

# The Challenge of Collective Conservation: An Insight into Gathering Global Data





Sea turtles are global creatures, and the leatherback especially so, as its nesting distribution circles the globe (see map, pages 18–19). And when they are not reproducing, leatherbacks swim thousands of miles and cross entire ocean basins. One of the greatest challenges we face in conserving leatherbacks is seeing the big picture and taking local actions that can have global significance in preventing extinction.

The SWoT Team has committed to this challenge by bettering this big picture, our global view of leatherbacks. Our first step has been to compile information on leatherback nesting. Over the past two years, the SWoT Team has documented 203 leatherback nesting sites in 46 countries. Nesting data from the last complete nesting season in 2004 were contributed from 89 of these sites, and the remaining 114 either did not participate or do not have beach monitoring programs.

Effectively creating this global picture has required carefully dealing with critical data deficiencies and incompatibilities. First, there are likely many leatherback nesting sites that have not been discovered, and even among the sites that we know exist, many have incomplete or no data on their turtles. Moreover, there is a good deal of incompatibility among data sets. With information from nearly 100 sources and so many different areas of the world, we are faced with the tremendous challenge of creating uniformity among these diverse data sets. For example, some beach projects count the number of females, or the number of nests per season, while others count the number of crawls per season. Perhaps even more complicated, data are collected under a wide range of monitoring efforts. Some projects monitor 100 percent of the nesting beach during the nesting season or even all year, whereas other projects may have no regular beach monitoring; data might be collected only three mornings a week on only a portion of the beach, or during a one-day aerial survey along the coastline of an entire country. The result is that one beach may appear to have more nesting turtles than another, when in reality this is due to differences in monitoring effort.

Measures of monitoring effort are typically not well documented, and as such we are unable to evaluate the relative monitoring effort at each beach. Thus we cannot extrapolate full-season nesting values at beaches with partial coverage. Therefore, caution must be exercised



A leatherback nests by day. © JOHN CHEVALIER

when comparing the relative nesting between sites displayed in the SWoT map.

Although we have made every attempt to address these issues and present the most accurate picture possible, some notable assumptions were required in presenting these data. For the central map (pp. 18–19) we show the number of leatherback females nesting annually at all possible beaches. Because the number of nesting females is not available from every beach, for certain beaches we have estimated by dividing the recorded number of nests by a conversion value. It is important to note, therefore, that many of the points on the map are based on estimates and not actual numbers.

We have separated nesting populations into two categories: those with their main foraging grounds in the Northern Hemisphere, and those with their main foraging grounds in the Southern Hemisphere. For each of these categories, we have selected a single clutch frequency value (average nests per female per year) to estimate the number of females nesting annually for rookeries within that category. These average clutch frequencies are taken from the best-studied nesting rookeries in each group. For the Northern Hemisphere foragers, this rookery is at Sandy Point, St. Croix, U.S. Virgin Islands, and the average number of nests laid per female in 2004 was 4.64—the observed clutch frequency (Alexander et al. 2004). For the Southern Hemisphere foragers, it is Playa Grande, Costa Rica, where the estimated clutch frequency in 2003–2004 was 7.24 (Paladino & Spotila, pers. comm.).

