



# CERTIFIED Turtle Approved Program: A Manual Of Recommended Practices

Prepared by: St. Kitts Sea Turtle  
Monitoring Network

SKSTMN Technical Manual

2019



For bibliographic purposes, this document should be cited as:

Stewart, K.M. and Ramirez, S. 2019. CERTIFIED Turtle Approved Program: A Manual of Recommended Practices. SKSTMN Technical Manual. Basseterre, St. Kitts. 85 pp.

Copies of this publication may be obtained from:

Dr. Kimberly M. Stewart

Director, St. Kitts Sea Turtle Monitoring Network

P.O. Box 2298, Basseterre, St. Kitts

Email: [skturtles@gmail.com](mailto:skturtles@gmail.com)

St. Kitts Sea Turtle Hotline: (869) 764-6664



## **Preface and Intent**

The CERTIFIED TURTLE APPROVED Program (CTAP) is a voluntary certification system designed to educate and encourage businesses in the Federation of St. Kitts and Nevis to operate using sea turtle-friendly practices. CTAP encompasses three distinct categories of certification (Beachfront, Water Sports, and Inland) that provide criteria specific to the type of interaction the business may have with sea turtles. Beachfront businesses focus on ensuring that their beaches remain safe and accessible to nesting and hatching sea turtles. Water Sports businesses focus on patron behavior and interactions with sea turtles while snorkeling, diving, boating, sailing, or any other activity that might encounter sea turtles at sea. Inland businesses are unlikely to encounter sea turtles and, thus, focus on supporting ongoing sea turtle conservation efforts. While the program focuses specifically on sea turtles, the hope is that certified businesses will become stewards of all the natural resources in the Federation.

CTAP is a means of encouraging national sea turtle stewardship while minimizing the negative impacts of tourism in the Federation of St. Kitts and Nevis. The program encourages a grass roots stewardship movement with certified businesses leading by example and serving as centers for the dissemination of knowledge about the importance of protecting the nation's natural resources. With businesses and their staff acting as ambassadors for sea turtle stewardship, the potential for impact on local and visiting patrons is significant. We hope that CTAP and St. Kitts and Nevis can become leaders in sustainable development and tourism that protects and supports sea turtles and the Federation's natural resources in general. The project outline and criteria delineated within are designed to be adaptable to other locations in both the region and the world and the SKSTMN would be happy to provide technical support and experiences towards this end upon request.

## Acknowledgments

The SKSTMN would like to thank the agencies and organizations that provided funding and/or technical support, and/or a critical review of the criteria for the completion of this project. These include: the Barbados Sea Turtle Project (BSTP), Beach Addiction St. Kitts Nevis, Disney Worldwide Conservation Fund (DWCF), Georgia Sea Turtle Center/Jekyll Island Authority (GSTC), the Global Environmental Facilities Small Grants Program (GEF-SGP), Ross University School of Veterinary Medicine (RUSVM), Ramapo College of New Jersey, SeaLife Law, St. Kitts Department of Marine Resources, St. Kitts Department of Tourism, St. Kitts Tourism Authority, the St. Kitts Sustainable Destination Council, the Wider Caribbean Sea Turtle Conservation Network (WIDECAST), Tipping Point Planning Services, University of South Carolina, and Wildlife Friendly Enterprise Network.

Specifically, within the various supporting agencies and organizations the SKSTMN would like to thank the following individuals from the GSTC: Dr. Terry Norton and the GSTC International Team for their technical support for all aspects of the sea turtle project.

From the BSTP and WIDECAST Marine Turtle Tagging Center the SKSTMN would like to thank Dr. Julia Horrocks who provided technical support and for the development of the criteria and a critical review following completion.

Special thanks to Dr. Karen Eckert Wider Caribbean Sea Turtle Conservation Network (WIDECAST) Executive Director, for her support and guidance from the initial developmental stages of this project to the current day. We would like to extend sincerest thanks to members of the WIDECAST Annual General Meeting (AGM) Working Group March 6, 2015 held in Puerto Rico which consisted of 12 individuals representing eight different countries within the Caribbean region and included Richard van der Wal – Aruba; Sue Willis – Bonaire ; Antoine Chabrolle – Gaudeloupe ; Cyrille Barnerias – Martinique ; Farah Mukhida – Anguilla ; Louise Soanes – Anguilla ; Marcella Harris – Dominica ; Kimberly Stewart – St. Kitts ; Annette Tolentino – Puerto Rico ; Paco Lopez – Puerto Rico ; Tania Hernandez Caraballo - Puerto Rico ; and Sara Ramirez – St. Kitts/USA.

Special thanks to the St. Kitts Department of Marine Resources for allowing the SKSTMN to have permits to conduct this work on St. Kitts and for providing significant technical support for the completion of portions of all facets of this project.

Within the SKSTMN thanks are specifically extended to Mr. Gary Buckles, Officer Kevin Fahie, Mr. Theophilus Taylor, Ms. Kathleen Orchard, Mr. George Steigler, Mr. Nickhail Sutton, Ms. Angie Picknell, and all members of the SKSTMN In-Water Team, Leatherback Team, Hawksbill and Green Patrol Team, Hotline Response Team, Rehabilitation Team, and Sea Turtle Camp volunteers for their assistance and expertise in the field and classroom on all facets of this project.

From Ramapo College of New Jersey the SKSTMN would like to thank Dr. Eric Wiener, Dr. Sanghamitra Padhy, Dr. Ashwani Visishth, and Dr. Michael Edelstein.

From SeaLife Law, special thanks to Olga Koubrak for critical review of the criteria.

From Tipping Point Planning Services thanks to Meshach Alford for critical review of the criteria.

From University of South Carolina, thanks to Dr. Kathryn Levasseur for critical review of the criteria.

From Beach Addiction St. Kitts Nevis, special thanks to Nicholas Dupre for review and input of the Watersports Criteria.

From Wildlife Friendly Enterprise Network, Julie Stein.

Without the aforementioned agencies, institutions, and individuals this project would not have been possible, and the SKSTMN is exceedingly grateful for their contributions and facilitation of this project.

## Table of Contents

<b>PREFACE AND INTENT .....</b>	<b>3</b>
<b>ACKNOWLEDGMENTS .....</b>	<b>4</b>
<b>LIST OF ACRONYMS.....</b>	<b>8</b>
<b>CHAPTER 1.....</b>	<b>9</b>
<b>PROGRAM ORGANIZATION.....</b>	<b>9</b>
<i>Enrollment .....</i>	<i>9</i>
<i>Timeframe for Meeting Recommendations Once Enrolled.....</i>	<i>9</i>
<i>Final Inspection .....</i>	<i>9</i>
<i>Successful Certification.....</i>	<i>9</i>
<i>Maintaining Certification.....</i>	<i>10</i>
<i>Probationary Status.....</i>	<i>10</i>
<i>Revocation of Certification .....</i>	<i>10</i>
<i>CTAP Certification Board Structure .....</i>	<i>11</i>
<i>CTAP Inspection Board Composition.....</i>	<i>11</i>
<i>CTAP Inspection Board Function .....</i>	<i>11</i>
<i>Qualifications for Members of CTAP Board of Directors and CTAP Inspection Board .....</i>	<i>11</i>
<i>Number of CTAP Certification and/or Inspection Board Members .....</i>	<i>11</i>
<i>Actions Invalid.....</i>	<i>11</i>
<i>Terms of Members of the CTAP Certification and Inspection Boards .....</i>	<i>11</i>
<i>Removal of Members of the CTAP Certification and Inspection Boards .....</i>	<i>11</i>
<i>Vacancies on the CTAP Certification and Inspection Boards.....</i>	<i>12</i>
<i>Regular CTAP Certification and/or Inspection Boards' Meetings.....</i>	<i>12</i>
<i>Notice of Special CTAP Certification and or/Inspection Boards' Meetings.....</i>	<i>12</i>
<i>Call of Special CTAP Certification and/or Inspection Board Meetings .....</i>	<i>13</i>
<i>Quorum of Certification and/or Inspection Boards.....</i>	<i>13</i>
<i>Electronic Meetings Permitted.....</i>	<i>13</i>
<i>Appointment of Members of the CTAP Certification and Inspection Boards.....</i>	<i>13</i>
<b>CHAPTER 2 CERTIFIED TURTLE APPROVED PROGRAM CRITERIA <i>BEACHFRONT BUSINESSES</i> .....</b>	<b>14</b>
<b>CHAPTER 3. CERTIFIED TURTLE APPROVED PROGRAM CRITERIA <i>INLAND BUSINESSES</i> .....</b>	<b>23</b>
<b>CHAPTER 4. CERTIFIED TURTLE APPROVED PROGRAM CRITERIA <i>WATER SPORTS BUSINESSES</i> .....</b>	<b>29</b>
<b>APPENDIX A. BUSINESS CRITERIA CHECKLISTS .....</b>	<b>37</b>
<b>APPENDIX B CTAP POSTER .....</b>	<b>47</b>
<b>APPENDIX C CTAP CRITERIA SPECIFIC POSTERS.....</b>	<b>48</b>
<b>APPENDIX D STAFF CERTIFICATE OF COMPLETION OF CTAP TRAINING.....</b>	<b>51</b>
<b>APPENDIX E SEA TURTLE POLICY STATEMENT .....</b>	<b>52</b>
<b>APPENDIX F SEA TURTLE TRAINING OUTLINE.....</b>	<b>53</b>
<b>APPENDIX G WHAT TO DO IF YOU ENCOUNTER A SEA TURTLE .....</b>	<b>55</b>
<b>APPENDIX H IMPORTANT CONTACT INFORMATION .....</b>	<b>57</b>

<b>APPENDIX I BEACH FURNITURE ON A SEA TURTLE NESTING BEACH.....</b>	<b>59</b>
<b>APPENDIX J ARTIFICIAL LIGHTING RECOMMENDATIONS FOR SEA TURTLE NESTING AREAS: CREATING A SEA TURTLE FRIENDLY LIGHTING DESIGN FOR AREAS IN CLOSE PROXIMITY TO NESTING BEACHES AND FORAGING AREAS IN ST. KITTS .....</b>	<b>61</b>
<b>APPENDIX K CTAP FUNCTIONAL DEFINITIONS.....</b>	<b>80</b>

## List of Acronyms

ATV	All Terrain Vehicle
BSTP	Barbados Sea Turtle Project
CTA	CERTIFIED Turtle Approved
CTAP	CERTIFIED Turtle Approved Program
DMR	St. Kitts Department of Marine Resources
GSTC	Georgia Sea Turtle Center
GSTC	Global Sustainable Tourism Council
RUSVM	Ross University School of Veterinary Medicine
SDS	Safety Data Sheet
SKN	Federation of St. Kitts and Nevis
SKSTMN	St. Kitts Sea Turtle Monitoring Network
WIDECAST	Wider Caribbean Sea Turtle Conservation Network

## **Chapter 1.**

### ***Program Organization***

#### ***Enrollment***

Interest in enrollment in the CTAP and working towards certification should be expressed via formal communication and come to the SKSTMN through email ([skturtles@gmail.com](mailto:skturtles@gmail.com)), Facebook Page notification (St. Kitts Sea Turtle Monitoring Network Facebook Page), or the Sea Turtle Hotline ((869) 764-6664). Both the CTAP Certification and Inspection Boards will then be advised by the SKSTMN that the business has expressed interest. The CTAP Inspection Board will then schedule to visit the location and perform an initial inspection using the CTAP Business Criteria Checklist (See Appendix A Business Criteria Checklist). The results of this inspection are compiled and the information is then forwarded to the CTAP Certification Board who then determines if the business is suitable for Certification or if adjustments need to be made to enable them to meet the Criteria. If adjustments are necessary then recommendations are provided by the CTAP Certification Board and relayed to the business by the CTAP Officer and the SKSTMN. If the business chooses to proceed then the business a reasonable timeframe within which these adjustments must be made will be developed and the CTAP Officer and the SKSTMN will work to facilitate necessary training and guidance as the businesses work through this procedure. The business will at this point be considered enrolled in the CTAP and will be announced as such on the turtleapproved.org website ([www.turtleapproved.org](http://www.turtleapproved.org)).

#### ***Timeframe for Meeting Recommendations Once Enrolled***

The typical timeframe a business will be granted to meet Criteria is not to exceed 12 weeks for minor recommendations and 24 weeks for major recommendations following the initial inspection by the CTAP Inspection Board and subsequent relaying of recommendations by the CTAP Certification Board, CTAP Officer, and SKSTMN. Extensions of these timeframes may be granted if requested formally in writing to the CTAP Certification Board from the business with a description of why the request is necessary.

#### ***Final Inspection***

Once the business feels they have met the Criteria and are prepared for a final inspection this will be conducted by the CTAP Inspection Board, the results forwarded to the CTAP Certification Board, and a final decision made. Final decisions on Certification will be relayed in writing to the business by the CTAP Officer and the SKSTMN.

#### ***Successful Certification***

Businesses successful in receiving Certification will be granted access to the educational and marketing materials for the CTAP through the password protected area of the turtleapproved.org website. They will also be provided with two general CTAP posters (Appendix B), two CTAP posters specific to their criteria (Appendix C), and a plaque to be displayed in the business and updated annually with each year they

have successfully renewed Certification. Each individual employee trained throughout the course of the Program will receive a certificate of completion of the training module (Appendix D).

### ***Maintaining Certification***

Certified businesses will undergo an annual inspection by the CTAP Inspection Board within 12 months of their initial Certification and then every 12 months thereafter. The results will be reviewed by the CTAP Certification Board and decision relayed to the business by the CTAP Officer and SKSTMN. If the business is deemed in compliance with all necessary criteria then they will continue as a Certified Business and this will be announced on the [turtleapproved.org](http://turtleapproved.org) website and the plaque will be updated with the corresponding year.

### ***Probationary Status***

If a business fails to comply and does not meet standards they will be placed on probationary status. In this case, recommendations for compliance will be provided by the CTAP Certification Board and the CTAP Officer and SKSTMN will guide them through the necessary adjustments if they choose to work to meet the recommendations. This probationary status will be announced on the [turtleapproved.org](http://turtleapproved.org) website and the business will be granted a period not to exceed eight weeks for minor recommendations and 16 weeks for major recommendations. Extensions of these timeframes may be granted if a formal written request and justification is submitted to the CTAP Certification Board from the business. Updates regarding these timeframes will be available on the [turtleapproved.org](http://turtleapproved.org) website as well so that the public is aware of the process and can choose to patronize accordingly.

### ***Revocation of Certification***

If a CTAP business fails to meet Criteria then Certification Status will be revoked. The revocation announcement will be made on the [turtleapproved.org](http://turtleapproved.org) website. Any marketing materials provided by the SKSTMN and CTAP will be removed from the business with the exception of the plaque which will remain on premises with the years listed that they were Certified. If the business should choose to enter the program again at any point to regain Certification they can do so by extending a formal written request to the SKSTMN via email or post (St. Kitts Sea Turtle Monitoring Network, P.O. Box 2298, Basseterre, St. Kitts).

### ***CTAP Certification Board Composition***

The CTAP Certification Board is a group of persons vested with the task of bestowing Certification on businesses meeting CTAP criteria and denying Certification and providing recommendations to those not meeting the CTAP criteria.



### ***CTAP Certification Board Structure***

The CTAP Certification Board shall exercise all powers and authority to approve or veto certification recommendations made by the CTAP Inspection Committee, however the SKSTMN Board of Directors will act as the Board of Advisors for the CTAP Certification Committee should any issues arise that cannot be settled through the normal procedures outlined below.

### ***CTAP Inspection Board Composition***

The SKSTMN Director may appoint the CTAP Inspection Board, which shall consist of no more than five (5) members.

### ***CTAP Inspection Board Function***

The CTAP Inspection Board shall serve to inspect businesses enrolled in the CTAP for initial certification and for annual reviews. Following these inspections they shall make recommendations on certification to the CTAP Certification Board.

### ***Qualifications for Members of CTAP Board of Directors and CTAP Inspection Board***

Members must have an interest in sea turtle preservation.

### ***Number of CTAP Certification and/or Inspection Board Members***

The number of CTAP Certification and or/Inspection Board Members will not be less than three (2) at any time. The maximum number of members will be five (5) unless additional Members are authorized by the SKSTMN Board of Directors.

### ***Actions Invalid***

No action of the CTAP Certification or Inspection Board shall be valid if either of the Boards consists of less than three (3) members.

### ***Terms of Members of the CTAP Certification and Inspection Boards***

The appointed members of the CTAP Certification and Inspection Boards will serve for one year following which they can choose to renew their membership or not. Intentions should be relayed via written letter no later than December 31<sup>st</sup> annually as terms will run from January 1<sup>st</sup> to December 31<sup>st</sup> annually.

### ***Removal of Members of the CTAP Certification and Inspection Boards***

Members of the CTAP Certification and Inspection Board may be removed from office when such action will serve the best interests of the CTAP Program and the SKSTMN in the

manner prescribed herein below. Such removal will be without prejudice to any contract rights of the Committee Member so removed. Such removal may be effected by:

A majority vote of the Board other than the Member under consideration for removal; and if such vote should be tied, so that no majority is present, then the majority vote Members so voting shall count as one vote regarding such removal, and if favoring such removal, the Member shall be removed.

In the event of a tie vote by the Members other than the Member under consideration for removal, then such tie vote shall temporarily stand and the Members' meeting shall be adjourned for one (1) week. Written notice of the Resolution to remove the Member containing a statement of the tie vote for removal, of the issues upon which such proposed removal is based, of the date set for the Boards' meeting to resume, a form providing for the vote of the Member and his or her signature, and a statement requiring return of the vote of the Member to the SKSTMN Secretary shall be provided to CTAP Certification and/or Inspection Board within three (3) working days of such adjournment of the CTAP Certification and/or Inspection Board meeting. The SKSTMN Secretary shall report such Board votes as were received prior to the Boards' meeting resuming, and the vote of the majority of such votes received shall determine whether the Member proposed for removal shall be removed.

### ***Vacancies on the CTAP Certification and Inspection Boards***

Resignation of Members will become effective immediately or on the date specified the rein and vacancies will be deemed to exist as of such effective date. Any vacancy occurring in the CTAP Certification or Inspection Board, and any Membership to be filled by reason of an increase in the number of Members, will be filled by appointment by a majority of the remaining CTAP Certification and or Inspection Board, unless less than two (2) Members so remain; and in such instance, such appointments shall be made by the SKSTMN Director. The new Member appointed or elected to fill the vacancy will serve for the unexpired term of the predecessor.

