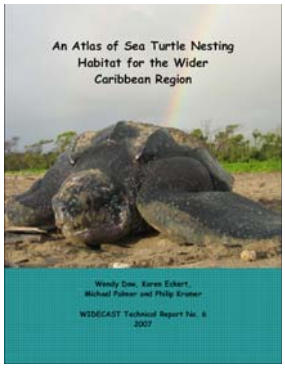
WIDECAST

Wider Caribbean Sea Turtle Conservation Network





EXECUTIVE DIRECTOR'S REPORT: 2008

KAREN L. ECKERT, Ph.D.

2009 Annual Meeting

Ross University of Veterinary Medicine

Basseterre, Saint Kitts

18-20 December 2008

INTRODUCTION

The Wider Caribbean Sea Turtle Conservation Network (WIDECAST) – an international coalition of experts including Country Coordinators in more than 40 Caribbean nations and territories – works from the premise that conservation must be nurtured from within, that it cannot be commanded from outside.

By working together to bring the best available science to bear on decision-making (at all levels), emphasizing information exchange and training, and encouraging unified practices, we create strong linkages between science, policy, and public participation in the design and implementation of sea turtle management programs. In so doing, we increase the effectiveness of protection and sustainable use initiatives and we help to ensure a future where sea turtles can meaningfully fulfill their ecological, spiritual/ cultural, and economic roles.

WIDECAST is all about solutions. It's about building alliances and creating choices. It's about developing and promoting best practices, designing conservation models, institution strengthening, building capacity at national and multinational levels, unifying the regulatory framework (so that, for example, turtles are not protected in one country only to be killed when then swim into the waters of a neighbouring country), encouraging and facilitating grassroots involvement, cultivating mentors, and raising public awareness.

In joining together to protect future options with regard to the use of sea turtles, participants in the network recognize ***essential linkages between a healthy Caribbean ecosystem and economic prosperity for Caribbean people****. A thriving biodiversity base brings economic choices, economic diversity, and economic wealth over the long term, whereas a depleted resource base is far more likely to invite economic dependence, restricted choices, and poverty.*

Some of the largest sea turtle populations the world has even known were in the Caribbean Sea ... most of these have all but disappeared. But present commitments are transforming a future that looked bleak only a few years ago. Thanks to the efforts of the WIDECAST network – each of you! – many of our remnant populations are showing upward trends, trends we hope will only strengthen with time.

The success we've seen is a reflection of the way in which we've always approached the conservation challenge. We embrace every Wider Caribbean range State, and including Bermuda to the north and Brazil to the south (Fig.1), thereby ensuring the benefits of many ideas and points of view, and over large geographic scales, rather than the more traditional focus on our own nation, or our own project, or our "own" population of sea turtles, ... as if there were such a thing.

Figure 1. Geographic Scope of the Wider Caribbean Sea Turtle Conservation Network. *The Wider Caribbean Region is defined as the marine environment of the Gulf of Mexico, the Caribbean Sea and the areas of the Atlantic Ocean adjacent thereto, south of 30°N latitude and within 200 nautical miles of the Atlantic coasts of the States occurring between the USA and French Guiana (inclusive), including Latin America and the insular States of the Eastern Caribbean. The WIDECAST network also includes Bermuda to the north and Brazil to the south, because both nations share Caribbean sea turtle stocks.*

RELATIONSHIP TO UNEP-CEP

WIDECAST was founded in the Dominican Republic in 1981 "[to prepare a] Wider Caribbean Sea Turtle Recovery Action Plan ... consistent with the Action Plan for the Caribbean Environment Programme" (CEP). We have always served the international

community as a volunteer expert network and Partner Organization to the UNEP-CEP, with specific emphasis on the objectives of its Protocol on Specially Protected Areas and Wildlife, or SPAW.

The geographic scope of WIDECAST is coincident with that of the UNEP Caribbean Environment Programme, with the exception that we also embrace Bermuda and Brazil. In all, 43 States and territories actively participate in WIDECAST – and together contribute substantively to implementation of the SPAW Protocol at local, national and regional levels.

As every constituent nation and territory is host to at least four species of sea turtle, and all struggle with similar socio-political issues, all benefit equally from the capacity engendered by working together to promote sustainable conservation policies.

