Final Report
Saint Lucia's Pointe Sable Environmental Protection Area Project and Eco-12 for integrated MPA planning and the development of a sea turtle monitoring program and tourism-related business plan
Consultant Emma Doyle
May, 2015

1. SUMMARY:

This project served to guide the development of community-based sea turtle watching tourism according to regional best practices of the Wider Caribbean Sea Turtle Conservation Network (WIDECAST), and to integrate sea turtle monitoring and sea turtle watching into the revised Pointe Sable Environmental Protection Area (Saint Lucia) management plan. It equipped the local community-based organization 'Eco-12' with livelihood development plans, relevant supporting materials and essential sea turtle monitoring and safety equipment. The project established solid foundations for sustainable community-based tourism within Pointe Sable Environmental Protection Area under the supervision of the protected area manager, Saint Lucia National Trust, in communication with the Fisheries Department and key local tourism partner Coconut Bay resort, and based on existing experience of the DesBarras Turtle Watch Group from Grand Anse Beach, Saint Lucia. In the 2015 sea turtle nesting season, members of Eco-12 are actively patrolling the beaches of Pointe Sable Environmental Protection Area for nesting sea turtles and implementing plans for associated sustainable tourism livelihoods.

2. BACKGROUND:

The first draft management plan for Pointe Sable Environmental Protection Area (PSEPA), corresponding to the period 2009-2014, was commissioned by the Environment and Sustainable Development Unit (ESDU) of the Organization of Eastern Caribbean States (OECS) and was an output of the OECS Protected Areas and Associated Livelihoods (OPAAL) Project funded by the Global Environment Facility (GEF), through the World Bank, the Fonds Français pour l'Environnement Mondial (FFEM), and the Organization of American States (OAS).

In 2014, the draft management plan is being updated to reflect the status of natural resources in the area, to take into account institutional changes affecting governance of the area, and to reflect priorities for action based on available and forecast likely future resources for management. The update involves reviewing, reflecting and editing, but not re-writing the plan in its entirety. The update includes a process of internal review, external expert review, key agency meetings and community consultation meetings. These steps are made possible with support from the US National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program (CRCP) and the Gulf and Caribbean Fisheries Institute (GCFI) as part of their assistance to marine protected areas in the Caribbean to help build local capacity for effective marine protected areas (MPA) management.

The first step in the updating process was an internal review of the 2009 draft management plan by the Council of the Saint Lucia National Trust (SLNT). Guided by the Council's feedback and concerns about the 2009 draft management plan, technical specialists from NOAA CRCP, Australia's Great Barrier Reef Marine Park Authority and GCFI volunteered their time to make expert reviews of the plan which highlighted the areas that most required updating and refining for implementation. These areas then provided the focus for discussion during consultation meetings with partner agencies at the national level, and with local community representatives at a consultation meeting held in Vieux Fort. Validation meetings were subsequently held with national agencies and local community representatives to present the proposed management objectives and suite of possible management activities and performance indicators.

The community consultation meetings in Vieux Fort indicated that there are a number of high priority needs associated with the management of the Anse de Sable and Bois Chadon beach areas of PSEPA. In particular, questions about the status of sea turtle nesting on these beaches were raised, and concerns were voiced about coastal zone management practices and patterns of recreational use that are of detriment to the successful nesting of sea turtles. The beaches of PSEPA are known to be used for nesting by two species of critically endangered sea turtle - the hawksbill sea turtle, *Eretmochelys imbricata*, and the leatherback sea turtle, *Dermochelys coriacea* (Dow et al, 2007). The Saint Lucia National Trust and Fisheries Department share responsibility for sea turtle conservation and for the implementation of the Saint Lucia Sea Turtle Recovery Action Plan (d' Auvergne and Eckert, 1993), and both parties serve as joint Country Coordinators for WIDECAST in Saint Lucia.