### ***Regular CTAP Certification and/or Inspection Boards' Meetings***

Regular meetings of the CTAP Certification and Inspection Boards will be held four times per year. Recommended dates are January 15<sup>th</sup>, April 15<sup>th</sup>, August 15<sup>th</sup>, and November 15<sup>th</sup>.

### ***Notice of Special CTAP Certification and or/Inspection Boards' Meetings***

Written or printed notice stating the place, day and hour of any special meeting of the CTAP Certification and/or Inspection Boards will be delivered to each Member not less than three (3) days nor more than thirty (30) days before the date of the meeting, either personally, by electronic mail requiring and receiving a receipt for same, or by first class mail, by or at the direction of the SKSTMN Director. If mailed, such notice will be deemed

to be delivered when deposited in the United States mail addressed to the Member at his address as it appears on the records of this Program, with postage prepaid. Such notice need not state the business to be transacted at nor the purpose of, such meeting.

### ***Call of Special CTAP Certification and/or Inspection Board Meetings***

A special meeting of the CTAP Certification and/or Inspection may be called by any Member of either Board by formal written communication to the SKSTMN Director.

### ***Quorum of Certification and/or Inspection Boards***

A majority of the whole Board will constitute a quorum; provided, that in no event will a quorum consist of less than one-half (1/2) of the whole Board. The act of a majority of the members present at a meeting at which a quorum is present will be the act of the Board.

### ***Electronic Meetings Permitted***

In addition to personal attendance at meetings of the CTAP Certification and/or Inspection Boards, being cognizant of the development of electronic communications and the distances of the individual Members, as well as the far-flung activities of the CTAP, authorize the adoption of electronic means of communications and meetings. Any resolution had from any such meeting, any election or appointment, and any other decision made which requires or should be affirmed in writing may be affirmed by circulation of such written matter among the Members. Each Member shall sign affirming their individual vote. Numerous presently available electronic means of communications are usable for this purpose. Among those means are Skype internet based telephone; WhatsApp, WebEx and other "instant messenger" type programs; conference calling with or without video; and numerous others now existing or which will be developed in the future.

### ***Appointment of Members of the CTAP Certification and Inspection Boards***

Members of the CTAP Certification and Inspection Boards shall be appointed by the SKSTMN Director at the meeting on November 15<sup>th</sup> annually to serve for the following year.

## Chapter 2

### CERTIFIED Turtle Approved Program Criteria

#### ***Beachfront Businesses***

The CERTIFIED TURTLE APPROVED (CTA) Beachfront criteria intend to increase sea turtle awareness and conservation in the Federation of St. Kitts and Nevis. In particular, these criteria provide guidelines to improve the accommodation of nesting and hatchling sea turtles on developed nesting beaches. Participating establishments employ turtle friendly practices, as well as support and further existing sea turtle conservation efforts in the Federation of St. Kitts and Nevis. The following criteria determine what needs to be done by a beachfront establishment to be deemed CERTIFIED TURTLE APPROVED. Full compliance with these criteria is required to earn certification and remain in good CERTIFIED TURTLE APPROVED standing. **Performance indicators** (in aqua) are presented below each criterion to guide establishments in measuring compliance with the CERTIFIED TURTLE APPROVED Beachfront criteria.

For the purposes of CERTIFIED TURTLE APPROVED, the term “nesting season” is defined as the following period of the calendar year for each of the following species in the Federation of St. Kitts and Nevis:

Leatherback turtles - from February 1<sup>st</sup> through September 30<sup>th</sup>

Green and hawksbill turtles - from May 1<sup>st</sup> through March 1<sup>st</sup>

Therefore, there is an active nesting season all year round in the Federation.

“SKSTMN” refers to the St. Kitts Sea Turtle Monitoring Network

“Hotline” refers to the St. Kitts Sea Turtle Hotline (869) 764-6664

“SKN” refers to the Federation of St. Kitts and Nevis

Please see the CERTIFIED TURTLE APPROVED functional definitions list for a complete description of corresponding terms and definitions (Appendix K).

Please note:

Criteria preceded by (Recommended), are not required for certification, but are actions that the establishment may take to move towards best sustainable practices. These actions are encouraged, but not required for certification.

All criteria not labeled as (Recommended) are required for certification.

Criteria followed by (GSTC) are based on the Global Sustainable Tourism Council (GSTC) criteria for Hotels and Tour Operators. The Global Sustainable Tourism Council is an independent and neutral body that established and manages a set of criteria meant to increase sustainable tourism knowledge and practices globally.

[https://www.gstcouncil.org/wp-content/uploads/2015/11/GSTC-Hotel\\_Industry\\_Criteria\\_with\\_hotel\\_indicators\\_21-Dec-2016\\_Final.pdf](https://www.gstcouncil.org/wp-content/uploads/2015/11/GSTC-Hotel_Industry_Criteria_with_hotel_indicators_21-Dec-2016_Final.pdf)

## ***Section 1: Demonstrate Sea Turtle Friendly Establishment Management***

### **1.0 Defining a Sea Turtle Policy Statement (“Statement”)**

The establishment shall draft and implement a Statement that describes the attitude, intentions, and policy of the establishment regarding sea turtle conservation in the Federation of St. Kitts and Nevis (SKN). (See Appendix E for a sample Sea Turtle Policy Statement.)

- a. The Statement is clearly documented and available to all staff and interested parties.
- b. The Statement covers expected behavior and activities of all on-duty establishment employees regarding sea turtles in SKN.
- c. The Statement identifies one or more employees to serve as Sea Turtle Liaison to the SKSTMN.

### **1.1 Staff Sea Turtle Educational Workshop (Workshop)**

All establishment personnel shall receive periodic guidance and training regarding their roles and responsibilities with respect to sea turtle knowledge, guest education, turtle friendly practices, and contact information for the SKSTMN, the Hotline, and the Department of Marine Resources (DMR) (See Appendix F for a Sea Turtle Training Outline and Appendix H for Contact Information).

- a. An initial workshop run by the SKSTMN is offered to as many staff as possible.
- b. New staff and those unable to make the SKSTMN training session receive the information provided in the Workshop.
- c. An annual refresher of pertinent sea turtle-related information is made available for all staff.
- d. Opportunities are provided for staff to convey information learned during the Workshop to others.

### **1.2 Sea Turtle Products Ban**

The establishment and its on-duty staff shall not participate in the sale, trade, or consumption of any sea turtle products or living sea turtles on the premises. This includes eggs, meat, oil, shell products, and the turtles themselves.

- a. There is a clear policy stating that sea turtle products are not sold on property.
- b. Outside vendors permitted to sell goods on property are made aware of the sea turtle product ban.

### **1.3 Captive Sea Turtle Policy**

The establishment shall not hold captive sea turtles of any size, age, or species without the knowledge and consent of the DMR and the SKSTMN.

- a. The SKSTMN is contacted via the Hotline when hatchling, nesting, or stranded turtles are found on the premises.

### **1.4 Alterations of Establishment Land and/or Property**

Any construction, expansion, development, change in use, renovation, or similar activity ("Development") on or near a sea turtle nesting beach shall be done in accordance with national law and CERTIFIED TURTLE APPROVED Beachfront Criteria.

- a. Consultation with the SKSTMN is sought before starting the Development, as well as throughout the development process until completion.
- b. A Conservation Plan describing how the nesting beach and nesting and hatchling sea turtles will be accommodated in the Development is drafted and provided to the SKSTMN.

## ***Section 2: Demonstrate Effective Management to Minimize Negative Sea Turtle Impacts***

### **2.0 Patron Behavior**

The establishment shall inform its patrons of the Statement and provide information on appropriate behavior on the beach, in the water, and if a sea turtle is encountered (See Appendix G for What to Do When You Encounter a Sea Turtle).

- a. Patron behavior on the beach is monitored and encouraged to comply with the Statement.

## 2.1 Artificial Light Pollution

The establishment shall take accountability for the artificial light pollution it creates and take measures to minimize ambient light and prevent light visibility from the beach (See Appendix J Artificial Lighting Recommendations).

- a. An initial internal lighting audit is conducted with the aid of the SKSTMN.
- b. Measures are taken to diminish light pollution as much as possible by:
  - i. Utilizing motion-sensor and emergency beach lighting of long wavelengths (red) with the shortest possible setting.
  - iii. Utilizes blackout curtains, shade screens, tinting or similar methods to decrease the amount of light emitted through windows and doors towards the beach.
  - iv. Encouraging guests in beachfront rooms to keep their curtains drawn at night and turn off the lights when not needed.
  - v. Avoiding aesthetic and decorative (nonessential) lighting on the beach.
  - vi. Consulting with the SKSTMN prior to purchase of new lighting to ensure it complies with CERTIFIED TURTLE APPROVED criteria.
  - vii. **Best practice** in minimizing light pollution is to use Certified Wildlife Friendly bulbs and fixtures as detailed on the Florida Fish and Wildlife Commission [turtleapproved.org](http://myfwc.com/conservation/you-conserve/lighting/certified/) website.  
<http://myfwc.com/conservation/you-conserve/lighting/certified/>.
  - viii. Bonfires are not permitted on sea turtle nesting beaches during the outlined nesting season of the relevant species to the area.

## 2.2 Beach Furniture

Umbrellas, chairs, and water sports equipment (“Furniture”) not permanently affixed shall be removed from the beach on a nightly basis and stored in an area that will least interfere with nesting or hatchling sea turtles.

- a. Stacked furniture is placed with the shortest edge facing the ocean (See Appendix I for Beach Furniture Stacking Guide).
- b. The SKSTMN is consulted on new furniture purchases to find removable options with the smallest base possible

- c. **Best practice** is to utilize umbrella sleeves/holders or umbrellas that clamp directly on to the Furniture. Sleeves and holders shall be anchored during the months outside nesting season.
- d. Furniture is placed at least 3 feet or 1 meter away from known sea turtle nests.
- e. Umbrellas that need to be either buried or driven into the sand are not used near known nests.

### 2.3 Beach Cleaning

Beaches shall be cleaned of debris and waste, including plant matter, on a regular basis to avoid obstructing nesting or hatchling sea turtles. To ensure sea turtle safe beach cleaning:

- a. The cleaning process is performed manually unless specified by the SKSTMN for extenuating circumstances (i.e. sargassum inundation).
- b. Beach cleaners check for hatchlings while working and report any found to the SKSTMN via the Hotline.
- c. Beach cleaning staff report any sea turtle tracks, nests, or hatchlings encountered to the Hotline and preserve (do not rake over) the tracks until they are recorded by the SKSTMN.
- d. A reasonable effort is made to clean the beach while checking for trapped hatchlings during sargassum inundation.
- e. The use of heavy machinery is used to remove sargassum only when necessary (i.e. during a period of sargassum inundation).
  - i. Training is provided to machinery drivers so they may recognize and avoid marked incubating nests and minimize detriment to nests and hatchlings.
  - ii. After sargassum removal, tire tracks are raked out to avoid trapping hatchlings.

### 2.4 Discouraging Nest Predation

The establishment shall not provision food to intentionally attract wildlife to the area, as mongoose, monkeys, and dogs pose a threat to sea turtle nests. Nest predation is discouraged by:



- a. Disposing of food scraps or other inadvertent attractants for wildlife in a manner that does not attract wildlife.
- b. Utilizing sea turtle nest screens if mongoose, dogs, or monkeys are naturally present in the area.

## 2.5 Vehicular Traffic

Traffic from any transport mechanism including but not limited to tractors, trucks, cars, bulldozers, ATVs, motorcycles, horses ("Vehicular Traffic") shall not be allowed on nesting beaches unless absolutely necessary.

- a. Vehicular Traffic drivers permitted by the SKSTMN (i.e. medical emergency vehicles, sargassum removal vehicles) have been informed of any incubating nests to avoid and stay as close to the water line as possible.
- b. Tracks from Vehicular Traffic are raked out to avoid trapping hatchlings.

## 2.6 Noise Pollution

The establishment shall minimize loud parties, concerts, or other noisy events on the beach during night hours of the nesting season for the relevant species to the area without consultation of the SKSTMN.

- a. Up to date nesting species and corresponding nesting season information is documented.
- b. The SKSTMN is consulted and made aware of planned, loud nighttime events.

## 2.7 Beach Structure Foundation

All structures located directly on the beach shall have barriers to prevent nesting sea turtles from crawling underneath them without causing harm to sea turtles or other wildlife.

- a. Access beneath beach structures is blocked off at the beach level.

# ***Section 3: Demonstrate Effective Management to Minimize Negative Environmental Impacts***

## 3.0 Waste Disposal

The establishment shall ensure that its waste is properly disposed of in a manner that does not pollute the ocean.

- a. A recycling plan is implemented for all materials able to be recycled on the island.
- b. (Recommended) The purchase and use of disposable and consumable goods is measured and the establishment actively seeks ways to reduce their use. (GSTC)
- c. (Recommended) The establishment actively seeks ways to reduce and eventually cease the use of plastic straws, cutlery, and bags.
- d. (Recommended) The establishment actively seeks ways to reduce and eventually cease the use of Styrofoam.

### 3.1 Beach Vegetation

No removal of beach vegetation shall be undertaken without the approval of the appropriate governmental body and the SKSTMN. To maintain important nesting habitat for sea turtles and help prevent erosion of the beach:

- a. Native vegetation is left untouched, planted, and/or re-planted where and when possible.
- b. Native species are utilized wherever feasible and invasive species are avoided when landscaping. (GSTC)

### 3.2 Beach Erosion Prevention

The establishment shall utilize natural measures, such as planting appropriate native vegetation, as a preferred option to prevent erosion in place of beach nourishment (the act of bringing sand from an external source to build up a beach). If nourishment is required, the establishment shall consult the SKSTMN prior.

Note: *\*Performing beach nourishment during nesting season of the relevant species to the area without first consulting the SKSTMN will immediately place the certified establishment on probation and result in the removal of their name from all promotional turtleapproved.org websites until their next annual review.\**

- a. Beach nourishment is not performed during nesting season of the relevant species to the area.
- b. The SKSTMN is consulted prior to any beach nourishment and new sand is only added in the months outside of relevant species' nesting season in the absence of any incubating nests.
  - i. Records are kept detailing where the sand used for nourishment was obtained, how much sand was added to the beach, and when the nourishment took place.

### **3.3 Sand Mining Policy**

The establishment shall not participate in or knowingly support any illegal sand mining activities in the Federation of St. Kitts and Nevis.

Note: *\* Participation in or providing support for illegal sand mining activities will result in immediate probation and removal of the establishment's name from all promotional turtleapproved.org websites until their next annual review.\**

- a. Any required sand mining is legally documented.

### **3.4 Runoff Minimization**

The establishment shall implement practices to minimize pollution from runoff, erosion, and air, water, and soil contaminants (GSTC).

- a. Current Safety Data Sheets (SDS) are kept for each chemical substance utilized on premises.
- b. (Recommended) Ways to reduce and eventually cease the usage of any hazardous chemicals (as noted by the SDS) are actively sought.

## **Section 4: Demonstrate a Contribution to Sea Turtle Conservation in the Federation of St. Kitts and Nevis**

### **4.0 Interpretive Signage**

The establishment shall display interpretive signage and literature about sea turtles and protecting the marine environment. (The establishment has the option to order approved signage directly from the SKSTMN.)

- a. All interpretive signage for display is SKSTMN approved.

### **4.1 Response to a Sea Turtle Encounter**

Staff members shall be well versed in what to do if they encounter nesting, hatchling, or stranded sea turtles (See Appendix G for What to Do When You Encounter a Sea Turtle). The establishment agrees to:

- a. The Hotline phone number is prominently displayed and visible for all staff and patrons.
- b. The SKSTMN is contacted immediately via the Hotline if any hatchling, nesting, or stranded turtles are found on the premises.

- c. The presence and location of any stranded, injured, entangled, or otherwise distressed sea turtles encountered are reported to the SKSTMN immediately via the Hotline.

#### **4.2 Nest Protection**

The establishment shall take measures to protect known sea turtle nests for the duration of the approximately 60-day incubation period by:

- a. Known and suspected nests are reported to the SKSTMN via the Hotline and visibly delineated for identification.
- b. Known and suspected nests are deemed exclusion zones for Furniture and all Vehicular Traffic including beach cleaning vehicles.

## Chapter 3.

### **CERTIFIED TURTLE APPROVED Program Criteria**

#### ***Inland Businesses***

The CERTIFIED TURTLE APPROVED Inland criteria intend to increase sea turtle awareness and conservation in the Federation of St. Kitts and Nevis. In particular, these criteria provide guidelines to minimize environmental impact. Participating establishments employ sea turtle friendly practices, as well as support and further existing sea turtle conservation efforts in the Federation of St. Kitts and Nevis. The following criteria determine what needs to be done for an inland establishment to be deemed CERTIFIED TURTLE APPROVED. Full compliance with these criteria is required to earn certification and remain in good CERTIFIED TURTLE APPROVED standing. Performance Indicators ([in aqua](#)) are presented below each criterion to guide establishments in measuring compliance with the CERTIFIED TURTLE APPROVED Inland criteria.

For the purposes of CERTIFIED TURTLE APPROVED, the term “nesting season” is defined as the following period of the calendar year for each of the following species in the Federation of St. Kitts and Nevis:

Leatherback turtles - from February 1<sup>st</sup> through September 30<sup>th</sup>

Green and hawksbill turtles - from May 1<sup>st</sup> through March 1<sup>st</sup>

Therefore, there is an active nesting season all year round in the Federation.

“SKSTMN” refers to the St. Kitts Sea Turtle Monitoring Network

“Hotline” refers to the St. Kitts Sea Turtle Hotline (869) 764-6664

“SKN” refers to the Federation of St. Kitts and Nevis

Please see the CERTIFIED TURTLE APPROVED Functional Definitions List for a complete list of corresponding terms and definitions Appendix K).

Please note:

Criteria preceded by (Recommended), are not required for certification, but are actions that the establishment may take to move towards best sustainable practices. These actions are encouraged, but not required for certification.

All criteria not labeled as (Recommended) are required for certification.