In addition to Country Coordinators resident in each participating country, WIDECAST also has an executive office and an international Board of Directors. Our collective role is to reverse the declining trend in Caribbean sea turtle populations by promoting a region-wide capability to design and implement scientifically sound conservation measures, and by assisting Governments in the discharge of their obligations under relevant international treaties.

RATIONALE

It is widely recognized that migratory sea turtles will not survive without this kind of regional cooperation. Once abundant in the Caribbean Sea and serving as keystone species in tropical marine ecosystems, sea turtles are now 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.

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 tens and perhaps hundreds of thousands of turtles annually. Moreover, coral reef and sea grass degradation, oil spills, chemical waste, persistent plastic and other marine debris, high density coastal development, and an increase in ocean-based tourism have damaged or eliminated nesting beaches and feeding areas.

Reversing population declines is complicated. Threats to sea turtle populations can accumulate over long periods of time, and can occur anywhere in the population's range. Because sea turtles are highly migratory by habit, what appears as a decline in a local population may be a direct consequence of the activities of peoples many hundreds or thousands of kilometers away.

Thus while local conservation is crucial, cooperative action is also called for at international levels. WIDECAST is uniquely structured to define and address both national and international conservation priorities -- for sea turtles and for their habitats.

"We see WIDECAST as a model initiative. By defining conservation priorities based on sound science, promoting consensus and emphasizing public awareness, the network has successfully integrated once isolated efforts into a collaborative regional response to the shared challenge of depleted sea turtle populations in our region."

~ Alessandra Vanzella-Khouri, UN Environment Programme, Kingston, Jamaica

VISION

The collective vision of the network is to realize a future where all inhabitants of the Wider Caribbean Region, human and sea turtle alike, can live together in balance; where healthy populations of sea turtles fulfill their ecological roles and economic potential; and critical natural habitats are sustainably managed.

GOALS

Through research and conservation, outreach and education, and our shared commitment, WIDECAST seeks to:

- Bring the best available science to bear on sea turtle management, conservation, and governance;
- Empower stakeholders to make effective use of science in the policy process;
- Train Caribbean scientists, managers and policy-makers in the science of sea turtle management through academic and field courses, thematic workshops, mentoring and exchange programs, and technical seminars;
- Provide an ongoing mechanism for collaboration at all levels, both within and among the nations of the Wider Caribbean Region;
- Improve the long-term financial, institutional, social, and environmental sustainability of biodiversity protection in the Region;
- Demonstrate and replicate the best models for successful community-based sea turtle management, particularly in marginalized rural areas; and
- Secure funding to develop integrated natural resource management models, support multi-stakeholder participatory planning, develop core management capacities, and develop policy and institutional mechanisms to ensure "mainstreaming" of environmental concerns into other sectors.

FINANCIAL STATUS

WIDECAST has a diverse funding base, including Government agencies (USA and others, as well as intergovernmental bodies such as UNEP, UNDP, and the EU), private foundations (mostly in the USA), other nonprofit organizations (e.g. The Nature Conser-

vancy, World Wildlife Fund), Corporations (e.g. Disney Wildlife Conservation Fund, BHP Petroleum). We also receive mostly smaller contributions from zoos and aquaria, and from individuals. In all, our total conservation budget has risen over the years (Fig. 2).