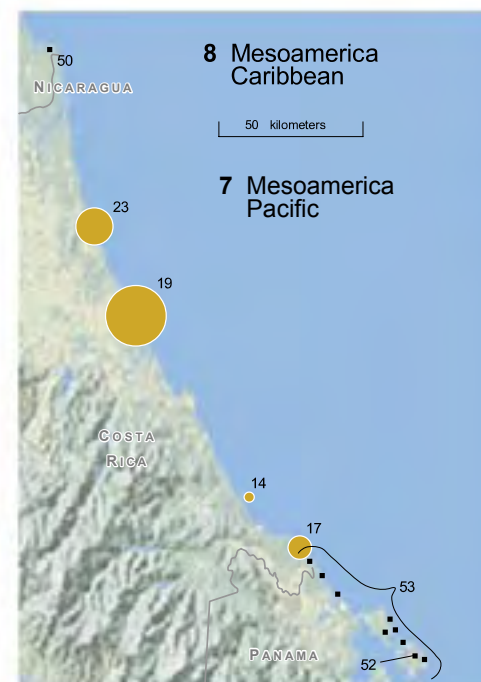
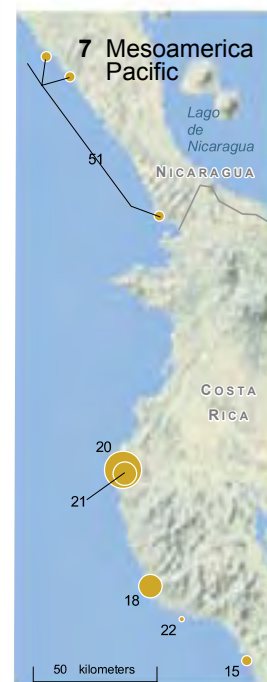
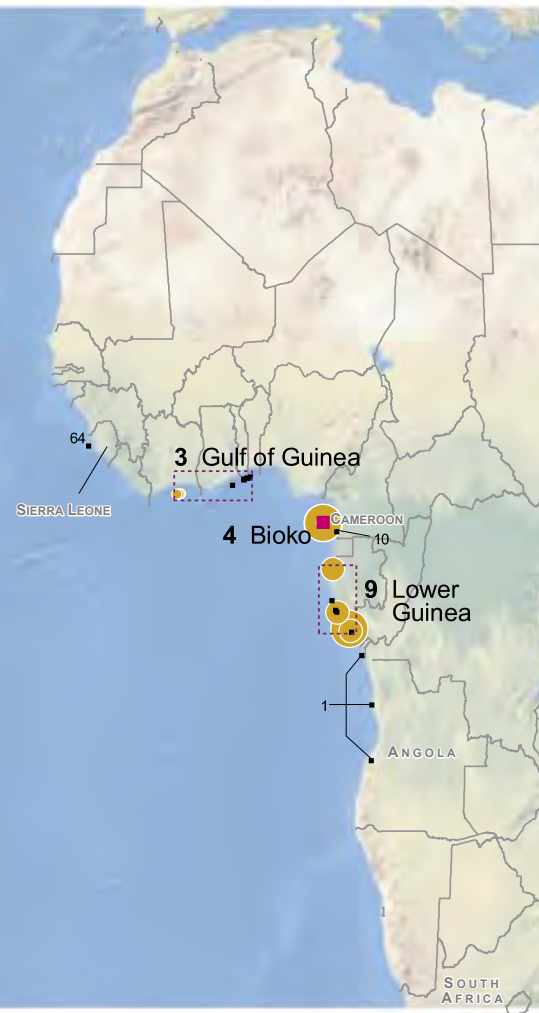
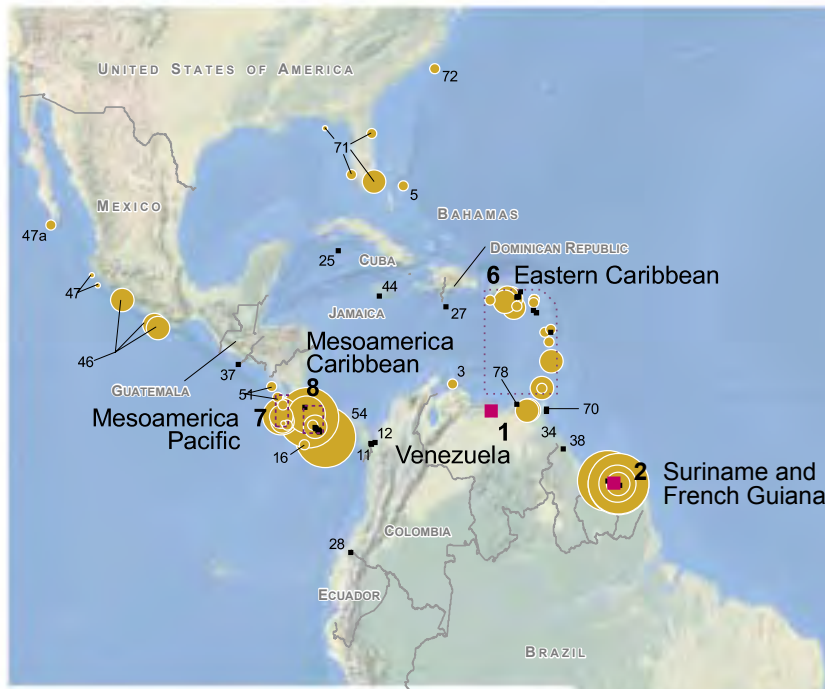
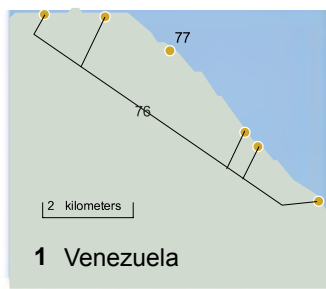
This map and database is an initial step in a long and evolving process. Recognizing the limitations and imperfections of this first step, we are committed to improving and refining this work over time. As we move into the future, the SWoT network will continue to grow, and we will update the SWoT database and find new ways to use these data for conservation action and to improve our understanding of the status of the world's sea turtles.

