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Concerning Specially Protected Areas and Wildlife
(SPA W) in the Wider Caribbean Region

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REPORT ON WIDECAST ACTIVITIES: 2021-2022

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WIDECAST: Wider Caribbean Sea Turtle Conservation Network

Activity Highlights: 2021-2022

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INTRODUCTION

1. WIDECAST has been an integral partner of the Caribbean Environment Programme (CEP) since its inception. Concern over the status of shared sea turtle stocks and their habitats was the basis for APCEP ([Action Plan for the Caribbean Environment Programme](#)) project 6/1, which was ranked among the first cohort of 'projects of common interest' to be implemented by the CEP and was one of the first to be funded. WIDECAST's success in local project development, national recovery planning, and regional information-sharing has long been a model for other taxa-specific initiatives in the region and has resulted in a strong regional capacity for science-based sea turtle management.
2. With affiliated programs in every country in the Wider Caribbean Region (WCR) (and further including Bermuda and Brazil), WIDECAST is a proactive and inclusive mechanism for developing and disseminating science-based tools on behalf of the SPAW Protocol. In support of Art. 10, which states that "Each Party shall ... carry out species recovery, management, planning and other measures to effect the survival of [endangered and threatened species]", WIDECAST experts collaborate with local stake-holders to develop comprehensive national conservation blueprints known as Sea Turtle Recovery Action Plans to include sea turtle status and distribution, major causes of mortality, effectiveness of existing legislation, present and historical roles of sea turtles in local culture and economy, and recommendations for research, management, public awareness, and conservation.

GENERAL THREATS

3. Sea turtles, once abundant in the Caribbean Sea and serving as keystone species in tropical marine ecosystems, are severely reduced from historical levels, both in population size and range. According to the IUCN Red List of Threatened Species, persistent over-exploitation, especially of gravid females, and widespread collection of eggs are primarily responsible for observed declines at regional and global scales. All six species of Caribbean-occurring sea turtle are listed in Annex II of the SPAW Protocol, affording them the full weight of protection under the Cartagena Convention and its Protocols.
4. In addition to a largely unmanaged harvest that has spanned centuries, sea turtles are accidentally captured in active or abandoned fishing gear, resulting in death to uncounted thousands of turtles annually. Moreover, modern climate change, high density coastal development, coral reef and seagrass degradation, oil spills, chemical waste, and persistent plastic and other marine debris have damaged or eliminated nesting beaches and feeding areas. Because sea turtles are highly migratory at all life stages, what appears as a decline in a local population may be a direct consequence of the activities of people many hundreds or thousands of kilometers away.

ACTIVITY HIGHLIGHTS: 2021-2022

Threat Assessment: Northwest Atlantic Leatherback Sea Turtles, *Dermochelys coriacea*, with Special Emphasis on Trinidad & Tobago and the Guianas (2021)

5. **Summary:** Following two decades of conservation success, leatherback sea turtles (*Dermochelys coriacea*) are declining at an alarming rate according to our most recent

assessment ([Northwest Atlantic Leatherback Working Group, 2018](#)). Using clutches laid as a proxy for reproductively active females, the assessment confirms that the nesting colony at Awala Yalimapo (French Guiana) has plummeted 99% (1986-2017); similarly, Galibi-Matapica (Suriname) has declined 74% (1999-2017). Matura Beach, Trinidad, once ranked with Awala Yalimapo as one of the largest leatherback nesting colonies in the world, has declined 23% (2006-2017). Fatal interactions with fisheries, modern climate change (shifts in currents and ocean productivity, shoreline loss, feminization of hatchlings), and pollution risk (oil spills, ocean plastics) were noted as causes of concern. Alarm over current trends triggered an uplisting to *Endangered* for the [Northwest Atlantic subpopulation](#) on the IUCN Red List.