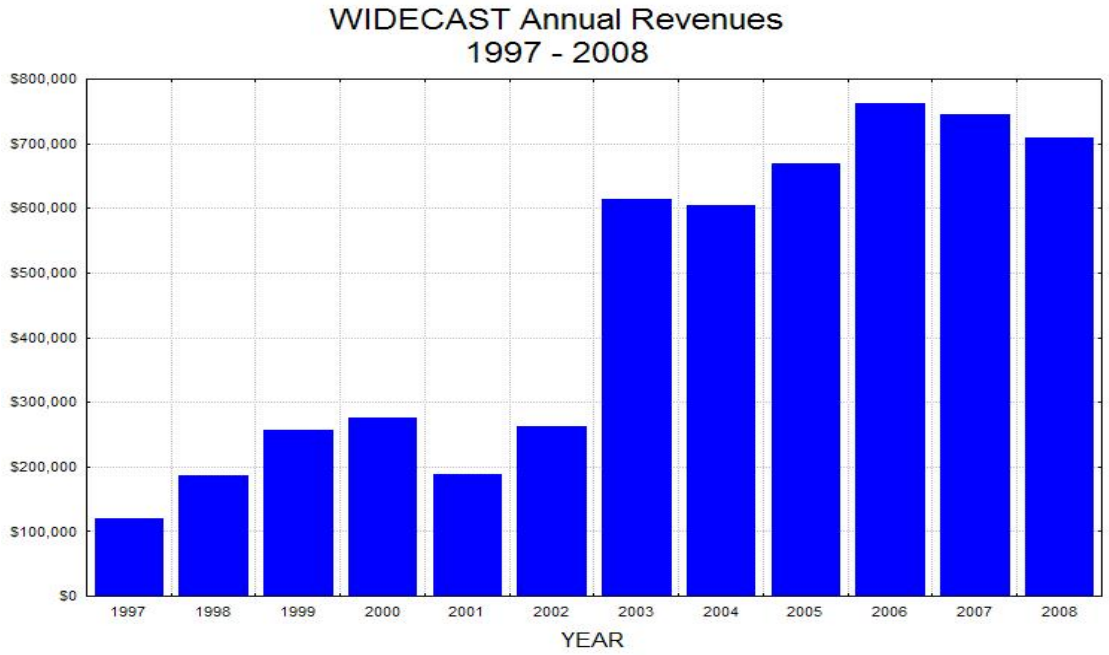


Figure 2. WIDECAST fund-raising during the 12 years from 1997 [when WIDECAST was incorporated as a nonprofit organization] to 2008.

The WIDECAST bank account is open to receive grants from any WIDECAST partner, including all WIDECAST Country Coordinators. It can be very useful to have a US$ bank account – you may have a US volunteer or other supporter who wants the tax benefits of contributing to a US-based NGO, you may have applied to a Foundation that will only grant to a US-based NGO, or you may need the grant paid in US$ currency.

Most of the funds deposited in the US account in 2007 and 2008 were earmarked for research in Barbados, Dominica, Trinidad, Venezuela, Costa Rica, Puerto Rico, and the Jumby Bay project in Antigua.

Additional funds, typically more thematic in nature, were raised directly by WIDECAST staff – Scott, myself, and Wendy Dow (who has now gone back to graduate school). These projects included bycatch mitigation, sensory biology, migration and habitat use, a regional nesting beach atlas, www.widecast.org, curriculum development, peer-training and exchanges, sea turtle trauma response protocols and training of Caribbean veterinarians, the development of 'best practices' for eco-tourism and nesting beach management, our Annual Meeting, etc.

MAJOR PROJECT SUMMARY: 2007-2008

The majority of WIDECAST's activities can be ascribed to the following categories: **Research and Monitoring**, **Management and Policy**, **Training and Capacity Building**, and **Public Awareness**. It is often difficult to make a clean distinction, however, as many projects embrace important elements from two or more of these fundamental categories.

The balance of my report will illustrate the wide range of activities supported by WIDECAST fundraising efforts during 2007 and 2008. It is by no means an exhaustive list! But it highlights the types of projects that the network designs, implements and maintains as models for others to follow. These range from support of community-based NGOs to the implementation of national conservation strategies – and in addition, of course, there is the considerable fundraising effort that each of you puts forward in support of local research, conservation and outreach.

[Note: The Report was illustrated with a 40-minute interactive Powerpoint presentation. Summary project budgets were presented, but removed from this circulated copy. ~ kle]

"Bi-National Conservation of Leatherback Sea Turtles in Costa Rica and Panama"

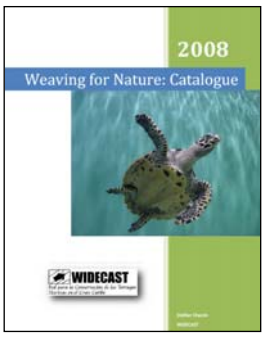
Project Objectives: The project seeks to protect gravid leatherbacks and their eggs at four critical nesting grounds in the Caribbean bi-national area between Costa Rica and Panama. The project will (i) identify threats, and improve the conservation status of sea turtles in the proposed area; (ii) promote the recovery of critical habitat through corrective actions; (iii) induce within governmental bodies in each country the application of policies and regulations that have a positive impact in the actions related to conservation of sea turtle and their critical habitats, as well as the development of socio-economic alternatives for local communities; (iv) inspire a change in the conscience level of the communities around key nesting areas; (v) facilitate the conservation of sea turtles through the generation of socio-economic alternatives for the improvement of the level and quality of life of the communities; (vi) increase the technical skills of Panamanian partners for sea turtle conservation and monitoring; and (vii) support national governments in putting into force recommendations of relevant international agreements.