Criteria followed by (GSTC) are based on the Global Sustainable Tourism Council criteria for Hotels and Tour Operators. The Global Sustainable Tourism Council is an independent and neutral body that established and manages a set of criteria meant to increase sustainable tourism knowledge and practices globally. [https://www.gstccouncil.org/wp-content/uploads/2015/11/GSTC-Hotel\\_Industry\\_Criteria\\_with\\_hotel\\_indicators\\_21-Dec-2016\\_Final.pdf](https://www.gstccouncil.org/wp-content/uploads/2015/11/GSTC-Hotel_Industry_Criteria_with_hotel_indicators_21-Dec-2016_Final.pdf)

## **Section 1: Demonstrate Sea Turtle Friendly Establishment Management**

### **1.0 Defining a Sea Turtle Policy Statement (“Statement”)**

The establishment shall draft and implement a Statement that describes the attitude, intentions, and policy of the establishment regarding sea turtle conservation in the Federation of St. Kitts and Nevis (SKN) (See Appendix E for a sample Sea Turtle Policy Statement).

- a. The Statement is clearly documented and available to all staff and interested parties.
- b. The Statement covers expected behavior and activities of all on-duty establishment employees regarding sea turtles in SKN.
- c. The Statement identifies one or more employees to serve as Sea Turtle Liaison to the SKSTMN.

### **1.1 Staff Sea Turtle Educational Workshop (Workshop)**

All establishment personnel shall receive periodic guidance and training regarding their roles and responsibilities with respect to sea turtle knowledge, guest education, turtle friendly practices, for the SKSTMN, the Hotline, and the DMR (See Appendix F for a Sea Turtle Training Outline and Appendix H for Contact Information). (GSTC)

- a. An initial workshop run by the SKSTMN is offered to as many staff as possible.
- b. New staff and those unable to make the SKSTMN training session receive the information provided in the Workshop.
- c. An annual refresher of pertinent sea turtle-related information is made available for all staff.
- d. Opportunities are provided for staff to convey information learned during the Workshop to others.

### **1.2 Sea Turtle Products Ban**

The establishment and its on-duty staff shall not participate in the sale, trade, or consumption of any sea turtle products or living sea turtles on the premises. This includes eggs, meat, oil, shell products, and the turtles themselves.

- a. There is a clear policy stating that sea turtle products are not sold on property.

- b. Outside vendors permitted to sell goods on property are made aware of the sea turtle product ban.

### **1.3 Captive Sea Turtle Policy**

The establishment shall not hold captive sea turtles of any size, age, or species without the knowledge and consent of the Department of Marine Resources and the SKSTMN.

- a. The SKSTMN is contacted via the Hotline when hatchling, nesting, or stranded turtles are found on the premises.

### **1.4 Alterations of Establishment Land and/or Property**

Any construction, expansion, development, change in use, renovation, or similar activity ("Development") on or near a sea turtle nesting beach shall be done in accordance with national law and CERTIFIED TURTLE APPROVED Beachfront Criteria.

- a. Consultation with the SKSTMN is sought before starting the Development, as well as throughout the development process until completion.
- b. A Conservation Plan describing how the nesting beach and nesting and hatchling sea turtles will be accommodated in the Development is drafted and provided to the SKSTMN.

## ***Section 2: Demonstrate Effective Management to Minimize Negative Sea Turtle Impacts***

### **2.0 Patron Behavior**

The establishment shall inform its patrons of the Statement and provide information on appropriate behavior on the beach, in the water, and if a sea turtle is encountered (See Appendix G for What to Do When You Encounter a Sea Turtle).

- a. Patron behavior is encouraged to comply with the Statement.

### **2.1 Artificial Light Pollution**

The establishment shall take accountability for the artificial light pollution it creates and take measures to minimize ambient light and prevent light visibility from the beach.

- a. An initial internal lighting audit is conducted with the aid of the SKSTMN.

- b. Measures are taken to diminish light pollution reaching the beach as much as possible.

### **Section 3: Demonstrate Effective Management to Minimize Negative Environmental Impacts**

#### **3.0 Waste Disposal**

The establishment shall ensure that its waste is properly disposed of in a manner that does not pollute the ocean.

- a. A recycling plan is implemented for all materials able to be recycled on the island.
- b. (Recommended) The purchase and use of disposable and consumable goods is measured and the establishment actively seeks ways to reduce their use. (GSTC)
- c. (Recommended) The establishment actively seeks ways to reduce and eventually cease the use of plastic straws, cutlery, and bags.
- d. (Recommended) The establishment actively seeks ways to reduce and eventually cease the use of Styrofoam.

#### **3.1 Sand Mining Policy**

The establishment shall not participate in or knowingly support any illegal sand mining activities in the Federation of St. Kitts and Nevis.

Note: *\* Participation in or providing support for illegal sand mining activities will result in immediate probation and removal of the establishment's name from all promotional turtleapproved.org websites until their next annual review.\**

- a. Any required sand mining is legally documented.

#### **3.2 Landscaping**

(Recommended) The establishment should use native species wherever feasible and avoids introducing invasive species in their landscaping. (GSTC)

- a. Native species are utilized wherever feasible and invasive species are avoided when landscaping. (GSTC)



### **3.3 Runoff Minimization**

The establishment shall implement practices to minimize pollution from runoff, erosion, and air, water, and soil contaminants (GSTC).

- a. Current Safety Data Sheets (SDS) are kept for each chemical substance utilized on premises.
- b. (Recommended) Ways to reduce and eventually cease the usage of any hazardous chemicals (as noted by the SDS) are actively sought.

## ***Section 4: Demonstrate a Contribution to Sea Turtle Conservation in the Federation of St. Kitts and Nevis***

### **4.0 Interpretive Signage**

The establishment shall display interpretive signage and literature about sea turtles and protecting the marine environment. (The establishment has the option to order approved signage directly from the SKSTMN.)

- a. All interpretive signage for display is SKSTMN approved.

### **4.1 Response to a Sea Turtle Encounter**

Staff members shall be well versed in what to do if they encounter nesting, hatchling, or stranded sea turtles (See Appendix G for What to Do When You Encounter a Sea Turtle). The establishment agrees to:

- a. The Hotline phone number is prominently displayed and visible for all staff and patrons.
- b. The SKSTMN is contacted immediately via the Hotline if any hatchling, nesting, or stranded turtles are found on the premises.
- b. The presence and location of any stranded, injured, entangled, or otherwise distressed sea turtles encountered are reported to the SKSTMN immediately via the Hotline.

### **4.2 Beach Cleanups**

The establishment agrees to host/co-host one beach cleanup each year that it is in good CERTIFIED TURTLE APPROVED standing.

- a. All aspects of organizing and conducting the beach cleanup are handled by staff, including advertising the beach cleanup, providing garbage bags, plastic

gloves, and any other equipment necessary, arranging garbage removal from the beach, and providing water or other beverages for participants free of charge.

- b. The SKSTMN is informed and consulted prior to performing the cleanup.

#### **4.3 Volunteer Staff**

The establishment commits to a collective 20 hours of paid staff volunteer time with the SKSTMN for each year it is in good CERTIFIED TURTLE APPROVED standing.

- a. The SKSTMN is consulted to determine how and when volunteer hours are completed. Possible volunteer activities include beach patrols, summer camp, education center staffing, rehabilitation aid, and in-water research.

#### **4.4 Educational Campaign**

The establishment agrees to conduct one SKSTMN-approved educational campaign in each year it is in good CERTIFIED TURTLE APPROVED standing on behalf of the SKSTMN as part of its marketing campaign.

- a. A campaign to create awareness of the sea turtle population and its conservation in the Federation of St. Kitts and Nevis was designed utilizing radio segments, short videos, posters, or other media.
- b. The SKSTMN has been consulted and approved the campaign prior to its execution.
- c. Evidence of the completed campaign is made available to the SKSTMN.

## Chapter 4.

### CERTIFIED TURTLE APPROVED Program Criteria

#### *Water Sports Businesses*

The CERTIFIED TURTLE APPROVED Water Sports criteria intend to increase sea turtle awareness and conservation in the Federation of St. Kitts and Nevis. In particular, these criteria provide guidelines to ensure safe and appropriately managed interactions with sea turtles in the water. Participating establishments employ turtle friendly practices, as well as support and further existing sea turtle conservation efforts in the Federation of St. Kitts and Nevis. The following criteria determine what needs to be done for a water sports establishment to be deemed CERTIFIED TURTLE APPROVED. Full compliance with these criteria is required to earn certification and remain in good CERTIFIED TURTLE APPROVED standing. Performance Indicators (*in aqua*) are presented below each criterion to guide establishments in measuring compliance with the CERTIFIED TURTLE APPROVED Water Sports criteria.

For the purposes of CERTIFIED TURTLE APPROVED, the term “nesting season” is defined as the following period of the calendar year for each of the following species in the Federation of St. Kitts and Nevis:

Leatherback turtles - from February 1<sup>st</sup> through September 30<sup>th</sup>

Green and hawksbill turtles - from May 1<sup>st</sup> through March 1<sup>st</sup>

Therefore, there is an active nesting season all year round in the Federation.

“SKSTMN” refers to the St. Kitts Sea Turtle Monitoring Network.

“Hotline” refers to the St. Kitts Sea Turtle Hotline (869) 764-6664.

The term “water sports” refers to all businesses where staff and patrons have the potential to be in the ocean near a sea turtle.

Please see the CERTIFIED TURTLE APPROVED Functional Definitions List for a complete list of corresponding terms and definitions (Appendix K).

Please note:

Criteria preceded by (Recommended), are not required for certification, but are actions that the establishment may take to move towards best sustainable practices. These actions are encouraged, but not required for certification.

All criteria not labeled as (Recommended) are required for certification.

Criteria followed by (GSTC) are based on the Global Sustainable Tourism Council criteria for Hotels and Tour Operators. The Global Sustainable Tourism Council is an independent and neutral body that established and manages a set of criteria meant to increase sustainable tourism knowledge and practices globally. <https://www.gstccouncil.org/en/>

## **Section 1: Demonstrate Sea Turtle Friendly Establishment Management**

### **1.0 Defining a Sea Turtle Policy Statement (“Statement”)**

The establishment shall draft and implement a Statement that describes the attitude, intentions, and policy of the establishment regarding sea turtle conservation in the Federation of St. Kitts and Nevis (SKN) (See Appendix E for a sample Sea Turtle Policy Statement).

- a. The Statement is clearly documented and available to all staff and interested parties.
- b. The Statement covers expected behavior and activities of all on-duty establishment employees regarding sea turtles in SKN.
- c. The Statement identifies one or more employees to serve as Sea Turtle Liaison to the SKSTMN.

### **1.1 Staff Sea Turtle Educational Workshop (Workshop)**

All establishment personnel shall receive periodic guidance and training regarding their roles and responsibilities with respect to sea turtle knowledge, guest education, turtle friendly practices, and for the SKSTMN, the Hotline, and the Department of Marine Resources (See Appendix F for a Sea Turtle Training Outline and Appendix H for Contact Information). (GSTC)

- a. An initial workshop run by the SKSTMN is offered to as many staff as possible.
- b. New staff and those unable to make the SKSTMN training session receive the information provided in the Workshop.
- c. An annual refresher of pertinent sea turtle-related information is made available for all staff.
- d. Opportunities are provided for staff to convey information learned during the Workshop to others.

### **1.2 Sea Turtle Products Ban**

The establishment and its on-duty staff shall not participate in the sale, trade, or consumption of any sea turtle products or living sea turtles on the premises. This includes eggs, meat, oil, shell products, and the turtles themselves.

- a. There is a clear policy stating that sea turtle products are not sold on property.

- b. Outside vendors permitted to sell goods on property are made aware of the sea turtle product ban.

### **1.3 Captive Sea Turtle Policy**

The establishment shall not hold captive sea turtles of any size, age, or species without the knowledge and consent of the Department of Marine Resources and the SKSTMN.

- a. The SKSTMN is contacted via the Hotline when hatchling, nesting, or stranded turtles are found on the premises.

### **1.4 Alterations of Establishment Land and/or Property**

Any construction, expansion, development, change in use, renovation, or similar activity (“Development”) on or near a sea turtle nesting beach shall be done in accordance with national law and CERTIFIED Turtle Approved Beachfront Criteria.

- a. Consultation with the SKSTMN is sought before starting the Development, as well as throughout the development process until completion.
- b. A Conservation Plan describing how the nesting beach and nesting and hatchling sea turtles will be accommodated in the Development is drafted and provided to the SKSTMN.

## ***Section 2: Demonstrate Effective Management to Minimize Negative Sea Turtle Impacts***

### **2.0 Patron Behavior**

The establishment shall inform its patrons of the Statement and provide information on appropriate behavior on the beach, in the water, and if a sea turtle is encountered (See Appendix G for What to Do If You Encounter a Sea Turtle).

- a. Patrons are informed either verbally or in writing of appropriate behavioral expectations when interacting with sea life prior to entering the water.
- b. Patron behavior on the beach and in the water is monitored and encouraged to comply with the Statement.

### **2.1 Group Size**

Group size shall be limited to a number that does not overwhelm marine life present at the viewing site.

- a. Awareness of impact of the group size on marine life is demonstrated by staff.

## **2.2 In-Water Behavior**

Staff and patrons do not harass or cause undue stress to any sea turtle encountered at sea.

- a. The establishment ensures appropriate sea turtle interactions by:
  - i. Not touching, riding, holding on to any part of a turtle's body while it swims or making direct contact with the animal in any way.
  - ii. Not following the turtle persistently and thus repeatedly causing it to change course, blocking its passage, or harming it in any way.
  - iii. Remaining calm and attempting to best avoid a turtle that swims directly toward a patron or staff member.
  - iv. Ensuring that the group does not inadvertently confine a sea turtle to one area.
  - v. Not attempting to capture and hold any sea turtle encountered either manually or using any sort of equipment.
  - vi. Not shining white light directly toward the face of a sea turtle during a night dive/snorkel.

## **2.4 Sea Turtle Viewing Buffer Space**

Staff and patrons shall maintain sufficient buffer space from sea turtles to allow them to come to the surface to breath without impediment.

- a. Patrons maintain an ideal distance of at least 15 feet or three (3) meters from encountered sea turtles.
- b. Staff ensure that any turtle below or near a group of patrons has at least one clear lane of passage to the surface.

## **2.5 Sea Turtle Feeding Policy**

Staff and patrons shall not feed or attempt to feed any sea turtle encountered.

- a. Food or other bait is not used to attract sea turtles for viewing at any time before, during, or after excursions.

## **2.6 Artificial Light Pollution**

The establishment shall take accountability for the artificial light pollution it creates and take measures to minimize ambient light and prevent light visibility from the beach and ocean (See Appendix J Artificial Lighting Recommendations).

- a. An initial internal audit is conducted with the aid of the SKSTMN.
- b. Measures are taken to diminish light pollution reaching the beach and ocean as much as possible.

## ***Section 3: Demonstrate Effective Management to Minimize Negative Environmental Impacts***

### **3.0 Coral Reef Protection**

Staff and patrons shall protect the coral reef they encounter by:

- a. Reef protection is demonstrated by avoiding touching, standing on, or knowingly damaging coral reef in any way.
- b. A policy of not anchoring on coral reef is demonstrated.

### **3.2 Watercraft Operation**

The establishment shall operate and maintain its watercraft in a sea turtle safe manner by:

- a. Obeying all national rules and regulations regarding boating and operating of watercraft. (i.e. No wake zones).
- b. Ensuring all watercraft are all free of fuel or chemical leaks and have passed any inspections required by national law.
- c. (Recommended) Propeller guards are utilized on motorized watercraft to reduce injury to marine life.

### **3.4 Reef Safe Sunscreen**

(Recommended) The establishment should encourage patrons to use reef-safe and biodegradable sunscreen. Reef-safe sunscreens are free of the following ingredients: butylparaben, ethylhexylmethoxycinnamate, benzophenone-3 and 4-methylbenzylidene camphor.

- a. (Recommended) Staff are knowledgeable about sunscreen components harmful to coral reef and recommend that patrons use reef safe sunscreen if possible.

### 3.5 Waste Disposal

The establishment shall ensure that its waste is properly disposed of in a manner that does not pollute the ocean.

- a. A recycling plan is implemented for all materials able to be recycled on the island.
- b. (Recommended) The purchase and use of disposable and consumable goods is measured and the establishment actively seeks ways to reduce their use. (GSTC)
- c. (Recommended) The establishment actively seeks ways to reduce and eventually cease the use of plastic straws, cutlery, and bags.
- d. (Recommended) The establishment actively seeks ways to reduce and eventually cease the use of Styrofoam.

### 3.6 Landscaping

(Recommended) The establishment should use native species wherever feasible and avoids introducing invasive species in their landscaping. (GSTC)

- a. Native vegetation is left untouched, planted, and/or re-planted where and when possible.
- b. Native species are utilized wherever feasible and invasive species are avoided when landscaping. (GSTC)

### 3.7 Sand Mining Policy

The establishment shall not participate in or knowingly support any illegal sand mining activities in the Federation of St. Kitts and Nevis.

Note: *\* Participation in or providing support for illegal sand mining activities will result in immediate probation and removal of the establishment's name from all promotional turtleapproved.org websites until their next annual review.\**

- a. Any required sand mining is legally documented.

### 3.8 Runoff Minimization

The establishment shall implement practices to minimize pollution from runoff, erosion, and air, water, and soil contaminants (GSTC) by:

- a. Keeping a Current Safety Data Sheet (SDS) for each chemical substance by the establishment.



- b. (Recommended) Actively seeking ways to reduce and eventually cease the usage of any hazardous chemicals (as noted by the SDS).

## ***Section 4: Demonstrate a Contribution to Sea Turtle Conservation in the Federation of St. Kitts and Nevis***

### **4.0 Interpretive Signage**

The establishment shall display interpretive signage and literature about sea turtles and protecting the marine environment. (The establishment has the option to order approved signage directly from the SKSTMN.)

- a. All interpretive signage for display is SKSTMN approved.