During 2014, the illegal poaching of nesting turtles and eggs in Saint Lucia obtained negative publicity nationally and regionally. At Grand Anse, this resulted in the re-activation and training of a nesting beach patrol team comprised of local community members, with funding for training, equipment and patrol activities through the German-funded CATS Programme. Public sentiment for enhanced conservation of Saint Lucia's sea turtles also came from residents of Vieux Fort, and especially prompted interest among local young people in assisting with the sea turtle monitoring and protection within PSEPA. Through support from ReefFix, this project responded to local interest in building livelihoods in Vieux Fort associated with sea turtle conservation and protected area management.

The ReefFix Project is an ICZM tool that works with Small Island Developing States (SIDS) to complete stakeholder analysis and socio-economic valuation with a view towards improving oversight of marine resources to meet commitments made by SIDS to increase coverage and effective management. In the framework of ReefFix, the Independent Contractor (hereinafter referred to as "The Consultant") will develop relevant studies focusing on rapid economic valuation of ES, beneficiary identification and financing instruments for the Marine Protected Areas.

In this context, ReefFix offers a valuable opportunity for SIDS to strengthen their coastal zone management through one or more of the five options below:

1. Apply, when possible, three ecosystem services valuation methodologies on fisheries and/or tourism and/or estimated economic productivity/ha/year
2. Cost effective analysis of most efficient interventions such as sewage treatment vs. watershed management, reforestation or solid waste management
3. Green tax: Cost recovery mechanisms such as hotel bed tax or tourism tax ($1% tax to protect reasons that tourists come.)
4. Policy and legislation necessary for the implementation of a payments for ecosystem services project
5. System Plan of most representative marine ecosystems to meet Grenada Declaration to put 25 percent of near-shore marine and 25 percent of terrestrial natural resources under effective conservation by 2020 under the Grenada Declaration (Caribbean Challenge)

3. PROJECT ACTIVITIES:

On July 22, 2014, a group of seven local high-school leavers and a representative of Eco-South Tours met with representatives of PSEPA, WIDECAST and OAS to discuss best practices in sea turtle monitoring and the potential for locally-based sea turtle tourism activities (see Figure 1). This included a WIDECAST presentation by Emma Doyle at PSEPA office "Introduction to Marine Turtles" (Appendix I), and a question and answer session. On the morning of July 23, 2014, a morning census was made of sea turtle crawls on Bois Chadon beach. This indicated three hawksbill crawls and likely two nests. See Figure 2.

Figure 1: Participants in sea turtle talk at PSEPA, June 21, 2014 (Photo C. Henry)

Figure 2: Morning census of sea turtle crawls on Bois Chadon, June 22, 2014

In coordination with PSEPA and the Saint Lucia Fisheries Division, Dr Marie Louise Felix (associated with WIDECAST, the Grand Anse community patrol and in-country consultant for the TNC ECMMAN project) lead a night-time patrol for sea turtles on Anse de Sable and Bois Chadon with the Eco-12 group. This was a valuable orientation and training opportunity to expose participants to sea turtle monitoring and conservation.

Dr Marie Louise Felix worked with the Eco-12 group to directly link them with grant opportunities for the development of sustainable alternative livelihood options under the CaMPAM/TNC project **Climate Resilient Eastern Caribbean Marine Managed Areas Network (ECMMAN)**. The group explored sustainable livelihood options associated with PSEPA and tourism, including sea turtle watching and other complementary ecotourism opportunities. Concurrently, Emma Doyle consulted with the Eco-12 group and Saint Lucia National Trust to incorporate sustainable livelihood options into the revised PSEPA management plan (copy of revised management plan to be provided by Saint Lucia National Trust upon completion of graphic design component).