"Ecology and Status of Marine Turtle Aggregations in Puerto Rico"

Project Objectives: To (i) continue the population assessment of hawksbill and green sea turtles in feeding and developmental habitats at Mona, Monito, Desecheo Islands, and Culebra Archipelago and (ii) explore new feeding grounds around Puerto Rico's mainland coast; further, based on research objectives listed in the "Recovery Plan for the Green Turtle and Hawksbill Turtle in the U.S. Caribbean, Atlantic, and Gulf of Mexico", (iii) to determine abundance and trends in the aggregations, population structure and composition, and juvenile sex ratios; (iv) determine growth rates and age at sexual maturity; (v) habitat use; (vi) health of individuals at the time of capture; (vii) quantify the threats to adults and juveniles on foraging grounds; (viii) conduct a health assessment of green turtles inhabiting Puerto Manglar; and (ix) evaluate causes of habitat degradation and make recommendations for management actions.

"Elkhorn Coral Population Dynamics in Puerto Rico"

Project Objectives: To (i) determine how Elkhorn coral population, condition and demographic parameters vary within MPAs across two geographic regions of Puerto Rico. To this end, project leaders will (ii) identify the critical habitat of Elkhorn coral; (iii) document the abundance and condition of Elkhorn coral; (iv) construct a spatial model of distribution and density; (v) design a long-term monitoring project for Elkhorn coral based on the results of the spatial model; (vi) establish permanent monitoring transects to evaluate population size structure, colony density/ distribution, colony condition; demographic parameters (recruitment, growth, survivorship, etc.), habitat-based variables (offshore gradient responses), and management effectiveness (MPAs); and (vii) commence data collection for a size-based population dynamic modeling study.



"Crafts for Conservation" [Costa Rica]

Project Objectives: To (i) support sustainable livelihoods in coastal communities through eco-crafting; and (ii) create a model program, including marketing, for other countries to follow.

"Sea Turtle Population Monitoring and Community-based Ecotourism Program in Dominica"

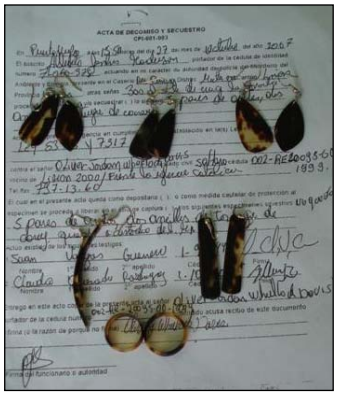
Project Objectives: To (i) design science-based sea turtle monitoring program for Dominica; (ii) provide training in data management; (iii) identify the optimal community structure needed to implement the program; (iv) generate a GIS map of nesting beaches; (v) provide formal training in professional, community based eco-tourism (trainers: Nature Seekers, Trinidad); (vi) conduct a SWOT analysis for the newly formed Dominica Sea Turtle Conservation Organization (DomSeTCO)

"Protecting Venezuela's Largest Continental Nesting Colonies"

Project Objectives: Based on information available to date, and recommendations put forward by Guada and Solé (2000), the 2007 project goals are to: (i) enhance our understanding of nesting populations at Cipara and Querepare (seasonality, distribution, abundance); (ii) estimate the size of the nesting population in the northern Peninsula de Paria, in order to provide specific research and conservation recommendations; (iii) train residents and volunteers in sea turtle conservation techniques; (iv) involve the local community in research and conservation activities; (v) provide training/organization for the sale of artisanal work to generate awareness of alternative sources of income at the grassroots level; and (vi) create awareness toward endangered turtles in Peninsula de Paria through lectures, recreational activities and the media.

"Marine Turtle Research, Conservation and Outreach in Caribbean Costa Rica"

Project Objectives: To (i) provide logistical and programmatic support, including equipment, training and evaluation, to project partners in Caribbean Costa Rica, especially Playa Gandoca and Cahuita, and more recently to the Pacific site of Osa; and (ii) support the field research, conservation and outreach programs of the WIDECAST Latin American Office in Costa Rica.