### **4.1 Response to a Sea Turtle Encounter**

Staff members shall be well versed in what to do if they encounter nesting, hatchling, or stranded sea turtles (See Appendix G for What to Do When You Encounter a Sea Turtle). The establishment agrees to:

- a. The Hotline phone number is prominently displayed and visible for all staff and patrons.
- b. The SKSTMN is contacted immediately via the Hotline if any hatchling, nesting, or stranded turtles are found on the premises.
- c. The presence and location of any stranded, injured, entangled, or otherwise distressed sea turtles encountered are reported to the SKSTMN immediately via the Hotline.

### **4.2 In Kind Boat Usage**

The establishment shall provide boat transportation and fuel for one in-water research session or sea turtle release for SKSTMN each year that it is in good CERTIFIED TURTLE APPROVED standing.

- a. The SKSTMN have been consulted as to what boat usage is most needed and an outing conducted.

### **4.3 Beach Cleanup**

The establishment agrees to host or co-host one beach or underwater cleanup each year that it is in good CERTIFIED TURTLE APPROVED standing.

- a. All aspects of organizing and conducting the beach cleanup are handled by staff, including advertising the beach cleanup, providing garbage bags, plastic gloves, and any other equipment necessary, arranging garbage removal from the beach, and providing water or other beverages for participants free of charge.
- b. The SKSTMN is informed and consulted prior to performing the cleanup.

## **Appendix A.**

### **Business Criteria Checklists**

#### ***Beachfront Businesses Checklist***

##### *Section 1: Demonstrate Sea Turtle Friendly Establishment Management*

###### *Sea Turtle Policy Statement:*

- ☐ Does the business have one?
- ☐ Is it clearly documented?
- ☐ Is it easily available to staff and interested parties?
- ☐ Does it have expected behaviors and activities for the employees?
- ☐ Does it list employee(s) that will act as liaison to the SKSTMN?

###### *Staff Sea Turtle Educational Workshop:*

- ☐ Check that Workshop has been completed within a year
- ☐ All staff received training/ information from workshop if unable to attend

###### *Sea Turtle Products Ban:*

- ☐ Clear that sea turtle products are not sold on property, policy on display
- ☐ Are outside Vendors aware of this policy?
- ☐ Check there are no sea turtle products on display on the property

###### *Captive Sea Turtle Policy:*

- ☐ Is the SKSTMN Hotline number displayed in event of turtle stranding, nesting or hatchlings on premises?
- ☐ Check for any captive sea turtles on premises

###### *Alterations of Establishment Land/or Property:*

- ☐ Check if any alterations have taken place in the last year

###### *If Yes:*

- ☐ Was SKSTMN consulted?
- ☐ Conservation plan for sea turtle nests and hatchlings provided to SKSTMN?

##### *Section 2: Demonstrate Effective Management to Minimize Negative Sea Turtle Impacts*

###### *Patron Behavior:*

- ☐ Has staff been trained to inform patrons on appropriate behavior with sea turtle encounters?

###### *Artificial Light Pollution:*

- ☐ Conduct an artificial light audit
  - ☐ Are there bright white lights shining on beach?
  - ☐ Is business utilizing Motion-sensor lights?
  - ☐ Are there red lights on beach side?
  - ☐ Is there shading on bright lights on beachside?

- ☐ Are blackout curtains, shade screens, tinting or similar methods to decrease amount of light emitted through doors and windows on beachside?
- ☐ Are there pamphlets/signs encouraging patrons to minimize light pollution in beachside rooms?
- ☐ Are there any non-essential lights on beachside?
- ☐ Is there evidence of bonfires?
  - If yes,
    - ☐ Did they have a permit to do it?

*Beach Furniture:*

- ☐ Are umbrellas, beach chairs and watersports equipment removed from beach on a nightly basis?
- ☐ Is stacked furniture placed with shortest edge towards the ocean?
- ☐ Does business use umbrella holders/sleeves or umbrellas that clamp directly to furniture?
- ☐ Is furniture placed at least 1m (3 feet) away from known nests?
- ☐ Are umbrellas that are buried or driven into sand avoided or not used near known nests?

*Beach Cleaning:*

- ☐ Beach cleaning is performed manually?
- ☐ Do beach cleaners have access to Hotline number to call about any hatchlings/nests they see when cleaning?
- ☐ Check if beach cleaners rake over any tracks and nests before they are written up by SKSTMN.
  - If yes,
    - ☐ Tell them to call the Hotline and preserve tracks until SKSTMN get there.
    - ☐ Find out if machinery is used for beach cleaning
    - ☐ Ensure training has been done to avoid incubating nests/ minimize detriment to nests and hatchlings
    - ☐ Check for machinery tire tracks (should be raked out to prevent hatchlings falling in)

*Discouraging Nest Predation:*

- ☐ Ensure business is not intentionally feeding wildlife scraps of food
- ☐ If mongoose, dogs or monkeys are present, use sea turtle nest screens to prevent nest predation (call Hotline to organize that)

*Vehicular Traffic:*

- ☐ Ensure business does not allow any vehicular traffic on beach unless absolutely necessary (medical emergency vehicles, sargassum removal vehicles- informed of any incubating nests and to drive close to water line as possible).
- ☐ Vehicle tracks are raked out

*Noise Pollution:*

- ☐ Check opening hours through the nesting season
- ☐ Make sure staff have up to date nesting species and corresponding season information

*Beach Structure Foundation:*

- ☐ Make sure any structures on the beach have barriers to prevent nesting sea turtles crawling underneath
- ☐ Access beneath beach structures is blocked on beach level

*Section 3: Demonstrate Effective Management to Minimize Negative Environmental Impacts*

*Waste Disposal:*

- ☐ Check that waste is properly disposed of
- ☐ Is there a recycling plan for all items that can be recycled on island?

*Beach Vegetation:*

- ☐ Ensure beach vegetation is left untouched
- ☐ Check for invasive species of plants

*Beach Erosion Prevention:*

- ☐ Ensure no beach nourishment has been done during nesting season
- ☐ Check records for previous beach nourishment

*Sand Mining Policy:*

- ☐ Ensure business does not support sand mining
- ☐ Any legal sand mining must be documented- check documents

*Runoff Minimization:*

- ☐ Check current safety data sheets for chemicals on premises

*Section 4: Demonstrate a Contribution to Sea Turtle Conservation in the Federation of St. Kitts and Nevis*

*Interpretive Signage:*

- ☐ Check for SKSTMN approved signage related to sea turtles and protecting the marine environment

*Response to a Sea Turtle Encounter:*

- ☐ Hotline number is prominently displayed for all staff and patrons
- ☐ Check if they have had any encounters with nesting females, hatchlings, activities, stranding and if they reported them via the Hotline

*Nest Protection:*

- ☐ Check if any nests in the area
  - Are they protected?

- Is the furniture far away from nests?
- Is there any evidence of vehicular traffic in that area?

## ***Inland Businesses Checklist***

### *Section 1: Demonstrate Sea Turtle Friendly Establishment Management*

#### *Sea Turtle Policy Statement:*

- ☐ Does the business have one?
- ☐ Is it clearly documented?
- ☐ Is it easily available to staff and interested parties?
- ☐ Does it have expected behaviors and activities for the employees?
- ☐ Does it list employee(s) that will act as liaison to the SKSTMN?

#### *Staff Sea Turtle Educational Workshop:*

- ☐ Check that Workshop has been completed within a year
- ☐ All staff received training/ information from workshop if unable to attend

#### *Sea Turtle Products Ban:*

- ☐ Clear sea turtle products are not sold on property policy on display
- ☐ Are outside Vendors aware of this policy?
- ☐ Check there are no sea turtle products on display on the property

#### *Captive Sea Turtle Policy:*

- ☐ Is the SKSTMN hotline number displayed in event of turtle stranding, nesting or hatchlings on premises?
- ☐ Check for any captive sea turtles on premises

#### *Alterations of Establishment Land/or Property*

- ☐ Check if any alterations have taken place in the last year
  - If Yes:
    - ☐ Was SKSTMN consulted?
    - ☐ Conservation plan for sea turtle nests and hatchlings provided to SKSTMN

### *Section 2: Demonstrate Effective Management to Minimize Negative Sea Turtle Impacts*

#### *Patron Behavior:*

- ☐ Check staff have been trained to inform patrons on appropriate behavior with sea turtle encounters

#### *Artificial Light Pollution:*

- ☐ Conduct an artificial light audit
  - ☐ Are there bright white lights shining on beach?
  - ☐ Is business utilizing Motion-sensor lights?
  - ☐ Are there red lights on beach side?
  - ☐ Is there shading on bright lights on beachside?
- ☐ Are there Blackout curtains, shade screens, tinting or similar methods to decrease amount of light emitted through doors and windows on beachside?

- ☐ Are there pamphlets/signs encouraging patrons to minimize light pollution in beachside rooms
- ☐ Are there any non-essential lights on beachside
- ☐ Is there evidence of bonfires
  - If yes,
    - ☐ Did they have a permit to do it?

*Section 3: Demonstrate Effective Management to Minimize Negative Environmental Impacts*  
*Waste Disposal:*

- ☐ Check that waste is properly disposed of
- ☐ Is there a recycling plan for all items that can be recycled on island?

*Sand Mining Policy:*

- ☐ Ensure business does don't support sand mining
- ☐ Any legal sand mining must be documented- check documents

*Landscaping:*

- ☐ Are native species of plant used on premises?

*Runoff Minimization:*

- ☐ Check current safety data sheets for chemicals on premises

*Section 4: Demonstrate a Contribution to Sea Turtle Conservation in the Federation of St. Kitts and Nevis*

*Interpretive Signage:*

- ☐ Check for SKSTMN approved signage related to sea turtles and protecting the marine environment

*Response to a Sea Turtle Encounter:*

- ☐ Hotline number is prominently displayed for all staff and patrons
- ☐ Check if they have had any encounters with nesting females, hatchlings, activities, stranding and if they reported them via the Hotline

*Beach Cleanups:*

- ☐ Have they hosted or have plans to host/co-host a beach clean up for the year?
- ☐ Have they consulted and gotten approval for clean up by SKSTMN?

*Volunteer Staff:*

- ☐ Have staff been volunteering with SKSTMN for the year?
  - ☐ 20 collective hours per year required
  - ☐ Check records

*Educational Campaign:*

- ☐ Have they obtained approval from SKSTMN for their educational campaign?
- ☐ Has it been completed?



□ Evidence of campaign

## **Water Sports Businesses Checklist**

### *Section 1: Demonstrate Sea Turtle Friendly Establishment Management*

#### *Sea turtle policy statement:*

- ☐ Does the business have one?
- ☐ Is it clearly documented?
- ☐ Is it easily available to staff and interested parties?
- ☐ Does it have expected behaviors and activities for the employees?
- ☐ Does it list employee(s) that will act as liaison to the SKSTMN?

#### *Staff Sea Turtle Educational Workshop:*

- ☐ Check that Workshop has been completed within a year
- ☐ All staff received training/ information from workshop if unable to attend

#### *Sea Turtle Products Ban:*

- ☐ Clear sea turtle products are not sold on property policy on display
- ☐ Are outside Vendors aware of this policy?
- ☐ Check there are no sea turtle products on display on the property

#### *Captive Sea Turtle Policy:*

- ☐ Is the SKSTMN hotline number displayed in event of turtle stranding, nesting or hatchlings on premises?
- ☐ Check for any captive sea turtles on premises

#### *Alterations of Establishment Land/or Property:*

- ☐ Check if any alterations have taken place in the last year
  - If Yes:
    - ☐ Was SKSTMN consulted?
    - ☐ Conservation plan for sea turtle nests and hatchlings provided to SKSTMN

### *Section 2: Demonstrate Effective Management to Minimize Negative Sea Turtle Impacts*

#### *Patron Behavior:*

- ☐ Check staff have been trained to inform patrons on appropriate behavior with sea turtle encounters
- ☐ Check if staff inform patrons of appropriate behavioral expectations for interacting with sea life before entering the water
- ☐ Check if patron behavior is monitored
- ☐ Ensure group size is limited to not overwhelm marine life present at viewing site

#### *In-Water Behavior:*

- ☐ Ensure staff and patrons are not harassing or touching/holding any part of a turtles body
- ☐ There is no chasing or causing turtles to repeatedly change course
- ☐ Make sure staff and patrons have a calm and relaxed demeanor towards turtles and other marine life
- ☐ Make sure turtles are not confined into an area or any attempts are made to capture them
- ☐ Ensure staff have informed guests about avoidance of shining lights on turtles during night dives or snorkels

*Sea Turtle Viewing Buffer Space:*

- ☐ Ensure patrons have at least 15 feet (three (3) meters) distance from sea turtles
- ☐ Staff ensure any turtle below group has a clear passage to the surface

*Sea Turtle Feeding Policy:*

- ☐ Ensure staff or patrons are not feeding the sea turtles
- ☐ Check that no bait or food is used to attract sea turtles for viewing at any time during excursions

*Artificial Light Pollution:*

- ☐ Conduct an artificial light audit
  - ☐ Are there bright white lights shining on beach?
  - ☐ Is business utilizing Motion-sensor lights?
  - ☐ Are there red lights on beach side?
  - ☐ Is there shading on bright lights on beachside?
  - ☐ Are there Blackout curtains, shade screens, tinting or similar methods to decrease amount of light emitted through doors and windows on beachside?
  - ☐ Are there pamphlets/signs encouraging patrons to minimize light pollution in beachside rooms
  - ☐ Are there any non-essential lights on beachside?
  - ☐ Is there evidence of bonfires?
    - If yes,
      - ☐ Did they have a permit to do it?

*Section 3: Demonstrate Effective Management to Minimize Negative Environmental Impacts*  
*Coral Reef Protection:*

- ☐ Staff inform and demonstrate to patrons that standing, touching or knowingly damaging coral reef is unacceptable
- ☐ Check that staff are not anchoring on coral reef

*Watercraft Operation:*

- ☐ Ensure that staff obey national rules and regulations for water craft operations
- ☐ Check that boats have no fuel or chemical leaks and have passed inspections required by law

*Reef Safe Sunscreen:*

- ☐ Do staff encourage patrons to use reef safe and biodegradable sunscreen?

*Waste Disposal:*

- ☐ Check that waste is properly disposed of
- ☐ Is there a recycling plan for all items that can be recycled on island?

*Landscaping:*

- ☐ Are native species of plant used on premises?

*Sand Mining Policy:*

- ☐ Ensure business does not support sand mining
- ☐ Any legal sand mining must be documented- check documents

*Runoff Minimization:*

- ☐ Check current safety data sheets for chemicals on premises

*Section 4: Demonstrate a Contribution to Sea Turtle Conservation in the Federation of St. Kitts and Nevis*

*Interpretive Signage:*

- ☐ Check for SKSTMN approved signage related to sea turtles and protecting the marine environment

*Response to a Sea Turtle Encounter:*

- ☐ The Hotline number is prominently displayed for all staff and patrons
- ☐ Check if they have had any encounters with nesting females, hatchlings, activities, strandings and if they reported them via the Hotline

*In-Kind Boat Usage:*

- ☐ Has the business provided/ have plans with SKSTMN to provide boat transport and fuel for one in-water research session or sea turtle release.

*Beach Cleanup:*

- ☐ Have they hosted or have plans to host or co-host one beach clean up for the year?
- ☐ Have they consulted and gotten approval for clean ups by SKSTMN?

**Appendix B**  
**CTAP Poster**

# SUPPORT OUR SEA TURTLES



**LOOK FOR THIS LOGO AT  
BUSINESSES THAT OPERATE USING  
SEA TURTLE FRIENDLY PRACTICES.**

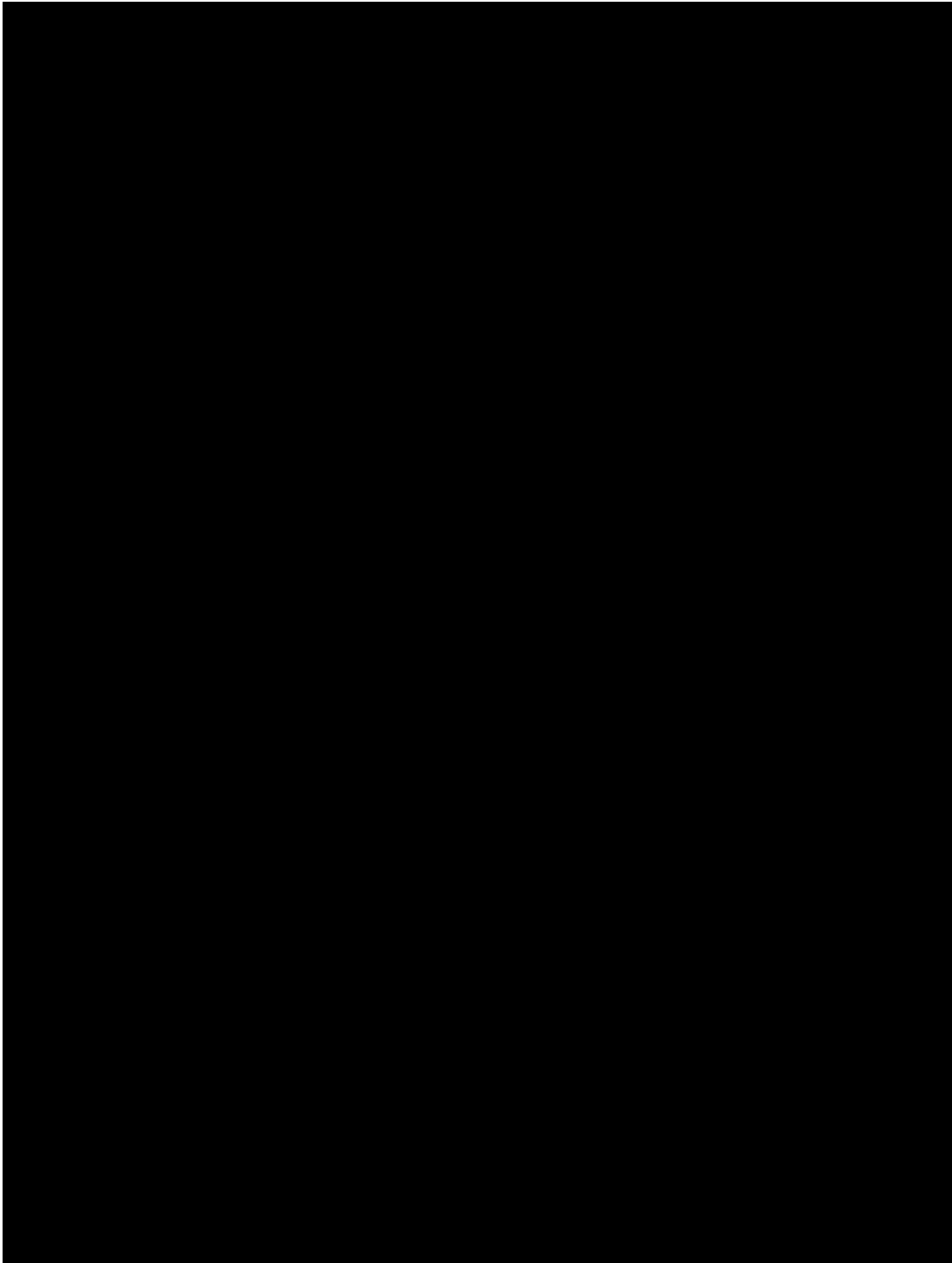
**Please choose to visit businesses  
that support our sea turtles.**