On September 16-18, 2014, a core group of three Eco-12 members visited Grand Anse Beach (DesBarras, Babonneau), Saint Lucia and met with the DesBarras Turtle Watch Group. Leaders described their journey towards development of their organization and hosting of turtle watching tours for the public and tourists for about 7 years. They described challenges and the rewards for their efforts (financially, environmentally and socially). Later in the night Eco-12 visited the beach and joined in active sea turtle patrols with the DesBarras Turtle Watch Group. That night they were housed by various members of the DesBarras Turtle Watch Group (DBSTN). The following day, Eco-12 members returned to the beach early to check for hatchlings and spend time with members who are engaged in beach clean-up activities (clearing beach of sargassum, plastics and vegetation - that otherwise hamper the journey of the hatchlings). They also gained an understanding of the dynamics of the group. In the afternoon, Eco-12 received a lecture "Current Marine Turtle Research" focusing on the relevance of data collection and sharing such data at a regional and international level, about WIDECAST and tagging methods. The following evening Eco-12 again patrolled for sea turtles accompanied by DesBarras Turtle Watch Group, the District Representative, and a reporter and cameraman for the CATs project, providing Eco-12 with the opportunity to also learn about engaging with the media.

On March 13, 2015, a meeting with Eco-12 group was facilitated by Emma Doyle to refresh the group’s knowledge about sea turtle monitoring prior to the commencement of the 2015 nesting season. At this meeting Emma Doyle delivered essential sea turtle monitoring equipment to Eco-12 as part of ReefFix support, including first aid/emergency response supplies with follow-up training provided to Eco-12 by the Red Cross. Additional surveillance equipment was provided by Saint Lucia National Trust through ECMMAN project, including binoculars and two-way radios. A list of equipment is provided in Table 1 and Figure 3 shows Eco-12 member Margaran Joseph familiarizing with the equipment.

Table 1: Sea turtle monitoring equipment provided to Eco-12

Equipment	Quantity
Princeton Tec Headlamp (white-red light)	4
Wet-weather Poncho	4
First Aid Kit	2
Storage Clipboard	2
Waterproof Paper	200
Folders with Printed WIDECAST Data Sheets	6
Folder with Master WIDECAST Data Sheets	1
Flexible retracting tape measure	2
Marker Pens	2
Backpack	2

Figure 3: Eco-12 member Margaran Joseph testing new sea turtle monitoring equipment in PSEPA office

At the March 2015 meeting, the group focused on tourism products for development and implementation, including public presentations and turtle watching tours. Emma Doyle provided guidance on the design of tourism products. Dr Marie Louise Felix provided further input on links with sustainable livelihood options and relevant grant opportunities. The group also discussed marketing and social media in support of sea turtle tourism, based on examples from the WIDECAST network. A copy of the presentation that provided a basis for discussion is provided in Appendix II.

Following the meeting with the Eco-12 group, Emma Doyle and Craig Henry (Saint Lucia National Trust – South Program Officer) met with the Public Relations Manager and General Manager of Coconut Bay Resort, located within PSEPA, to discuss planning for

community-based sea turtle monitoring and associated tourism opportunities, in the context of PSEPA's revised management objectives. This meeting established the foundation for a new relationship between Eco-12 and a potentially important local tourism partner.

Emma Doyle subsequently facilitated copies for Eco-12 of tourist presentations, materials and videos related to sea turtle tourism from other WIDECAST countries. These provided best practice examples from within the network as a basis for Eco-12 to develop locally-relevant materials about PSEPA's sea turtles for use in the 2015 nesting season. Eco-12 continues to refine these products and to work on establishing a presence on social media.

In the 2015 nesting season, the Eco-12 group is patrolling the beaches of Pointe Sable Environmental Protection Area for nesting sea turtles and implementing plans for associated sustainable tourism livelihoods. Dr Marie Louise Felix continues to provide support to Eco-12 in accessing grant opportunities and relevant capacity building opportunities under ECMMAN project and through other donors that are active in Saint Lucia. Emma Doyle continues to share WIDECAST best practices for sea turtle monitoring, conservation and tourism with Eco-12 and PSEPA

The activities implemented through this project are summarized in Table 2.