"Following the Illegal Trade of Hawksbill Turtles" [Central America]

Project Objectives: To (i) design and implement a plan to significantly reduce illegal domestic and international trade in hawksbill turtles in Costa Rica; (ii) review, adapt and continue the national certification program for traders and vendors; (iii) promote alternatives to tortoiseshell crafts; (iv) conduct training of national stakeholders on the topic of illegal trade control; (v) promote public information and education; and (vi) conduct a public legal claim plan using the best media resources available in the country.

"Jumby Bay Hawksbill Project , Antigua: Long Term Ecological Research in the Caribbean"

Project Objectives: *Inter alia*, to (i) gather comprehensive long-term data on population parameters and general biology relating to reproduction, survivorship, genetic origin, and post-reproductive movements of hawksbills nesting at Jumby Bay, Antigua; (ii) provide quantitative information on population behavior suitable for construction and/ or evaluation of population models, conservation initiatives and fisheries management plans for hawksbills, with special focus on Eastern Caribbean populations; (iii) measure and evaluate conflicts and possible resolutions surrounding luxury home development on the nesting beach; and (iv) stimulate implementation of the UNEP/WIDECAST "Sea Turtle Recovery Action Plan for Antigua & Barbuda".

"Monitoring the Second Largest Leatherback Nesting Colony in the World: the Role of Rural Communities in Research and Management"

Project Objectives: To (i) involve local communities in a nation-wide leatherback nesting index/ census, including providing training and program evaluation; (ii) host Earthwatch volunteers participating in the Index Beach monitoring and conservation at Matura Beach, the world's second largest *Dermochelys* nesting colony; and (iii) purchase essential field equipment for Index Beach monitoring.

"Barbados Sea Turtle Project: Pew Fellowship in Marine Conservation"

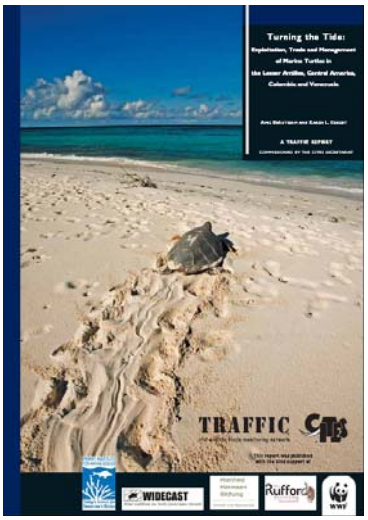
Project Objectives: To (i) strengthen the capacity of the Barbados Sea Turtle Project to assist sea turtle projects in the eastern Caribbean in their efforts to implement more effective conservation measures and better protect critical nesting and foraging habitat; (ii) strengthen the capacity of the Caribbean Marine Turtle Tagging Centre to assist countries in the eastern Caribbean in developing their national sea turtle monitoring programmes; (iii) examine models of sea turtle ecotourism with the intention of identifying the best approaches for obtaining sustainable economic returns from ongoing use of the sea turtle resource; (iv) convene a training course at the University of the West Indies on sea turtle biology, conservation and sustainable use for Government personnel in the eastern Caribbean; (v) convene a regional Workshop to establish best practices in sea turtle ecotourism initiatives; and (vi) convene a regional Workshop for hoteliers and coastal property owners to develop best practices in maintaining the quality of turtle nesting habitat.

"Conservation Leadership Training"

Project Objectives: In **Trinidad**, to (i) create a replicable field research team training program for emerging scientists and community members to enhance global conservation of leatherback sea turtles and (ii) provide a model for locally driven conservation in sustained sea turtle conservation and management. In **Barbados**, to (i) train Eastern Caribbean managers on Index Site Population Monitoring, including data collection and database management; (ii) provide technical materials to workshop participants. In **Bermuda**, to (i) provide technical resources to trainees in an international sea turtle population monitoring course. In **Bonaire**, to (i) convene a 5-day field course in Bonaire to enhance the capacity of Dutch Caribbean managers to design and implement scientifically rigorous sea turtle monitoring programs, both on the nesting beach and at sea; and (ii) encourage participants, in turn, to train project staff and volunteers in the techniques learned. At **Duke University**, to (i) teach "*Biology and Conservation of Sea Turtles*", including a 7-day field expedition to Trinidad, giving students a unique opportunity to conduct field work at a world-class research site (Matura Beach, Trinidad), as well as interact with local resource managers, community conservationists, fishermen and others in a 'real-world' context where the complexities of biodiversity conservation can be learned in ways that are impossible to convey in a classroom setting.