  For more information visit: [turtleapproved.org](http://turtleapproved.org)

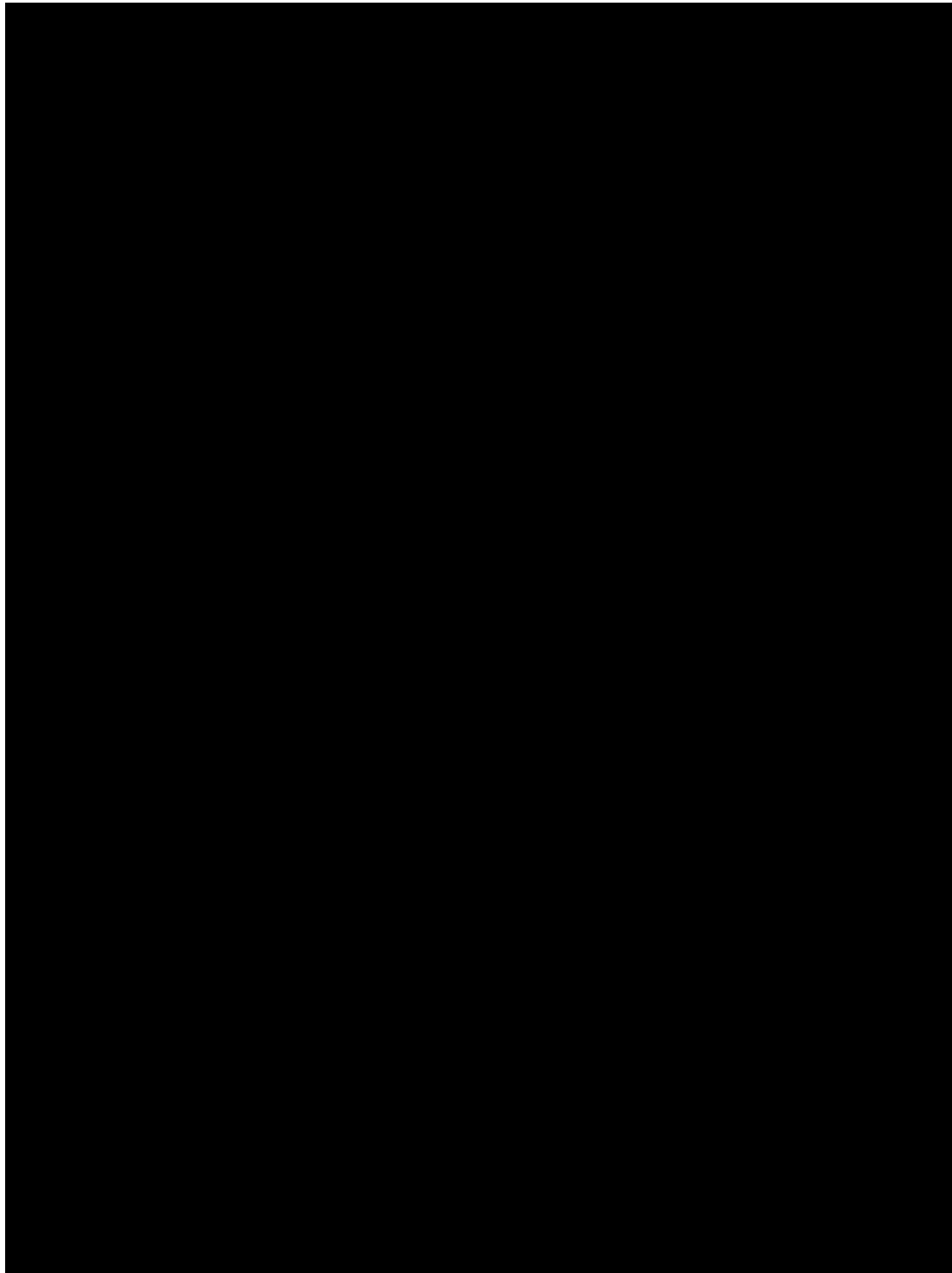
©2019 St. Kitts Sea Turtle Monitoring Network.  
St. Kitts Sea Turtle Monitoring Network and associated logos are trademarks of St. Kitts Sea Turtle Monitoring Network. All rights reserved.



**Appendix C**  
**CTAP Criteria Specific Posters**









**Appendix D**  
**Staff Certificate of Completion of CTAP Training**



# Certificate of Completion

*This certificate is presented to*

XXXXXXXXXXXXXX

*for outstanding contributions as a participant in the CERTIFIED TURTLE APPROVED Program Training*

\_\_\_\_\_  
*Kimberly M. Stewart*  
*Director, St. Kitts Sea Turtle Monitoring Network*



\_\_\_\_\_  
*Kevin Fahle*  
*CERTIFIED TURTLE APPROVED Inspection Comm*




2019

## Appendix E

### Sea Turtle Policy Statement

The following Sea Turtle Policy Statement is from Choi and Eckert (2009) and should serve as an example for businesses in St. Kitts and Nevis seeking TURTLE APPROVED certification.

#### SEA TURTLE POLICY STATEMENT

-  Aware that sea turtles contribute in significant ways to the ecology, culture, and economy of the Wider Caribbean Region;
-  Concerned that sea turtles are severely depleted from their historical abundance; and
-  Acknowledging that while the large majority of Caribbean nations protect sea turtles, population recovery will not be possible without greater attention to the conservation of essential nesting and feeding habitats,

#### We Pledge To:

- Encourage a commitment to environmental responsibility among employees and guests;
- View sea turtle protection as an opportunity for civic engagement in biodiversity issues;
- Be vigilant and aware of any risks to the environment which may occur within or outside our development area as a result of our activities;
- Assess environmental impacts of all activities, planned and ongoing, as they relate to the conservation of sea turtles and their habitats;
- Provide employees and contractors with information and instruction to enhance their awareness of relevant environmental issues, and to ensure effective management of environmental impacts, including impacts on sea turtles and their habitats;
- Identify and collaborate with local experts in designing, implementing and evaluating our sea turtle program to ensure that it fits within national sea turtle conservation priorities, policies, and ongoing initiatives;
- Make continual improvements in operations and management oversight to increase the effectiveness and reliability of our sea turtle conservation program;
- Comply with environmental legislation and local best practice policies related to turtles and their habitats (sandy beaches, seagrass, coral reefs) and encourage others to do so;
- Promote setbacks, and maintain vegetated buffer zones between sandy beaches and all buildings, patios, and other built structures;
- Implement measures to minimize waste, including applying monitoring procedures to ensure that the nesting beach and nearshore waters remain free of debris and pollution;
- Conduct regular (at least annual) lighting assessments to identify sources of light pollution, and strive to eliminate artificial light visible from the beach during nesting season;
- Implement a system that removes potential obstacles to sea turtle nesting, including sun beds and recreational equipment, from the beach each night during nesting season;
- Discourage vehicles on the nesting beach, require hand-raking of debris and seaweed;
- Support local sea turtle conservation and research, including offering financial or in-kind support, as practicable; and
- Report all incidents of sea turtle harassment or harm to the proper authorities.



**WIDECAST**  
Wider Caribbean Sea Turtle Conservation Network



**CAST**  
Caribbean Alliance for Sustainable Tourism

## **Appendix F**

### **Sea Turtle Training Outline**

The following topics will be covered in the SKSTMN's initial staff training session. Staff members will receive a worksheet to fill out during the initial presentation to keep for their personal reference. The topics found in the Sea Turtle Training Outline are expected to be reviewed by all staff on an annual basis. The establishment may opt to perform these reviews on its own or arrange for a review session with the SKSTMN.

1. Species found in the Caribbean
  - a. Names
  - b. IUCN red list status (i.e. Vulnerable, Endangered, Critically Endangered)
  - c. Species found in the waters of St. Kitts and Nevis
  - d. Species which nest in the Federation of St. Kitts and Nevis
2. Current Sea Turtle Regulations for the Federation of St. Kitts and Nevis
  - a. Contact information for the Department of Marine Resources
3. Basic sea turtle biology
  - a. History
  - b. Reptiles
  - c. Differences from land turtles and tortoises
  - d. Life cycle
  - e. Nesting behavior (general)
  - f. Nest incubation
  - g. Hatchling behavior
  - h. Ecological importance of sea turtles in general and each species in St. Kitts and Nevis
4. Hawksbill turtle
  - a. Distinguishing features
  - b. Average size
  - c. Nesting behavior (species specific)
5. Leatherback turtle
  - a. Distinguishing features
  - b. Average size
  - c. Nesting behavior (species specific)
6. Green turtle
  - a. Distinguishing features
  - b. Average size
  - c. Nesting behavior (species specific)
7. Loggerhead turtle

- a. Distinguishing features
  - b. Average size
  - c. Nesting behavior (species specific)
- 8. Threats to sea turtles
  - a. Natural
  - b. Human
- 9. What to do if you encounter a sea turtle
  - a. Appropriate behavior for staff and guests
- 10. Turtle friendly business practices (covers the TURTLE APPROVED criteria)
  - a. Sea Turtle Policy Statement
  - b. Lighting
  - c. Furniture
  - d. No captive sea turtles nor products sold
  - e. Beach cleaning
  - f. No vehicular traffic
  - g. Waste/recycling
  - h. Vegetation
  - i. Beach stabilization/nourishment
  - j. Sand mining ban
  - k. Runoff minimization
  - l. Interpretive signage
  - m. Staff training
  - n. Nest protection
- 11. The St. Kitts Sea Turtle Monitoring Network
  - a. Mission
  - b. Current and planned projects
  - c. Contact information
  - d. How to get involved
    - i. Staff
    - ii. Patrons

## **Appendix G**

### **What to Do if You Encounter a Sea Turtle**

#### *ON THE BEACH*

In the Federation of St. Kitts and Nevis, generally only adult female and hatchling sea turtles are encountered on the beach. During nesting season, females crawl ashore in order to lay their eggs in the sand and hatchlings emerge from their buried nest to make their way down the beach into the ocean. This nesting and hatching process is critical to the survival of the species, so it is important that the turtles be allowed to complete the process undisturbed.

If you are lucky enough to come across a sea turtle on the beach, please observe the following guidelines:

- Notify the SKSTMN immediately via the St. Kitts Sea Turtle Hotline at (869) 764-6664 if they are not already present. The SKSTMN is the only organization on the island with permits to work with sea turtles. It is important that the SKSTMN be made aware of all sea turtle activity on the island.
- Listen to the experts. Listen to and follow any instructions given by representatives of the SKSTMN when they are present.
- Turn off any lights in the area, including handheld flash lights/cellphone lights. Artificial light, especially white light, disorients both nesting and hatchling turtles. Red light is best to use while in the presence of a sea turtle or hatchlings.
- Do not use flash photography. Camera flashes may cause the sea turtle to abandon her nest attempt and return to the ocean or disorient hatchlings and cause them to travel in the wrong direction.
- Stay quiet and minimize movement to avoid disturbing the turtle.
- Keep out of the turtle's eye line. Stay behind the turtle and away from her head to avoid causing her undue stress.
- If a turtle or hatchling moves directly towards you, slowly move out of the way and allow it to pass undisturbed.
- Move away if the turtle shows signs of distress.
- Keep pets away to avoid endangering nesting females, eggs, or hatchlings.

#### *HATCHLINGS*

If hatchlings are seen on the beach, contact the SKSTMN immediately via the St. Kitts Sea Turtle Hotline (869) 764-6664 to report it and follow any instructions given.

If the hatchlings need to be held until the SKSTMN can collect them:

- Place the hatchlings in the provided container with around 2 inches of cool sand on the bottom of the container. The hatchlings should be placed on top of this sand and the container covered.
- Store the container in a cool, dark place until a representative of the SKSTMN arrives.

### *IN THE WATER*

There are four species of sea turtle found in the waters surrounding St. Kitts and Nevis: leatherback, green, hawksbill, and loggerhead. Each species plays an important role in maintaining a healthy marine ecosystem for St. Kitts and Nevis.

If you are lucky enough to encounter a sea turtle in the water, please observe the following guidelines:

- Do not touch, ride, hold on to, chase, attempt to capture, or harass the turtle in any way. Remember that you are entering the turtle's habitat and should not cause it any undue stress.
- Approach the turtle slowly and calmly and move away if it shows signs of distress.
- Give the turtle approximately 15 feet or three (3) meters of buffer space at all times.
- Make sure the turtle has a pathway to come to the surface to breathe. Even though they live in the ocean, sea turtles breathe the same air that we do. It is important that you do not prevent a turtle from surfacing in order to breathe.
- Do not feed the turtle.
- Make sure you do not litter. Sea turtles may mistake trash for food and suffer health issues or death as a result.

### *STRANDINGS*

It is possible that you may happen upon a stranded turtle, meaning injured, distressed, somehow impaired, or dead, either in the water or on the beach. The SKSTMN has the ability to medically treat and rehabilitate turtles, as well as perform necropsies on dead sea turtles. It is important to aid and treat turtles that require assistance as well as learn from any dead turtles encountered.

If you encounter a stranded turtle, please observe the following guidelines:

- Contact the SKSTMN via the St. Kitts Sea Turtle Hotline immediately at (869) 764-6664.
- Look for tags and record any tag numbers present to report to the SKSTMN.

## **Appendix H**

### **Important Contact Information**

#### **St. Kitts Sea Turtle Hotline**

(869) 764-6664

This number is manned by the SKSTMN for reports of any sea turtle related activity on St. Kitts 24 hours a day. All sea turtle activity should be reported to this number unless a representative of the SKSTMN is already present.

#### **St. Kitts Sea Turtle Monitoring Network (SKSTMN)**

The SKSTMN is a registered NGO and community based nonprofit organization founded in January 2003 which monitors nesting sea turtle populations on the island of St. Kitts and acts as an advocate for the strengthening of sea turtle protection laws in the Federation of St. Kitts and Nevis.

Director: Dr. Kimberly Stewart

Address: P.O. Box 2298, Basseterre, St. Kitts

Website: [www.stkittsturtles.org](http://www.stkittsturtles.org)

Email: [skturtles@gmail.com](mailto:skturtles@gmail.com)

#### **Department of Marine Resources St. Kitts and Nevis (DMR)**

The DMR is the governmental organization that should be contacted for inquiries about sea turtle regulations, requests for approval of any activity that may involve sea turtles, and to report any violations of fisheries and/or marine regulations.

Business Hours: Monday – Friday 8am – 4pm

Director, Marine Resources: Marc Williams

Address: C.A. Paul Southwell Industrial Park, P.O. Box 3, Basseterre, St. Kitts

Email: [dmrskn@gmail.com](mailto:dmrskn@gmail.com)

Phone: (869) 465-8045

#### **Nevis Turtle Group (NTG)**

The NTG is dedicated to the development of a sea turtle conservation program for Nevis that involves local communities and ensures that sea turtles will be there for the use of present and future generations. The NTG should be contacted regarding sea turtle activity on the island of Nevis.

Founder and President: Lemuel Pemberton

Address: St. Johns Parish, Nevis

Website: [www.nevisturtlegroup.org](http://www.nevisturtlegroup.org)

Email: [nevisturtle@yahoo.co.uk](mailto:nevisturtle@yahoo.co.uk)

Nevis Sea Turtle Hotline: (869) 665-1814

#### **St. Kitts Nevis Coast Guard**

The St Kitts Nevis Coast Guard is dedicated to the protection of life and property at sea and to protecting the marine resources that falls within the jurisdiction of the federation. The Coast Guard will likely be the first responders to distressed, injured, or dead sea turtles encountered at sea.

Address: Deep Water Harbour. P.O. Box 380, Basseterre, St. Kitts  
Phone: (869) 465-8384, (869) 466-7312

**St. Kitts Nevis Fire and Rescue Services (SKNFRS)**

The mission of the St. Kitts and Nevis Fire and Rescue Services is to protect and safeguard the lives and property of citizens and the general economy by preventing or reducing the dangers and effects of fires and explosions. Any planned bonfires must be permitted through the SKNFRS.

Address: Sand Down Road, Basseterre, St. Kitts

Website: <http://www.mons.gov.kn/fire-home/>

Email: sknfrs@gmail.com

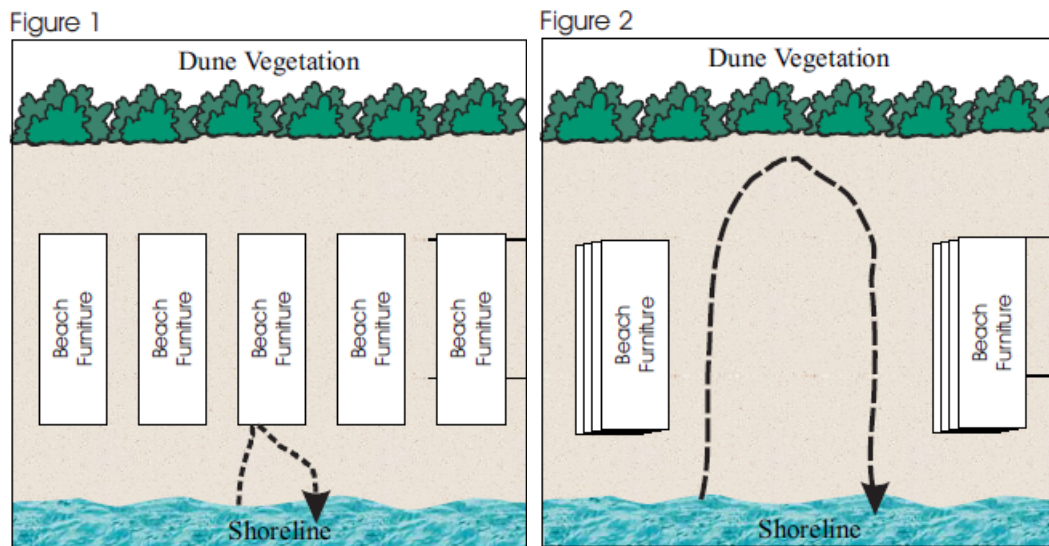
Phone: (869) 465-2515



## Appendix I

### Beach Furniture on a Sea Turtle Nesting Beach

Furniture on the beach can obstruct or trap nesting and hatchling sea turtles. All removable furniture should be stacked and stored to minimize sea turtle interference before 8pm on a nightly basis with the shortest edge facing the ocean (see criteria 2.2). Figure 2 below demonstrates proper stacking technique to allow nesting sea turtles access to the beach.



