Chapter 7. CONSERVATION STRATEGY: MEASURES TO MINIMIZE AND MITIGATE IMPACTS

The primary goal of this HCP is to develop a comprehensive plan to protect federally listed sea turtles and AIBM and the habitat they utilize within the Plan Area over the next 20 years while preserving public access to the beach. To achieve this goal, the HCP has established the following objectives:

- Embrace Federal, State, County, and municipal laws and regulations pertaining to the conservation of protected species on St. Johns County's beaches;
- Establish a plan that will effectively and efficiently manage vehicular access to the beach for the various County departments, contractors, private citizens, and State and Federal agencies that drive on the beach; and
- Create a plan that will continue to allow the public to drive and park on authorized sections of the beach in a manner that will sustain the social, recreational, cultural, economic, and environmental values of the beach.

This HCP is designed as a dynamic document. It is structured to permit adaptive changes in response to new information derived from monitoring programs. Mechanisms are established to facilitate dialogue between the USFWS and St. Johns County in response to changing conditions and to allow for the timely revision of procedures and policies to better achieve HCP objectives and/or respond to unforeseen circumstances.

7.1. BIOLOGICAL GOALS

The ESA and its implementing regulations do not explicitly require that a HCP result in direct benefit to the affected species. However, a HCP needs to demonstrate that the issuance of an ITP will not jeopardize the continued existence or recovery of the species in the wild (ESA section 10). Yet, the over-arching biological goal of this HCP is to provide a net benefit to both sea turtles and AIBM throughout the life of the ITP.

The HCP, once fully implemented, is expected to reduce incidental take levels of loggerhead, green, and leatherback turtles and AIBM habitat, caused by public beach driving and associated activities. As mandated by the ESA, this will be achieved by minimizing the negative impacts of public vehicular activities on the species and their habitats as much as feasible. The ESA states that "the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking" (ESA section 10(a)(2)(B)). The *Habitat Conservation Planning Handbook* states that "the record must contain some basis to conclude that the proposed program is the maximum that can be reasonably required by that applicant. This may require weighing the costs of implementing additional mitigation, benefits and costs of implementing additional mitigation, the amount of mitigation provided by other applicants in similar situations, and the abilities of that particular applicant" (USFWS and NMFS 1996). Minimization and mitigation strategies are outlined in the following sections.

7.2. MEASURES TO MINIMIZE IMPACTS

The programs and policies contained in this chapter will improve protected species management on the County's beaches relative to practices currently in place. The Plan contains measures that will be implemented to minimize the potential for impacts to sea turtles and the AIBM causally related to vehicular access to the beach allowed under the County's authority. These minimization programs include:

7.2.1. Authorizing public vehicular beach access between 8:00 AM and 8:00 PM from May 1 through October 31 of each year (gates will remain open on a 24-hour basis from November 1 through April 30 on all public driving beaches and from 8:00 AM on July 4 through 1:00 AM on July 5 at Porpoise Point);
7.2.2. Installing and maintaining traffic barricades at beach ramps and other points to regulate vehicular access;
7.2.3. Monitoring and conspicuous marking of all sea turtle nests in the Plan Area;
7.2.4. Developing a standard protocol to remove vehicle ruts seaward of sea turtle nests during periods when hatchlings are expected to emerge;
7.2.5. Increased and dedicated enforcement of beach driving policies and procedures;
7.2.6. Develop and implement a public awareness program that includes, but not limited to, the following features:
- Developing and distributing public awareness materials containing information regarding driving regulations and protected species' issues to beach drivers as they access beaches within the Plan Area;
- Developing Public Service Announcements, including "special reports," to be aired on the St. Johns County government television station discussing HCP regulations and protected species;
- Designing and conducting periodic public workshops that include the general public but will also focus on the beach community and hotels/motels to discuss HCP issues; and
- Posting phone numbers to report HCP violations and sea turtle emergencies.

7.2.7. Elevating trash receptacles on posts along public driving areas within AIBM habitat (i.e., Anastasia Island, excluding FMNM);
7.2.8. Increased enforcement of existing Conservation Zone (CZ) regulations (defined in Ordinance No. 96-48) and an expansion in the width of the CZ in one region to protect and enhance AIBM and nesting bird habitats;
7.2.9. Developing and instituting a training program that must be attended by drivers wishing to obtain a four-wheel drive permit for driving north of Vilano Ramp; and
7.2.10. Reducing public beach driving along Summer Haven.

7.2.1. Authorizing public vehicular beach access between 8:00 AM and 8:00 PM from May 1 through October 31 of each year (gates will remain open on a 24-hour basis from November 1 through April 30 on all public driving beaches and from 8:00 AM on July 4 through 1:00 AM on July 5 at Porpoise Point.

Conditions prior to the HCP. Public vehicular access to authorized beaches in St. Johns County is currently authorized from 5:00 AM to 10:00 PM between May 15 and October 15, and 24 hours a day between October 16 and May 14. As described in Table 5-1 of this HCP, all records of take of sea turtles and turtle nests due to vehicles or vehicular activities in St. Johns County have occurred between sunset and sunrise (i.e., during dusk, night, or dawn time periods).

Goal. Temporally separate sea turtles and AIBM from public vehicular activities.

New conditions under the HCP. St. Johns County ordinances relevant to public vehicular access to the beaches will be amended to define the sea turtle nesting season as May 1 to October 31 to encompass the entire period during which adult turtles are emerging from the ocean to nest and hatchlings are emerging from their nests. This will place public driving restrictions for an additional 31 days each year.

Public vehicular access hours between May 1 and October 31 will be changed from 5:00 AM to 10:00 PM to 8:00 AM to 8:00 PM for the general public. This will reduce the amount of driving by 5 hours each day. Most of the reduction will occur during hours of darkness, when turtle-vehicle interactions are most likely. Collectively, the new driving restrictions will reduce the amount of time that public traffic will be allowed access to the beaches during sea turtle nesting season by 33.9 percent (from 3,338 hours to 2,208 hours). Public beach driving will be permitted 24 hours a day between November 1 and April 30 of each year on all public driving beaches and from 8:00 AM on July 4 through 1:00 AM on July 5 from the north side of the Vilano Road beach access ramp to the southwestern tip of Porpoise Point.

Fishermen with a valid State commercial fishing license that derive at least 50 percent of their annual income from commercial fishing can opt for HCP training and be permitted to access public driving beaches by vehicle from 5:00 AM to 10:00 PM between May 1 and October 31 (these times are consistent with pre-HCP beach ordinances). These commercial fishermen must drive and park only on the wetted portion of the beach from 5:00 AM to 8:00 AM and 8:00 PM to 10:00 PM. They must also participate in HCP training, which will focus on how to avoid adult, hatchling, stranded, or post-hatchling washback sea turtles and sea turtle nests, how to reduce the use of lights on the beach, and how to diminish interference with sea turtle nesting surveys. Recurrent HCP training will occur minimally at least once each year.

Fishermen wishing to obtain these extended access hours must provide the HCP Coordinator with verification that 1) they possess a current Saltwater Products License issued by the State of Florida, and 2) at least 50 percent of their annual income is derived from commercial fishing (e.g., copy of Federal income tax returns and fish landing receipts). Verification will be supplied to the HCP Coordinator on an annual basis. Each fisherman will be issued a key to unlock the gate at Vilano Ramp and another key to unlock the gate at Fort Matanzas Ramp. Additionally, they will be issued a large placard that must be placed prominently on the dashboard of the vehicle when driving on the beach before 8:00 AM and after 8:00 PM between May 1 and October 31. The placard will at least visibly read, “Commercial Fisherman” and their permit number. The fishermen will be expected to self-police their activities.

Daily Beach Opening. From May 1 through October 31, public vehicular access to authorized beaches will begin each day at 8:00 AM. When tollbooths are attended (March 1 through Labor Day weekend), the tollbooth operators will begin collecting tolls at 8:00 AM (they currently begin at 9:00 AM); this is a 1-hour increase in the time that beach passes are sold and may constitute an increase in County beach toll revenue. During the period of time that the sea turtle nesting season overlaps with tollbooth operation (May 1 through Labor Day, the tollbooth operators will open the gates at 8:00 AM. Between the day after Labor Day weekend and October 31, tollbooths are not placed at access ramps, and Deputy Sheriffs will unlock the gates at 8:00 AM. Gates will remain open on a 24-hour basis from November 1 through April 30.

If, during the sea turtle nesting season, the nesting survey cannot be completed by 8:00 AM, then the PPH will call the HCP Coordinator. The HCP Coordinator will designate which zone(s) of the beach must remain closed to public vehicular traffic until the survey is complete. The PPH will call the HCP Coordinator when the survey is finished, and the gates will then be opened by the tollbooth attendant or Deputy Sheriff.

Daily Beach Closing. From May 1 through October 31, public vehicular access to authorized beaches will end each day at 8:00 PM. Signage at all vehicular entrance ramps will indicate the following (or similar) message, "All Vehicles Must Be off the Beach by 8:00 PM." Tollbooth attendants depart their booths at 5:00 PM on weekdays and 6:00 PM on weekends and holidays. Therefore, County staff will be responsible for closing and locking the gate arms at each public vehicular access point at 8:00 PM.

All public vehicles will be cleared from the beach by 8:00 PM. Truck patrols of lifeguards (Zone Units) will be responsible for clearing all authorized public driving beaches of vehicles. Abandoned vehicles will be ticketed by the Sheriff's Department on unincorporated beaches of St. Johns County and by the St. Augustine Beach Police Department within municipal boundaries. Abandoned vehicles will be towed at the owner's expense.

Law enforcement officers (Sheriff's Department on unincorporated beaches and the St. Augustine Beach Police Department within municipal boundaries) will respond to public calls of unauthorized headlights/driving on the beaches at night. Violators of the night driving prohibition will be ticketed and fined for a violation of the St. Johns County Beach Code ($35.00-50.00 fine; Ordinance No. 97-34).

Rationale for the time change. The vast majority of sea turtle nesting and hatching occurs between sunset and sunrise. In St. John County, the times for sunset and sunrise and civil, nautical, and astronomical twilight for selected days during the 2003 sea turtle nesting season are given in Figure 7-1a. The 8:00 AM opening time has been selected to insure that the PPHs in public driving zones have adequate time between sunrise and the opening of the beach to complete the daily sea turtle nesting survey. All fresh nests from the night before must be documented and marked and any missing barricades on nests must be replaced before public vehicles are permitted to drive on the beaches within that zone.

A study conducted on Melbourne Beach, Florida between July 29 and September 1, 1988 indicated that no emergent hatchlings are likely to be encountered by public vehicles on the

beach after 7:00 AM (Table 7-1). Although no scientific studies have been conducted in St. Johns County, anecdotal information suggests that later hatching events have been observed in St. Johns County (7:00 to 8:00 AM; Lardner *pers. comm.* 2002). Additionally, it was estimated that approximately 10 percent of the loggerhead hatchling emergence events at Melbourne Beach, Florida occurred during afternoon rain showers (Witherington 1986).

