Ridley turtles as Vulnerable; Green turtles are classified as Endangered; and Hawksbill and Leatherback turtles are classified as Critically Endangered. All sea turtle species are listed on CITES Appendix 1, which means that international trade in sea turtles or their parts is strictly forbidden.
- Sea turtles have been fully protected under Indonesian law since 1990. It is illegal to kill, torture, or bother adult turtles or eggs. All trade in sea turtle meat, eggs, or other products is also forbidden, and violators of these laws are subject to up to 5 years in prison and fines of up to Rp 200 million (UU No. 5/1990, Pasal 21, 40).

## **Biology, Habitat, and Role in the Ecosystem**

- Sea turtles are found in both tropical and temperate waters around the world. In Indonesia, they are associated with coral reefs and seagrass beds.
- Adult green turtles are vegetarian, feeding on seagrasses. Olive Ridleys are omnivorous, eating a wide variety of invertebrates, such as crabs and clams, as well as algae and jellyfish. Hawksbills also eat invertebrates, but specialize in eating the sponges that prey on corals. Leatherbacks eat primarily jellyfish. Juvenile turtles of all four species feed on small creatures floating in the ocean, especially near rafts of *Sargassum* seaweed.
- Sea turtles play an important role in keeping coral reefs and other marine environments healthy. Green turtles graze on seagrass beds, keeping them from overgrowing. And hawksbill turtles play a critical role in keeping sponges in check. Without hawksbills, sponge populations could explode, damaging or killing the coral reefs that are so vital to healthy fish populations.

- Thus, because humans depend on healthy coral reefs, fish, and marine systems, and these in turn depend on sea turtles, humans need sea turtles for the ecosystem services they provide for free.

### **Nesting and Hatching Biology and Behavior**

- Young sea turtles take a very long time to reach adulthood--20 or even 30 years or more!
- When an adult female is ready to nest, she returns to the beach on which she was born. Then, using her flippers she drags herself up onto the sandy beach and digs a pit, in which she will lay about 100 round, white eggs. She will then re-cover the eggs with sand and return to the sea. A single adult female will come ashore to nest only about every 2-4 years, and will nest 2 or more times during her nesting season, at intervals of 15-20 days or longer, depending on the species.
- If left undisturbed, the eggs will incubate in the sand for about 45-65 days. In sea turtles, the sex of the hatchlings is determined by the temperature of the sand, with warmer sand producing female hatchlings, while cooler sand produces male hatchlings. This is one reason why, ideally, eggs are best left in the varied natural locations where the mothers have laid them, rather than being moved to hatcheries, because hatcheries may produce all males or all females, while natural locations produce a mixture.
- In a given nest, the baby turtles generally will hatch out all at the same time, usually at night. Climbing out of their sandy nest, hatchlings use the light of the horizon to orient themselves toward the open ocean, and quickly cross the beach to reach the water. Upon reaching the sea, baby turtles will swim without stopping for several days, until they reach the open water at the ocean's center, where they will live and grow for their first few years in a period termed "the lost years."

### **Threats and Conservation Strategies**

- Sea turtles face numerous threats in their journey from egg to adulthood, such that experts estimate that nowadays only one in one thousand eggs will safely reach adulthood. Numerous natural predators, such as seabirds, dogs, pigs, monitor lizards, sharks, and other large fish prey on sea turtles during the egg and hatchling stage, though natural predators on larger turtles are few.
- By far the most deadly predator on sea turtles, however, is humans. Humans rob turtle nests such that few if any eggs are left to hatch, and humans also kill adult turtles for their meat and shells. For decades, human predation on sea turtles has been far in excess of what sea turtle populations can sustain, which is why they are now in danger of extinction.
- In the Tompotika area, the greatest threat to sea turtles is direct take by humans, of adults and eggs. Other threats that sea turtles face include entanglement in fishing line and marine debris, accidental bycatch during

fishing activities, inappropriate development of nesting beach habitat, and climate change.

- Because humans are by far the greatest threat to sea turtles, humans also have the power to save them. If we continue with "business as usual," sea turtles are virtually certain to become extinct from the Tompotika region within a few decades. However, if we act now, we can save them.

### **What We Must Do**

- Here is the action we must take to protect sea turtles and prevent their disappearance in our Tompotika region:
  - **Protect sea turtle nesting beaches from poachers.** Sea turtle nests must be allowed to hatch naturally, or if necessary, be relocated to a safe location where humans and natural predators cannot disturb them. Over the past few decades in the Caribbean, communities have found that when nesting beaches were truly protected from poachers, eventually sea turtle populations have recovered.
  - **Stop all taking of adult turtles.** A single adult female will lay thousands of eggs in her lifetime. Whereas protecting nests is important, stopping the poaching of adult turtles is the strongest and most immediate way to have a positive impact on turtle populations.
  - **Stop trade in sea turtle eggs, meat, and shell.** As long as there is an active market for their parts, sea turtles will continue to be hunted.
- The three activities most threatening to sea turtle populations in Tompotika today--poaching of nests, killing of adult turtles, and trade in turtles and their parts--are all forbidden under Indonesian law. Halting these three activities can and would stop the decline toward extinction that is currently underway. Addressing other threats--such as marine plastic debris, inappropriate beach development, and fishing bycatch, will also help. But without addressing poaching and trade, which the law already forbids, sea turtles will not be able to recover, and their extinction is inevitable.
- It is also critically important to educate our residents on the wonders of sea turtles and the threats they face. Only with the support of the community can the long-term welfare of sea turtles be safeguarded. Experience in other countries has shown that the economic value of an adult sea turtle alive and free in the ocean--for example, due to its role in maintaining the ecosystem and attracting eco-tourists--may be more than ten times its value if captured and sold. Again, even in poor areas such as the Caribbean and elsewhere, communities have benefitted both economically and in morale by choosing to protect and maintain sea turtle populations.
- Sea turtles are an important part of our natural and cultural heritage in the Tompotika area. After gracing our oceans for over 100 million years, will we allow sea turtles to disappear during our time? For ourselves, and for our children, let's act now to protect these marvelous ancient guardians of the sea--before it is too late.