The criteria regarding beach furniture are listed below for reference:

#### 2.2 Beach Furniture

Umbrellas, chairs, and water sports equipment ("Furniture") not permanently affixed shall be removed from the beach before 8pm on a nightly basis and stored in an area that will least interfere with nesting or hatchling sea turtle.

2.2.1 Stacked furniture is placed with the shortest edge facing the ocean (See Appendix E for Beach Furniture Stacking Guide).

2.2.2 The SKSTMN is consulted on new furniture purchases to find removable options with the smallest base possible

2.2.2.1 **Best practice** is to utilize umbrella sleeves/holders or umbrellas that clamp directly on to the Furniture. Sleeves and holders shall be anchored during the months outside nesting season.

2.2.3 Furniture is placed at least 3 feet or 1 meter away from known sea turtle nests.

2.2.4 Umbrellas that need to be either buried or driven into the sand are not used near known nests.

## **APPENDIX J**

# **Artificial Lighting Recommendations for Sea Turtle Nesting Areas: Creating a Sea Turtle Friendly Lighting Design for Areas in Close Proximity to Nesting Beaches and Foraging Areas in St. Kitts**

Prepared November 2018

Prepared by: Ms. Sara Ramirez

Contributions by: Dr. Kimberly M. Stewart  
Director  
St. Kitts Sea Turtle Monitoring Network



## **Topics**

Introduction

Sea Turtles in St. Kitts

The Importance of Sea Turtles to St. Kitts and Nevis

Ecological Importance by Species

Sea Turtle Nesting and Foraging Areas in St. Kitts

The St. Kitts Sea Turtle Monitoring Network (SKSTMN)

The CERTIFIED TURTLE APPROVED Program (CTAP)

Artificial Lighting and Sea Turtles

Non-Sea Turtle Friendly Lighting

Lighting Recommendations for Areas in Close Proximity to Sea Turtle Nesting Beaches and  
Foraging Areas

The CTAP Criteria Regarding Lighting

FWC's Sea Turtle Lighting Guidelines

Sea Turtle Conservancy's Beachfront Lighting Advice

Vegetation as an Artificial Light Mitigation Strategy

Future Consultation

Literature Cited

## **Introduction**

The beaches and nearshore waters in St. Kitts are utilized by both foraging and nesting sea turtles of Vulnerable, Endangered, and Critically Endangered conservation status (IUCN Red List, 2016). Nesting and hatchling, or baby, sea turtles are susceptible to disorientation by artificial lighting both onshore (Witherington, 1992) and in nearshore waters (Thums et al, 2016). Therefore, lighting plans for any areas in close proximity should ideally be designed as turtle friendly. The purpose of this report is to provide background on sea turtles in St. Kitts and, more specifically, guidance and recommendations for installing lighting that successfully meets the needs of both the people and sea turtles utilizing these areas.

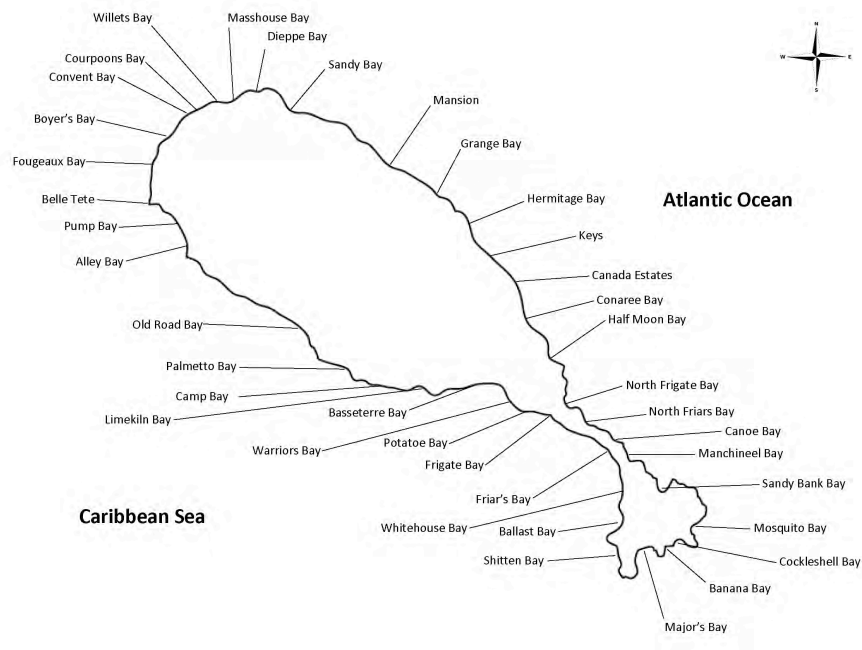


Figure 1. Confirmed nesting and foraging areas for sea turtles in St. Kitts. Map by Angela Picknell.

### Sea Turtles in St. Kitts

St. Kitts hosts four species of sea turtle: green, hawksbill leatherback, and loggerhead (Stewart et al., 2006 and Eckert et al., 1992). The IUCN Red List of Threatened Species (2016) denotes decreasing population trends for all four species and classifies them as follows:

Loggerhead – *Vulnerable*: global population has been reduced by greater than 30% over the last century. “...considered to be facing a high risk of extinction in the wild.” (IUCN Red List, 2019)

Green and Leatherback – *Endangered*: global population has been reduced by greater than 50% over the last century “...considered to be facing a very high risk of extinction in the wild.” (IUCN Red List, 2019)

Hawksbill – *Critically Endangered*: global population has been reduced by greater than 80% over the last century. “...considered to be facing an extremely high risk of extinction in the wild.” (IUCN Red List, 2019)

Of these four species, green, hawksbill, and leatherback females come ashore to nest on the island of St. Kitts throughout the year (Eckert et al., 1992). Due to their threatened status, some species critically so, it is important that sea turtles both coming ashore and hatching are able to complete their nesting and hatching processes successfully for future population recruitment (Mazaris et al., 2009) in the Federation of St. Kitts and Nevis. In addition, St. Kitts and Nevis provides important foraging ground for juvenile green, hawksbill, and the rare loggerhead. These foraging habitats represent an important phase of the sea turtle life cycle.

### **The Importance of Sea Turtles to St. Kitts and Nevis**

Sea turtles are of great importance to the Federation of St. Kitts and Nevis in both an ecological and economic sense. Recognized as a keystone species, sea turtles play a crucial role in maintaining a healthy marine environment. Many other species are dependent upon their presence within the ocean ecosystem. In their absence, complex ecosystem networks may become greatly imbalanced or collapse in what is referred to as a trophic cascade. The presence of healthy sea turtle populations support coral reef and sea grass bed systems and, therefore, the nation’s fisheries. Sea turtle eggs deposited in the sand also supply a source of high quality nutrients that improve nesting beaches (Bouchard and Bjorndal, 2000).

### **Ecological Importance by Species**

Loggerhead: With a diet of crustaceans such as conch and crab, loggerhead turtles cruise along the sea floor aerating, reducing compaction, and improving the nutrient distribution of its sediment (Bjorndal and Jackson, 2003) as well as improving species diversity (Preen, Bjorndal, and Jackson, 2003).

Leatherback: A top jellyfish predator (Gibbons and Richardson, 2009), leatherback turtles have been estimated to consume up to 440 pounds of jellyfish per day (Duron-Defrenne, 1987). Keeping jellyfish populations in check is essential to healthy fisheries as jellyfish prey heavily on fish eggs and larvae (Purcell and Arai, 2001).

Green: Green turtles play an essential role in maintaining seagrass beds on the sea floor. When they graze in these seagrass beds, green turtles increase productivity and nutrient content of the individual seagrass blades (Thayer et al., 1984). Many species, such as the Queen conch, are dependent upon healthy seagrass beds.

Hawksbill: Often referred to as the “architects of the reef”, hawksbill turtles are one of the only animals capable of feeding on sponges that grow on coral reef. By removing these

sponges, other species such as coral are allowed to colonize and grow (Leon and Bjorndal, 2002). This balance created by hawksbill turtles maintains healthy reef systems that serve as rookeries and habitat for a multitude of species.

In addition, sea turtles serve as a great draw for tourists and encourage participation in activities such as snorkeling, SCUBA diving, and ecotours while visiting the islands of St. Kitts and Nevis. These types of non-consumptive recreational activities that utilize wildlife as a natural resource generate direct and indirect economic benefits with local and regional multiplier effects (Burger, 1996). A recent study performed in Tobago determined that an individual sea turtle only needs to be viewed twice by divers in its lifetime to have a greater economic value alive than if harvested for its meat and shell (Cazabon-Mannette et al., 2017). If one simply peruses TripAdvisor reviews for snorkeling and diving trips they undertook while in St. Kitts and Nevis, the sighting of sea turtles is often specifically mentioned and celebrated.

### **Sea Turtle Nesting and Foraging Areas in St. Kitts**

All beaches on the island are potential nesting areas for leatherback, green, and hawksbill sea turtles. Beach preference varies according to species. The adjoining near shore areas are foraging habitats for juvenile green, hawksbill, and loggerhead sea turtles. To successfully nest, a female turtle must find suitable beach habitat that is far enough above the high tide line to avoid inundation by high tides as well as be able to dig at least 40 centimeters deep to deposit her eggs. Sea turtles exhibit nest site fidelity and will return to the same beach repeatedly to deposit their eggs. As females will only return every other year or more to nest, changes that occur on the nesting beach during their nesting interval can greatly impact their current and future nesting success.

Hawksbills and greens prefer the Caribbean side of the island for nesting and nests have been documented on the beaches in Camp's Bay, the Southeastern Peninsula (Major's Bay, Banana Bay, Cockleshell Bay, Mosquito Bay, Sandy Bank Bay, Canoe Bay, Ballast Bay, and Whitehouse Bay), Garvey's, Challenger's (Meylan 1983, Wilkins and Meylan 1984, d'Arbeau 1989, Eckert and Honebrink 1992, Butler 2001, SKSTMN unpublished data). While they prefer the Caribbean side they will also occasionally nest on the Atlantic side of the island including but not limited to the beaches of Belle Tette, Conaree, Dieppe Bay, Keys, Newton Ground, Potato Bay, Sandy Bank Bay, North Friars Bay, and Pump Bay (Meylan 1983, Wilkins and Meylan 1984, d'Arbeau 1989, Eckert 1992, Butler 2001, SKSTMN unpublished data). The nesting season for greens and hawksbills runs from May through January; however, sporadic nesting can occur year round (Meylan 1983, Wilkins and Meylan 1984, d'Arbeau 1989, Eckert 1992, Butler 2001, SKSTMN unpublished data). Foraging hawksbills can be seen year round in the nearshore waters. Juveniles have been captured and tagged by the SKSTMN in Banana Bay, Ballast Bay, Bird Rock Bay, Cockleshell, Dieppe Bay, Halfmoon Bay, Lynches Bay, Majors Bay, Mosquito Bay, Old Road Bay, Potatoe Bay, Pump Bay, Sandy Bank Bay, South Friars Bay, Shitten Bay, Timothy Bay, Whitehouse Bay (SKSTMN unpublished data).

The leatherback nesting season on St. Kitts runs from March through July, with hatchlings emerging through the end of September and beginning of October. Leatherbacks prefer the

Atlantic side of the island for nesting, with Keys and North Friars being the highest density nesting beaches on the island (Meylan 1983, Wilkins and Meylan 1984, Butler 2001, Stewart et al. 2006). Nesting does occur on the Caribbean side of the island, although not as frequently. In addition to the two main nesting beaches, nesting activity has been confirmed on Belle Tette, Cockleshell Bay, Conaree, Halfmoon Bay, Hermitage Bay, Lynches Bay, Mosquito Bay, Pump Bay, Sandy Bank Bay, South Friars, Timothy Beach (Wilkins and Meylan 1984, Arendt 1985, Towle et al., 1986, d'Arbeau 1989, Eckert and Honebrink 1992, Eckert, personal observation 1999, SKSTMN unpublished data).

### **The St. Kitts Sea Turtle Monitoring Network (SKSTMN)**

(<https://www.stkittsturtles.org/>)

The St. Kitts Sea Turtle Monitoring Network (SKSTMN) is a registered non-governmental organization (NGO) in St. Kitts and a Public Charity with 501c3 tax-exempt status in the United States operating under permits granted by the Department of Marine Resources. Formed in 2003, the SKSTMN is a community based organization which monitors the nesting and foraging populations of sea turtles and acts as an advocate for strengthening sea turtle protection laws in St. Kitts. The SKSTMN works in conjunction with a number of national, regional, and international organizations as well as local fishers and citizens of St. Kitts. The SKSTMN is currently the only group permitted to conduct sea turtle research on the island of St. Kitts.

### **The CERTIFIED TURTLE APPROVED Program (CTAP)**

The CTAP is a voluntary certification program aiming to educate and encourage businesses in St. Kitts to operate using practices that are sea turtle friendly. There distinct categories of CTAP: Beachfront, Water Sports, and Inland. Each category has its own set of criteria required for compliance and certification. The Beachfront category includes any business on or near a sea turtle nesting beach (essentially all beaches on the island of St. Kitts), Water Sports includes any business with the potential to encounter sea turtles in the water, and Inland includes any business that does not fit into either of the first two categories. Through this program, the SKSTMN hopes to catalyze a national sea turtle stewardship movement and encourage increased valuation of the island's natural resources in general. The CTAP is currently in its implementation phase with five businesses participating in a pilot program. Artificial lighting is an area covered within the criteria for the CTAP.

### **Artificial Lighting and Sea Turtles**

The current accepted global statistic for sea turtles is that only one in every 1,000 hatchlings who emerge from their eggs will survive long enough to reach sexual maturity and potentially reproduce. This is a daunting statistic for survival for each new hatchling. These odds of survival further decrease with each additional threat and/or pressure introduced to the nesting habitat. When artificial lighting is introduced into the nesting habitat, both nesting females and hatchlings are at risk of becoming disoriented (Lorne & Salmon, 2007; Witherington, 1992) and not finding the sea. New studies indicate that bright lights can even cause hatchlings who've successfully made it to the sea to swim longer and more indirect routes that mirror disoriented wandering on land (Thums et al, 2016). The strongest sea-finding cue for both adults and hatchling sea turtles is to follow the brightest horizon, which, in a natural setting, should be moonlight, starlight, or clouds reflecting off the ocean. Artificial lights, such as those seen in Figure 2, can be very disorienting to both nesting adults and hatchlings, outcompeting the ocean horizon, and causing the turtles to increasingly wander inland and onto roadways. This is worrisome because studies have demonstrated that if hatchlings spend two hours or more crawling on the beach, they lose their ability to find the ocean altogether (Lorne & Salmon, 2007).



### **Non-Sea Turtle Friendly Lighting**

Often, understanding incorrect lighting options for sea turtle nesting beaches helps one to understand what is needed for a lighting scheme to be sea turtle friendly. Problematic lights generally share the characteristics of being taller than is needed, containing white or halogen bulbs, and being undirected or unshielded, dispersing light indiscriminately into the surrounding environment and making them poor choices to install near sea turtle nesting beaches. One of the most common types of lighting on roadways and beachfront properties with high traffic is the pole light. This tall light fixture generally broadly disperses light and provides more than is necessary as seen in Figure 2. Presumably, the purpose of the pole lights in Figure 2 is to provide a well-lit walkway and lawn bordering the building. Instead of just lighting those areas, the pole lights illuminate the building halfway up its height and presumably a large section of the unseen beach below the fencing.