The 8:00 PM closing time has been selected to allow sufficient time for the County to perform rut removal procedures before nightfall (section 7.2.4.). County staff will be responsible for removing vehicle tire ruts seaward of all sea turtle nests expected to emerge on all beaches where public driving is authorized. A Rut Removal Plan will be developed within six months of issuance of the ITP and implemented during the first full nesting season following USFWS approval of the plan (Table 9-1). Before the County can initiate evening rut removal procedures, most public vehicles must have vacated the beach. As seen in Table 7-1, approximately 0.6 percent of emergent hatchlings could potentially encounter public vehicles still on the beach between 7:00 and 8:00 PM.

Starting at about 7:00 PM, the County's two rut removal teams will begin removing ruts seaward of nests nearing hatching. Although some vehicles may remain on the beach after 7:00 PM, the majority of traffic will have been cleared by that time. One team will be assigned to the South Beaches, and the other team will conduct operations on the North Beaches. Each loggerhead and green turtle nest that has reached 46 days of incubation (60 days for leatherback turtles; based on shortest incubation periods reported for St. Johns County, section 7.2.4.) will be flagged for rut removal. These nests will be inspected daily by the County's rut removal teams, and if ruts are present, they will be removed either by hand raking or by towing an apparatus behind a vehicle/ATV, whichever is most expeditious. Rut removal will continue at each flagged nest until 72 hours after the nest experiences its first hatchling emergence, at which time the nest is excavated, its contents analyzed, and the nest barrier removed (as per FWC guidelines).

From a Countywide perspective, public driving beaches have lower sea turtle nesting densities than other County beaches; thus, relatively few nests will require rut removal (Figure 7-4). Using 2001 sea turtle nesting data reported to FWC, the majority of nests laid in public driving areas in St. Johns County experienced first hatchling emergence between the beginning of July and mid-September (Figure 7-1b). Although the number of nests actually hatching on any given day is few (maximum = 3 nests), the number of nests requiring daily inspection is higher. That is because the exact time of hatching for any given nest is not known. Daily inspections at each nest must begin at 46 days of incubation and continue until 3 days following the first sign of hatchling emergence, a period of approximately 2 to 3 weeks.

Based on 2001 data, nests on the North Beaches would have required rut removal for an average of 14.9 days, and during the peak of hatching, a maximum of 15 nests would have to be inspected (Figure 7-1b). On the South Beaches, the average number of days that rut removal would have been required for each nest during 2001 was 20.7. However, because of lower nesting in that area, the maximum number of nests that would have to be inspected on any given day was only 8. (These averages do not include the unusually high number of nests that were washed out and lost in 2001, nests for which the days of rut removal were incalculable).

It is estimated that the rut removal task will take 5 to 10 minutes per nest. With a maximum number of nests flagged for inspection equal to 15 on the North Beaches, it would take between 1.25 and 2.5 hours to complete rut removal during the peak of hatching. On the South Beaches, where the vast majority of public driving occurs, it would require less than 1.5 hours to inspect and remove ruts from a maximum of 8 nests per day. Thus, if rut removal begins at 7:00 PM, the latest that it would be completed would be 9:30 PM (North Beaches). However, rut removal will probably not be required at all inspected nests, and in many cases it will take less than 10 minutes to complete. Furthermore, although 8:00 PM approximates sunset for most of the nesting season, that time does not represent true darkness.

Sunset is defined as "the disappearance of the [sun's] upper limb below the horizon. Chiefly because of the effect of refraction, as the upper limb appears to touch the horizon at sunset, it is actually more than 30 feet below the celestial horizon" (Maloney 1985). Twilight is the period after sunset when daylight is giving way to darkness. There are three types of twilight: civil, nautical, and astronomical. Civil twilight represents the point in the evening after sunset, when the horizon can still be clearly seen and only bright stars are visible (the center of the sun is -6 degrees below the celestial horizon). At nautical twilight, the horizon line becomes vague (the center of the sun is -12 degrees below the celestial horizon). Astronomical twilight represents full night (the center of the sun is -18 degrees below the celestial horizon). The conditions observed during twilight are relative and vary considerably under different atmospheric conditions.

As evident in Figure 7-1a, there is a period of approximately 1.5 hours between sunset and full night (astronomical twilight). During the weeks when rut removal requirements are the greatest, astronomical twilight occurs relatively late (between about 9:00 to 10:00 PM; Figure 7-1a). Thus, the rut removal teams are expected to have adequate time to complete the task by darkness on most days throughout the hatching season.

Figure 7-1a demonstrates that astronomical twilight occurs before the 8:00 PM beach closure time during the end of October (the sea turtle nesting season officially ends on October 31). However, this should not impact hatchlings or the County's rut removal program, because the last hatchling emergences in St. Johns County typically occur by the end of September (Figure 7-1b). Nests still incubating on the beach after that time are typically washed out by autumn storms before they can hatch. Therefore, it is anticipated that the County's rut removal program likely will not be needed after the end of September, when darkness approaches the beach closing time.

Rationale for the seasonal change. Ordinance amendments that restrict public vehicular access between May 1 and October 31 will bring the definition of the sea turtle nesting season in the County's beach driving regulations into consistency with 1) the Florida Fish and Wildlife Conservation Commission's definition of the sea turtle nesting season in St. Johns County, and 2) the definition of nesting season in St. Johns County Ordinance No. 99-33 (beach lighting ordinance). The majority of sea turtle nesting and hatchling emergence events in St. Johns County occur between May 1 and October 31. Table 7-2 shows the first and last nest dates and expected hatchling emergence dates each year between 1988 and 2001.

As seen in Table 3-7 and Table 7-2, leatherback turtles are generally the first sea turtles to nest each season. However, leatherback nests are extremely rare in St. Johns County. Only 16 leatherback nests were recorded in St. Johns County between 1988-2001 (Meylan *et al.* 1995; FWC u*npublished data* 2002). Between 1996 and 2001, leatherback nests represented 0.3 percent of the nests deposited on the County's beaches (FWC u*npublished data* 2002). The large size of a leatherback turtle's crawl and nest are generally conspicuous to beachgoers and, thus, are typically reported to the appropriate PPH for recording and marking.

Between 1996 and 2001, 97.6 percent of the sea turtle nests deposited in St. Johns County were loggerhead nests (FWC *unpublished data* 2002). Figures 7-2 and 7-3 illustrate when select loggerhead turtle nests were deposited and when those nests hatched (FWC *unpublished data* 2001a). An adult sea turtle laying eggs or a hatchling emerging from a nest is not likely to be on the beaches of St. Johns County before May 1 or after October 31.

Between 1979 and 2001, the earliest recorded loggerhead nest was laid on May 1 (Table 3-7; Table 7-2). The latest recorded loggerhead nest was deposited on September 26. Using an average incubation period of 57 days, this nest would be expected to emerge on November 22 (see footnote on Table 7-2). However, hatchling emergence dates in November are extraordinarily rare even for warmer areas in South Florida (EAI 2000a, EAI 2001b). Although isolated hatching events can be expected in St. Johns County during October, they are relatively infrequent, because few nests are deposited after July (Table 7-2). Nests deposited in August and September are extremely vulnerable to being washed out and lost due to late summer and fall storm events (Stam, Stoll, Miller, Lardner, Stauber, and Rich *pers. comm.* 2001; FWC u*npublished data* 2001a). Thus, it would be extremely rare for an adult sea turtle, emergent hatchling, or nest to be on the public driving beaches of St. Johns County after October 31.

7.2.2. Installing and maintaining traffic barricades at beach ramps and other points to regulate vehicular access.

Conditions prior to the HCP. During 2001 and 2002, impenetrable steel gate arms were installed by the St. Johns County Division of Beach Management at all official public vehicular access ramps. Isolated locations remain where the public might access the beach by driving around these gate arms or through unofficial ramps to the beach, such as over the berm at the closed Surfside Ramp or via Old A1A at Summer Haven.

Goal. Spatially and temporally separate sea turtles and AIBM from vehicular activities.

New conditions under the HCP. County staff will monitor and maintain the impenetrable steel gates at each official public vehicular access ramp for the life of the ITP. Any identified illegal access points will be barricaded to prevent unauthorized vehicular access. These barricades will be monitored and maintained for the life of the ITP.

Rationale. Impenetrable barricades drastically reduce unauthorized public vehicular access to the beach.

7.2.3. Monitoring and conspicuous marking of all sea turtle nests in the Plan Area.

Conditions prior to the HCP. All beaches within St. Johns County were seasonally surveyed for sea turtle nests. The pre-HCP sea turtle nest monitoring programs in St. Johns County are described in detail in section 4.1.1. of this HCP. Table 7-3 outlines the daily and seasonal survey start and end times and the general procedures used to mark sea turtle nests during the 2001 sea turtle nesting season as described by the PPHs and/or their monitoring personnel (Stam, Stoll, Dickson, Owen, Lardner, Wamser, Stauber, Parker, Miller, and Rich *pers. comm.* 2001 and 2002). As can be seen in Table 7-3, inclusive dates of monitoring and the procedures used to mark and monitor sea turtle nests varied along County Beaches.

Goal. Spatially separate sea turtle nests from vehicular, horseback, and pedestrian activities and standardize monitoring procedures.

New conditions under the HCP. Upon issuance of the ITP, all sea turtle nests in St. Johns County will be conspicuously marked and barricaded using procedures mutually agreed upon by the HCP Coordinator and the PPHs. Within 4 months of issuance of the ITP, St. Johns County will develop a standardized Countywide Sea Turtle Monitoring Plan (Table 9-1). The Plan will be implemented during the first full nesting season following USFWS approval of the plan. The Monitoring Plan will be formulated in consultation with the PPHs and FWC to standardize monitoring activities Countywide. All procedures will conform to current or future FWC guidelines. Conceptually, under the Sea Turtle Monitoring Plan, monitoring personnel will: a) conduct daily nesting surveys between May 1 and September 30, b) conspicuously mark and barricade all nests deposited in St. Johns County, c) monitor all marked nests to determine nest fate, d) evaluate reproductive success for a random sample of marked nests, and e) document impacts to sea turtles, including, but not limited to, hatchling disorientations, turtles and/or nests impacted by vehicles, and hatchling/rut interactions.

Rationale. Not all nests in St. Johns County are presently barricaded (Table 7-3). The conspicuous marking and barricading of sea turtle nests are effective means of protecting nests from vehicular impacts (EAI 2002; Table 6-1). In Volusia County, Florida, during the 5 years that their HCP has been in effect, no marked nests have been run over. Along beaches where public driving is *not* permitted in St. Johns County, nest marking will provide protection from public safety vehicles, horseback riders, pedestrians, and other official vehicles that are permitted to drive on all County Beaches (vehicles such as those required for wildlife rescue, environmental monitoring, shoreline protection installation or maintenance, code enforcement, or other official St. Johns County or City of St. Augustine Beach business).