Task (TOR)	Activity	Date	Output
1	Give 2-hour lecture "Introduction to Marine Turtles" to estimated 8-10 members of the Eco-12	July, 2014	7 young local community members trained in best practices for sea turtle nesting monitoring
2	Arrange a field trip for a core group of Eco-12 members to visit Grand Anse Beach (DesBarras, Babonneau), Saint Lucia	Sept, 2014	3 young local community members trained in best practices for sea turtle nesting monitoring
3	Arrange a talk by the St. Lucia Red Cross on safety and addressing minor emergencies on the beach	May, 2015	8 young local community members trained in first aid
4	Facilitate meetings for PSEPA and Eco-12 with local tourism industry, especially the local resort, to discuss planning for sea turtle monitoring and associated tourism opportunities	March, 2015	MPA Manager connected with new manager of local resort
5	Guide Eco-12 to design sea turtle watching tourism products based on WIDECAST best practices	March, 2015	Pilot turtle presentation and turtle watching tours developed
6	Develop supporting materials associated with sea turtle watching tours	March, 2015	Copies of supporting materials for pilot turtle watching tours
7	Equip Eco-12 with essential monitoring equipment	March, 2015	List and photos of equipment
8	Assist Eco-12 to establish PSEPA-Eco-12 turtle team presence on web/social media	March, 2015	Social media/web presence
9	Advise Eco-12 on business planning	Ongoing	Inclusion of Eco-12 in grant opportunities and relevant capacity building
10	Incorporate sea turtle watching and livelihoods opportunities into integrated MPA management planning for PSEPA	May, 2015	Integration of sea turtle watching in an updated PSEPA management plan

4. REFERENCES:

d' Auvergne, C. and K. L. Eckert. 1993. **WIDECAST Sea Turtle Recovery Action Plan for St. Lucia** (Karen L. Eckert, Editor). CEP Technical Report No. 26 UNEP Caribbean Environment Programme, Kingston, Jamaica. xiv + 70 pp.

Dow, W., K.L. Eckert, M. Palmer and P. Kramer. 2007. **An Atlas of Sea Turtle Nesting Habitat for the Wider Caribbean Region.** Wider Caribbean Sea Turtle Conservation Network (WIDECAST) and The Nature Conservancy. WIDECAST Technical Report No. 6. Beaufort, North Carolina. 267 pp.

"It takes a village to raise a child"

It takes a network to raise a sea turtle

Q: *Why be concerned about Caribbean sea turtles?*

A: All Caribbean species are included on the *IUCN RedList of Threatened Species* and have suffered from chronically unsustainable use and trade – exacerbated by unmonitored, open access fisheries, high levels of illegal take, wasteful by-catch, pollution, and high density coastal development.

Result: steep population declines

… and reversing population declines is complicated …

Mitigation is confounded by a complex life history and the challenges of managing large numbers of genetically distinct but geographically overlapping populations.

WIDECAST is a "Regional Activity Network" (RAN) and a Partner Organisation to the UNEP Caribbean Environment Programme (Kingston, Jamaica)

WIDECAST is the largest regionally-based network of sea turtle research and conservation projects that the world has ever known.

WIDECAST Scope:

Wider Caribbean Region, including Bermuda & Brazil … 43 sovereign and territorial governments

The WIDECAST network consists of:

Country Coordinators in 43 nations, including:

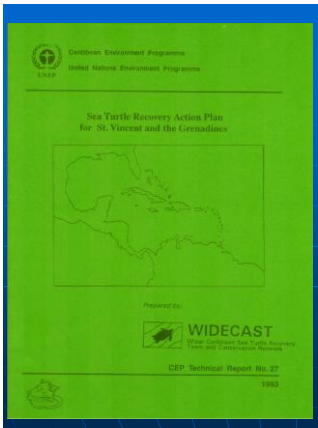
Sarita Peter,

Fisheries Biologist III,

Department of Fisheries

Executive Office (USA)

- ***Executive Director***
- ***Director of Science***
- ***Students/ Interns***



Endangered sea turtles will not survive without **regional co-operation and coordination**.