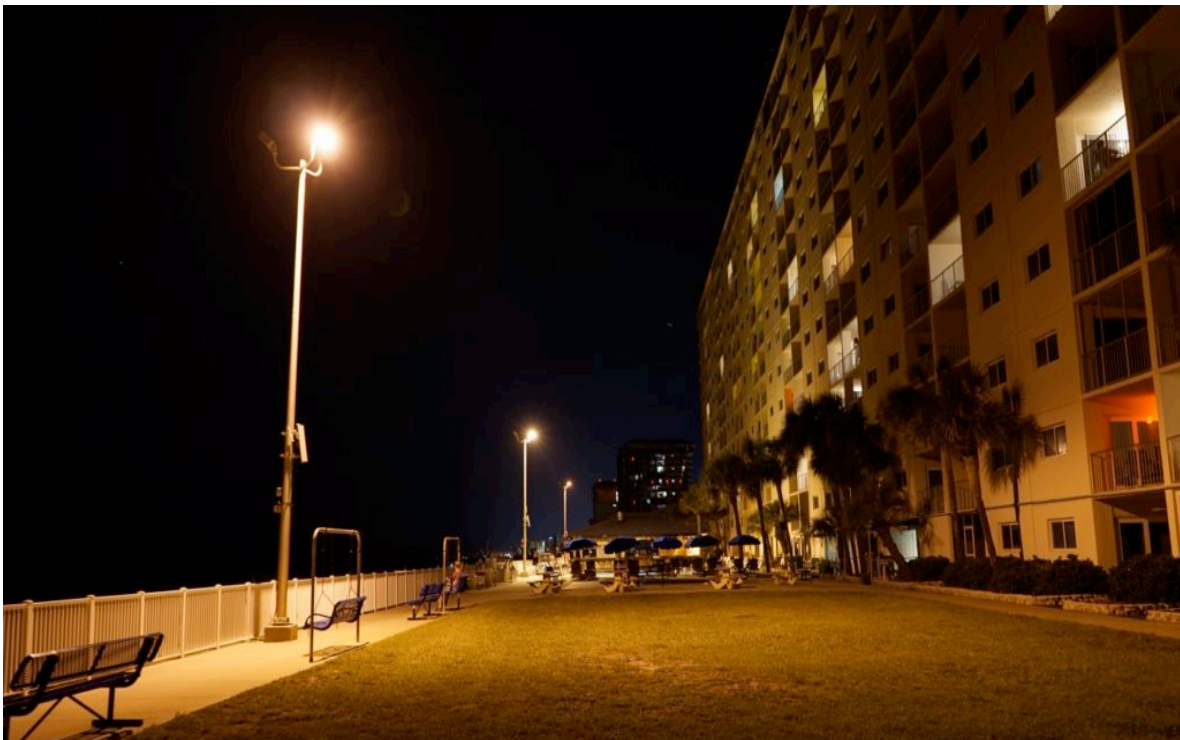


Figure 2: An example of a pole light at a beachfront property in Florida. ©Sea Turtle Conservancy



Figure 3: Examples of Non-Sea Turtle Friendly Light Fixtures. Each of these light fixtures are unshielded and appear to contain white bulbs, making them unfit for usage near sea turtle nesting beaches. ©Sea Turtle Conservancy



Figure 4: An example of artificial lighting which is not sea turtle friendly and likely to cause disorientation to nesting and hatching sea turtles. Rather than light the private grounds within the border wall, the pictured lights are illuminating a large swath of beach and creating a brighter horizon than the natural brightest horizon of the sea. ©John Knowles, Nature Conservancy

### **Lighting Recommendations for Areas in Close Proximity to Sea Turtle Nesting beaches and Foraging Areas**

In order to prevent the negative effects on sea turtles presented by artificial lighting, the following general guidelines from the Florida Fish and Wildlife Conservation Commission (FWC) should be employed (<http://myfwc.com/conservation/you-conserve/lighting/certification/>):

1. Keep it low – lighting fixtures should be as low to the ground as possible
2. Keep it shielded – lighting should be consciously directed in the areas where it is needed and shielded from shining directly toward the beach

3. Keep it long – bulbs of long wavelength (greater than 570 nm) should be used (yellow, amber, orange, or red)

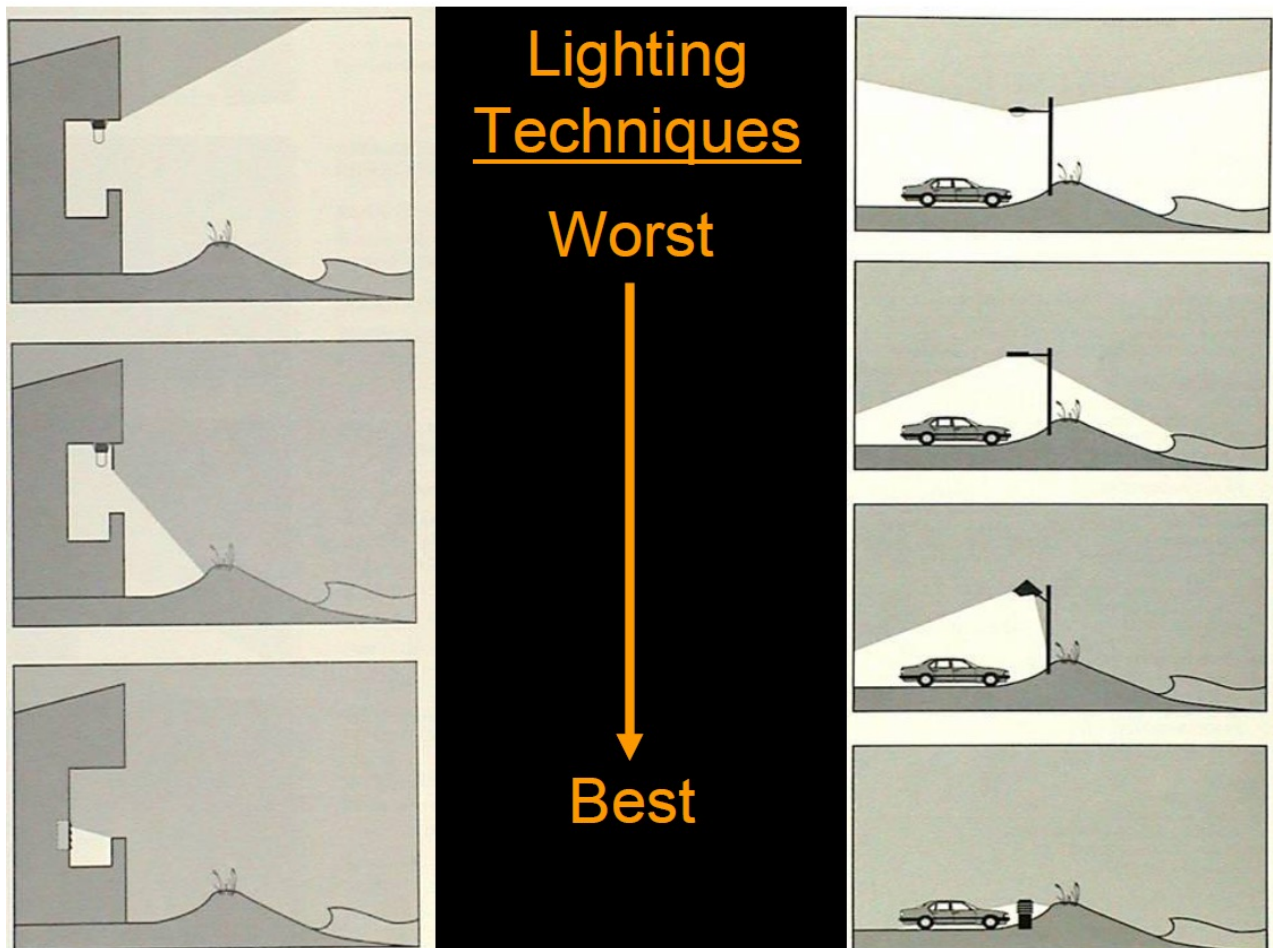


Figure 5: A representation of lighting techniques in two different scenarios. The top images show high, unshielded/unshielded light dispersing into the environment. Each subsequently lower image demonstrates a more specifically targeted and more desirable lighting scenario regarding sea turtle nesting beaches. ©FWC

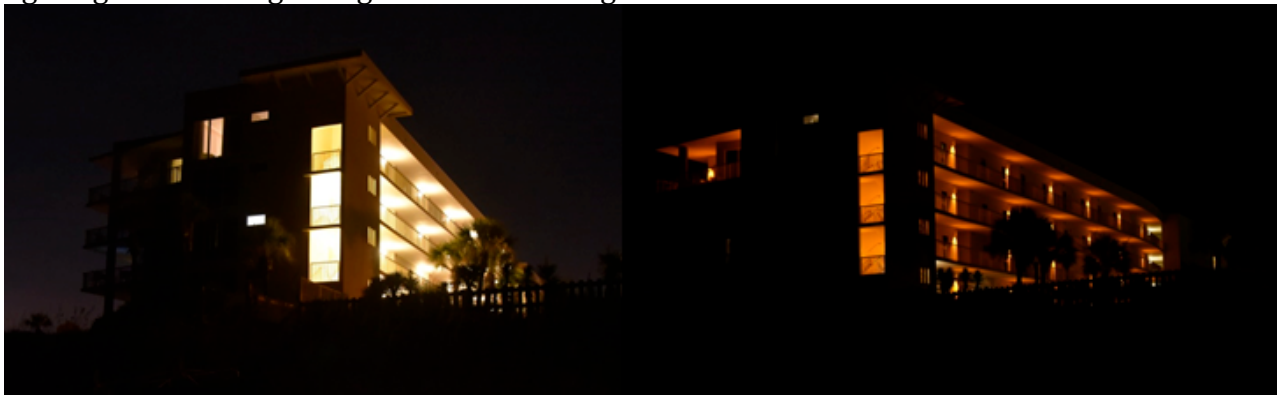


Figure 6: A before and after image of The Crescent, in Walton County, Florida after a sea turtle friendly lighting retrofit. ©Sea Turtle Conservancy



### **The CTAP Criteria Regarding Lighting**

CERTIFIED TURTLE APPROVED Beachfront Criteria 2.1 uses the FWC's Wildlife Lighting Criteria (section 6.2 and 6.3) as a guide regarding business lighting and reads as follows:

- 2.1 The establishment has taken measures to minimize ambient light and prevent light visibility from the beach.
- 2.1.1 The establishment has reviewed its use of beach and beach-facing lighting to determine the purpose of each fixture. Based on this review, the minimum required wattage and direction of shine for each fixture is determined and recorded.
- 2.1.2 All lighting visible from the beach is kept as low to the ground as possible, shielded in order to direct shine downwards without lateral distribution, use the lowest wattage, and longest wavelength possible.
- 2.1.2.1 Best practice is to use Certified Wildlife Friendly bulbs and fixtures as detailed on the Florida Fish and Wildlife Commission turtleapproved.org website.  
<http://myfwc.com/conservation/you-conserve/lighting/certified/>
- 2.1.3 Motion-sensor and emergency beach lighting is of long wavelengths (amber, orange, or red) and set to the shortest possible setting.
- 2.1.4 If light is visible through windows from the beach, the establishment utilizes blackout curtains, shade screens, tinting or similar methods to decrease the amount of light emitted towards the beach.
- 2.1.4.1 The establishment encourages guests in beachfront rooms to keep their curtains drawn at night and turn off the lights when not needed
- 2.1.5 Aesthetic and decorative (nonessential) lighting is not permitted on the beach.
- 2.1.6 In the case of new lighting installation, the establishment consults with the SKSTMN prior to purchase to ensure that the new lighting is in compliance with CERTIFIED TURTLE APPROVED criteria.
- 2.1.7 Bonfires are not permitted on sea turtle nesting beaches during nesting season.

## FWC's Sea Turtle Lighting Guidelines

(<http://myfwc.com/conservation/you-conserve/lighting/certified/>)

The following five pages all comprise the specifics of the FWC's Sea Turtle Lighting Guidelines presented as Figure 8. (FWC, 2011). This information is available at the above link and will also be provided separately in PDF form so that the included links can be utilized.

### FWC APPROVED SEA TURTLE LIGHTING

**All exterior lighting for the entire project area including structural and landscape lighting must be reviewed and approved by FWC regardless of whether or not the area is seaward of the CCCL**

#### ACCEPTABLE FIXTURES

All exterior fixtures on the seaward and the shore perpendicular sides of the building (and on the landward side of the building if they are visible from the beach) should be well shielded, full cut-off, downward directed type fixtures. All exterior fixtures on the landward side of the building should be downward directed only.

#### ACCEPTABLE LAMPS / BULBS AND OTHER LIGHT SOURCES

Long wave length lights, e.g. those that produce light that measures greater than 560 nanometers on a spectroscope, are necessary for all construction visible from and adjacent to marine turtle nesting beaches. Bright white light, such as metal halide, halogen, fluorescent, mercury vapor and incandescent lamps will not be approved. Filters are unreliable and not allowed. Limited use of shorter wavelength lights may be approved in areas where direct and indirect light or glow could not possibly be visible from the beach upon approval by FWC.

#### ACCEPTABLE LAMPS

- Low Pressure Sodium (LPS) 18w, 35w
- Red, orange or amber LED (true red, orange or amber diodes, NOT filters)
- True red neon
- Other lighting sources that produce light of 560 nm or longer

\*\*\*\* FWC approved lighting may be found at <http://www.myfwc.com/wildlifehabitats/managed/sea-turtles/turtles-lights/> \*\*\*\*

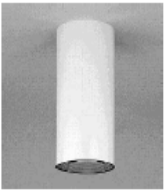


#### STATEMENT ABOUT TURTLE GLASS ON LIGHTING PLAN




The plan shall reflect that tinted glass or film with a visible light transmittance value of forty-five (45) percent or less shall be applied to all windows and doors within line of sight of the beach. This includes the seaward and shore-perpendicular sides of the structure. This may be specified in the notes section on the Lighting Plan architectural drawing and should be included in the FDEP Permit Conditions.

#### THE FOLLOWING ARE NOT ALLOWED


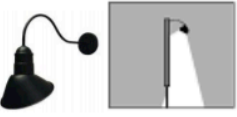

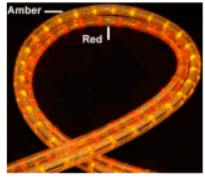
- Private balcony lights
- Up lights
- Tree strap downlights
- Decorative lighting, not necessary for human safety or security
- Pond lights
- Dune walkover lighting
- Fountain lights on beach or shore perpendicular side of structure


### EXAMPLES OF TURTLE FRIENDLY FIXTURES

FIXTURE	LAMP & WATTAGE	MOUNTING TYPE & HEIGHT	LOCATION	COMMENTS and/or ADDITIONAL REQUIREMENT
<b>Ceiling Mount Cylinder</b> (with interior black baffles) 	Red/orange/amber LED	Ceiling Surface	if located on shore perpendicular or beach side of structure allow on <u>ground floor</u> only	Interior Black Baffles
<b>Wall Mount Cylinder Down Light</b> (with interior black baffles) 	Red/orange/amber LED	Wall Mount Downward Directed 8 ft from floor	If located on shore perpendicular or beach side of structure allow on <u>first habitable floor</u> only	Interior Black Baffles  Hex cell louvers may be required to decrease wall wash
<b>Recessed Ceiling Canister</b> 	Red/orange/amber LED  <u>The following short wavelength lamps may only be used for covered driveway entry on landward side of structures</u> <ul style="list-style-type: none"> <li>• Halogen lamp</li> <li>• PAR spot lamps</li> <li>• LED lamps</li> <li>• HPS lamps</li> <li>• Compact Fluorescent</li> </ul>	Recessed Ceiling	If located on shore perpendicular or beach side of structure allow on <u>ground floor</u> only	Interior black baffles Hex cell (honeycomb) louver

<b>Recessed and Wall Mounted Step Lights</b> (louwered or downward directed) 	Red/orange/amber LED	Wall Mount  Maximum height 24 inches on Ground Floor only  Above Ground Floor Max height 12 inches	Ground Floor and Second level, and pool Deck	If on perimeter of pool deck, must be mounted directed away from beach.
<b>Bollard</b> (with downward directed louvers) 	18w LPS  Red/orange/amber LED	Maximum height 42 in	Parking areas, commercial walkway, landscape, pathway and pool Deck	180° to 270° beach side shields on any fixture on perimeter of pool deck or immediately adjacent to beach.
<b>High Intensity Full Cut Off Pole Lights</b> 	18-35 w LPS (if twin head, maximum of 36w total)  Orange/amber LED	Pole - maximum height 12 feet	Parking Area  Landward side of structure only.	Beach Side shields and/or louvers for any fixture within line of sight of beach.
<b>Paver Lights</b> 	Red/orange/amber LED	In Ground mount	Parking areas, driveways, pathways, pool decks	



<b>Landscape/Pathway Lighting</b> 	Red/orange/amber LED	Ground mount Maximum height 12 inches	Ground Level, landscape	
<b>Signage</b> 	Red/orange/amber LED	Must be mounted with light directed <u>down</u> on to sign. NOT UP	Sign should be on landward side of structure when possible and mounted perpendicular to the beach.	
<b>Garage Lighting</b> (Phoenix) 	35w LPS  Amber/Orange/Red LED	Garage Ceiling	Garage	If a parking garage is not fully enclosed with solid walls, without windows, louvers, or screens so that the interior is not visible from any section of beach, only LPS or amber/orange LED lamps shall be used. Additional shields may be necessary if parking is above ground level.
<b>Channel / Rope Lighting</b> 	Red/orange/amber LED  <u>NOT colored plastic tubing with white lights</u>  <u>No White LED</u>	Must be mounted recessed under steps, bar, etc. and directed <u>down</u> to assure that light source or reflected light is not visible from beach	Pool deck, steps, pool bars.	

Water Feature Lighting	Red/orange/amber LED	Light must be downward or horizontally directed  <u>DO NOT direct light up</u>	Submerged lights are only allowed on landward side of structure and only if fully shielded from beach by structure	
Underwater Swimming Pool Lighting	Red/orange/amber LED			
Emergency Egress Lighting 	Red LED Exit signs  Full cut off downward directed Emergency egress fixtures may use short wavelength lamps			Short wavelength lamped emergency egress fixtures must be specified on fixture schedule and plans to be on separate circuit that will only illuminate fixtures during power outage

Revised 4/26/11

Figure 7: A detailed imaging of the FWC Approved Sea Turtle Lighting fixtures, bulbs, and mountings. ©FWC

### Sea Turtle Conservancy's Beachfront Lighting Advice

(<https://conserveturtles.org/beachfront-lighting-turtle-friendly-fixtures-lights/>)

The Sea Turtle Conservancy is a Florida-based international nonprofit organization which utilizes the FWC's Sea Turtle Lighting Guidelines to aid beachfront buildings in retrofitting their lighting to be sea turtle friendly. In addition to the fixtures seen in Figure 8, Figure 9 shows sea turtle friendly bulbs in long wavelengths (greater than 570nm).



Figure 8: Sea Turtle Conservancy's Examples of Sea Turtle Friendly Bulbs ©Sea Turtle Conservancy

Sea Turtle Lighting Distributors suggested by Sea Turtle Conservancy

Lighting By Lavonne – Panama City, Florida

Sequel – Fort Walton, Florida, Pensacola, Florida and Mobile, Alabama

Synergy – Bradenton, Florida

### **Vegetation as an Artificial Light Mitigation Strategy**

In addition to sea turtle friendly lighting, vegetation can also be utilized to create darkened silhouettes at the beach level for nesting and hatchling sea turtles. In cases where artificial lighting is not able to be sufficiently reduced, as in a heavily trafficked area where security is a primary concern, increasing silhouette darkness helps to promote normal orientation and sea finding (Tuxbury and Salmon, 2005). Hawksbill turtles, in particular, prefer to nest in vegetation (Horrocks and Scott, 1991) and will actively seek vegetation to nest in. If this method is to be employed, native vegetation such as seagrape (*Coccoloba uvifera*) should be preferably utilized.