Various techniques were previously used to denote the location of sea turtle nests in St. Johns County. Law enforcement officers in vehicles, horseback riders, and other official personnel in vehicles have closely approached, possibly traversed over, sea turtle nests that were marked with a single stake (Stoll *pers. comm.* 2001). Such encounters may be minimized by eliminating the confusion caused by this marking technique (i.e., uncertainty as to whether the clutch of eggs is located seaward or landward of the stake) by demarcating a barricade around the entire perimeter of each clutch of sea turtle eggs and by using a standardized marking system.

7.2.4. Developing a standard protocol to remove vehicle ruts seaward of sea turtle nests during periods when hatchlings are expected to emerge.

Conditions prior to the HCP. With the assistance of the sea turtle monitors, St. Johns County staff removed vehicle tire ruts seaward of sea turtle nests between "A" Street Ramp and the Matanzas Inlet (Williams *pers. comm.* 2002). The following procedural guidance is taken from the St. Johns County Division of Beach Management Sea Turtle Protection Program:

> If ruts, tire tracks, or other such obstructions are noted in close proximity to a turtle nest, lifeguards should attempt to eliminate or reduce such obstacles. Utilizing a hand drawn drag mat, lifeguards should drag the area seaward of the nest so as to eliminate vehicle ruts, tire tracks, and the like. Deeper holes or ruts may require that the area be filled and leveled with a shovel or other such tool prior to dragging (Williams *unpublished data* 2002).

The rut removal program in place prior to the HCP lacked standard operating procedures, was not carried out on all beaches where the public was allowed to drive. It also did not include a systematic method to inventory nests that might require raking.

Goal. Prevent hatchlings from becoming trapped or impeded in vehicle tire ruts on the beach during their nest-to-sea migration.

New conditions under the HCP. The Sea Turtle Monitoring Plan (see section 7.2.5. below) will require that marked loggerhead and green turtle nests be flagged at 46 days of incubation and leatherback nests at 60 days, at which time rut removal protocol will be initiated. St. Johns County will be responsible for developing and implementing a Rut Removal Plan along the beaches where the general public is permitted to drive. The Rut Removal Plan will be implemented upon issuance of the ITP and submitted to the USFWS for approval with 30 days of implementation. Any required changes to the Rut Removal Plan will be phased in over a 60-day period following USFWS approval (Table 9-1). The Rut Removal Plan will also include operating guidelines to minimize the potential for rut creation by public safety vehicles on all beaches.

Rationale. Vehicle tire ruts can trap or impede post-emergent hatchlings during their crawl to the ocean (and potentially cause death by dessication or increased predation; LeBuff 1990). Anecdotal evidence indicates that sea turtle hatchlings have been trapped in the tire ruts created by vehicles on the beaches of St. Johns County (Table 5-1). However, there is only one formal record where the number of hatchlings trapped and killed in tire ruts was quantified, and those ruts were deep and created by heavy beach renourishment equipment on the beach at Summer Haven. In that case, St. Johns County was not responsible for authorizing the driving that appeared to have been responsible for the incidental take.

7.2.5. Increased and dedicated enforcement of beach driving policies and procedures.

Conditions prior to the HCP. The responsibility for enforcement of all beach driving policies and procedures within the unincorporated beaches of St. Johns County belongs to the Sheriff's

Department; St. Augustine Beach Police Department enforces regulations on the beaches of St. Augustine Beach (section 4.5.1.). Between March 1 and Labor Day weekend, the County presently provides 4 Deputy Sheriffs to physically patrol the 14.7 mi of public driving beaches and enforce beach driving policies (Williams *pers. comm.* 2001). After Labor Day weekend through February, enforcement is the responsibility of the Deputy Sheriff who is assigned to patrol the corresponding upland zone (Williams *pers. comm.* 2001). During the summer season, the City of St. Augustine Beach currently provides 1 to 2 police officers to enforce beach driving policies on 1.8 mi of the City's drivable beaches (Bandy *pers. comm.* 2002).

Goal. Minimize the threat to sea turtles and AIBM by enforcing hourly, seasonal, and spatial restrictions on public vehicular access to the beaches.

New conditions under the HCP. Increased and dedicated enforcement of beach driving policies and procedures will come in several forms under the HCP. The County will increase the physical presence of law enforcement officers on the beach actively looking for violators of beach driving regulations, the Beach Code, and/or other ordinances pertaining to the beaches of St. Johns County. There are two alternatives through which this can be achieved: 1) the addition of 2 Deputy Sheriffs (for a total of 6) that are specifically trained to enforce beach-related ordinances, or 2) the addition of 4 Beach Rangers. The Beach Ranger would be a newly created position under the Division of Beach Management. These would be officers that are dual-trained in both code enforcement and lifesaving. During the summer season, two of these Rangers will be assigned to the beaches north of St. Augustine Inlet, and two will be assigned to patrol the beaches of Anastasia Island. An additional aspect of increased enforcement is increased record-keeping to detect trends in Beach Code violations and to assess the effectiveness of HCP enforcement programs (see 9.16.3.).

Rationale. The incidental take of sea turtles and/or AIBM is most likely to occur when a public vehicle is in violation of beach driving regulations.

7.2.6. Develop and implement a public awareness program that includes, but not limited to, the following features:

- Developing and distributing public awareness materials containing information regarding driving regulations and protected species' issues to beach drivers as they access beaches within the Plan Area;
- Developing Public Service Announcements, including "special reports," to be aired on the St. Johns County government television station discussing HCP regulations and protected species;
- Designing and conducting periodic public workshops that include the general public but will focus on the beach community and hotels/motels to discuss HCP issues; and
- Posting phone numbers to report HCP violations and sea turtle emergencies.

Conditions prior to the HCP. Section 7.03 of the St. Johns County Beach Code (Ordinance No. 97-34) stated, "The months of May through October, of each year, are hereby declared 'Turtle Alert Status' months for the purpose of educating the citizens of St. Johns County about sea turtle conservation." The following excerpt is taken from the St. Johns County Division of

Beach Management Sea Turtle Protection Program guide and explains the activities carried out during Turtle Alert Status:

> The Board of County Commissioners supports a variety of sea turtle educational programs annually. Allocated funds support information signs, public service announcements, mailers to beachfront property owners, nighttime lighting inspections, flyers, downloadable materials, refrigerator magnets, and the dissemination of information through the local news media (Williams *unpublished data* 2002).

During the sea turtle nesting season, flyers are presently handed out to beach drivers at the tollbooths. However, the current flyers pertain primarily to beach conditions (e.g., rip currents) with some information about nesting sea turtles. During the summer of 2001, St. Johns County gave out about 5,000 flyers (Williams *pers. comm.* 2001).

Goal. Educate the beach driving public about driving regulations, sea turtles, AIBM, shorebirds, dune habitats, and protected species' issues.

New conditions under the HCP. St. Johns County will design and disperse new educational flyers at beach access points, hotels, motels, and Chambers of Commerce. The flyer will contain information regarding driving regulations and protected species, including, but not limited to, biology of sea turtles, beach mice, and nesting, loafing, and foraging birds. The County will develop Public Service Announcements, including "special reports," to be aired on the St. Johns County government television station discussing HCP regulations and protected species. The HCP Coordinator will design and conduct periodic public workshops that include the general public but will focus on the beach community and hotels/motels to discuss HCP issues. These workshops may have a large environmental education component for the dispersal of information on a) sea turtle and shorebird nesting habits and current trends, and b) helpful information on what beach visitors can do to conserve the beach habitat and assist in HCP implementation. The HCP Coordinator may hold public workshops in St. Augustine Beach (in cooperation with the City) to inform local businesses and homeowners in the City of the new lighting regulations and enforcement procedures. These workshops will also serve as a forum for the public to comment on HCP performance and provide the County with suggestions for improvement. Additionally, the County will post phone numbers to report HCP violations and sea turtle emergencies. These phone numbers will be clearly posted at beach access points maintained by the County along public driving beaches. This list of phone numbers will also be made available at beachfront hotel, motels, and condominiums. These educational materials and programs will be developed within 1 year of ITP issuance and distributed or conducted within 3 months of USFWS approval (Table 9-1).

Rationale. Many people will act as stewards of the environment and endangered/threatened species if provided with conservation-minded recommendations through public awareness campaigns.

7.2.7. Elevating trash receptacles on posts along public driving areas within AIBM habitat (i.e., Anastasia Island, excluding FMNM).

Condition prior to the HCP. Approximately 250 plastic, 50-gallon drums are presently used as trash receptacles along County Beaches. Some trash cans are mounted on wooden posts along the seaward boundary of the Conservation Zone, but most trash receptacles are placed directly on the sand.

Goal. Reduce the number of AIBM and their predators that are attracted onto the beach to forage in trash receptacles.

New conditions under the HCP. The Division of Beach Management will elevate all trash receptacles on posts along public driving areas within AIBM habitat (i.e., between "A" Street Ramp and Matanzas Inlet).

Rationale. AIBM and their predators have been documented foraging in trash receptacles on the beach (Frank and Humphrey 1996). Additionally, FDEP scientists have observed that AIBM find trash receptacles as an attractive nuisance and will burrow under them (Bard *pers. comm.* 2002). These types of activities are neither natural nor desirable from a conservation perspective. Additionally, FDEP scientists hypothesize that elevated trash receptacles will demonstrate a conservation benefit for AIBM by making it more difficult for predators of AIBM to forage in the cans (raccoons and especially cats; Bard *pers. comm.* 2002). This may reduce the potential for predators of AIBM to congregate on the beach, which would have conservation benefits for AIBM.

7.2.8. Increased enforcement of existing Conservation Zone (CZ) regulations (defined in Ordinance No. 97-34) and an expansion in the width of the CZ in one region to protect and enhance AIBM and nesting bird habitats.

Conditions prior to the HCP. Previously, violations of the 15-foot Conservation Zone had not been systematically reported or recorded in St. Johns County. CZ violations were likely highest in the North Beach Vehicular Access Permit area north of Vilano Ramp and around Porpoise Point (Clark and Mathis *pers. comm.* 2002). At least one violator of the CZ was issued a written warning (case #00009169). Any other warnings or citations that may have been issued were not documented. The Sheriff's Department does not have an active enforcement program for the CZ, but does respond to citizen reports of violation.

Goals. No loss of AIBM habitat due to public vehicles driving close to the toe of the dune. Allow the seaward growth of dune vegetation. Spatially separate AIBM from vehicular activities. Enhance historical and potential bird nesting habitats.

New conditions under the HCP. According to the Beach Code, enforcement of the CZ is the responsibility of the Sheriff's Department. St. Johns County Sheriff's Department, in cooperation with the Division of Beach Management will increase enforcement of current CZ regulations (defined in Ordinances No. 97-34). St. Johns County will be responsible for marking the seaward edge of the 15-foot CZ along all areas where the County authorizes public

beach driving. The County will also mark and enforce a 30-ft Conservation Zone inland from the North Jetty to the Tolomata River.

