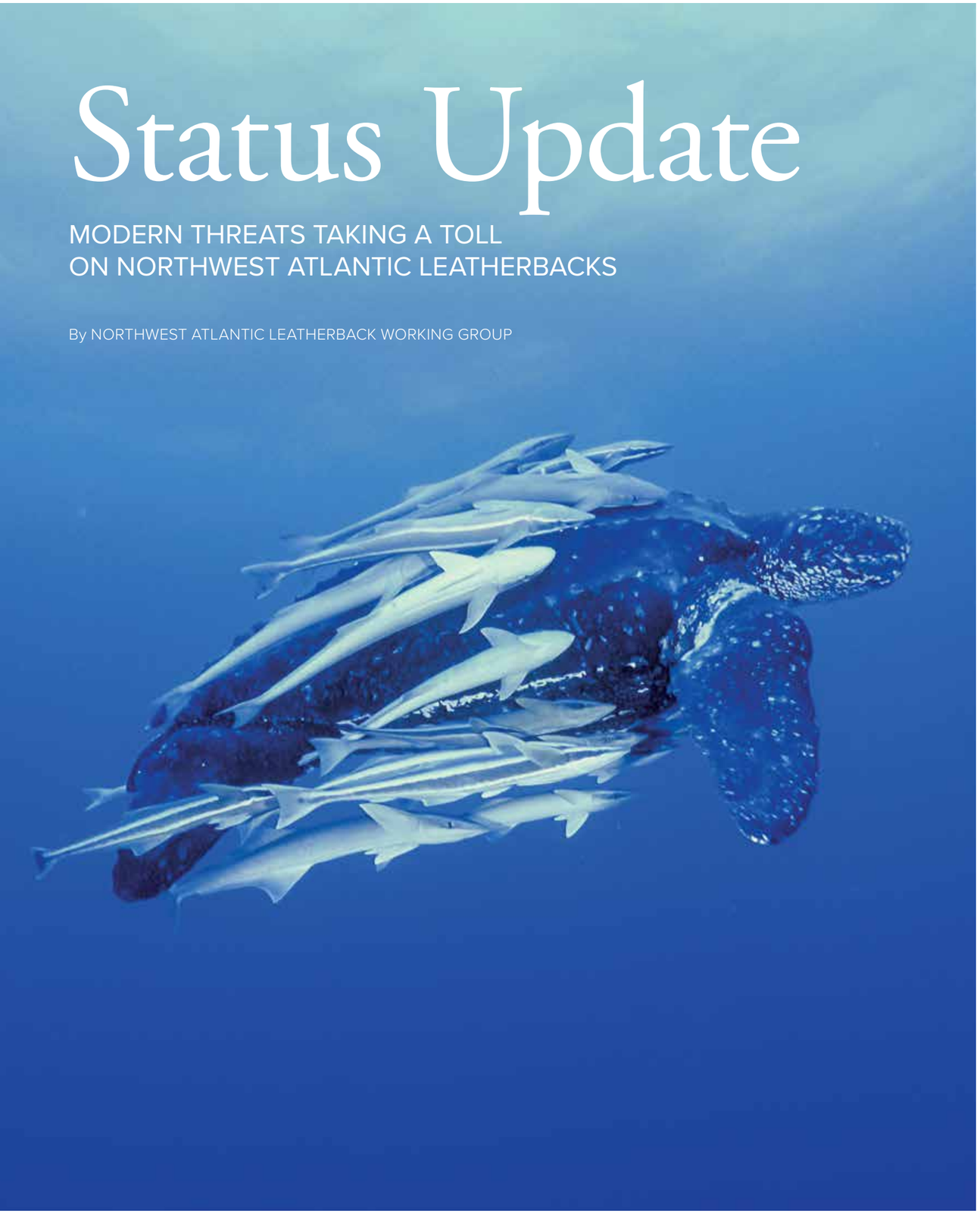
Status Update

MODERN THREATS TAKING A TOLL ON NORTHWEST ATLANTIC LEATHERBACKS

By NORTHWEST ATLANTIC LEATHERBACK WORKING GROUP



Thanks to the decades of effort by dedicated beach monitors around the world, we know more about the status of sea turtle populations than ever before. We know where populations are in rough shape after being depleted by decades of unsustainable capture (accidental or otherwise), where habitat alterations have occurred, and where other threats from humans exist. And we know where populations with positive trends are offering beacons of hope. Until recently, the Northwest Atlantic (NWA) leatherback, which nests throughout the Wider Caribbean region and spans the entire North Atlantic Ocean, even peeking into the Mediterranean, was one such beacon.

Previous assessments of NWA leatherback status found that this regional management unit (RMU), or subpopulation, was abundant, with a stable and even increasing trend. For example, the current IUCN Red List assessment (published in 2013) for this subpopulation concluded that the long-term trend in annual nest abundance was generally increasing through 2010, which meant that NWA leatherbacks qualified for the unfortunately named listing of least concern (see *SWOT Report*, vol. 11, pp. 28–31). Despite this official status on the IUCN Red List, the 2013 assessors of this subpopulation highlighted the importance of continued conservation efforts to prevent collapses such as those previously documented for leatherback subpopulations in the Pacific.