The **first step** is for each country to develop a national "blueprint" for conservation action: a **Sea Turtle Recovery Action Plan (Saint Lucia 1993).**

A recommendation is the need for **research and population monitoring.**

WIDECAST

Working with Endangered Species

- **scientifically sound conservation measures at the local level, via network**
- **assisting governments with obligations under international treaties – Cartagena Convention, SPAW Protocol, CITES**
- **permit requirements**

WIDECAST

Types of Sea Turtle Monitoring

- **Nesting on index beaches**
- **In-water studies at foraging habitat**
- **Habitat monitoring**
- **Strandings**

Sensitivity to Working in Marine Protected Areas

- **Visitor curiosity** > Public relations confidence in explaining research work
- **Public visibility** > Careful and humane treatment of animals, no paint marking of shells

WIDECAST

Setting up a Sea Turtle Monitoring Programme

What are your management goals ? For example……

To assess population abundance and trends over time in response to conservation actions?

To decide which beaches are most important to delineate as protected areas?

To decide where females and/or eggs are vulnerable to particular mortality factors (nationally and internationally)?

What is the scope of your survey?

- Monitor all beaches
- Monitor the main
- nesting beaches only
- Monitor a few
- selected "index" sites

Monitoring sea turtle populations:

1. Daytime - Monitoring of nests only
2. Night – Monitoring of nests and females.

Turtles leave tracks that:

Allow identification of species

And clues as to whether egg-laying occurred, i.e. sand thrown (misted) over emerging track

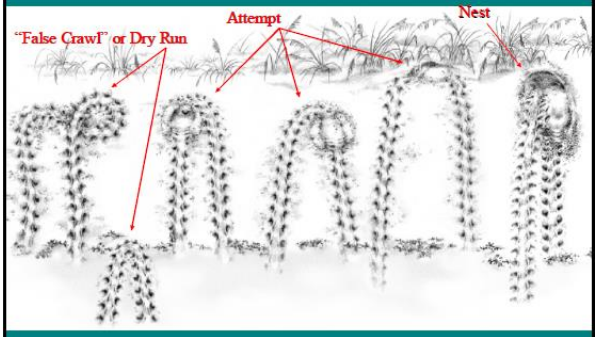
Day time monitoring

- Less time and labour intensive
- More sociable working hours and safer conditions
- May be more practical when monitoring isolated beaches and cays

Nest verification

Surveyors must be trained to confirm nests by track and nest site characteristics

Identifying Activity Types



- Survey boundaries – set and adhered to each year
- Survey frequency – number of days per week the survey is conducted must be set and adhered to from year to year (once, twice etc per week)
- Survey period – should encompass peak of the nesting season (may require pilot studies of the whole nesting season initially). Eight weeks ideally.
- Survey time – as early in morning as possible
- Clear away signs of activity - to prevent double-counting
- Excavate all nests after hatching (optional)

Monitoring with tagging :

More expensive, more time consuming, but provides more information. Identification of all females (saturation tagging) allows additional information to be collected:

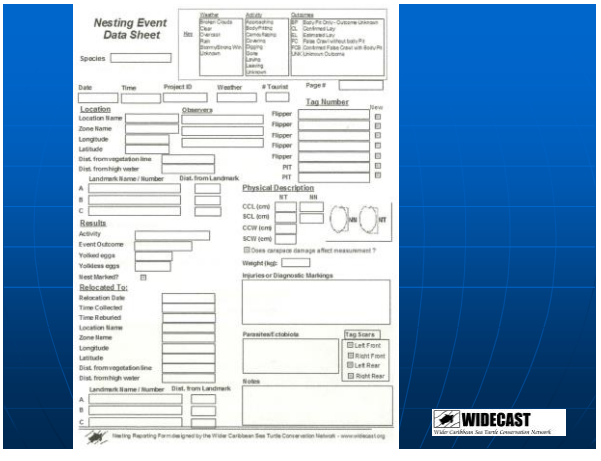
How many nests an individual makes (clutch frequency)