Rationale. Vehicular activity along the toe of the dune can trim pioneering species of dune vegetation (Frank and Humphrey 1996). This prevents the seaward accretion of the primary dune system, and thereby diminishes potential habitat for AIBM and nesting birds. The CZ will be expanded around Porpoise Point, because this area has been identified by scientists as a potential AIBM and bird nesting habitat (Miller and Brooks *pers. comm.* 2002).

Conservation Zones are an integral part of the HCP in Volusia County, Florida (the only other HCP in effect that regulates public beach driving for the protection of sea turtles). Volusia County's beaches are divided into three Experience Zones, Natural, Transitional, and Urban, and the width of the CZ was assigned to correspond to the type of zone. The Natural zones generally represent areas where off-beach development is less intense, the dune habitats are largely intact, and there are the highest concentrations of sea turtle nests. Public driving and parking is not allowed in the Natural beach areas. The Transitional zones are those areas which have a mixture of natural dunes and some beach seawalls. The concentration of people in these areas generally is less intense most of the year, and sea turtle nesting is moderate. In these Transitional zones, a 30-foot Conservation Zone was established by the HCP. Thus, public driving and parking is allowed 30 feet seaward of the dunes or seawall. The Urban zones are those areas where off-beach development includes hotels, high-rise condominiums, and seawalls. In these areas, the concentration of people is intense most of the year, and sea turtle nesting is minimal. In the Urban zones, a 15-foot Conservation Zone was established by the HCP.

Unlike the situation in Volusia County, a 30-foot Conservation Zone along the beaches of St. Johns County is not practical. The beaches of St. Johns County are much narrower than those in Volusia County. Additionally, the need for an equally wide CZ is diminished, because St. Johns County experiences both less public driving and less sea turtle nesting. For instance, 1.2 million cars per year drive on Volusia County beaches, as opposed to 250,000 cars per year in St. Johns County. St. Johns County beaches experience about half the number of sea turtle nests of Volusia County (Volusia County has an average of 513 nests deposited per year, and St. Johns County has 277 nests per year; 1996-2001 data). In St. Johns County, it is extremely difficult to maintain the already mandated 15-foot CZ on unincorporated beaches, and it is believed that a 30-foot CZ would be impractical, because frequent high tides would continually wash the posts out of the sand (Williams *pers. comm.* 2002). In contrast to Volusia County, a 30-foot CZ would essentially preclude public beach driving and parking along large sections of beach and/or during certain times of the day.

7.2.9. Developing and instituting a training program that must be attended by drivers wishing to obtain a four-wheel drive permit for driving north of Vilano Ramp.

Conditions prior to the HCP. Three-month permits are only granted to owners of season beach passes who drive a four-wheel drive vehicle. The County Recreation and Parks Department gives the passes at no additional charge (above the cost of a season pass) upon completion of a permit application, which includes license and vehicle information (Appendix C). Permits are granted on any day of the year and considered in effect for the three months that follow. The

permit application states, "I understand that any violation to the aforementioned activities including any violation to the St. Johns County Beach Code may lead to a citation and the immediate revocation of my permit" (Appendix C).
Goal. Reduce the number of incidents of illegal driving in the CZ and/or dunes. Reduce the number of documented takes of sea turtles.

New conditions after the HCP. The HCP Coordinator will develop an HCP training program that must be attended by drivers wishing to obtain a North Beach Vehicular Access Permit. Since 61 percent of North Beach drivers were granted a permit for a single three-month period (i.e., did not renew their permits; May 2001 to May 2002 data), these training programs must be offered quarterly. In order to facilitate the timing of the programs, North Beach Vehicular Access Permits will be issued on a quarterly cycle (i.e., permits will go into effect and expire on the same day for every driver). Thus, permits will go into effect on January 1, April 1, July 1, and October 1 of each year. Training sessions will be offered prior to the start of each quarter. Each driver wishing to obtain a permit must have attended a training session within the last year of the quarter for which a permit is being requested. Recurrent training will occur at least annually thereafter. All training will be documented by the HCP Coordinator. Each permit holder will be issued a large placard showing his/her permit number. This sign must remain prominently displayed on the dashboard of the vehicle when it is on the beach north of Vilano Ramp (for enforcement purposes).

Rationale. The Sheriff's Office states that most of their problems with enforcement of the Beach Code, including illegal driving in the CZ and/or dunes, occur along the North Beaches and at Porpoise Point (Clark *pers. comm.* 2002, Mathis *pers. comm.* 2002). However, a North Beach Vehicular Access Permit has never been suspended or revoked (Williams *pers. comm.* 2001). Additionally, a large majority (82 percent) of the documented take of sea turtles due to public beach driving in St. Johns County has occurred in Vilano Beach and South Ponte Vedra (1991 to August 28, 2002; Table 5-1; Figure 6-2). The new program described above should greatly reduce the potential for take and facilitate enforcement of HCP infractions.

7.2.10. Reducing public beach driving along Summer Haven.

Conditions prior to the HCP. The unique human and ecological conditions present in Summer Haven are described in detail in section 2.4.3.6. Summer Haven is an extremely narrow portion of land that sits 5.0-10.0 ft above sea level. It is one of the most critically eroded beaches in St. Johns County exhibiting recurring washover zones and repeated inlet formation. Summer Haven displays the highest sea turtle nesting densities in the County and seasonally hosts least tern nesting colonies. Additionally, Summer Haven has been developed with at least 23 homes. County Road Old A1A provided vehicular access to these homes until about one mile of it was washed away in 1986. Since then, residents have been utilizing off-road trails behind the primary dunes to access their homes. However, the demarcation between these access trails and the beach proper was ill-defined, and vehicles could drive on the beach.

Goal. Reduce the amount of public driving that occurs on the beach to protect sea turtle and least tern nesting habitats.

New conditions after the HCP. The County will install a locked gate arm just south of the Summer Haven revetment, and keys will be provided to local residents only. The County will post signs indicating that the general public has no rights of access on the upland road landward of the primary dune line. Additionally, the County will stabilize the existing roadbed landward of the restored dune with a mix of coquina shell and sand.

Rationale. Reducing the amount of vehicular traffic on the beach will serve to protect and conserve the ecological significance of this unique area.

7.3. MEASURES TO MITIGATE UNAVOIDABLE IMPACTS

In addition to the minimization measures described above, the County will mitigate unavoidable take that might occur as the result of County-authorized vehicular driving. These mitigation programs include:

7.3.1. Developing a comprehensive proactive Beach Lighting Management Program and unify the City of St. Augustine Beach's lighting regulations with those of the County;
7.3.2. Developing and instituting a beach horseback riding registration and education program;
7.3.3. Redirecting Porpoise Point vehicular driving to allow re-establishment of natural dune features; and
7.3.4. Restoring the primary dune along Summer Haven.

7.3.1. Developing a comprehensive proactive Beach Lighting Management Program and unify the City of St. Augustine Beach's lighting regulations with those of the County.

Conditions prior to the HCP. St. Johns County Ordinance 99-33 provided for compliance inspections prior to each sea turtle nesting season and at least monthly inspections during the nesting season. "These inspections shall be performed by County Code Enforcement Officers or qualified persons appointed or contracted by the County Administrator" (Ordinance No. 99-33). Lighting inspections were performed by the Supervisor of Beach Management assisted by one County staffperson. St. Johns County lacked sufficient manpower to perform repeated monthly inspections along 29.5 mi of unincorporated County coastline as required under the ordinance (Table 1-1). In addition to nighttime surveys, the Division of Beach Management responded to reports of beach lighting violations.

Prior to each sea turtle nesting season, the Division of Beach Management mails an informational letter to all beachfront property owners and airs public service announcements on radio and television stations. If a property owner has questions or concerns, the Division of Beach Management meets with the owner at their property to discuss those concerns. Following nighttime lighting surveys or confirmation of reported violations, the Division of Beach Management mails an alert citation and follow-up letter to the property owner if a structure is in violation of Ordinance 99-33.

As described in detail in section 4.7. of this HCP, 12 sea turtle hatchling disorientation incidents in St. Johns County were reported to FWC between 1996 and 2001 (FWC *unpublished data* 2001e).

City of St. Augustine Beach. St. Augustine Beach Ordinance No. 95-17/ 96-13 defines the "nesting season" as "the period from June 1 through September 30 of each year." FWC and St. Johns County (Ordinances No. 97-34 and 99-33) define the sea turtle nesting season as May 1 through October 31. St. Augustine Beach Ordinance 95-17/ 96-13 defines the "nighttime or night" as "the period between 10:00 pm and 5:00 am." St. Johns County lighting ordinance (Ordinance No. 97-34) defines nighttime/night as "the period between sunset and sunrise as published in *The St. Augustine Record* newspaper." One officer from the City of St. Augustine Beach Police Department enforces the Ordinance No. 96-13 on all municipal beaches.

Goal. Reduce the probability of hatchling disorientation events from point-source beachfront lighting along the unincorporated beaches of St. Johns County and the municipal beaches of St. Augustine Beach.

New conditions under the HCP. St. Augustine Beach will amend Ordinance No. 96-13 in order to unify their lighting regulations with those of St. Johns County (Ordinance 97-34). Upon adoption of such ordinance amendments, St. Johns County staff will assume enforcement responsibilities on all beaches within St. Johns County, including those within the municipal boundaries of the City of St. Augustine Beach. Within the St. Johns County Division of Habitat Conservation (described in detail in Chapter 9), a Beach Lighting Officer will be hired to serve as the chief point of contact and enforcement officer for lighting issues throughout the County. In accordance with the St. Johns County Land Development Code section E.2.8.6, the Beach Lighting Officer will work with the appropriate State agencies regarding beach lighting and protected species issues. St. Johns County will develop a proactive Beach Lighting Management Program to set forth specific procedures for monitoring beach lighting and enforcing lighting violations. The Beach Lighting Management Program will identify any needed ordinance amendments. Within 6 months of issuance of the ITP, the Beach Lighting Management Program will be developed in cooperation with USFWS and FWC (Table 9-1). This Program will be implemented during the first full nesting season following USFWS approval.

Rationale. Both nesting and hatchling sea turtles are adversely affected by the presence of artificial lights near the beach (Witherington and Martin 2000). Beachfront lighting is one of the principal factors impacting sea turtles in St. Johns County.

7.3.2. Developing a beach horseback riding registration and education program that must be taken by horseback riders prior to riding on the beach.

Conditions prior to the HCP. As described in detail in section 4.4., horseback riding on the beach is currently authorized: a) throughout the year on the 17.9 mi of unincorporated beaches of St. Johns County north of Surfside Beach Ramp (Table 1-2), and b) between November 1 and April 30 of each year along the 37.5 mi of unincorporated beaches of St. Johns County (Ordinance No. 2001-5). St. Johns County Land Development Code provides that "Horseback riding on the beach during the Nesting Season shall be allowed only seaward of the most high-

tide line on the beach during times when such riding is otherwise allowed" (Land Development Code section 4.01.08). There are currently no hourly restrictions, protected species training, registration, or monitoring programs for beach horseback riders in St. Johns County.