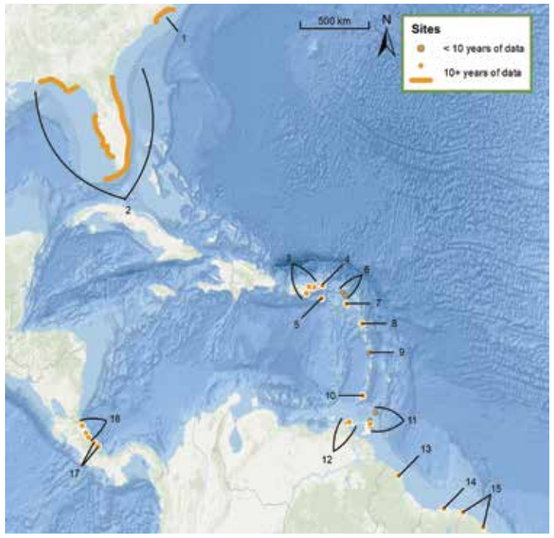
In recent years, community-based monitoring efforts throughout the NWA region were noting with concern that annual counts of leatherback nests and nesting females appeared to be in decline. Such concerns became a discussion that culminated in data holders from across the Wider Caribbean convening a NWA Leatherback Working Group at the 2018 annual meeting of the Wider Caribbean Sea Turtle Conservation Network (WIDECAST), to assemble and contribute existing nesting data to a regionwide trend analysis for NWA leatherbacks.

The results of this work has flipped the existing knowledge about the status of this population on its head. Trend analyses of leatherback nesting data from 17 countries and territories since 1990 revealed significant declines across most nesting sites, among all genetic stocks, and at the regionwide scale, this population has declined more than 4 percent per year since 1990. The negative trends were apparent at large and small rookeries over the long term (1990–2017) and in recent years (2008–2017).

What happened to change the status so dramatically? Although specific causes and their effects are not completely clear, one possibility is that bycatch—particularly near key nesting beaches and in important foraging habitats in national and international waters—has finally taken a toll that is now visible on nesting beaches. But because the declines are widespread across rookeries throughout the region, there are likely multiple factors at work.

For example, the working group also flagged the effects of habitat loss due to natural beach erosion that has significantly diminished available leatherback nesting habitat, particularly in the Guianas. It is also possible that longer remigration intervals caused by changes in environmental conditions on foraging grounds might have made resources less available, less predictable, or both. Those types of hypotheses await further investigation.

Although the causes are uncertain, one thing is for sure, and it is a common issue for so many sea turtle programs worldwide: trends based solely on observed nesting activity hinder our ability to really know what's happening in a population. In fact, they usually don't reveal that something is wrong until *after* the effects on the population have already occurred. Going forward, the working group (like many sea turtle researchers in other places) will be emphasizing the importance of combining information from different areas and life stages for a more holistic understanding of population-scale trends.



Northwest Atlantic Leatherback Assessment Sites: Assessment locations are (1) North Carolina, U.S.A. (highlighted coastline); (2) Florida, U.S.A. (highlighted coastline); (3) Culebra, Maunabo, and Luqillo-Fajardo, Puerto Rico, U.S.A.; (4) Tortola, BVI; (5) St. Croix, USVI; (6) St. Martin and St. Bathélemy; (7) St. Kitts and Nevis; (8) Guadeloupe; (9) Martinque; (10) Grenada; (11) Matura, Fishing Pond, Grand Riviere, and Tobago; Trinidad and Tobago; (12) Cipara and Querepare, Venezuela; (13) Guyana; (14) Suriname; (15) Awala-Yalimapo and Cayenne, French Guiana; (16) Pacuare, Mondonguillo, Estacion Las Torgugas, Tortuguero, Cahuita, and Gandoca, Costa Rica; (17) Chiriqui and Soropta, Panama. AT LEFT: A leatherback turtle, pursued by remoras, swims offshore of Juno Beach, Florida, U.S.A. © MICHAEL PATRICK O'NEILL

So what happens now? The cautionary tale of Pacific leatherbacks—which have been depleted to alarmingly low numbers as a result of similar factors—has taught us that time is of the essence to mount an effective, sustained response to turn the population trajectory around. The NWA leatherback working group is starting efforts to identify the highest priority actions and locations to work with managers and fishing communities to reduce leatherback bycatch. In upcoming meetings, bycatch data will be shared and techniques to reduce bycatch will be discussed. Moreover, an updated IUCN Red List assessment is being prepared to reflect these trends and to make the decline as widely known as possible.

Despite the bad news about the current status of the NWA leatherback population, this exercise has shown us the importance of collaboration in sea turtle conservation. By sharing data, insights, and experiences, we are able to address shared conservation challenges, together. ■