6. **Response:** In response to the assessment's conclusion that, "incidental capture in fisheries, particularly fisheries operating offshore from nesting grounds, were likely among the most serious causal factors in observed declines", and based on evidence in the published literature of the threat of bycatch and entanglement to leatherback turtles, WIDECAST and WWF-Guianas (with support from WWF-Canada) hosted a bycatch workshop in Suriname (March 2019) focused on leatherbacks nesting in the Guianas (Guyana, Suriname, French Guiana) and Trinidad & Tobago. The workshop report outlined a strategic framework for reducing bycatch in the Guianas and Trinidad & Tobago, with the highest priorities related to regulations and enforcement, gear improvements, data collection, and education and awareness.
7. In line with the SPAW COP 10 recommendation that called upon key countries (Guianas, Trinidad & Tobago, Canada) to cooperate with the SPAW Protocol and InterAmerican Convention for the Protection and Conservation of Sea Turtles (IAC) to identify and address threats to the Northwest Atlantic leatherback subpopulation, and in order to assemble relevant data to support a subregional action plan (Guianas, Trinidad & Tobago), WIDECAST, with support from WWF-Canada, WWF-Guianas, and the SPAW-RAC, produced a comprehensive survey designed to collect data on the prevalence and magnitude of threats potentially affecting WCR leatherbacks, identify existing conservation efforts and data gaps, and propose priority actions.
8. **Findings:** Given that mortal threats to the Guianas and Trinidad & Tobago nesting populations include more than fishery bycatch in waters within and beyond national jurisdiction, and that these drivers may be synergistic, the results of the regional survey (hereafter referred to as the Threat Assessment or cited as Eckert and Hart, 2021) documented stakeholder knowledge from throughout the WCR on the frequency and magnitude of all threats known to reduce survival in leatherback turtles (including gaps in our current understanding), and solutions that stakeholders have employed with varying levels of success. The collection of knowledge focused on nests (eggs, hatchlings) and adults both on the nesting beach and in nearshore inter-nesting habitats, offshore waters, and the high seas.
9. In addition to detailed survey responses from experts in 33 Wider Caribbean countries where NWA leatherbacks nest, the Threat Assessment offers an abridged summary of intergovernmental agreements (and notes that leatherbacks are fully protected by law in all but seven WCR nations and territories), an overview of sea turtle life history and demographic vital rates, conservation status of NWA leatherbacks (with a focus on the Guianas and Trinidad & Tobago), a review of previous threats analyses relevant to NWA leatherbacks, and a discussion of potential drivers of the observed decline in the NWA subpopulation, including life history and demographic factors.

- a. *Findings – Nesting Habitat:* On the nesting beach, Abiotic Factors (including flooding, beach erosion/ accretion, and climate-related risks), Pollution, Egg Collection by Humans, and Habitat Loss are both the most prevalent and the most impactful, rising – in as many as one-in-four countries – to the level of threatening the survival of 20% or more of nests laid per annum. With regard to nesting females, Habitat Loss, the Sargassum Influx, and Harassment rank as the most prevalent and impactful threats, in some cases cited as affecting more than 20% of the annual nesting cohort. Smaller numbers of countries reported threats often linked to coastal development (Artificial Lighting, Beach Obstacles, Beach Sand Mining, Killed by Humans, Beach Armoring) as “frequent”.
 - b. *Findings – Marine Habitat:* At sea, the threat landscape is dominated, both in frequency and magnitude, by Net Fisheries, Pollution, and Entanglement. In some countries, these threats are characterized as threatening the survival of more than 20% (in other cases more than 50%) of the nation’s adult population of leatherbacks. Net Fisheries are particularly pronounced in the Guianas and Trinidad, where three of the four countries (75% vs 15% of countries region-wide) cited these fisheries as a “frequent” threat; again, in some cases, affecting more than 20% of gravid females. Recent quantitative research confirms that longline fisheries operating in high productivity areas may also be a threat. As you move away from waters offshore nesting beaches, the survey highlighted a significant level of uncertainty surrounding both the frequency and magnitude of threats in offshore and international waters.
10. **Follow-up Action:** The Threat Assessment concluded that sustained recovery of the NWA leatherback subpopulation will require strategic conservation investment integrated with considerations of population size and stock diversity, and the report’s conclusions and recommendations formed the basis of the Regional Action Plan detailed below. The Threat Assessment also informed an ongoing CMR (capture-mark-recapture) analysis which aims to add clarity to the role of demographic factors in the NWA sub-population’s decline.

