

**Natural Resources Subcommittee**  
**DRAFT Document for Discussion Purposes Only**  
**V1.12/03/08**

## **Adaptive Management Proposal for Night Access during Sea Turtle Breeding Season**

### **Acknowledgement**

Numerous factors may affect sea turtles, turtle behavior, and turtle habitat including natural factors (ocean water quality, water temperature, storm events, predators, etc.), general human activity on beaches, artificial lighting (stationary in particular), and ORVs. Though the scope and focus of this plan is ORV management, this is not to imply numerous other management actions are not necessary and important to maintain and improve turtle populations on CAHA.

### **General Goals of Night Driving, Seasonal Restrictions, and Turtle Management**

- Protect the sea turtles and contribute to the recovery of the species. More specific goals include:
  - Reduce the potential for false crawls due to night activity on the beach;
  - Reduce the potential for female turtles not emerging onto the beach due to night activity on the beach;
  - Reduce the potential for hatchling disorientation, when attempting to return to the sea, due to night activity on the beach;
  - Reduce potential direct impact to hatchlings seeking to reach the ocean, especially those hatchlings emerging from undiscovered/unmarked nests.
- Protect the opportunity to fish at night for recreational fishermen.

### **General Concepts**

- Night driving on all routes and areas would occur without night time restrictions from sometimes in the Month of November to sometime the Month of May.
- Night driving would be permitted but restricted in select locations within the Park from a time at or around sunset to time at or after sunrise from sometime in May to sometime in September. Drivers would have to Park just before or just after sunset and stay parked, with significant lighting restrictions, fishing, and remaining stationary until a time in the morning during this season in the locations specified.
- Night driving would be restricted (not allowed) on other areas of the beach (not specified above by location) from sometime in May to sometime in September.
- Night driving would be permitted but restricted across the Seashore beginning sometime in September until sometime in November. Restrictions would be dictated by the location of turtle nests.

### **Outstanding Issues**

- What are the dates to begin and end “summer” restrictions.

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- May 1; May 15; triggered by 5 or more turtle nests; other
- September 1; September 15.
- What are the dates to begin and end “fall” restrictions
  - September 1; September 15
  - November 1; November 15.
- What are the rationale for determining numbers of vehicles during “summer” restrictions at specific locations?
  - Park judgment including practical implementation considerations such as administration, monitoring, enforcement; numbers of fishermen typically fishing; vehicles, single (double?) parked, X feet between, for the distance available; other?
- What are the locations for permitted summer “night parking and fishing”, pending bird closures?
  - Cape Point; Hatteras Inlet; Ocracoke South Point; Bodie Island?

**Baseline Management for Sea Turtles**

Monitoring:

- Daily sea turtle patrols begin on May 1, unless leatherback nests have been reported within the state, in which case CAHA will follow the direction of NCWRC. Patrol will continue until September 15, or two weeks after the last sea turtle nest or crawl is found, whichever is later.
- Conduct daily morning surveys by ATV/UTVs and possibly ORVs for crawls and nests on all beaches before onset of heavy public ORV use. Daily surveys for nests end September 15, or two weeks after the last sea turtle nest or crawl was found, whichever is later. Periodic monitoring (e.g., every two to three days) for unknown nesting and emerging hatchlings will continue, especially in areas of high visitation from that date until November 15.
- Monitoring will also occur for post-hatchling washbacks during periods when there are large quantities of seaweed washed ashore or following severe storm events. Nest observations stop when all nests have hatched or excavation indicates that the nest was not viable.
- Once a light filter fence is installed, monitor nests daily for signs of hatchling emergence.

Management:

- In general, NPS will follow the guidance found in the NCWRC Handbook for Sea Turtle volunteers.
- November 16 - April 30: Designated ORV routes and areas open to ORV use 24 hours a day.
- May 1 – September 15: All potential sea turtle nesting habitat (ocean intertidal zone, ocean backshore, and dunes) will be closed to non-essential ORV use from ½ hour after sunset until 7:00 a.m. NPS will begin turtle patrols at first light and conduct first patrols each day along key sections of beach that are currently open to ORV use, to the extent practical.

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Areas within existing resource closures will generally be surveyed last, to the extent practical.

- Nest closures and buffers will be established as described in the CAHA ORV Resource Protection Tables, dated 11/15/08 (see page 9 of Table).
- Pedestrian access to the ocean beaches after dark is allowed at any location(s) adjacent to the villages or established parking, subject to site specific resource closures as needed for bird breeding activity or sea turtle nests.
- ORV Access for Night Fishing During Turtle Nesting Season: The following areas are designated as open to ORV access for night fishing from May 1 to September 15, subject to site specific resource closures as needed for bird breeding activity or sea turtle nests; and subject to the terms and conditions of a permit (see next section) and to the overnight vehicle limit indicated in (parentheses):
  - Cape Point: Vehicle limit – 25 (Access via eastern corridor, if not otherwise closed.)
  - Hatteras Inlet Vehicle limit - 10 (Access via Spur Road, if not otherwise closed.)
- Night Fishing Permits: Between May 1 and September 15, the above areas will be accessible by ORV only during daylight hours, subject to resource closures for bird breeding activity or turtle nests, and subject to terms and conditions of a special use permit, which include the following:
  - Permitted vehicles must arrive at the site before ½ hour after sunset and remain parked within the designated area with headlights off until 7:00 a.m. the next morning. In order for permittees to leave the beach during the night, there must be an actual emergency, which entails a call to Dare County central dispatch (473-3444) or 911. Dispatch information will be listed on the nightly permit.
  - Parking areas at the respective night access sites will be designated by NPS law enforcement staff and marked with signage (e.g., carsonite or barricades) that will be maintained by the LE staff. Permittees must park their vehicles only in the designated area.
  - Pets are prohibited
  - Campfires, use of vehicle headlights, vehicle battery powered spotlights, or lanterns that cast light in a 360 degree direction are prohibited, except as needed in a true emergency situation. Use of lighting is limited to handheld flashlights, headlamps or other battery powered lighting devices that cast a one-directional beam of light.
  - Night fishing permits will be issued one night at a time and must be obtained in person at a designated NPS permit issuing station (locations TBD)
  - Each vehicle must have a functional portable toilet
  - NPS may impose a limit on the number of nights in a row an individual may obtain a night fishing permit, if it appears that there is routinely more demand for permits than the vehicle limit allows
- Enforcement: If a permittee or individual accompanying a permittee violates the terms and conditions of the permit, including any of the above provisions, the violator is subject to a citation and the person's privilege to obtain a night-access permit will be revoked for the remainder of the season. If there are three (3) or more documented violations of these requirements at a particular site within a 30-day period, all night access to that site will be suspended for a 30 day period.