There have been three anecdotal cases of horse prints close to clutches of sea turtle eggs and an unknown number of anecdotal cases of horseback riding through dune vegetation (Stoll and Charest *pers. comm.* 2002). According to the Beach Code, enforcement of all horseback riding regulations is the responsibility of the Sheriff's Department. No written warnings or citations have been issued for violations of horseback riding regulations in St. Johns County (Williams *pers. comm.* 2002).

Goal. Monitor, evaluate, and document the extent of beach horseback riding in St. Johns County and minimize impacts on protected species and their habitat.

New conditions under the HCP. St. Johns County will provide beach horseback riders with annual HCP and protected species training. The training course will be developed and taught by the HCP Coordinator (Chapter 9), and will be offered both in person for local equestrians and over the internet for the convenience of out-of-town equestrians. County ordinances will be amended, if necessary, to minimize the impacts of beach horseback riding on sea turtles, beach mice, and birds on the beaches. Beach horseback riding must be conducted only seaward of the most recent high tide line (on the wetted portion of the beach) throughout the year. Additionally, a registration program for beach horseback riders will be implemented. A registration card will be given free of charge to each individual private horseback rider and each commercial operator leading horseback riding groups on the beach. Every horseback rider on the beaches of St. Johns County shall either have their registration card on person or be accompanied by a card-carrying registrant. Horseback riding activity logs will be placed in kiosks at all points where horseback riders traditionally access the beach. Riders will sign-in on the activity log each time they access the beach. The activity logs will be collected periodically by the Division of Habitat Conservation, and the logged data will be analyzed. The activity logs will include, but are not limited to, the date, time, and location of horseback riding, how many riders in a group (if commercial operator), and beach entry and exit points. As mutually agreed upon, enforcement responsibilities can be transferred from the Sheriff's Department to St. Johns County staff such as Beach Rangers.

Rationale. Horseback riding is not currently monitored in St. Johns County, and a registration program will elucidate how many horseback riders per year use County Beaches, which beaches are most often used, and during what times of the day. The impacts of beach horseback riding will be monitored, because horse hoofs might negatively impact nests if they step on the clutch and/or leave deep depressions that might trap emergent hatchlings. Horseback riding through the dune vegetation also diminishes the quality of habitat for nesting sea turtles and/or AIBM. A requirement that horseback riding occurs only seaward of the most recent high tide line (on the wetted portion of the beach) throughout the year (not just during the sea turtle nesting season) is proposed to protect dune vegetation, AIBM habitat, and bird nesting areas.

7.3.3. Redirecting Porpoise Point vehicular driving to allow re-establishment of natural dune features.

Conditions prior to the HCP. As described in detail in section 2.4.3.4., public beach driving presently occurs through the dune system at Porpoise Point in St. Johns County. Multiple unmarked, shore-parallel driving lanes exists through the dunes in this region and at least 3 unmarked driving lanes fan out from Porpoise Point Ramp.

Goals. Enhance dune habitat for foraging, loafing, and nesting birds. Create potential future habitat or extend current habitat for AIBM.

New conditions under the HCP. St. Johns County will barricade the interdunal driving lanes radiating from Porpoise Point Ramp and maintain a single traffic corridor from the ramp to the St. Augustine Inlet. Additionally, the County will place and maintain vehicular barricades and appropriate signage at the previous entrances to each interdunal driving lane. The barricades will be monitored and maintained by County staff until dune vegetation/windblown sand covers former driving lanes, and the barricades are deemed unnecessary. St. Johns County will mark the landward side of the driving area around Porpoise Point from the Vilano Ramp to the southwestern tip of Porpoise Point (with appropriate space for parking seaward of the 30-ft wide CZ). This traffic area will connect to the Porpoise Point Ramp. If a 30-ft wide CZ cannot be maintained around Porpoise Point due to high tides, storm surge, or other unusual event, public driving will be temporarily prohibited in this region. The Sheriff's Department (in cooperation with Beach Rangers, if appropriate) will be responsible for enforcing these beach driving regulations.

Rationale. Multiple driving lanes exist through the dunes at Porpoise Point, which is a violation of both State and County regulations. If a more natural dune system is developed at Porpoise Point, this area may become attractive to AIBM, and/or foraging, loafing, and nesting birds.

7.3.4. Restoring the primary dune along Summer Haven.

Conditions prior to the HCP. The unique human and ecological conditions present in Summer Haven are described in detail in section 2.4.3.6. The dune system at Summer Haven is extremely narrow to non-existent and rises to 5.0-10.0 ft above sea level. The primary dunes are critically eroded, washed over during storm events, and obliterated as new inlets are cut through the narrow island. However, this same dune system supports the highest sea turtle nesting densities in the County and seasonally hosts least tern nesting colonies. The residents of Summer Haven access their 23 homes along off-road trails behind the primary dunes.

Goal. Preserve and enhance the nesting habitat along Summer Haven for both nesting sea turtles and least terns.

New conditions under the HCP. St. Johns County has been granted a permit from FDEP "to construct approximately 2,100 linear feet of road consisting of 1,450 cubic yards of coquina shell and sand mix and 8,000 linear feet of sand berm consisting of approximately 29,000 cubic yards

of clean fill. The sand berm is to be located a maximum of 200 feet seaward of the control line" (FDEP Permit Number SJ-855, April 24, 2003).

Rationale. Conservation of the dune habitat is essential for the continued nesting of sea turtles and least terns along Summer Haven. Due to the close proximity of this vital habitat and human use, natural sand deposition alone is unlikely to maintain the dune system. The reconstruction of the dune line and the roadway will not only provide residents with improved access to their homes, but also serve to enhance the most important sea turtle nesting habitat in St. Johns County.

Chapter 8. FUNDING

8.1. FUNDING FOR MINIMIZATION AND MITIGATION MEASURES

St. Johns County is committed to the success of this HCP and will commit the funds necessary to implement the Plan. The County operates on an October 1 through September 30 fiscal year (FY) and will appropriate funds on an annual basis. Insofar as the governing board cannot bind a subsequent board to funding operational expenses, provision for longer-term Plan funding is not possible. Failure to appropriate funding for the HCP by October 1 each year may result in USFWS revocation of the ITP. HCP programs and policies will be funded in one-third proportions from the following funding sources: Category III Tourist Development Tax, the General Fund, and Beach Toll Revenue (Table 8-1).

8.1.1. Category III Tourist Development Tax

To assure a stable, long-term source of funding for the HCP, the County will use monies derived from its Tourist Development Tax (TDT). The tax, currently set at 3 percent (3%), is added to the bill paid by tourists for overnight accommodations at hotels, motels, apartment hotels, rooming houses, RV parks/campgrounds, and condominiums in St. Johns County. Anyone renting accommodations in St. Johns County for six months or less pays the tax. The St. Johns County Commission has set by ordinance (Ordinance 92-32) that the TDT funds will be divided on a 40-30-30 basis with forty percent (40%) going to advertising and promotion (Category I), thirty percent (30%) going to culture and special events (Category II), and thirty percent (30%) going to beaches and recreation (Category III). Ordinance 92-32 further stipulates that the 40-30-30 split of tax revenues cannot be changed without a referendum election. These taxes are collected by the St. Johns County Tax Collector.

The Tourist Development Council (TDC) has initial responsibility for the funds. They make recommendations to the Board of County Commissioners on which projects should be funded and in what amount. Funding proposals are submitted to the TDC for review and recommendation before action by County staff or consideration by the Board of County Commissioners. The Clerk of the Court is the County's chief financial officer and has pre-audit responsibilities for all the TDC expenditures. The final authority for the revenues and expenditures rests with the Board of County Commissioners.

Category III funds from the TDT are dedicated to Beaches and Recreation. These funds are managed by the Recreation and Parks Division to provide tourism related projects like fishing piers, boat ramps, beach maintenance, and dune replenishing (DOR 2002). Monies from the TDT also provide support to the Visitors Information Center and Sports Promotion. In 2001, TDT receipts for St. Johns County exceeded $4 million, 30 percent of which were allocated to Category III funds for Beaches and Recreation (DOR 2001). Since 1999, the TDT has annually contributed over $1 million to the Recreation and Parks Division. HCP funding will be authorized on an annual basis from the TDT. Once each year's budget is approved, it will be provided to the USFWS.

8.1.2. General Fund

A proportion of the HCP programs and policies will be funded out of St. Johns County's General Fund. Many aspects of the HCP, such as the programs dealing with beachfront lighting and sea turtle monitoring, will benefit all beaches and citizens of the County. Thus, the General Fund is an appropriate funding mechanism for these activities.

8.1.3. Beach Toll Revenue

In addition to the TDT and General Fund, money for beach services are also generated from the sale of daily and season beach passes. These beach passes are sold from staffed tollbooths located at ten vehicular access ramps. Daily passes are currently sold at these tollbooths between 9:00 AM and 6:00 PM and cost $5 per day, no matter what time of day the pass is purchased. Season passes cost $20, if purchased before March 1, and $30, if bought between March 1 and Labor Day weekend. Beach toll revenue totaled $935,968 during 2001 (Williams *unpublished data* 2002). Additional funding for HCP programs and policies will be derived from beach toll revenue generated yearly.

Within three (3) months of issuance of the ITP, the County will provide the USFWS with a proposed budget for the remainder of the current and the next FY. The budget prepared by the County will address, but is not limited to, the following line items:

- Position of HCP Coordinator;
- Position of Beach Lighting Officer;
- Development of procedures, database, and supporting materials for a standardized, Countywide sea turtle monitoring program;
- Sea turtle monitoring supplies and logistical support to PPHs;
- Vehicle, office furniture, and equipment;
- Computer hardware and software;
- Phone communication between PPHs and HCP staff;
- GPS system;
- Incidental operating supplies;
- Development and installation of new signage and appropriate traffic barricades at new non-driving zones;
- Installation and maintenance of mounted trash receptacles with appropriate signage demarcating the Conservation Zone along public beach driving zones;
- Development and implementation of Rut Removal Plan;
- Development of Beach Horseback Riding Registration Program; and
- Support services, if necessary.

8.1.4. Additional Funding Sources

In addition to the major funding sources outlined above, additional funding sources for the implementation of the HCP have also been considered. The Division of Beach Management may consider charging beach users for off-beach parking (e.g., 25 cents per half-hour). The off-beach parking lots from which the County could generate these funds include Crescent Beach

Access Point, Mickler's Landing, St. Johns County Pier Park, South Ponte Vedra Beach Access, Surfside Beach Access, Pope Road Beach Access, and Spyglass Beach Access (listed in the order that parking meters would potentially be phased-in at the parking lots over a two-year period). The County could generate additional funds from Special Event Permits. Another potential funding source is the revenue generated from citations issued for code violations. The Division of Beach Management has considered that the funds generated from the citations written by Beach Rangers be used for HCP implementation.

