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Virtual meeting, 17–19 March 2021

WIDECAST: WIDER CARIBBEAN SEA TURTLE CONSERVATION NETWORK

For reasons of public health and safety associated with COVD-19, this meeting is being convened virtually. Delegates are kindly requested to access all meeting documents electronically for download as necessary.

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WIDECAST: Wider Caribbean Sea Turtle Conservation Network

Activity Highlights: 2019-2020

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WIDECAST
Wider Caribbean Sea Turtle Conservation Network

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 stakeholders 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: 2019-2020

Northwest Atlantic Leatherback Sea Turtle Status Assessment

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. Using clutches

laid as a proxy for reproductively active females, the nesting colony at Awala Yalimapo (French Guiana) 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, especially those operating near nesting beaches, are implicated. Modern climate change (shifts in currents, ocean productivity, and shoreline loss; feminization of hatchlings) and pollution risk (oil spills, ocean plastics) are additional causes of concern. Alarm over current trends triggered an uplisting to Endangered for the Northwest Atlantic subpopulation on the IUCN Red List.

6. **Findings**: When WIDECAST-affiliated monitoring efforts at key leatherback rookeries noted with concern that annual counts of nests or nesting females appeared to be in decline, a "Northwest Atlantic Leatherback Working Group" was formed to contribute existing nesting data to a region-wide trend analysis. The objectives were to compile available time-series datasets on nesting abundance, perform analyses of regional trends, and provide recommendations for priority conservation actions and research. Leatherback nesting data were contributed from 17 countries and territories, accounting for nearly 450 data points and more than 600,000 observed nests region-wide since 1990. The final dataset used for trend analyses (23 sites from 14 countries and territories) was limited to sites with at least 10 years of nest count data collected using consistent within-site methodology.

7. The Working Group adapted a simplified version of a Bayesian regression model to estimate trends for all sites, stocks, and for the regional population during three temporal scenarios: 1990-present, 1998-present, and 2008-present. Overall, regional, abundance-weighted trends were negative across temporal scenarios, and became more negative as the time series became shorter. Site-level trends also reflected this pattern but showed more variation within and among sites and within and across temporal scenarios. Awala Yalimapo in French Guiana declined 99% between 1986 and 2017; similarly, Galibi-Matapica in Suriname declined 74% between 1999 and 2017. Matura Beach, Trinidad, once ranked with Awala Yalimapo as one of the largest leatherback nesting colonies in the world, declined 23% between 2006 and 2017. Encouraging signs of increase were also noted, particularly in the northern Caribbean, including Florida, Puerto Rico, and the Virgin Islands (UK, US).

8. The Working Group identified anthropogenic sources, habitat losses, and changes in life history parameters as potential drivers for the observed declines in nesting abundance, concluding that incidental capture in fisheries, particularly fisheries operating offshore from nesting grounds, were likely among the most serious causal factors in observed declines. In addition to recommendations to investigate potential magnitude and types of effects from fossil fuel exploration and extraction (as well as from oil spills) and ocean plastic and other toxic debris, the Working Group made an urgent plea to inter alia:

   - Compile and compare bycatch data across gear types, regionally, to identify highest priority opportunities for bycatch reduction from a population impact perspective
   - Enhance efforts to mitigate leatherback bycatch in fishing gear deployed offshore key nesting grounds
   - Enhance monitoring, reporting, and enforcement related to existing regulations to reduce turtle bycatch, particularly in areas near nesting beaches
   - Enhance efforts to mitigate leatherback bycatch in fixed fishing gear in continental shelf habitats,

especially in foraging areas, migratory pathways, and offshore nesting beaches
- Ensure continued work to eliminate illegal, unreported and unregulated fishing (IUU)
- Increase protection and monitoring on nesting beaches to protect more nests from egg harvest and to increase coverage and tagging of nesting females

9. **Follow-up Action**: In response to this assessment 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. Representatives from the US and Canada also participated because these nesting populations forage seasonally in US and Canadian waters, where the threat of bycatch and entanglement is present. 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.

10. In line with the SPAW COP 10 recommendation that calls on key countries (Trinidad & Tobago, French Guiana, Guyana, Suriname, 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 SPAW-RAC, will conduct a survey of regional stakeholders on the prevalence and magnitude of threats potentially affecting WCR leatherbacks, identify existing conservation efforts and data gaps, and propose priority actions. The survey will be distributed to all WCR countries in order to assess, in context, causal factors implicated in nesting declines at key sites.

Atlas of Sea Turtle Nesting Beaches in the Wider Caribbean Region

11. **Summary**: In partnership with more than 200 data providers, WIDECAST published a spatial database of nesting habitat for six species of Caribbean-occurring sea turtles – identifying 1,341 nesting beaches in 45 WCR nations and territories, inclusive of Bermuda and Brazil. Large nesting colonies are rare: 30% to 72% of known nesting sites (across all species) support fewer than 25 crawls (perhaps 3-10 reproductively active females, depending on the species) per year. While some nations are making exemplary progress in identifying and monitoring nesting colonies, consistent monitoring effort is lacking in many areas and recent data are scarce in some jurisdictions; in particular, two archipelagic States (The Bahamas, St. Vincent and the Grenadines) have never been completely assessed.