"www.widecast.org"

Project Objectives: To (i) design a comprehensive Internet site for Caribbean sea turtles; (ii) create site structure, including format (headers, footers, side bars) and design (color, fonts, logos); (iii) post content to feature WIDECAST History, Current Projects and Contacts, Sea Turtle Biology and Conservation Status, Threats and Mitigation, Legislation and Treaties, Best Practices and Related Links, Publications and other Information Resources, and Shopping.



"Public Awareness: Endangered Marine Turtles"

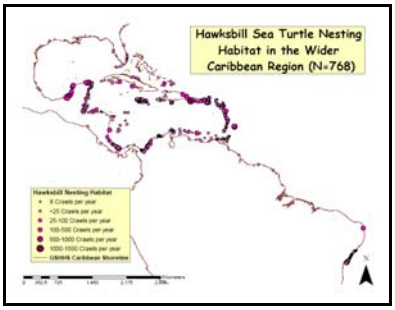
Project Objectives: To (i) enhance the public understanding of sea turtle biology and conservation through the distribution of current science-based literature, education/curriculum tools, and out-reach materials; and (ii) distribute 70 Teacher's Packets to secondary schools and educators in Trinidad and Tobago; (iii) distribute 60 Teacher's Packets to secondary schools and educators in the Cayman Islands; and (iv) distribute Bräutigam and Eckert (2006) to Caribbean colleagues.

"Experiment to Evaluate the Target Catch and Bycatch Reduction Effectiveness of Surface and Mid-Water Drift Gillnets in Trinidad"

Project Objectives: To (i) introduce and test new methods (low profile nets, trolling) to reduce leatherback entanglements with minimal loss of revenue to fishers; (ii) compare the catch rates of target species of finfish for each net type; (iii) compare the catch rates of bycatch species of finfish for each net type; (iv) compare the catch rates of sea turtles for each net type ; (v) intro-duce bycatch reduction methods (reduced profile nets & troll fishing) to fishers in SE Trinidad; (vi) Improve trolling fish catch rates through artificial bait change appropriate to Trinidad fisheries; and (vii) Reduce leatherback bycatch in the bottom set gillnet fishery using narrow profile nets.

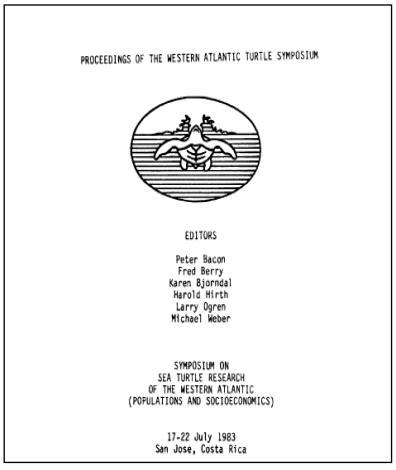
"Sea Turtle Sensory Biology"

Project Objectives: To (i) test the visual capabilities of sea turtles with an aim to understand the spectral, temporal and UV sensitivities in juvenile leatherback sea turtles. To (i) develop Auditory Brainstem Response (ABR) techniques for determining the underwater hearing capabilities of sea turtles in the field; (ii) investigate the hearing sensitivity of hatchling hawksbills in Barbados and determine the overlap between seismic airgun and drilling sounds and hawksbill hearing; and (iii) publicize results to use in mitigation efforts.



"Sea Turtle Habitat Spatial Database for the Wider Caribbean Region"

Project Objectives: To (i) increase our understanding of the distribution and relative importance of Caribbean coastal habitats to sea turtles; (ii) assemble expert knowledge on the location of nesting habitat for six species of sea turtle inhabiting the Western Central Atlantic Region; (iii) generate a digital spatial database of sea turtle nesting habitat; (iv) identify gaps in existing knowledge; (v) organize and post the resulting national maps and reports to the Internet (OBIS-SEAMAP) in ways that enable conservation analysis; (vi) conduct an OBIS-SEAMAP user's workshop at the 2008 Annual Meeting of WIDECAST; (vii) submit results to peer-reviewed journal.



