Section 4
Tire Tracks/Rut Removal Plan

Purpose

Tire ruts created by vehicles on the beach can trap or hinder post-emergent hatchlings during their crawl to the ocean. Historic information has indicated that there were incidences where sea turtle hatchlings were trapped in tire ruts in St. Johns County. An effective tire track and rut removal plan is meant to minimize the potential impact to sea turtle hatchlings as they travel to the ocean.

Applicable ITP Condition- G.2.j.

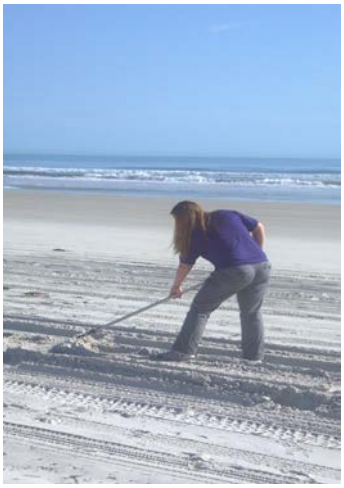
j. Tire Tracks/Rut Removal Plan. "Within thirty (30) days of the effective date of this Permit, the Permittee shall submit for U.S. Fish and Wildlife Service review and approval a Tire Track/Rut Removal Plan as further described in Chapter 7 of the HCP. The Permittee shall implement such Plan during the first full nesting season following U.S. Fish and Wildlife Service approval (beginning on May 1). The approved Tire Track/Rut Removal Plan may be subsequently amended prior to and after its implementation upon review and approval of the U.S. Fish and Wildlife Service."

HCP Performance During 2012

Implementation: A Rut Removal Plan (Appendix C) was submitted to the USFWS on September 1, 2006. This plan lays out the protocol in which both PPHs and the County must follow in order to provide a safe passage for hatchlings as they make their way to the ocean. Condition G.2.i of the ITP requires a Standard Sea Turtle Monitoring Protocol (SSTMP) be completed in coordination with PPHs. Based on this protocol PPHs submit weekly nesting data to the County allowing the Environmental Coordinator to work closely with the Beach Enforcement Specialist and rut removal staff to satisfy this protocol. The Beach Enforcement Specialist is responsible for organizing, creating weekly rut removal spreadsheets, inputting rut removal data, maintaining equipment, and scheduling staff. Rut removal was conducted on all south beach nests where daily beach driving occurs and on Vilano beach including the restricted driving portion north of Vilano where special 4x4 permits are required. No rut removal was requested for nests located on South Ponte Vedra beach north of the Usina beach access ramp, where restricted driving is allowed. Rut removal was conducted using an ATV or 4x4 Mule equipped with a heavy duty road grater attached to the rear of the vehicles (Object 4) and using large light-weight aluminum rakes (Object 5). Per the approved protocol, staff is instructed to not touch the nest and to stay on the outside of the staked area when raking. In the event of nest emergence or sea turtle related emergency is observed by on-duty staff, they are instructed to immediately contact the Beach Enforcement Technician with follow up to the Environmental Coordinator and the PPHs.

Object 4. Rut removal drag mat attached to ATV

Object 5. Rut removal with heavy duty aluminum rake



Assessment: Two different PPHs are responsible for three different zones of driving beaches where rut removal was conducted. The approved protocol requires that rut removal procedures start on the 47th day of incubation, however, due to previous documentation of nests hatching at 45 days of incubation rut removal procedures are set to begin at the 45th day. Rut removal was required on approximately 12.25 miles of the 16.3 miles of drivable beach beginning at the Usina vehicular access ramp south to the St. Augustine Inlet and from A Street vehicular access ramp extending south to the Fort Matanzas National Monument ramp. Permitted vehicles such as County staff and trash contractors routinely drive from A Street north to the pier and, depending on the tides, ruts occasionally occurred in front of the nests in this area. In response, rut removal staff would spot check the nests to ensure no impact occurred to emerging hatchlings.

Rut removal procedures (Table 8) started on June 16th and concluded on October 16th for a period of 106 days on 115 nests; 113 Loggerheads and 2 Green. The longest period in which rut removal staff spent removing ruts on a nest was 37 days and the shortest amount of time was 10 days with only 4 nests being reported as missed by staff due to evening weather systems. A total of 1060 man hours were spent conducting rut removal procedures and staff averaged 12 minutes of time spent at each nest.

Table 8. Rut Removal Summary

Beach	Start Date	End Date	Length	Total Nests	*Average Days
St. Augustine Beach	June 29	October 16	110 days	27	17.48
Crescent Beach	June 23	October 16	116	30	20.95
Vilano	June 16	October 12	88	58	NA

*Average evenings spent conducting rut removal at nest site per zone

The area considered as North Beach has limited driving as it only occurs by special permit (see Section 1 Public Vehicular Access) at lower tides reducing the potential for deep vehicle ruts. More often staff filled holes and moved obstructions out of the way and if ruts were present they were removed by hand raking. At the Vilano access ramp and around to Porpoise Point heavy vehicle use common allowing additional opportunity for vehicle ruts. One nest did occur south of the Vilano access ramp approximately .16 miles north of the St. Augustine Inlet (north of the jetty) and saw substantial rutting. The ruts associated with this nest were removed by ATV and drag mat from July 6th to July 19th for a period of 14 days.

Staff occasionally has the advantage of witnessing nests emergence allowing them the opportunity to observe the hatchlings traveling to the ocean. This information is immediately reported to the PPH responsible for that stretch of beach.

- **8/15/2012** – Emergence witnessed by staff in Crescent Beach prior to rut removal activities. Area was coned off and verified that disorientation did not occur, hand-raked after initial hatch out.
- **8/29/2012** – Emergence witnessed by staff north of Dondanville road in St. Augustine Beach. Emergence occurred after gates were locked and rut removal was already completed.

During their incubation periods and when rut removal procedures are occurring nest can be impacted by tidal inundation from storm events increasing their incubation period or may not hatch at all. Throughout the rut removal season 41 nests were affected by tidal inundation and storms potentially resulting in 12 of these nests not hatching.

Program Improvements: The Environmental Coordinator and Beach Enforcement Specialist will continue to coordinate with the PPHs to improve rut removal procedures as well as data collection.