Northwest Atlantic Leatherback (*Dermochelys coriacea*) Regional Action Plan for the Wider Caribbean Region (2022)

11. **Summary:** Significant outputs from the last biennium, including an [Atlas of Sea Turtle Nesting Habitat for the Wider Caribbean Region](#) (hereafter referred to as the Atlas or cited as Eckert and Eckert, 2019) – where inputs from more than 200 data providers identified 1,341 nesting beaches in 45 WCR nations and territories, inclusive of Bermuda and Brazil – and the [Northwest Atlantic Leatherback Turtle \(*Dermochelys coriacea*\) Status Assessment](#) led to the publication of a regional Threat Assessment (detailed above) ... and together these landmark studies formed the basis of a newly published Northwest Atlantic Leatherback (*Dermochelys coriacea*) Regional Action Plan for the WCR (hereafter referred to as the Regional Action Plan or cited as Barragan et al., 2022).
12. **Response:** The Regional Action Plan was supported by WWF, WIDECAS, and national management authorities in Trinidad & Tobago, Guyana, Suriname, and French Guiana. Key stakeholders throughout the region of interest (i.e., WCR with a focus on the Guianas and Trinidad & Tobago nesting populations, along with identified foraging areas and migration routes) provided input for the definition of priority actions and specific activities to address

causal factors in the recorded decline of the NWA leatherback subpopulation in recent decades.

13. According to the Vision developed by the participants of the inaugural workshop (November 2021) for the development of the NWA Leatherback Action Plan, the Action Plan aims to create conditions to address the declining leatherback sea turtle subpopulation in the Northwest Atlantic region, with a focus on Suriname, Guyana, French Guiana and Trinidad & Tobago. It provides specific guidelines towards increasing community engagement and improved legislation at the local level, which combined with access to better scientific knowledge will support and enhance best practices in the protection and management of critical habitats. In addition to this, the Action Plan outlines the required structure for governance and funding.
14. **Findings:** As part of the development process, national and regional stakeholders defined four Strategic Lines as priority items necessary to address alarming declines in the NWA leatherback subpopulation. These Strategic Lines are:
 - a. Legislation and enforcement
 - b. Protection and management of critical habitats
 - c. Community engagement
 - d. Scientific data needs
15. In each case, an ideal state was articulated through stakeholder-led processes. For example, in the case of “legislation and enforcement”, the following aspects were envisioned:
 - a. All countries have a National Plan of Action to guide agencies and organizations in making decisions aligned with the common objectives of the region
 - b. Tools provided by current legislation are fully utilized to enforce national mandates and regionally harmonized guidelines
 - c. Redundant activities (national, regional) are avoided; where agencies have overlapping mandates, mechanisms are in place to generate synergy between actors and obtain results with greater impact and at a lower cost
 - d. Interagency collaboration is optimized through structured collaboration (including open communication channels) between entities and organizations tasked with the conservation and recovery of the NWA leatherback subpopulation
16. Each Strategic Line is defined by Solution Components, each with a specific goal, multiple objectives, and various sets of Actions and Specific Activities to be performed over a period of five years (2023 to 2027). Key Performance Indicators (KPIs) were also developed to aid in implementation of the Action Plan, each linked to the logical processes designed to achieve sustained recovery of the sub-population.
17. **Follow-up Action:** Efforts are currently underway to define the structure and function of a governance body responsible for the implementation of the Action Plan. In a parallel effort, a contracted report is designing an Implementation Plan to meet KPIs. The Action Plan was designed by regional stakeholders to work in synergy with the existing national Sea Turtle Recovery Action Plans, complementing them for a regional perspective and acting to support priorities set by relevant international agreements and conventions in the region.

2022 WIDECAST Annual Meeting

18. **Summary:** After being suspended due to COVID in 2020 and 2021, WIDECAST convened an Annual Meeting from 23-25 March 2022. The virtual meeting attracted more than 100 WCR sea turtle conservationists, marine scientists, educators, policymakers, program directors, and field biologists from 38 WCR nations and territories. Topics included Lessons in Outreach & Engagement (including social media), Conservation & Research in Nearshore Waters, Research at Sea, Conservation & Protection Measures on Nesting Beaches, National Updates, Regional Treaty Updates, and Transboundary Initiatives, such as oil spill response training, sea turtle migration patterns, and a transoceanic alliance among French maritime areas. Results of the Annual Meeting included several recommendations related to best practice, research partnerships, cross-boundary training, and improved approaches to population monitoring, public awareness, and threat reduction (e.g., fisheries bycatch, beachfront lighting).

