

THE CONSERVATION STATUS OF **LEATHERBACK** POPULATIONS WORLDWIDE

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In Jaragua National Park, Dominican Republic, a leatherback turtle shows visible scarring around the base of its flipper, likely from an encounter with fishing gear. © DOUG PERRINE / NATUREPL.COM

If you are reading this magazine, you probably already know that leatherback turtles face threats to their survival worldwide and that they have become a high conservation priority in many places. Indeed, if we are to ensure the long-term survival of this species, leatherback conservation efforts are needed in every place they are found. Considering that there are 768 leatherback nesting sites from 65 countries documented in the SWOT database (as of 2014) and that leatherbacks' marine habitats span all major ocean basins, this goal is overwhelming and, likely, impossible. Thus, where should we focus our efforts to conserve the leatherback so we are most effective?

In past years, the Marine Turtle Specialist Group (MTSG) of the International Union for Conservation of Nature (IUCN) Species Survival Commission has assessed sea turtle status globally by using the IUCN Red List categories and criteria. The Red List is useful for comparing the risk of extinction for individual species. But for a species that is widely distributed and that has many different populations exposed to different environments and threats, such global assessments have not characterized differences in true extinction risk at the population level.

To address this issue, in 2013, the MTSG published a new Red List assessment of the leatherback turtle to provide accurate, up-to-date information about the status of leatherback populations worldwide. In a first for any sea turtle Red List assessment, each leatherback subpopulation was considered individually using Red List criteria to determine its conservation status. The results describe the wide variation in leatherback status by region. They also highlight subpopulations that have declined greatly over time or that are very small or geographically restricted.

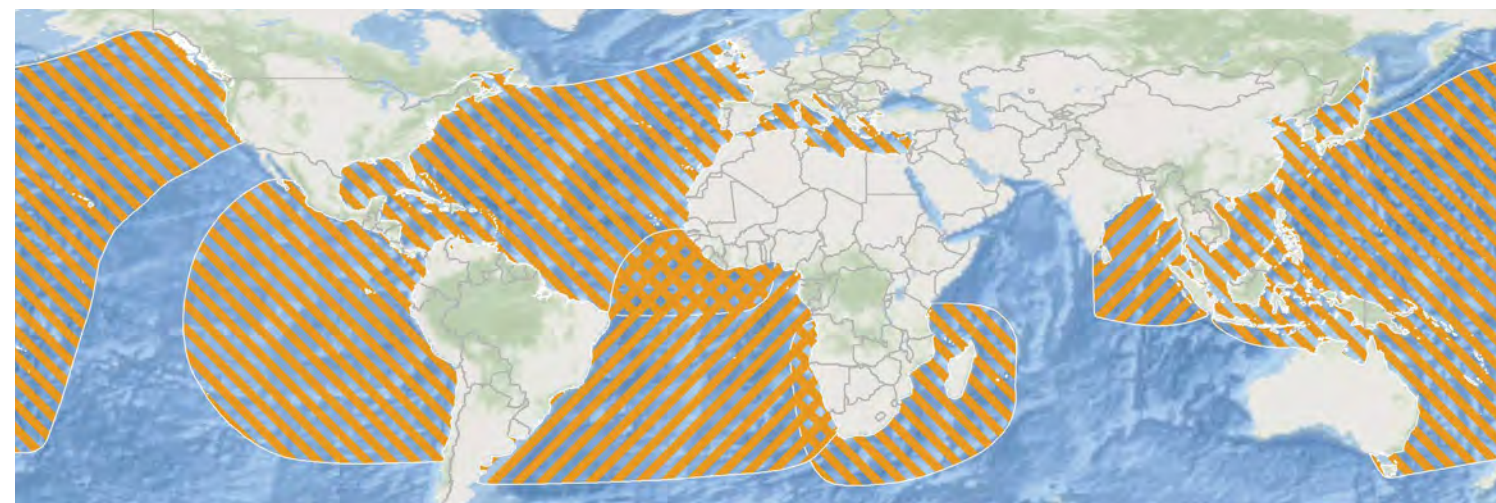
Such assessments are important, because leatherback subpopulations are considered to be genetically and demographically distinct from one another. If a subpopulation becomes extinct, its ecosystem role and contributions to the genetic diversity of the global leatherback

population will be lost forever. Those important nuances were lost in previous assessments of the leatherback that were done only at the global, species level.

Not only does the new assessment provide a more actionable overview of leatherback status, but also it has helped lay the groundwork for improved Red List assessments of all sea turtle species in the future. Those subpopulation-level assessments allow us to compare the past and present status of leatherbacks so we can identify causes of different population trajectories. In some parts of the world, leatherback populations are relatively stable, even increasing, thanks to effective conservation efforts that protect turtles and reduce threats on nesting beaches and in the water.

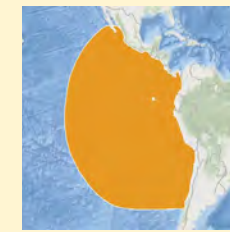
However, this good news does not mean that those leatherback populations will not continue to require conservation action. Populations that are at real risk of extinction in the near future provide a cautionary tale about populations that are currently stable. Sea turtle populations can decline much more rapidly than they can be rebuilt, so conservation gains must be maintained—if not increased—to ensure healthy populations.

The following are the results of the 2013 Red List assessment of the leatherback turtle. The complete assessments are available online at www.iucnredlist.org/details/6494/0.