12. **Findings**: The atlas identified 1,341 nesting beaches in 45 WCR nations and territories, inclusive of Bermuda and Brazil. Because some sites host nesting by multiple species, 2,667 species-specific sites were named. Of these, 91% could be categorized in terms of nesting abundance. Excepting the olive ridley (*Lepidochelys olivacea*), the number of sites with unknown annual crawl numbers declined by more than 40% across all species since our first published atlas in 2007. Olive ridleys are the rarest of the region's sea turtles and the least known, with 17% of nesting sites still associated with unknown crawl abundances.

13. Large nesting colonies, upon which the survival of sea turtles in the WCR largely rests, are very rare, placing significant responsibility on host countries to conserve and protect these important remnant populations. Sites receiving more than 1,000 nesting crawls per year ranged from 1% (leatherback, hawksbill *Eretmochelys imbricata*) to 5% (loggerhead *Caretta caretta*, green *Chelonia mydas*, Kemp's ridley *L. kempii*) to 22% (olive ridley) of all known nesting beaches.

14. The regulatory landscape remains fragmented, but progress is evident. Thirty-seven (82%) nations and territories now prohibit sea turtle exploitation year-around; five (Colombia, Honduras, Nicaragua, Suriname, Venezuela) provide for legal exceptions related to bona fide "cultural, traditional or subsistence" exploitation. Turks and Caicos Islands sanction a seasonal fishery (hawksbill and green turtles only) bounded by both minimum and maximum size limits. In a small number of mostly Eastern Caribbean states, seasonal fisheries with minimum size limits (by weight or shell length) target large juveniles and adults, disregarding the best available science on management and recovery for these long-lived species.

15. Next steps will be to research and incorporate seagrass and coral reef distribution data, as well as sea turtle telemetry data (e.g., long distance movements and "hot spots"), to determine nationally and regionally significant foraging areas and migratory corridors, thus identifying management priority areas and contributing to the development of a network of population monitoring programs, including juvenile and adult age classes, at index sites regionwide. In terms of the regulatory framework, SPAW Parties that sanction a seasonal sea turtle fishery in contravention of the Cartagena Convention and SPAW Protocol should be encouraged to align their management efforts with the mandates of Annex II.

16. **Follow-up Action**: While local conservation is crucial, cooperative action is essential at a regional scale – including developing and promoting best practices, creating conservation models, training and institutional strengthening, harmonizing legislation, encouraging community involvement, and raising public awareness. To bridge these scales, local to regional, WIDECAST supports recovery planning processes in all WCR nations and territories. Our national Sea Turtle Recovery Action Plans (STRAPs) were among the first contributions to the Caribbean Environment Programme Technical Report Series and have long set an example for taxa-specific recovery initiatives under the aegis of the CEP.

17. Some STRAPs are 30 years old and greatly in need of revision – both to define and celebrate progress and to address complex threats that remain, including seasonal fisheries with minimum size limits, incidental capture (bycatch), coastal development, and climate change. WIDECAST hopes to have financial support from CEP in the next biennium to engage SPAW Parties to revisit outdated action plans. Among the expected outcomes are access to best practices for natural resource managers and NGO conservation leaders, renewed commitment to population monitoring (especially of Index Sites), greater awareness of standardized record-keeping and database management protocols, training of enforcement and natural resource officers, development of public awareness materials and outreach, and models for sustainable livelihoods in marginalized communities.

Other Activities and Concerns

18. 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, undertaking a comprehensive update of Sea Turtle Guardian (the only online resource for veterinary professionals and first responders relative to sea turtle injury, illness and care), the translation of sea turtle research and conservation documents to ensure broader access across the WCR, the development of "apps" for data collection related to conservation and management objectives, and the piloting of innovative approaches to coastal lighting, hatchery management, citizen science, and public awareness. In addition, WIDECAST experts have contributed active service to vital intergovernmental forums, including Ramsar, IAC, and SPAW.

19. Two concerns rose to prominence in 2020 and are worth noting here:

20. *COVID-19* **-** The pandemic has had major impacts on the financing of marine 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 the reality of 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.

21. There have also been very 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.

22. *Petroleum (spills, exploration)* - Oil spills have the potential to severely, sometimes irreparably, damage WCR marine and coastal habitats upon which endangered sea turtles rely. In 2017, an oil spill originating at Trinidad's west coast Pointe-a-Pierre Refinery ultimately soiled the east coast of Venezuela, including the mainland and islands (Isla de Margarita, Los Roques Archipelago National Park). In 2020, activity at two oil centers on the west coast of Venezuela produced several oil spills that affected nearby areas (including to the Morrocoy National Park) - and later that year a regional alarm was sounded by scientists, conservationists and regional governments when a tanker grounded in the Gulf of Paria appeared to be at risk for sinking.

23. As WCR governments continue to partner with oil companies to initiate offshore exploration and extraction, the danger of spills from wells and from storage and offloading vessels will increase the threat to sea turtles (and other marine life) utilising the region for foraging, breeding, and essential

migratory movements. 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.

CLOSING REMARKS

24. 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." WIDECAST 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.

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