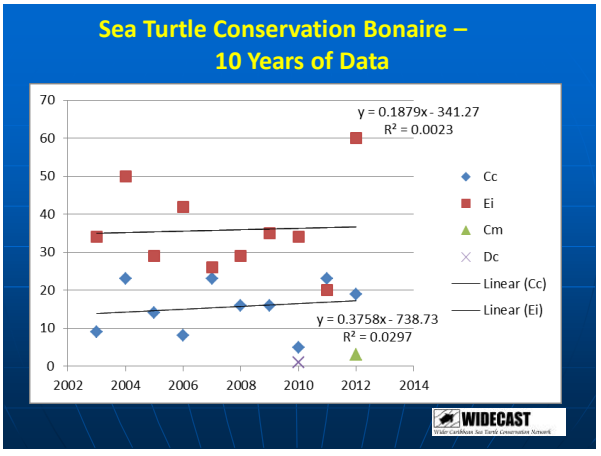
How many years between an individual's nesting seasons (remigration interval)

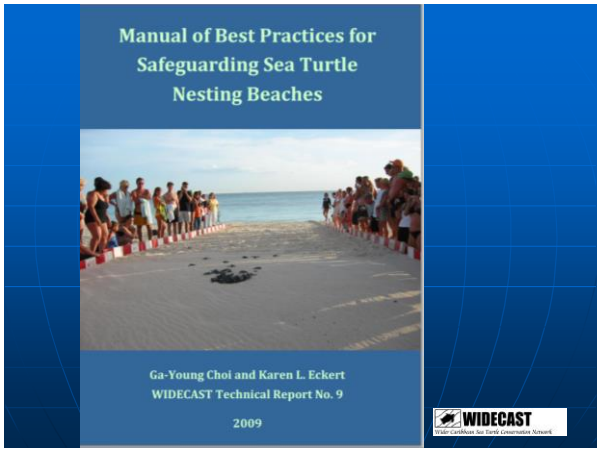
Where an individual nests (nest site fidelity)

Where an individual goes after nesting (identification of foraging ground from tag returns)

Can also relocate nests safely







Tourism – www.widecast.org

WIDECAST

Next Steps?

- Assess personal safety/risks and feasibility
- Organise full training with Sarita
- Secure the relevant permit from Fisheries
- Fundraise for uniforms, equipment
- Recruit, train volunteers (including securing enough labour!)
- Establish patrol plan and communications
- Build public awareness and education component

WIDECAST

Start-Up Activities

Monitoring programme preparation at beginning of season:

Select volunteers/assistants

Obtain permits/uniforms

Check equipment and supplies

Inform Police/Coast Guard
Conduct training

Clean beaches (optional)

Identify beach markers (e.g. trees, street lights)

Construct knockdowns

PSEPA-Eco-12 Turtle Tours

Results

1. 8-10 young local community members trained in best practices for sea turtle nesting monitoring;
2. Pilot turtle watching tours developed and trialed;
3. Social media/web presence;
4. Outline business plan for turtle watching tours in PSEPA;
5. Integration of sea turtle watching in an updated PSEPA management plan.

Records

1. Copy of training program and copies of training materials;
2. Photos from meetings and activities;
3. Copies of press notes about the training and pilot activities;
4. Copies of supporting materials for pilot turtle watching tours;
5. Lists of participants in all meetings and activities