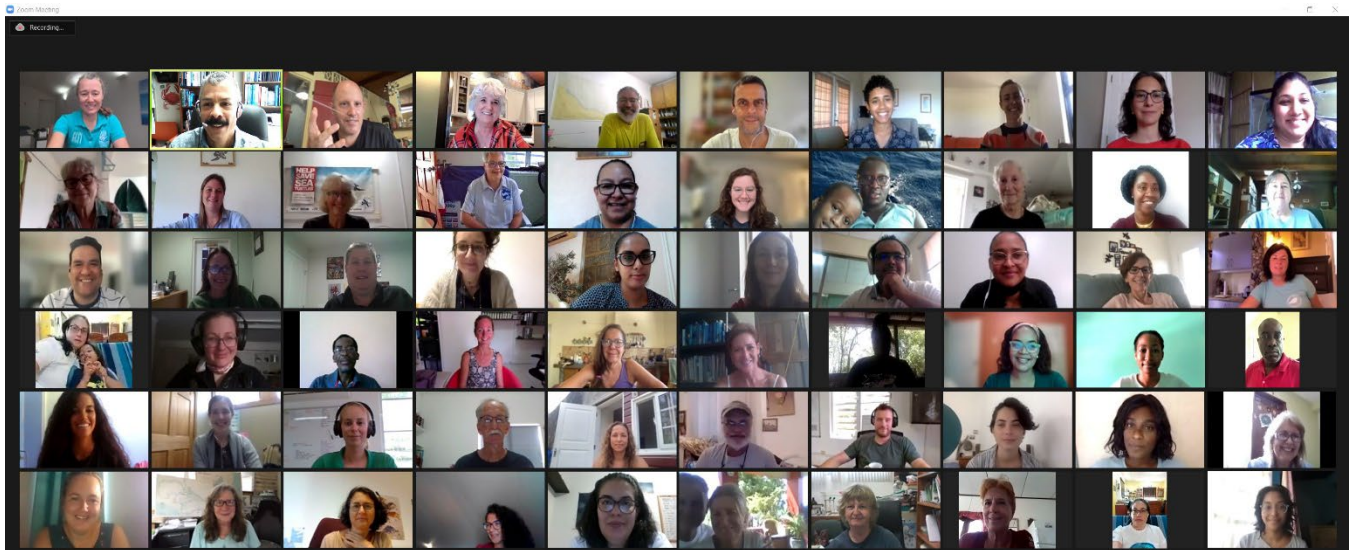


Figure 1. Screen shot of a partial number of participants in the 2022 WIDECAST Annual Meeting.

Social Media, Conservation Impact Officer

19. WIDECAST received funding to hire a part-time Conservation Impact Officer to launch a Facebook page <https://www.facebook.com/widercaribbeanseaturtleconservationnetwork> designed to highlight the innovative and successful conservation work of WIDECAST Country Coordinators in more than 40 nations and territories. The new page has nearly 500 followers who enjoy the “one stop shop” to learn about sea turtle conservation in the region, including how our work supports the important objectives of the SPAW Protocol. An Instagram page @widecastseaturtles provides additional outreach.
20. As these platforms mature, we aim to support a YouTube channel to archive training, outreach, and best practice videos for easy reference to WIDECAST members, as well as to educators, natural resource officers, policymakers, fishers, and community leaders.



WIDECAST - Wider Caribbean Sea Turtle Conservation Network

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Other Activities and Concerns

21. The WIDECAST network has been active on multiple fronts during this past biennium, with results that cannot be fully articulated in the space available here. These activities include maintaining a Regional Marine Turtle Tagging Centre at the UWI Cave Hill Campus in Barbados, the translation of sea turtle research and conservation documents to promote broader access across the WCR, the development of “apps” for data collection related to conservation and management objectives, publication of a children’s coloring book and other public awareness items in Venezuela, and the piloting of innovative approaches to lighting, bycatch reduction, and habitat restoration. In addition, WIDECAST Country Coordinators published more than a dozen peer-reviewed research papers during the biennium.
22. **Transnational Contributions:** WIDECAST Country Coordinators have made significant contributions to intergovernmental forums, including Ramsar, SPAW, and IAC (InterAmerican Convention for the Protection and Conservation of Sea Turtles). Contributions to SPAW are well known to the STAC, but perhaps less well known are our contributions to IAC, where WIDECAST experts sit on governance committees (often appointed from their countries as official representatives) and actively participate in working groups (e.g., climate change, leatherback subpopulation status, exemption policies). WIDECAST best practice documents are foundational to IAC deliberations, our Sea Turtle Recovery Action Plans (published as CEP Technical Reports) serve as a model for recovery actions endorsed by IAC Parties, and research and analysis conducted by WIDECAST and its partners have been the basis for Resolutions (e.g., CIT-COP9-2019-R2 “Conservation of

the Northwest Atlantic Leatherback Turtle”) adopted by Parties calling for urgent, proactive action from Governments.