GLOBAL – Vulnerable

The leatherback turtle is categorized as vulnerable globally for two reasons: (a) the global population of leatherbacks is estimated to have declined by 40.1 percent over the past three generations (estimated at 120 years), and (b) the causes of the decline are not reversible and have not ceased. Although the leatherback's status as vulnerable globally means that the species as a whole is considered to be facing a high risk of extinction in the wild, this status actually represents an improvement from the previous global listing as critically endangered in 2000. The earlier assessment focused on populations in the Pacific Ocean; data from Atlantic populations were not available at the time.



EAST PACIFIC OCEAN SUBPOPULATION – Critically Endangered

The East Pacific leatherback subpopulation nests along the Pacific coast of the Americas from Mexico to Ecuador. Its marine habitat extends west from the coastline to approximately 130°W and south to approximately 40°S. This subpopulation is listed as critically endangered because it has declined by 97.4 percent during the past three generations. Moreover, the causes of the decline (primarily egg harvest and fisheries bycatch) are not reversible and have not ceased.



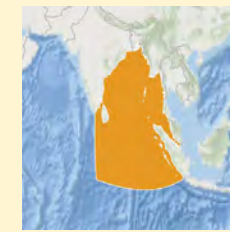
WEST PACIFIC OCEAN SUBPOPULATION – Critically Endangered

The West Pacific leatherback subpopulation nests primarily in Indonesia (West Papua), Papua New Guinea, and the Solomon Islands—and to a lesser extent in Vanuatu. The marine habitat for this subpopulation extends (a) north into the Sea of Japan, (b) northeast and east into the North Pacific and to the west coast of North America, (c) west to the South China Sea and the Indonesian Seas, and (d) south into the high-latitude waters of the western South Pacific Ocean and Tasman Sea. This subpopulation has declined by 83 percent during the past three generations, and the once large nesting population in Terengannu, Malaysia, is now functionally extinct. Threats to this subpopulation (primarily human exploitation of females and eggs, low hatching success, and fisheries bycatch) have not ceased.



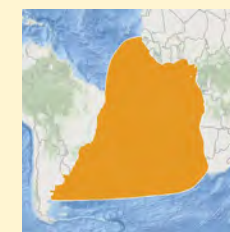
SOUTHWEST INDIAN OCEAN SUBPOPULATION – Critically Endangered

The Southwest Indian Ocean leatherback subpopulation nests principally along the Indian Ocean coast of South Africa (in KwaZulu-Natal province), but some nesting occurs in Mozambique. Its marine habitats extend around the Cape of Good Hope in both the Indian Ocean and Atlantic Ocean. The leatherback nesting population in South Africa has been monitored consistently for 50 years, and that population accounts for more than 90 percent of the total abundance of the subpopulation. The South Africa nesting population has declined by 5.6 percent during the past three generations and is continuing to decline. Furthermore, it contains just 148 mature individuals and a relatively restricted nesting range. The combination of those characteristics results in the critically endangered listing.



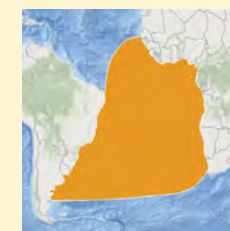
NORTHEAST INDIAN OCEAN SUBPOPULATION – Data Deficient

The Northeast Indian leatherback subpopulation nests primarily in the Andaman and Nicobar Islands (India); in Sri Lanka; and, to a lesser extent, in Thailand and in Sumatra, Indonesia. Continuous long-term abundance datasets are not available, and little is known about the genetic structure and geographic distribution of this subpopulation or about the types and severity of threats. Together, those factors make it impossible to determine the conservation status of Northeast Indian Ocean leatherbacks.



SOUTHEAST ATLANTIC OCEAN SUBPOPULATION – Data Deficient

The nesting epicenter for the Southeast Atlantic leatherback subpopulation lies in Bioko (an island in Equatorial Guinea), Gabon, and the Republic of Congo, with additional nesting in much smaller numbers extending north to Senegal and south to Angola. Its marine habitats are thought to extend from the Atlantic coast of Africa (a) south to the equator; (b) southwest to Brazil, Uruguay, and Argentina; and (c) southeast to South African waters. Although recent research on nesting abundance likely makes the Southeast Atlantic leatherback subpopulation the largest in the world, continuous long-term datasets (particularly from Gabon, where the majority of the population nests) and other key data were unavailable. The only possible listing is that of data deficient.



SOUTHWEST ATLANTIC OCEAN SUBPOPULATION – Critically Endangered

The Southwest Atlantic leatherback subpopulation nests only in southern Brazil and is genetically distinct from all other sampled rookeries in the Atlantic. The marine habitat for this subpopulation is thought to extend (a) north across the equator and east to the coast of Atlantic Africa, (b) southwest to Uruguay and Argentina, and (c) southeast to South African waters. The population has been increasing (232 percent over the past three generations), thanks to conservation efforts in Brazil. However, because the subpopulation is very small, with fewer than 50 mature individuals (estimated to be 35), and because it has a restricted nesting range, this subpopulation is critically endangered.



NORTHWEST ATLANTIC OCEAN SUBPOPULATION – Least Concern

The Northwest Atlantic leatherback subpopulation nests in the southeastern United States, throughout the mainland and insular Caribbean, and in the Guiana Shield. Its marine habitats extend (a) throughout the North Atlantic, including the Gulf of Mexico; (b) north of 50°N; (c) east into the Mediterranean; and (d) across the equator to northwestern Africa. One of the two largest leatherback subpopulations (with more than 50,000 nests laid per year), it has increased by 20.6 percent over the past three generations, thanks to intensive conservation efforts in many parts of its range. As the assessment highlighted, such efforts must be maintained if this population is to remain on its current stable course.