*This article is written by **Brian J. Hutchinson** and **María Fernanda Pérez**, on behalf of the SWoT Team. Brian is Program Officer of the IUCN Marine Turtle Specialist Group and Coordinator of Conservation International's Sea Turtle Flagship Program. María is SWoT Data Coordinator. For a full list of SWoT Team members, see page 37.*



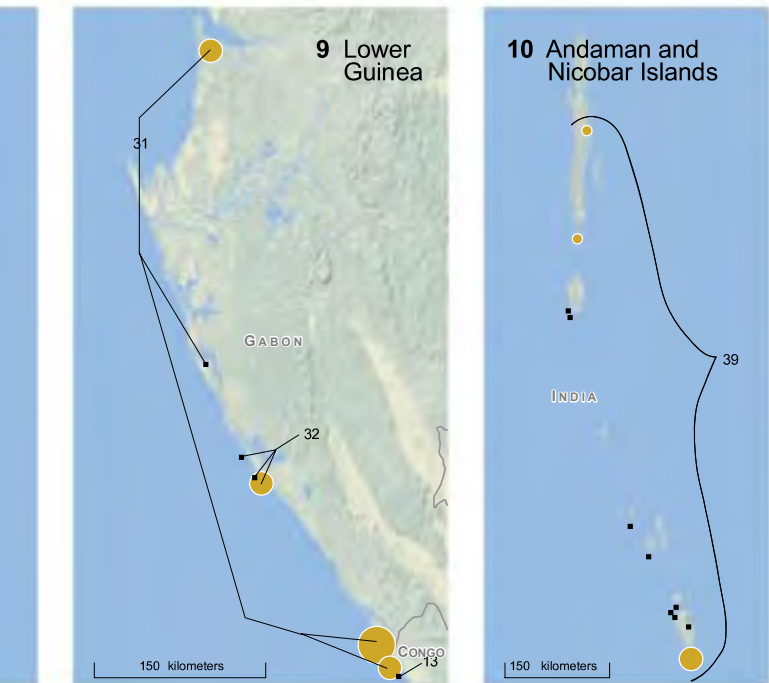
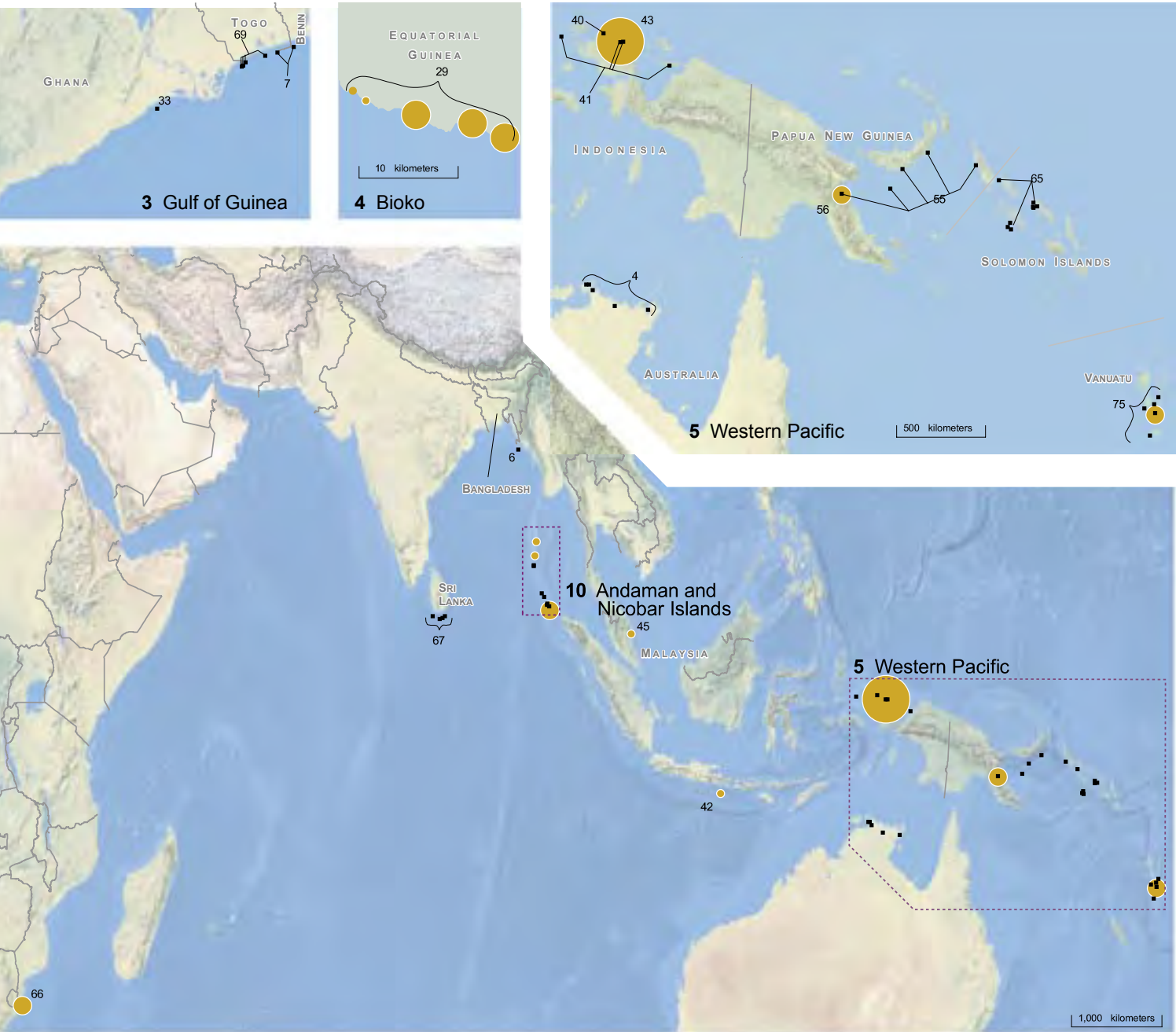
A leatherback nest is excavated after the hatchlings have emerged to assess the success rate of the nest. © MATTHEW GODFREY

# Worldwide Leatherback Nesting Sites



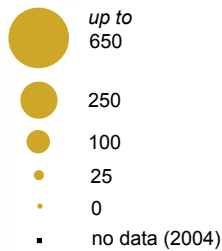


Every data point on these maps represents the original work of a data provider and the institutions he or she represents. The original data and their sources are listed in the citations on pages 30-36, and data points on the maps below are numbered to correspond with their source and citation. All data must be credited to the original source.



## Leatherback Nesting Beaches

estimated nesting females (2004)



inset maps: extent / location only

projection: Eckert IV

data: Digital Chart of the World (DCW)  
Natural Earth, Tom Patterson,  
US National Park Service  
The SWoT Team  
see pages 30-36  
VMap0, National Geospatial  
Intelligence Agency

extensive input provided by:  
Michael Coyne

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