Organization of American States

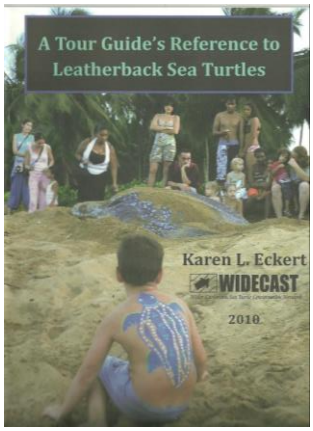
Tasks

1. Monitor for nests!
2. Design tour content – with hatchlings, without hatchlings, bad weather option, kids option
3. Supporting materials – public presentation, tourist etiquette brochures, posters, video links, art/craft?, logo?, monitoring equipment
4. Contact Mr Labourne @Coconut Bay and Jolien @Reef for tourists, plan date for first tour
5. Rehearse the tours
6. Prepare short evaluation questionnaire for tourists
7. Design short questionnaire about willingness to pay, day/night preference, marketing approach
8. Trial the tours!
9. Visit Grand Anse
10. Set up web/FB

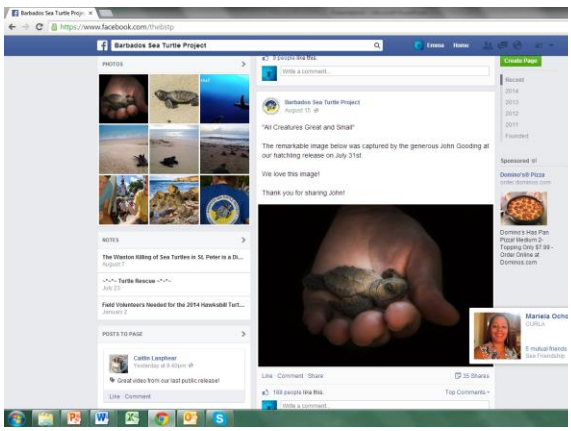
Priority – Develop Tour Content

1. Turtle Hatchling Release at Dusk
2. When no hatchlings – "Turtle Talk and Walk" (timing?)
3. Presentation if wet weather – "Sea Turtles of Saint Lucia"
4. With kids, daytime option – "Sea Turtles and Kids" (Craig - eventually also "Meet the Park Ranger")

- ✓ Script with content
- ✓ Fun! Prepare jokes
- ✓ Focus on environmental sensitivity >>> need etiquette briefing and handout
- ✓ Prepare for questions

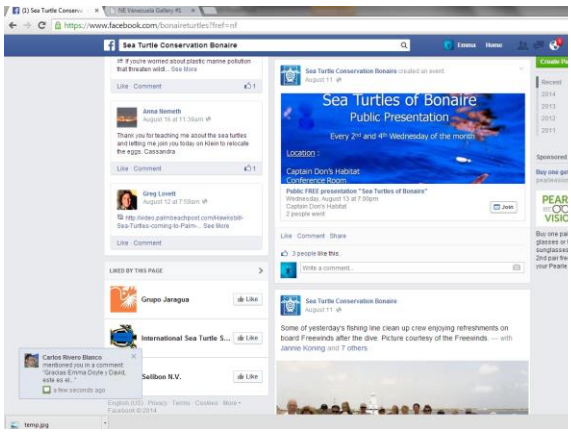

A Tour Guide's Reference to Leatherback Sea Turtles
Karen L. Eckert
WIDECAST
2010


Barbados Sea Turtle Project
Turtle Hotline (24hr)
230-0172
Barbados Sea Turtle Project
Organization


Barbados Sea Turtle Project
"All Creatures Great and Small"
The remarkable image below was captured by the generous John Gooding at our hatchling release on July 31st.
We love this image!
Thank you for sharing John!


Barbados Sea Turtle Project
Sea Turtles & KIDS
Brilliant work, lovely video.


Sea Turtle Conservation Bonaire
Environmental Conservation
My first week with STCB...
I would like to introduce myself as STCB's new intern for the next month. My name is Valentina (pictured on the right), and I had the amazing opportunity to see 3 hatched nests in my first 2 days of patrolling on Kl...


Sea Turtle Conservation Bonaire
Sea Turtles of Bonaire
Public Presentation
Every 2nd and 4th Wednesday of the month
Location :
Captain Don's Habitat
Conference Room

Artist – Szczesny – offer for art collaboration if interested