Chapter 9. PLAN IMPLEMENTATION

9.1. ADMINISTRATION OF THE HCP AND ITP

St. Johns County shall be solely responsible for meeting the terms and conditions of its ITP and for allocating sufficient personnel and material resources to ensure that the HCP can be effectively and efficiently implemented. The organizational structure described below is designed to enhance communication and coordination among the various County divisions, departments, and offices, sea turtle monitoring personnel, County contractors, and other individuals and groups involved in implementation of the HCP.

9.2. DIVISION OF BEACH HABITAT CONSERVATION

Upon implementation of the HCP, the Division of Beach Habitat Conservation will be created under the Division of Beach Management, which is within the Recreation and Parks Division. The Department of Beach Habitat Conservation will contain two new positions, the HCP Coordinator and the Beach Lighting Officer, and may contain others as deemed necessary.

Upon issuance of the HCP, the HCP Coordinator will communicate, consult, and potentially arrange a meeting with various County staff personnel, including representatives from various County departments, the local State and Federal parks, and the City of St. Augustine Beach. If deemed necessary, a Beach Habitat Conservation Committee will be formed including members addressed above and chaired by the HCP Coordinator. The Committee may meet frequently during the first year of HCP implementation, and then less frequently thereafter, as mutually agreed upon.

9.3. HCP COORDINATOR

Under this HCP, sea turtle monitoring activities and related conservation programs will be managed and/or coordinated by the HCP Coordinator. The HCP Coordinator will also be responsible for administering the ITP. This position will be supervised by the Division of Beach Management and may be filled by County staff or through contractual agreement with outside individuals or professional firms.

The person or firm assigned to the role of the HCP Coordinator shall at a minimum have the following qualifications:

- A Bachelor's Degree in the biological, natural, marine, coastal, environmental sciences or similar fields and at least three (3) years of practical experience managing environmental projects; two (2) years of experience may be substituted with a Master's degree;
- A thorough knowledge and understanding of sea turtle biology and conservation and sufficient practical experience to obtain a FWC marine turtle permit to conduct nesting surveys and other activities required under this HCP, if necessary;

- A thorough knowledge and understanding of small mammal biology and conservation and sufficient practical experience to obtain a Federal permit to conduct trapping surveys and other activities required under this HCP;
- Knowledge of scientific data collection and analytical techniques, familiarity with database programs and related computer applications, and practical experience preparing technical reports;
- Ability to develop and manage multi-faceted programs;
- Ability to communicate effectively both orally and in writing; and
- A good professional demeanor and the ability to effectively interface with diverse stakeholder groups.

Upon assuming the position, the HCP Coordinator will review and become thoroughly familiar with the following:

- The HCP and ITP;
- The St. Johns County Comprehensive Plan, section E. Conservation/Coastal Management Element, as adopted May 10, 2000 (sets goals and policies for coastal management);
- St. Johns County Land Development Code Article 4 (June 12, 2001), section 4.01.08: Environmentally Sensitive Area- Threatened or Endangered Species and Species of Special Concern (protection of marine turtles);
- St. Johns County Code codified through Ordinance No. 98-70, adopted on November 10, 1998 (Supplement No. 60):
- Chapter 4. Animals and Fowl. (leash laws for cats and dogs);
- Chapter 5. Beaches. Article II. Beach Code. (Ordinance 97-34) (outlines procedures for all beach management activities);
- St. Johns County Ordinance 96-48 (defines Conservation Zone and prohibits night driving during sea turtle nesting season except for a period of non-enforcement on the night of July 4-5);
- St. Johns County Ordinance 99-33 (beach lighting code);
- St. Johns County Ordinance 2001-5 (restrictions on horseback riding);
- Special Use Permit Number 5260-9500-009 granted to St. Johns County by U.S. Dept of the Interior, National Park Service, Castillo de San Marcos and Fort Matanzas National Monuments (to place County tollbooth at Matanzas Ramp);
- Formal agreements between St. Johns County and the City of St. Augustine Beach;
- Florida Statutes, Chapter 161 and Florida Administrative Code, Chapter 62B-33 (coastal construction);
- Memoranda of Understanding and/or interlocal agreements between St. Johns County and other governmental entities related to HCP implementation;
- Federal Migratory Bird Treaty Act;
- Federal recovery plans for the loggerhead, green, and leatherback turtles;
- Federal recovery plan for Anastasia Island beach mice; and
- Other State and Federal regulations pertaining to protected species along County Beaches.

The HCP Coordinator may delegate HCP responsibilities to other County staff or independent contractors, provided such individuals possess the requisite professional skills needed to fulfill their responsibilities under this HCP.

The purpose of the HCP Coordinator is to provide professional leadership to all aspects of sea turtle and beach mouse management on the County's beaches. The HCP Coordinator shall perform the functions outlined below.

General duties:

- Serve as the County's specialist on sea turtles and Anastasia Island beach mice;
- Develop public education and awareness materials and programs related to protected species;
- Provide training and technical guidance to the Beach Lighting Officer and others involved in HCP implementation and enforcement;
- Supervise the Beach Lighting Officer;
- Review and approve special event applications;
- Provide technical assistance to special event permit applicants to minimize impacts to protected species;
- Coordinate the activities of various County departments, divisions, and offices, PPHs, outside contractors, and others involved in the implementation of the HCP;
- Review reports and communications and provide technical input into policy decisions related to protected species management on St. Johns County beaches to insure their consistency with the HCP/ITP;
- Document any observed or reported impacts to protected species;
- Organize periodic meetings with the local science community, as deemed necessary;
- Assess effectiveness of HCP programs in minimizing and/or mitigating impacts to protected species;
- Develop and oversee beach horseback riding registration and education program and training;
- Seek grants for assistance with implementation of HCP programs and policies, such as land acquisition, study of beach uses, species population monitoring, and acquisition of off-beach parking adjacent to non-driving zones;
- Provide recommendations for HCP program improvements, as appropriate;
- Prepare data reports and HCP program evaluations for submission to USFWS in accordance with the terms and conditions of the ITP;
- Develop Public Service Announcements (including "special reports") to be aired on the St. Johns County government TV discussing HCP regulations and protected species;
- Conduct periodic public workshops to include general public but also focus on the beach community and hotels/motels to discuss HCP issues; and
- Develop and conduct an HCP training program for drivers wishing to obtain a North Beach Vehicular Access Permit.

Duties associated with sea turtle conservation:

- Standardize Countywide sea turtle monitoring protocol and develop uniform form(s) to gather data on sea turtle nesting activity;
- Coordinate activities of sea turtle monitoring personnel;
- Assess equipment and logistical support needs of sea turtle monitoring personnel;
- Distribute and track equipment and supplies used for monitoring activities;
- Serve as liaison between the County and sea turtle monitoring personnel;
- Revise sea turtle monitoring procedures periodically, as necessary, to improve program effectiveness;
- Receive and review data from sea turtle monitoring personnel;
- Provide data entry and management services;
- Provide data sheets and nest inventories for use by monitoring personnel and County staff involved in beach management activities;
- Analyze annual sea turtle nesting and reproductive success data;
- Coordinate the collection of GPS locations for all sea turtle nests;
- Assist the County in development of protocol to manage unusual daytime sea turtle nesting and hatching events and collection of washback hatchlings in beach driving zones;
- Review existing and/or develop new policies regarding rut removal and provide technical guidance and support (e.g., nest inventories);
- Coordinate with the City of St. Augustine Beach to unify their beach lighting regulations with those of the County;
- Coordinate with the County's and City of St. Augustine Beach's Building Departments to insure that the Beach Lighting Officer is able to review all lighting plans for new development; and
- Coordinate with FWC on lighting and other sea turtle conservation issues.

Duties associated with Anastasia Island beach mice conservation:

- Work with appropriate scientists to design a monitoring program for AIBM populations outside the State and Federal parks and seek Federal or other funding sources for monitoring activities;
- Provide data entry and management services;
- Compile and analyze periodic AIBM trapping data, as necessary; and
- Use AIBM population survey data to develop strategic management programs for the existing viable populations outside of State and Federal parks.

If the position of HCP Coordinator is vacated at any time during the 20-year period that the ITP is in effect, St. Johns County will use all of its available resources to fulfill the duties of the HCP Coordinator until the position is filled. St. Johns County will seek to fill the position immediately upon any vacancy.

9.4. BEACH LIGHTING OFFICER

Under this HCP, implementation and enforcement of St. Johns County's Beach Lighting Code (Ordinance 99-33) on the unincorporated beaches of St. Johns County will be managed and coordinated by the Beach Lighting Officer. For Countywide consistency and thoroughness, the Beach Lighting Officer will also assume the responsibilities for implementation and enforcement of the City of St. Augustine Beach's Beach Lighting Code (Ordinance 96-13) within municipal boundaries upon unification of City and County regulations. The Beach Lighting Officer will be supervised by the HCP Coordinator. This position may be filled by County staff or through contractual agreement with outside individuals or professional firms. Should the title of Beach Lighting Officer be changed during the life of the ITP, the new position shall assume the responsibilities of the Beach Lighting Officer.

The person or firm assigned to the role of the Beach Lighting Officer shall at a minimum have the following qualifications:

- A high school diploma or its equivalent, and at least three (3) years of practical work experience in a skilled trade, in public contact work, or in law or code enforcement;
- Ability and willingness to work nights;
- Ability to manage data and prepare technical reports;
- Ability to understand and apply rules, directives, and policies, laws, and regulations;
- Ability to conduct routine inspections, identify, and investigate problems;
- Ability to develop and manage large-scale plans;
- Organizational skills necessary to arrange and schedule implementation activities in a timely manner;
- Ability to communicate effectively both orally and in writing; and
- A good professional demeanor and the ability to effectively interface with diverse people to identify and resolve problems.

General duties:

- Conduct systematic inspections of beachfront properties for compliance with applicable lighting regulations;
- Investigate reported lighting problems associated with disorientation events and identify appropriate remedies;
- Evaluate County-owned and operated lights (e.g., street lights), as needed;
- Periodically update database of beachfront homeowners and businesses;
- Provide technical guidance to homeowners and business owners;
- Review lighting plans for new development to ensure compliance with the Beach Lighting Ordinance, *prior to* issuance of a Certificate of Occupancy or final building approval, as applicable;
- Compile lists of local lighting suppliers and contractors;
- Conduct community education efforts to educate coastal residents and visitors about lighting and sea turtles;
- Send out pre-season notices to coastal residents regarding lighting regulations;

- Issue written notices to property owners whose properties are not in compliance with beach lighting regulations; and
- Provide expert testimony during Code Board hearings, as necessary.

9.5. PRINCIPAL PERMIT HOLDERS

One or more PPHs will be responsible for monitoring the beaches of St. Johns County in support of this HCP. These individuals may include staff of municipal, County, State, and Federal agencies, members of non-profit organizations, unaffiliated volunteers, and/or professional contractors.