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- **September 16 – November 15:** [MIKE CAN YOU PERHAPS EDIT THIS TO MAKE IT CLEARER?] Night driving will remain restricted to daylight hours on routes and areas that have unhatched turtle nests. Night driving, subject to terms and conditions of a permit, will be allowed to the extent practicable on ocean beaches that do not have unhatched turtle nests as of September 15. At key spits and points, if daylight ORV access is possible though unhatched sea turtle nests remain in the area, NPS may utilize the ORV access for night fishing procedures described above. Areas to be re-opened to night driving will be determined by NPS Resources Management staff. Prior to September 16 of each year, NPS to publish a list of areas and routes that will be open to night driving as of September 16. The list will be updated weekly until all turtle nests have hatched.
- Resources Management staff will examine all sea turtle nests after hatching to determine productivity rates. Excavate nests in the evening a minimum of 72 hours after hatching event. In cases where hatching events or dates were unknown, unearth nest cavities 80–90 days after the lay date, or later if eggs are still viable. Any live hatchlings found during excavations will be released after dark on the same day as excavation. Provided no other unhatched nests remain in the area, areas will reopen to nighttime driving in accordance with what is published in the weekly beach access report.
- The Superintendent retains the authority under 36 CFR § 1.5 (a) to close all or a portion of a park area to all public use or to a specific use or activity, as needed to protect park resources.

### **Adaptive Management**

***Caveat:*** This section needs to be reviewed by someone with expertise in adaptive management methodology in order to confirm or improve the technical sufficiency of the following proposal. The information that is collected by the Resources Management staff is anecdotal in nature. It can reasonably be used to inform management decisions or to support the need for additional formal research studies. The anecdotal information alone should not be used as the sole basis for making significant changes in management practices. Any significant changes in management should include consultation with recognized experts in the field.

**Objective:** To determine the effect of management on nesting rate, hatching success, sea-finding by hatchlings (prevalence of misorientation/disorientation and trapping by obstacles), and proportion of false crawls.

**Proposal:** Identify the “management category” of each ocean beach segment as one of the following:

1. ORV areas (ORV/pedestrian segments, open to ORV use during daylight hours)
2. Non-ORV areas (pedestrian only segments)
3. Resource Areas that are closed from (date) to (date) to all ORV and pedestrian use (control segments)
4. Other resource closures (i.e., a category # 1 or # 2 segment that is closed during the season for resource protection and then it become a category # 3 segment at that time)

Monitor and Document the following information:

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1. -Turtle species  
-Nest vs. false crawl  
-Location (physical description and GPS location)  
Management category (ORV, Non-ORV, Resource Area, other Resource Closures, or Experimental) of the nest site at the time it was laid  
-If nest needs to be relocated and, if so, why and where (new physical description and GPS location), number of eggs relocated, and time of day  
-Necessary protective measures for nest and hatchlings  
-Information regarding any resource closure violations, predation, hatchling misorientation, or trapping by obstacles  
-Information regarding any post hatching nest excavation and analysis
2. Examine all nests after hatching to determine productivity rates. Excavate nests in the evening a minimum of 72 hours after hatching event. In cases where hatching events or dates were unknown, unearth nest cavities 80–90 days after the lay date, or later if the eggs are still viable (i.e., late season nests). Any live hatchlings found during excavations will be released after dark on the same day as excavation.

Evaluate:

1. Compare the number and proportion of nests, false crawls, hatchling misorientation/disorientation incidents, predation incidents, and hatchling emergence rate that occur in the respective management categories. Document in annual sea turtle report.
2. Conduct periodic review and evaluate trends every 5 - 6 years and include a summary of that analysis in the annual sea turtle report for the respective year. Review results with USFWS and NCWRC. (Note: Loggerhead and green turtles typically nest every 2-3 years, so this would allow for a minimum of two nesting cycles to be considered.)
3. If a significant effect of recreation at a particular site is found, recreational restrictions can be varied systematically to distinguish the effects of type and level of activity. On the other hand, if no effect is detected, then the next round of experiments could entail allowing similar night access to other selected sites. Any change in management would require consultation with USFWS and NCWRC, prior to implementation.

Further Studies to Consider:

1. Design a systematic research study to monitor and determine the effects of night access on sea turtle nesting