

The Burning Issues for global sea turtle conservation, 2006: The hazards and urgent priorities in sea turtle conservation

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The World Conservation Union (IUCN), through its *Red List of Threatened Species*, provides a global overview of the degree to which species of plants and animals are at risk of extinction. All seven species of sea turtles are listed on the *Red List* as either Endangered or Critically Endangered, with the exception of the flatback turtle (listed as Data Deficient). The Burning Issues described herein endeavor to go a step further than the global-scale *Red List*, with the intent to encourage on-the-ground conservation action in the places where experts agree they are most urgent and can have the largest impact in preventing extinctions. This document was prepared by members of the IUCN Marine Turtle Specialist Group (MTSG). These experts, hailing from several countries and representing knowledge of all the world's major sea turtle stocks, gathered in Washington, DC in August 2005. The MTSG is a group of over 300 experts from 70+ countries that work to assure a vision of "*marine turtles fulfilling their ecological roles on a healthy planet where all peoples value and celebrate their continued survival.*"

The Top Ten List draws attention to some of the sea turtle populations that are most in need of urgent conservation attention, considering one or more of the following criteria: recent precipitous declines, small population size, high degree of threat, or irreplaceability. It is a dynamic assessment that attempts to include all the major regions where sea turtles live, and it is based on best-available data and expert opinion as its principle resources. The list is reviewed annually to assure its accuracy and

timeliness. It is part of a larger priority-setting process for sea turtle research and conservation that also includes a list of Critical Research Needs in recognition that for many areas of the world and populations of sea turtles, we simply do not have enough data to accurately assess urgency and degree of threat. Moreover, the Burning Issues Assessment identifies herein the five primary hazards to sea turtles worldwide.

The Top Ten List

- Leatherbacks in the Pacific
- Olive Rيدleys in Orissa, India
- Kemp's Rيدleys throughout their range (Caribbean, Gulf of Mexico and Atlantic)
- Loggerheads in the Pacific
- Green turtles in the Mediterranean
- All sea turtles throughout Southeast Asia
- Loggerheads in the Atlantic
- Hawksbill and green turtles in the Caribbean
- Green and leatherback turtles in the Eastern Atlantic (and their SW Atlantic foraging grounds)
- Hawksbills in the Indian Ocean

Background Information on The Top Ten List

Leatherbacks in the Pacific:

Current Status – Major populations in Mexico, Costa Rica and Malaysia have declined more than 90% in less than 20 years.

Causes – Fisheries bycatch (gillnets, driftnets, longline fishing), long-term egg collection

Olive Ridleys in Orissa, India:

Current Status – A minimum of 10,000 adults have been killed each year for the past 10 years.

Causes – Trawl fisheries bycatch and coastal development

Kemp's Ridleys throughout their range (Caribbean, Gulf of Mexico and Atlantic):

Current Status – Kemp's Ridleys have declined more than 95% in less than 50 years. They live within a limited geographic range and have a small population size, making them especially vulnerable.

Causes – Egg take, bycatch in trawl fisheries

Loggerheads in the Pacific:

Current Status – Nesting in the Pacific (principally Japan and Australia) has declined by more than 90% over the last 25 years.

Causes – Fisheries bycatch (gillnets, longlines, trawls and pound nets), take of eggs and turtles

Green turtles in the Mediterranean:

Current Status – In the major rookeries, located in Turkey, populations have declined by 60-90% in 17 years.

Causes – Coastal development, fisheries bycatch, historical take of meat for export

All sea turtles in Southeast Asia:

Current Status – Hawksbills, green turtles, and olive ridleys have all suffered substantial declines in nesting in this region.

Causes – Direct take of adults and eggs for food and shell trade, fisheries bycatch (trawls, gillnets, pound nets, longlines)

Loggerheads in the Atlantic:

Current Status – At the major rookery at Archie Carr Refuge in Florida, USA, nesting has declined by more than 50% in the last five years.

Causes – Fisheries bycatch (trawls, gillnets and longlines), coastal development

Hawksbill and green turtles in the Caribbean:

Current Status – Greens have declined by more than 95% in the last 400 years. The loss of a number of rookeries has significantly reduced genetic diversity of greens, and current take of adult green

turtles is greater than 11,000 per year in Nicaragua. Hawksbill nesting has declined by more than 60% at the largest rookery, located in Mexico, in the last five years.

Causes – Directed take for meat and eggs

Greens and leatherbacks in the Eastern Atlantic (and their SW Atlantic foraging grounds):

Current Status – Globally significant nesting and foraging populations are virtually unstudied and threatened by substantial take due to extreme local poverty. Leatherbacks from Atlantic African nesting beaches also face great pressure from fisheries off the coast of south America.

Causes – Direct take for meat, eggs and products, and fisheries bycatch

Hawksbills in the Indian Ocean:

Current Status - Trade statistics going back more than 100 years indicate massive declines of up to 95% in hawksbill populations, specifically in Madagascar, Seychelles, & Sri Lanka.

Causes - Historic international trade in hawksbill shell, especially between the mid-1960s and early 1990s greatly reduced the sizes of hawksbill populations. Directed take of meat, eggs, and/or shell continues throughout the region. More recently, coastal development of nesting beaches poses an increasing threat to nesting populations.

Critical Research Needs

Recognizing that the aforementioned "Top Ten" is based on best-available information and drawn from expert opinion, it must be noted that there are many areas of the world for which very little data exist. As such, it is critical that greater attention also be paid to research on little known sea turtle populations and regions, including (but not limited to): African loggerheads, hawksbills, olive ridleys; Kemp's ridleys in the Atlantic; leatherbacks and hawksbills in the southeast Pacific; loggerheads and green turtles in Oman; hawksbills in Iran; loggerheads in Libya; hawksbills in the eastern Pacific; leatherbacks in the southern Indian Ocean; olive ridleys in the western Atlantic; flatbacks, throughout their range; green turtles in the eastern Pacific; hawksbills in the eastern Pacific.

Hazards to Sea Turtles

The following are the broad hazards that are presently resulting in declines and local extinctions of sea turtles, or are in one way or another slowing or preventing sea turtle recovery.

Fisheries Impacts: Sea turtles virtually everywhere are impacted by fisheries – especially by longlines, gill nets, and trawls. The most severe of these impacts are bycatch mortality, habitat destruction and food web changes.

Coastal Development: Sea turtle habitats are degraded and destroyed by coastal development. This includes shoreline and seafloor alterations, such as nesting beach degradation, dredging, vessel traffic, construction, and alteration of vegetation.

Directed Take: Sea turtles and their eggs are killed by people throughout the world for food, and for products including oil, leather and shell.

Pollution and Pathogens: Marine pollution, including plastics, discarded fishing gear, petroleum by-products, and other debris directly impact sea turtles through ingestion and entanglement. Light pollution disrupts nesting behavior and hatchling orientation, leading to hatchling mortality. Chemical pollutants can weaken sea turtles' immune systems, making them susceptible to pathogens.

Global Warming: Global warming may impact natural sex ratios of hatchlings, increase the frequency of extreme weather events, and raise the likelihood of disease outbreaks among sea turtles. It will result in loss of nesting beaches and cause other alterations to critical sea turtle habitats and basic oceanographic processes.