The PPH shall ensure that all personnel listed on his/her Marine Turtle Permit have sufficient training and practical experience to conduct their monitoring activities in accordance with the most current FWC guidelines and the procedures described in this HCP. The PPH shall also be responsible for ensuring that data collected pursuant to this HCP are accurate, complete, and transmitted to the County in a timely manner.

The PPHs will communicate regularly with the HCP Coordinator to discuss operational matters and will immediately alert the HCP Coordinator to known problems that could undermine the County's ability to meet its obligations under the HCP and ITP. The PPHs may periodically request the HCP Coordinator provide them with maps, data summaries, or other database products to assist in their monitoring activities. Additionally, the County will provide other logistical support, such as nest marking supplies, as necessary. To bring unity to the County's sea turtle monitoring program, the HCP Coordinator will meet with the PPHs and FWC annually, or as otherwise mutually agreed upon, to review HCP programs and discuss Countywide nesting trends and issues affecting hatchling productivity.

9.6. ST. JOHNS COUNTY DIVISION OF BEACH MANAGEMENT

The St. Johns County Division of Beach Management, under the management of the Supervisor of Beach Management will provide logistical and administrative support for implementation of the HCP. The Supervisor of Beach Management will be responsible for filling the positions of HCP Coordinator and Beach Lighting Officer and for allocating sufficient material and fiscal resources to ensure that these individuals are able to effectively fulfill their responsibilities under this HCP. The annual budget prepared by the Division of Beach Management shall include a separate line item(s) that identifies HCP program expenses. Upon approval by the Board of County Commissioners, the HCP budget shall be provided to the HCP Coordinator for transmittal to the USFWS in accordance with the terms and conditions of the ITP.

9.7. ST. JOHNS COUNTY ENVIRONMENTAL SECTION WITHIN THE PLANNING DIVISION

Environmental scientists and planners within the St. Johns County Planning Division will assist the Division of Beach Management during the implementation phase of this HCP. Because many aspects of the HCP are science-based, it is important that environmental scientists from the Planning Division participate in the evolution of HCP programs. In this way, the HCP will be

constantly linked to County scientists that possess a technical expertise of the local coastal ecology. Thus, the County will be immediately equipped with the in-house expertise to respond to changing environmental or ecological conditions within the HCP Plan Area. Appropriate County staff from the Environmental Section will meet with the HCP Coordinator, as deemed necessary.

9.8. ST. JOHNS COUNTY ATTORNEY'S OFFICE

The St. Johns County Attorney, or his/her designee, will provide guidance and legal support to the HCP Coordinator to ensure that the County complies with the terms and conditions of the ITP, in accordance with prevailing law. Accordingly, the St. Johns County Attorney's Office will:

- Assist in crafting new and/or revising existing regulations, resolutions, interlocal agreements, and other legal instruments needed to improve protection for sea turtles, AIBM, and their habitat on the beaches of St. Johns County;
- Advise the Board of County Commissioners of its legal responsibilities and obligations under the HCP and ITP;
- Provide legal guidance to all County divisions, departments, and offices related to HCP issues; and
- Prepare and/or review contracts with outside parties involved in the implementation of the HCP, as applicable.

9.9. ST. JOHNS COUNTY ADMINISTRATION AND OFFICE OF INTERGOVERNMENTAL RELATIONS

The St. Johns County Administrator, or his/her designee, will coordinate with the Division of Beach Management to ensure that the County has dedicated sufficient fiscal and material resources to implement the terms and conditions of this HCP and ITP. The Office of Intergovernmental Relations will ensure that effective lines of communication and cooperation are maintained among County divisions, departments, and offices involved in HCP implementation and will resolve any disputes that may arise concerning responsibilities under this HCP. The County Administrator may periodically reassign responsibilities and/or personnel among County government units to ensure that HCP program management is properly integrated into the County's overall organizational structure and to ensure that available fiscal and personnel resources are most effectively utilized.

9.10. ST. JOHNS COUNTY SHERIFF'S DEPARTMENT

The St. Johns County Sheriff, or his/her designee, will meet with the HCP Coordinator as deemed necessary. As stated in the St. Johns County Beach Code (Ordinance 97-34), "Section 9.02. Delegation of Code Enforcement Authority. The authority and primary responsibility of the County of St. Johns for enforcement of this code is hereby delegated to the Sheriff of St. Johns County." The Sheriff's Department will be responsible for enforcing all policies and regulations of the HCP on County Beaches. Alternatively, the Sheriff may delegate this responsibility to another division/department, such as the Division of Beach Management. If

enforcement responsibilities are delegated, the Sheriff will work with that division/department to ensure that proper procedures are followed and will assist in certain cases when called upon.

9.11. CITY OF ST. AUGUSTINE BEACH POLICE DEPARTMENT

The City of St. Augustine Beach's Chief of Police, or his/her designee, will meet with the HCP Coordinator as deemed necessary. As prescribed in section 1-9 of the St. Augustine Beach Code of Ordinances, "the chief of Police shall be the head of the law enforcement department." The Police Department is responsible for enforcing all regulations within the Code of Ordinances, including all regulations as outlined in Chapter 5. Beaches, Piers, and Waterways. Accordingly, the St. Augustine Beach Police Department shall be responsible for enforcing all policies and procedures of the HCP on beaches within the municipal boundaries of the City of St. Augustine Beach. Alternatively, St. Augustine Beach's Chief of Police may delegate this responsibility through interlocal agreement to the St. Johns County Sheriff's Department or Division of Beach Management. If enforcement responsibilities are delegated, the Chief of Police will work with the County to ensure that proper procedures are followed and will assist in certain cases when called upon.

9.12. COORDINATION WITH REGULATORY AGENCIES AND STATE AND FEDERAL PARK SERVICES

St. Johns County will work with the FDEP and FWC to identify appropriate methods for allowing agency input into HCP implementation procedures on State beaches managed and/or serviced by the County. St. Johns County will work with the National Park Service to resolve regulatory, enforcement, and legal issues regarding public driving between Fort Matanzas Ramp and the southwestern tip of Matanzas Point. St. Johns County may opt to amend the HCP at a future date in response to how the National Park Service addresses public beach driving in a forthcoming FMNM General Management Plan (e.g., through an HCP amendment process, FMNM could be incorporated into the HCP Plan Area in order to provide consistent Countywide conservation of sea turtles and AIBM). The HCP Coordinator will take the lead role in these interagency coordination efforts.

9.13. IMPLEMENTATION SCHEDULE

Upon issuance of an ITP by the USFWS, St. Johns County will commence implementation of its approved HCP. A schedule of implementation activities is presented in Table 9-1.

9.14. CHANGED CIRCUMSTANCES AND CONTINGENCY PLANS

In preparing an HCP, an applicant for an ITP is required to consider circumstances that could foreseeably change over the life of the ITP and thereby increase the scope and/or extent of impacts to listed species within the Plan Area.

9.14.1. Delisting and/or Listing of New Species

Should at any time during the life of the ITP, a species covered under the HCP/ITP be delisted, or a currently non-listed species inhabiting or utilizing the Plan Area be listed as a threatened or endangered species under the ESA, the County will consult with the USFWS to determine if modifications to the HCP and ITP are warranted.

9.14.2. Reopening of Public Beach Driving through any State Park or Preserve

Should at any time during the life of the ITP, the FDEP decide to reopen public vehicular access through any State park or preserve, such as Guana River State Park, Guana River Marsh State Aquatic Preserve, or Anastasia State Park, the County will consult with the USFWS to determine if modifications to the HCP and ITP are warranted.

9.14.3. Local residents in Summer Haven must drive on dunes/beach to access their homes

Should at any time during the life of the ITP, it deemed that local residents in Summer Haven must drive on the dunes and/or the beach to access their homes (particularly following severe erosion events), the County will consult with the USFWS to determine if modifications to the HCP and ITP are warranted.

9.14.4. Changes to the HCP and ITP

The HCP Coordinator may from time to time request changes to the HCP and/or ITP to improve HCP performance, streamline HCP or ITP administration, and/or eliminate unnecessary restrictions on beach driving activities that are demonstrated to provide no conservation benefit. These requests must be submitted to the USFWS in writing with appropriate supporting data. No changes in standard operating procedures may occur without the expressed written consent of USFWS.

Over the 20-year life of the ITP, administrative changes to the ITP may be requested at any time. However, formal revisions to the HCP will occur only once every five years after a joint review by the County and USFWS. Consequently, there may be occasions when the letter and/or intent of the ITP and HCP are in conflict. In those cases, the ITP shall prevail. Additionally, any changes to the ITP shall be construed as to affect a corresponding change to the HCP.

9.14.5. Change of Authority

If St. Johns County delegates regulatory authority over all or a portion of County Beaches to another governmental entity, or if regulatory authority over the beaches is by any other means transferred or usurped by law or agreement, then one of the following may occur:

- The ITP may be revoked by the USFWS; or

- The ITP may remain in force while a revised HCP is prepared, provided the new management entity agrees in writing to assume the responsibilities previously held by the County, on the applicable sections of the beach.

9.14.6. Non-Compliance

The USFWS may suspend or revoke St. Johns County's ITP at its discretion, if actions, or the lack thereof, on the part of St. Johns County are deemed non-compliant with the ITP.

9.15. UNFORESEEN CIRCUMSTANCES

Unforeseen circumstances are those events, conditions, or situations that are completely unanticipated at the time of preparation of this HCP. If, during the implementation of this HCP, an unforeseen circumstance occurs that could have a significant negative impact on sea turtles, AIBM, or other protected species in the Plan Area or could affect the ability of St. Johns County to effectively manage activities under this HCP, the following procedures will be followed:

1. Within five (5) business days of the date the Unforeseen Circumstance is brought to the County's attention, the HCP Coordinator will advise USFWS by certified letter of the following:

    - The nature of the situation;
    - The geographic and temporal extent to which the beach will be affected by the situation; and
    - The potential impact of the situation on sea turtles, AIBM, and/or other protected species in the Plan Area.

2. Within three (3) days of USFWS receipt of the written notification described above, the County will discuss the Unforeseen Circumstance with USFWS personnel and other affected parties, as applicable. An appropriate response to the situation, such as modifying the HCP and/or ITP, shall be developed and implemented upon approval of the USFWS. The County and USFWS shall determine the extent to which additional information is needed to document the merit and/or significance of the Unforeseen Circumstance or assess its relative impact on protected species in the Plan Area. As mutually agreed to, a special monitoring plan may be formulated. The plan will contain the following:

    - A description of the data and/or information to be collected;
    - Procedures for collecting the data/information;
    - Data/information collection responsibilities;
    - A schedule for implementing the plan; and
    - Reporting requirements.

3. Upon obtaining all necessary information, the USFWS, St. Johns County, and other third party individuals or agencies, as applicable, shall meet to analyze and review the data and develop an action plan to successfully resolve issues associated with the Unforeseen Circumstance.