23. **Concerns:** Travel is slowly resuming, but the pandemic continues to have major impacts on the financing of sea turtle conservation, especially through the loss of international volunteers (essential to research, management, and anti-poaching patrols in many countries), tourism-related income (e.g., loss of user fees, tourism concessions, merchandising), and reduced government funding and subventions in the face of new demands for national pandemic support. At the same time, an increase in poaching/illegal fishing activity has been reported across the WCR, which has necessitated an increased enforcement presence – and this has come at the expense of other staffing and programmatic support for long-term community-based activities, local livelihoods development and support for youth education and research.
24. In addition to poaching/illegal fishing activity, unmonitored, open access legal seasonal fisheries targeting large juveniles and reproductively active adults (based on legislation with minimum size limits) undermine the conservation efforts and commercial sacrifices adopted and respected by range States that share migratory populations with SPAW Parties that have not, as yet, implemented SPAW’s mandate to protect sea turtles year-round. While great progress has been made since the SPAW Protocol and its Annexes came into force more than three decades ago (e.g., 82% of all Central Western Atlantic nations and territories – from Brazil north to Bermuda – now ban sea turtle exploitation at all times), seasonal fisheries sanctioned by SPAW Parties continue to capture animals tagged from protected populations elsewhere. Because nesting populations are not only small (91% of all known WCR nesting beaches can be characterized in terms of abundance) but often declining, these fisheries deeply concern WCR conservation organizations, natural resource agencies, and fisher communities alike.
25. **Challenges:** As we noted in a previous biennium report, there are real challenges to sustaining sea turtle monitoring patrols on the ground, both from lack of financing as well as direct impacts of lockdown and curfews on the logistics of nocturnal field activities. In addition, restrictions on incoming volunteers have limited staff and income for several previously self-sufficient programs. An increased take of turtles for subsistence is suspected in many coastal communities; especially those that have also lost tourism-related (or other) income. The ability of fisheries officers to gather landing data on the take of sea turtles in those nations with a legal hunt has also been restricted under COVID-19, further exacerbating data limitations that could otherwise help to support sound decision-making.
26. Oil spills have the potential to severely, sometimes irreparably, damage WCR marine and coastal habitats upon which endangered sea turtles (and other imperiled marine creatures) rely. Activities related to offshore exploration and extraction raise concern about spills from wells and from storage and offloading vessels, these concerns are particularly high in areas vital to sea turtle foraging, breeding, and migration. In accordance with the *CEP Protocol Concerning Co-operation and Development in Combating Oil Spills in the Wider Caribbean Region* (which aims to: “Strengthen national and regional preparedness and response capacity of the nations and territories of the region, and facilitate co-operation and mutual assistance in cases of emergency to prevent and control major oil spill incidents”), we recommend a comprehensive literature review of research related to the effects of petroleum operations on sea turtles and the development of best practices for mitigation.

27. Finally, excess accumulations of *Sargassum* sp. seaweed (a brown macroalgae) continue to compromise sea turtle nesting habitat and frustrate coastal (beachfront) tourism infrastructure.

CLOSING REMARKS

28. In 2002, UNEP adopted the sea turtle as the logo of the CEP and cited the region's efforts to "promote best management practices for sea turtle survival, such as community-based eco-tourism, alternatives to beachfront lighting, protecting coral reefs and other feeding habitats, and improving law enforcement and the regulatory framework" as evidence that, "through the Caribbean Environment Programme, governments are co-operating to create a more sustainable future for marine and coastal resources in the Wider Caribbean Region." WIDECAS is proud to serve the CEP with the support of SPAW-RAC, and to play a role in developing and implementing the tools necessary to fully realize the critically important objectives of the SPAW Programme.

REFERENCE MATERIAL

Addendum 1

Eckert, K.L and K. Hart. 2021. Threat Assessment: Northwest Atlantic Leatherback Sea Turtles, *Dermochelys coriacea*, with Special Emphasis on Trinidad & Tobago and the Guianas. WIDECAS Technical Report No. 21. Godfrey, Illinois. 159 pages.

Addendum 2

Barragan, A.B., J.A. Espín and R. Barragan. 2022. Northwest Atlantic Leatherback (*Dermochelys coriacea*) Regional Action Plan for the Wider Caribbean Region (K.L. Eckert, Editor). Wider Caribbean Sea Turtle Conservation Network (WIDECAS) Technical Report No. 22. Godfrey, Illinois. 71 pages.