PROCEEDINGS OF THE WESTERN ATLANTIC TURTLE SYMPOSIUM

EDITORS

Peter Bacon
Fred Berry
Karen Bjorndal
Harold Hirth
Larry Ogren
Michael Weber

SYMPOSIUM ON
SEA TURTLE RESEARCH
OF THE WESTERN ATLANTIC
(POPULATIONS AND SOCIOECONOMICS)

17-22 July 1983
San Jose, Costa Rica

"Digitizing WATS as a Baseline for Current Conservation Efforts in the Western Atlantic Region"

Project Objectives: To (i) digitize historical data from the Western Atlantic Sea Turtle Symposia, including inter alia information related to critical habitat, population estimates, exploitation and trade, economics of sea turtle fisheries, and law enforcement; (ii) ensure that information collected in preparation for WATS I & II is not lost to science, and that it fulfills its potential for providing a "forum for the exchange of experiences among scientists, administrators, and individuals interested in making contributions

for the preservation of this important natural resource"; (iii) enhance and extend the usefulness of historical place-based data by using modern GIS tools to create a regional digital landscape of active nesting beaches, foraging grounds, landing sites and other geo-referenced information found in these proceedings; (iv) implement recommendations of national management plans and intergovernmental agreements that call for compiling/assessing data that shed light on historical population trends.

"Training for Life: WIDECAST's Sea Turtle Trauma Response Corps (STTRC)"

Project Objectives: To (i) collate existing information on protocols (stranding response, tissue sampling, record-keeping, standards for rehabilitation facilities, clinical requirements, release protocols, etc.) in use by state and federal agencies, as well as licensed sea turtle rehabilitation centers in the US and elsewhere; (ii) develop, peer-review, and translate a "Field Guide" for responding to sea turtles in crisis and a "Husbandry Manual" for short-term care-giving; (iii) sponsor participation of Caribbean vets in the annual Florida Sea Turtle Rehabilitation Workshop, as well as the 2008 Caribbean Animal Welfare Conference (Dominican Republic), to expose Caribbean professionals to current medical/ rehabilitation techniques.

"Reaching a Multilingual Audience: Translating Foundational Documents"

Project Objectives: To (i) provide science-based best practices and outreach tools that are both Caribbean-centered and aimed at a broad public audience; (ii) translate our "Educator's Handbook", "Tagging Manual", and "First Response Field Guide" (see above) into Spanish; (iv) translate Chacon et al. (2007) "Sea Turtle Techniques Manual for Costa Rica" into English; and (iv) disseminate these e-translations to conservationists and managers through the WIDECAST network.

"Population dynamics of the Endangered Green Sea Turtle, *Chelonia mydas*, in the Northern Caribbean Sea: Setting conservation priorities in Cuba"

Project Objectives: To: (i) elucidate critical population-level parameters of Endangered green sea turtle rookeries nesting in the western Cuban Archipelago, (ii) provide a scientific basis for national management strategies and conservation priorities, (iii) estimate nesting population abundances, using flipper tagging, (iv) utilize genetic techniques (mtDNA) to provide insight into site fidelity, stock mixing, and stock origin, (v) utilize genetic techniques (nuclear microsatellites) to determine the extent of multiple paternity at the nesting beaches, and (vi) contrast mtDNA and microsatellite results to illustrate, for the first time, whether significant male-biased dispersal is operant in these populations.

Finally, WIDECAST Country Coordinators sponsor countless peer-training sessions, large and small, every year and many small grants are raised to facilitate this sharing.

That's the news from my office .... and now I look forward to hearing from all of you! This is your meeting, ... your opportunity to share and network and re-invigorate your conservation goals.

In closing, I know I speak for all of us in expressing my gratitude to Dr. Kimberly Stewart and her colleagues here at the University for providing us with this wonderful forum in which to enjoy each other's company. If the rest of the meeting is anything like the fantastic session we had yesterday afternoon, I know we're all in for a treat!

Thank You, and if anyone wants a copy of this report please feel free to ask.