### **Future Consultation**

The SKSTMN is open to and welcomes future consultation as the lighting plan for these areas is further developed. Please feel free to reach out via the SKSTMN email address at [skturtles@gmail.com](mailto:skturtles@gmail.com) or the SK Sea Turtle Hotline at (869) 764-6664.

### **Literature Cited**

1. Arendt, W. 1985. Wildlife Assessment of the Southeastern Peninsula, St. Kitts, West Indies. U.S. Agency for International Development, Regional Development Office, Caribbean, Bridgetown, Barbados.
2. Bouchard, S. and Bjorndal, K. (2000). Sea turtles as biological transporters of nutrients and energy from marine to terrestrial ecosystems. *Ecology*, 81, 2305-2313.
3. Bjorndal, K. and Jackson, J. (2003). Roles of sea turtles in marine ecosystems: Reconstructing the past. In Lutz, P.L., Musick, J.A. and Wyneken, J. (Eds.) *The Biology of Sea Turtles Volume II*, 259-273. CRC Press, Boca Raton, Florida (USA).
4. Burger, A. (1996). Whale watching and regional tourism. In: K. Colgan, K., Prasser, S., and Jeffery, A. (Eds.) *Encounters with whales, 1995 Proceedings*, 93-96. Prepared for the Australian Nature Conservation Agency, Canberra.
5. Butler, J.A. 2001. Nesting Biology of the Sea Turtles of St. Kitts, West Indies. *Chelonian Conservation and Biology*, 4:191-196.
6. Cazabon-Mannette, M., Schuhmann, P.W., Hailey, A., and Horrocks, J. (2017) Estimates of the non-market value of sea turtles in Tobago using stated preference techniques. *Journal of Environmental Management*, 192, 281-291.
7. D'Arbeau, J. 1989. A survey of turtle nesting sites on the Southeast Peninsula beaches of St. Kitts, West Indies. Centre for Resource Management and Environmental Studies, UWI Cave Hill Campus, Barbados.

8. Duron-Dufrenne, M. (1987). Premier suivi par satellite en Atlantique d'une tortue Luth *Dermochelys coriacea*. *Comptes Rendue Academie des Sciences Paris Ser.III*, 304, 399-402.
9. Eckert, K. and Honebrink, T. (1992). WIDECAST Sea Turtle Recovery Action Plan for St. Kitts and Nevis. *UNEP Caribbean Environment Programme*, CEP Technical Report No. 17.
10. FWC. (2011). Wildlife Lighting Criteria. Wildlife Lighting. <<http://myfwc.com/conservation/you-protect/conservation/lighting/certification/>> Downloaded January 25, 2014.
11. Gibbons, M. and Richardson, A. (2009). Patterns of jellyfish abundance in the North Atlantic. *Hydrobiologia*, 616, 51-65.
12. Horrocks, J., and Scott, N. (1991). Nest site location and nest success in the hawksbill turtle, *Eretmochelys imbricata*, in Barbados, West Indies. *Marine Ecological Progress Series*, 69, 1-8.
13. IUCN (2016). *The IUCN Red List of Threatened Species. Version 2016-3*. <<http://www.iucnredlist.org>>. Downloaded on April 1, 2017.
14. Leon, Y. and Bjorndal, K. (2002). Selective feeding in the hawksbill turtle, an important predator in coral reef ecosystems. *Marine Ecology Progress Series*, 245, 249-258.
15. Lorne, J., & Salmon, M. (2007). Effects of exposure to artificial lighting on orientation of hatchling sea turtles on the beach and in the ocean. *Endangered Species Research*, 3, 23-30.
16. Mazaris, A., Matsinos, G., & Pantis, J. (2009). Evaluating the Impacts of Coastal Squeeze on Sea Turtle Nesting. *Ocean & Coastal Management*, 52, 139-145.
17. Meylan, A.B. 1983. Marine turtle of the Leeward Islands, Lesser Antilles. *Atoll Res. Bull.* 278:1-24.
18. Preen, A.R. 1996. Bjorndal, K. A. and Jackson, J.B.C. 2003. Roles of sea turtles in marine ecosystems: Reconstructing the past. In Lutz, P.L., Musick, J.A. and Wyneken, J. (Eds.) *The Biology of Sea Turtles Volume II*. CRC Press, Boca Raton, Florida (USA), 259-273.
19. Purcell, J. and Arai, M. (2001). Interactions of pelagic cnidarians and ctenophores with fish: A review. *Hydrobiologia*, 45, 27-44.
20. Sea Turtle Conservancy. (2015). Beachfront Lighting: Sea Turtle Friendly Lighting Examples. <<https://conserveturtles.org/beachfront-lighting-turtle-friendly-fixtures-lights/>>. Downloaded on March 15, 2015.

21. Stewart, K., McDanel, M., and Reed, N. (2006). St. Kitts Sea Turtle Monitoring Network: Implementation of a Long -Standing Sea Turtle Protection Program. In: *Proceedings of the 26<sup>th</sup> Annual Symposium on Sea Turtle Biology and Conservation*.
22. Thayer, G., Bjorndal K., Ogden, J., Williams, S., Zieman, J. (1984). Role of larger herbivores in seagrass communities: Functional ecology of seagrass ecosystems: A perspective on plant-animal interactions. *Estuaries*, 7(4), 351-376.
23. Thums, M., Whiting, S., Reisser, J., Pendoley, K., Pattiaratchi, C., Harcourt, R., McMahon, C., and Meekan, M. (2016). Tracking sea turtle hatchlings — A pilot study using acoustic telemetry. *Journal of Experimental Marine Biology and Ecology*, 440, 156-163.
24. Towle, E. L. et al. 1986. Environmental Assessment Report on the Proposed Southeast Peninsula Access Road St. Kitts, West Indies. Prepared for the Government of St. Kitts-Nevis by The Island Resources Foundation, St. Thomas, USVI.
25. Tuxbury, S.M., and Salmon, M. (2005). Competitive interactions between artificial lighting and natural cues during seafinding by hatchling marine turtles. *Biological Conservation*, 121, 311-316.
26. Witherington, B.E. (1992). Behavioral Responses of Nesting Sea Turtles to Artificial Lighting. *Herpetologica*, 48(1), 31-39.
27. Wilkins, R. and Meylan A.B. 1984. Western Atlantic Turtle Symposium National Report for St. Kitts-Nevis. In: Bacon, P., Berry, F., Bjorndal, K., Hirth, H., Ogren, L., and Weber, M. (Eds.). *Proceedings of the Western Atlantic Turtle Symposium*. Volume 3. Miami: RSMAS Printing, pp. 364- 369.
28. Witherington, B.E., and Martin, R.E. (2000). Understanding, assessing, and resolving light-pollution problems on sea turtle nesting beaches. 2<sup>nd</sup> ed rev. *Florida Marine Research Institute Technical Report*, TR-2, 1-73.

## Appendix K

### CTAP Functional Definitions

The following are the functional definitions for the terms utilized within the CERTIFIED TURTLE APPROVED criteria.

#### A:

**Accommodation** – lodging, food, and services

**Actively** – intentional actions being taken towards a goal

**Aesthetic** – for beautification purposes only, serving no functional purpose

**Approval** – a positive sign of support for a proposed idea or action

**Artificial lighting** – any non-natural light source

**Attract** – to draw towards

**Attitude** – the way one views or behaves towards others

#### B:

**Beach cleaning** – the act of removing both natural and non-natural debris from a beach

**Beach cleanup** – an organized effort to remove non-natural debris from a beach

**Beach-facing** – oriented in the direction of the beach

**Beach furniture** – chairs, umbrellas, tables, and any other foreign objects utilized for the comfort of people on the beach

**Beachfront** – the land facing, adjacent to, or running along the beach

**Best practice** – the ideal method

**Bonfires** – outdoor, open-air fires most often occurring on the beach

**Buffer space** – an intentional distance left between persons and turtles and other wildlife to decrease potential stress felt by the wildlife

#### C:

**Captive** – unable to come and go at leisure, holding an animal in a cage or enclosure so that it may not leave

**Cease** – to stop

**Certified/Certification** – the formal confirmation of a status through a certificate

**CERTIFIED TURTLE APPROVED (CTA)** – the status given to a business who has completed the process for certification and is compliant with its associated criteria

**CERTIFIED TURTLE APPROVED Program (CTAP)** – the program encompassing the process, framework, and promotion of CERTIFIED TURTLE APPROVED certification

**Communicating** – an exchange of information

**Compacted sand** – firmly packed, dense sand that can interfere with successful nesting or hatching events

**Compliance** – fulfilling the requirements set forth in the CTAP criteria

**Construction** (see Development) – any activity that significantly modifies the existing business structure

**Consumable goods** – products that are meant to be consumed by eating, drinking, or using

**Contaminants** – substances that are potentially detrimental to environmental, wildlife, or human health

**Coral reef** – natural, underwater structures formed by colonies of coral which serves as important habitat for many ocean animals

**D:**

**Debris** – discarded parts or remains of material without value from both natural and non-natural sources

**Decorative** – for aesthetic purposes

**Department of Marine Resources St. Kitts and Nevis** – The governmental body charged with the management of marine resources within the Federation of St. Kitts and Nevis

**Deterrent** – something which aims to discourage or prevent an outcome

**Developing eggs** – incubating eggs in the process of growing from a fetus to a hatchling

**Development** – any activity that significantly modifies the existing business structure

**Disposable goods** – products meant to be used up and discarded

**Distressed** – suffering from physical or mental stress

**E:**

**Educational session** – meeting with the purpose of sharing knowledge on a specific topic

**Encounter** – to come upon, meet with, or see a sea turtle

**Encouraged** – support favorably

**Entangled** – twisted or tied up in

**Erosion** – the loss of soil or sand from water or wind

**Establishment** – synonym for business

**Excursions** – tours with specific activities and agendas

**Expansion** (see Development) - any activity that significantly modifies the existing business structure in a manner that increases its geographical footprint

**F:**

**Facilitate** – to aid or make less difficult

**Food scraps** – leftover food items

**G:**

**Global Sustainable Tourism Council (GSTC)** -

**Good CERTIFIED TURTLE APPROVED standing** – being in possession of CERTIFIED TURTLE APPROVED with full criteria compliance and zero contention

**Guidance** – the act of providing counsel or advise

**H:**

**Harass** – disturbing, stressing, or pestering a sea turtle

**Harvest/Harvesting** – capturing turtle with the express intent to butcher and sell

**Hatching event** – hatchlings exiting their nest

**Hatching turtle/Hatching sea turtle** – (see hatchling) a young sea turtle newly hatched from its egg

**Hatchling** – a young sea turtle newly hatched from its egg

**Hazardous** – potentially harmful to environmental, human, or wildlife health

**Heavy machinery** – large vehicles or pieces of equipment that have the potential to compact beach sand with their weight

**Hotline** – the telephone and WhatsApp number used to report any sea turtle-related activity, problems, or emergencies in St. Kitts. 1 (869) 661-6462

**Human – sea turtle interaction** – Any encounter between a human and a sea turtle

**I:**

**Impede** – to prevent or block

**Inadvertent attractants** – unintended means of drawing pest species such as monkeys and mongoose to a business

**Injured** – hurt or temporarily disadvantaged

**Inland businesses** – businesses that are neither on or near a beach nor work in a capacity where sea turtles might be encountered due to business operations

**Intentions** – the underlying purpose behind an action

**Interfere** – to create difficulty

**Interpretive signage** – posters, signs, or other visual displays of educational information

**Inundation** – flooding of an incubating sea turtle nest

**Invasive species** – a species not native to an area, which has been introduced to the area at some point and altered the existing ecosystem in some way.

**In-water interaction** – any encounter with a sea turtle that occurs in the water

**In-water research session** – a data collection effort by the SKSTMN In-Water Team where team members snorkel, catch turtles, bring them on shore or a boat, and conduct health assessments, tagging, measurement and blood sample collection.

**J:**

**K:**

**L:**

**Literature** – Existing publications (such as academic journal articles, reports, surveys, etc.) on a specific topic

**Litter** – waste found in the general environment rather than the proper places for disposal

**M:**

**Maintain** – to keep in good operating condition

**Manually** – by hand or with non-automated tools

**Marine environment** – the ocean or sea

**Marine life** – organisms that live in the ocean or sea

**N:**

**Native species** – A species which has originated in the area and is a natural part of the local ecosystem

**Nest locations** – the area of sand where sea turtle eggs have been buried

**Nest screens** – stiff screening with large openings that allow hatchlings to exit the nest while preventing predators such

as mongoose and dogs from being able to dig out the nest

**Nesting attempt** – any partially dug egg chamber that was not successfully completed and, therefore, abandoned



**Nesting beaches** – beaches which possess the characteristics required for successful sea turtle nesting. Most beaches in the Federation of St. Kitts & Nevis are nesting beaches.

**Nesting event** – a act of a sea turtle successfully depositing a clutch of eggs on a beach

**Nesting season** – the period of the year when nesting occurs: in St. Kitts & Nevis there is at least one species of sea

turtle nesting all year round.

**Nesting turtle** - a female turtle who is in the area with the ultimate goal of depositing eggs successfully

**Nightly** – occurring each night

**Noise pollution** – ambient sound dispersing out into the environment

**Nonessential** – not necessary

**Non-natural debris** – man-made litter

**Not permitted** - prohibited

**O:**

**Ocean** – (see also Sea) The large body of saltwater surrounding the Federation of St. Kitts & Nevis

**P:**

**Participate/Participation** – to take part in

**Participating establishments** – businesses that are taking part in the CTAP

**Patron(s)** – guests, clients, customers, etc. which are paying for goods or services at a business

**Permanent/Permanently affixed** – not portable or removable, fixed in place long term

**Permanent structures** – buildings or shelters that are meant to be fixed in place long term

**Permitted** - allowed

**Personnel** - staff

**Plant matter** – sargassum, seaweed

**Policy** – a definite course of action adopted and pursued by the government

**Pollutants** – any substance, such as chemicals or waste products, that renders the air, soil, water or other natural resource harmful or suitable for a specific purpose

**Pollution** – the introduction of harmful substances or products into the environment

**Predation** – the act of when one animal captures and feeds on others

**Premises/Property** – the land, buildings, and belongings owned by a business

**Probation** – the process or period of testing a person or company doing a certain role or act

**Proper** – adapted or appropriate to the purpose or circumstances

**Provision/Provisioning** – the providing or supplying of something, especially of food or other necessities

**Q:**

**Quorum** – the minimum number of members that have to be present at any meeting to make the decisions of that meeting valid

**R:**

**Reasonable effort** – putting enough effort to achieve the goal without too much expense

**Recycle** – to treat or process used or waste materials to make new items for use

**Reduce** – to bring down to a smaller amount

**Reef (see coral reef)** – a ridge of rocks/dead coral on which coral grows underwater

**Reef safe** – products that are safe for use in the ocean, does not harm marine fauna and flora

**Renovation (see Development)** – to repair existing buildings to good condition or make new/as if new again

**Runoff** – something that drains or flows off, such as rainfall that flows off from the land into the ocean

## **S:**

**Sand mining** – extraction of sand from beaches, inland dunes or dredged from the ocean

**Sea (see also ocean)** - The large body of saltwater surrounding the Federation of St. Kitts & Nevis

**Sea grass** – a type of grass-like plant that grows in shallow waters in the ocean

**Sea turtle awareness** – having knowledge or being informed about sea turtles that are found in St Kitts and Nevis

**Sea turtle conservation** – preservation or protecting sea turtles that are found in St. Kitts and Nevis

**Sea turtle liaison** – a person who acts as a link to assist communication or cooperation between groups about sea turtles

**Sea Turtle Policy Statement (Statement)** – a definite or clear expression of something in writing

**Sea turtle products** – products made from sea turtles such as tortoiseshell jewelry, combs, glasses frames and turtle shells that are used as wall decorations.

**Sea turtle release** – The release of rehabilitated sea turtles, hatchlings or stranded turtles into the ocean

**Sea turtle tracks** – markings on the sand much like footprints from female sea turtles when they come on land to nest and return to the ocean. Hatchlings leave tracks between their nest where they emerge and the ocean.

**Seaweed** – large algae growing on rocks in the ocean

**Shell products** – products made from sea turtle shells such as combs, jewelry and wall hangings

**St. Kitts Sea Turtle Hotline (see Hotline)** – the telephone and WhatsApp number used to report any sea turtle-related

activity, problems, or emergencies in St. Kitts. 1 (869) 764 6664

**St. Kitts Sea Turtle Monitoring Network (SKSTMN)** – an organization that is dedicated to the conservation and education of sea turtles in St. Kitts.

**Staff/Staff member** – someone that is employed by a particular organization (SKSTMN)

**Stranding/Stranded turtle** – to find a sea turtle that is stuck with no way of moving (may be dead or alive)

**Styrofoam** – a type of light resilient polystyrene used for single use food and drink containers

**Substance** – a particular kind of matter with uniform properties

## **T:**

**Tag numbers** – Unique identification numbers found on tags that have been placed on the front flippers of sea turtles by trained members of SKSTMN. Used to identify individuals and keep track of them throughout their lifetime.

**Touch** – to come into contact with an object or living being

**Tracks (see sea turtle tracks)** – markings on the ground left by a person, animal or vehicle

**Training** – the act of teaching a person or animals a particular skill or type of behavior

**TURTLE APPROVED** – a facility and staff that has been thoroughly vetted and trained to follow protocols that are safe for sea turtles.

**Turtle friendly practices** – the doing or exercising of turtle friendly procedures like not using plastic straws, removing beach chairs from beaches at night, using beach umbrella stands and not harassing or touching sea turtles in the water/on the beach

**U:**

**V:**

**Vehicular traffic** – the congregation of vehicles coming and going in a particular location

**Vendors** – a person or company offering something for sale

**Visible** – to be perceived or noticed easily

**W:**

**Waste** – material that is not wanted, the unusable remains or byproduct of something. To use something carelessly

**Water sports** – any sport that is carried out on the water, such as waterskiing or windsurfing

**Water sports equipment** – any equipment that is used in the water like inflatable obstacle courses, skis, towables and kayaks

**Watercraft** – a boat or vessel that travels on/in the water

**Wildlife** – native wild animals that are found in an area

**X:**

**Y:**

**Z:**