9.16. COMPLIANCE MONITORING AND REPORTING

St. Johns County will monitor the performance of the HCP in minimizing impacts to sea turtles and AIBM causally related to beach driving and related activities and it will determine if the biological goals of the HCP are being met. HCP program evaluations will be provided to the USFWS through Annual Reports, formal reviews, and periodic communications, as described below.

9.16.1. Sea Turtle Data Analysis and Reporting

At the end of each calendar year, the HCP Coordinator will be responsible for compiling and analyzing sea turtle and ancillary data collected under this HCP. This data will be summarized in a manner that allows an assessment of natural and anthropogenic impacts to sea turtles on County Beaches. Direct, indirect, and cumulative impacts to sea turtles causally related to vehicular activities on the beaches will be identified. Mitigation benefits of the County's Beach Lighting Management Plan, beach horseback riding registration program, and restrictions of beach driving through Porpoise Point will also be assessed to ensure that biological goals are being met. Known deficiencies with HCP programs will be identified and potential remedial actions proposed. The above information will be incorporated into an Annual Report that will be submitted to the USFWS by March 31 of each year.

During the first three (3) years that the ITP is in effect, the County will meet annually with the USFWS and FWC to review HCP performance and discuss the County's monitoring program. As needed, adjustments to monitoring protocol and nest protection measures will be implemented.

9.16.2. HCP Performance Information

Data will be collected and maintained by the County to demonstrate that minimization and mitigation measures required under this HCP are being implemented. This information may include, but is not limited to, the following:

- Records of beach openings and closings;
- Vehicle counts;
- Dates, group, content, and number of attendees at HCP training classes;
- Logs of public education and awareness programs provided by the County;
- Records of rut removal operations;
- Records of beach horseback riding;
- Documentation of HCP-related meetings, including minutes; and
- Records of monies and resources expended on HCP programs.

The above information will be provided to the USFWS upon request and summarized in tabular form each year for inclusion in the Annual Report. The Annual Report will include an overall assessment of HCP performance, identification of program deficiencies, and recommendations for improvements, as applicable. During the first three (3) years of the ITP, formal annual meetings will be conducted between the USFWS and County; more often if necessary to address

critical issues. However, the USFWS and County will communicate regularly to review and assess conformance with the HCP and ITP, and the USFWS will make unannounced inspections of County Beaches to ensure compliance with the ITP. Every five years, the USFWS and County will meet formally to assess HCP performance and discuss any needed adjustments to policies, procedures, and/or mitigation in response to changes in organizational structure, beach conditions, vehicular traffic patterns, sea turtle nesting trends, and/or the level of vehicle-related incidental take occurring on County Beaches.

9.16.3. Enforcement

The HCP Coordinator will be responsible for coordinating the activities of appropriate departments and divisions within St. Johns County government who are responsible for the enforcement of Federal, State, and County regulations pertaining to protected species on County Beaches. The HCP Coordinator will ensure that County enforcement staff is properly educated and organized to effectively carry out their responsibilities under the HCP and that there are effective inter- and intra-departmental lines of communications. The HCP Coordinator will periodically review County regulations, codes, and directives to determine if they require change or stricter enforcement to achieve HCP objectives. As provided in the St. Johns County Comprehensive Plan, "St. Johns County shall also work with FWC on the enforcement and protection of sea turtles during their nesting times" (section E.2.8.6.).

Data will be collected and maintained to document the County's efforts to enforce provisions of the HCP and ITP. This data will include, but is not limited to the following:

- Number of reported infractions of CZ driving/parking rules and regulations;
- Number of warnings, tickets, and/or citations for observed CZ infractions;
- Number of warnings, tickets, and/or citations for vehicles accessing the beach outside of established access hours;
- Number of warnings, tickets, and/or citations for vehicles accessing unauthorized beach zones;
- Number of vehicles towed from the beach at night; and
- Number of citations or arrests for disturbance or harassment of sea turtles or AIBM.

The above information will be maintained and provided to the USFWS upon request and summarized in the Annual Report.

Chapter 10. GLOSSARY

Armoring—The placement of man-made structures or devices in or near the coastal system for the purpose of preventing erosion of the beach or the upland dune system or to protect upland structures from the effects of coastal wave and current activity.

Artificial Light or Artificial Lighting—The light emanating from any human-made device (St. Johns County Ordinance 99-33).

Beach—The zone of unconsolidated material facing the Atlantic Ocean that extends landward from the mean low water line to the place where there is marked change in material or physiographic form, or to the line of permanent vegetation (usually the effective limit of storm waves), as is defined in Chapter 62B-33.002(4), Florida Administrative Code. At the Matanzas Inlet in St. Johns County, the Beach shall not extend landward of the centerline of the Matanzas Inlet Bridge; and at the St. Augustine Beach Inlet in St. Johns County, the Beach shall not extend landward of the extreme westward points of said inlet (St. Johns County Ordinance 99-33).

Beach Nourishment—The process of adding sand to a beach area, typically from inlets or offshore borrow areas but also from upland sources, to compensate for the effects of erosion.

Beach Profile—The shore-perpendicular shape of the beach/dune system as seen in cross section.

Beach Ranger—A code enforcement officer authorized by the Sheriff to patrol and enforce beach-related criminal and non-criminal ordinances pertaining to the Beach Code (St. Johns County Ordinance 97-34). These officers are dual-certified as code enforcement officers and lifeguards.

Beach Services—Includes, but not limited to, lifesaving, maintenance of and cleaning of the beach, the public improvements thereon and approaches thereto, the cost of acquiring and operating off-beach parking, and code enforcement, which shall be construed to include crowd control, the enforcement of the Beach Code, and of observed violations of state criminal law, provided that nothing herein shall be construed as a Limitation upon the authority of a beach ranger to perform any act or exercise any part of the authority available to such ranger under state law (St. Johns County Ordinance 97-34).

Bulkhead—A rigid armoring structure or partition to prevent upland property from being lost to erosion.

Clutch—The collective number of eggs laid in a nest by a sea turtle.

Coastal Construction Control Line (CCCL)—The Coastal Construction Control Line established by the State of Florida Department of Environmental Protection, Office of Beaches and Coastal Systems, to define that portion of the beach and dune system which is subject to severe fluctuations based on a 100-year storm surge, storm-induced waves or other predicted weather conditions (section 161.053, Florida Statutes).

Commercial Fisherman—A commercial fisherman licensed under the laws of the State of Florida engaged on a *bonafide* basis in fishing as a major portion of his/her livelihood (St. Johns County Ordinance 97-34).

County—St. Johns County.

County Beaches—Those beaches over which St. Johns County exercises sole beach management and regulatory authority. This includes all beaches, except those managed by State and Federal parks or St. Augustine, St. Augustine Beach, and Marineland.

Crawl—The distinctive tracks left by a turtle on the beach at night.

Disorientation—The disruption of the natural sea-finding behavior of hatchling sea turtles most typically associated with the presence of artificial light in the nesting environment. Technically refers to hatchlings that are unable to orient in any particular direction and wander aimlessly, but in its broadest sense, also includes hatchlings that are well oriented, but travel in a direct path that leads them away from the ocean (i.e., misorientation).

Driving Area—The hard sand portion of the beach designated by signs or other traffic control devices wherein driving on the beach shall be permitted in a single lane of northbound traffic and a single lane of southbound traffic, together with that portion of the soft sand in front of open vehicular approaches wherein driving shall be permitted in an east or west direction for the purpose of entry to or exit from the beach. The driving area shall not include traffic-free zones established by the Beach Code or regulations adopted pursuant to the Beach Code (St. Johns County Ordinance 97-34).

Dune—A mound or ridge of loose sediments, usually sand-sized sediments, lying landward of the Beach and deposited by any natural or artificial mechanism (St. Johns County Ordinance 99-33).

Dune Crest—The highest point of a beach dune.

Dune Escarpment—A near vertical aspect in the beach profile at or near the dune caused by erosion.

Dune Toe—The point of interface between the dune and beach marked by a perceptible change in slope, material or physiographic form.

Emerging Success— The percentage of eggs in a clutch of turtle eggs that produce hatchlings that successfully emerge from the nest.

Erosion—The wearing away of land or the removal of consolidated or unconsolidated material from the beach and dune system by wind, water or wave action.

False Crawl— A non-nesting emergence of a female turtle onto the beach.

Global Positioning System—An electronic device used to measure one's location on the earth's surface.

HCP Coordinator—Individual appointed by St. Johns County to implement the HCP and administer the ITP.

Habitat Conservation Zone—Mean 15 feet seaward from the seaward toe of the most seaward dune, dune scarp, sea wall, or line of permanent vegetation, or one-half the distance to the mean high-water level, whichever is the lesser (St. Johns County Ordinance 97-34).

Harass—An intentional or negligent act or omission which creates the likelihood of injury to [listed] wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering (Title 50 Code of Federal Regulations Part 17.3).

Harm—An act which actually kills or injures [listed] fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing of essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (Title 50 Code of Federal Regulations Part 222.102).

Hatching Season—The time of year when the hatchling sea turtle nests are emerging from their nests.

Hatching Success—The percentage of eggs in a clutch of turtle eggs that produce hatchlings that successfully extricate themselves from their egg shells.

Hatchling—Any species of marine turtle, within or outside of a nest, that has recently hatched from an egg (St. Johns County Ordinance 99-33).

Hatchling Productivity—An estimate of the total number of hatchlings entering the ocean from nests within the Plan Area based upon nest fate and reproductive success of a representative sample of nests.

In situ—A nest in its natural condition and original location on the beach.

Incidental Take—Take of any federally-listed species of wildlife that is incidental to, but not the purpose of, otherwise lawful activities (section 10(a)(1)(B) of the US Endangered Species Act).

Incidental Take Permit—A permit issued by the Federal government pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended, that authorizes the "take" of listed species resulting from specified activities conducted in accordance with the terms and conditions of the permit.

Incubation Period—The inclusive time between the date a clutch of eggs is laid and the date the first hatchling emerges from the nest.

Line of Permanent Vegetation—The extreme seaward boundary of natural vegetation which extends continuously inland (St. Johns County Ordinance 97-34).

Listed Species—Flora or fauna that are afforded protection under the promulgations of the Endangered Species Act of 1973, as amended.

Marine Turtle Permit—A permit issued by the FWC's Bureau of Protected Species Management for the performance of activities in support of the State's sea turtle protection program.

Mean High Water—The average height of the high waters over a nineteen-year period. For shorter periods of observation, "mean high water" means the average height of the high waters after corrections are applied to eliminate known variations and to reduce the result to the equivalent of a mean nineteen-year value.

Mean High Water Line—The intersection of the tidal plane of the high water with the shore.

Misorientation—The alteration of natural sea turtle behavior by traveling along a consistent course usually towards an artificial light source.

Mitigation—Actions required by an incidental take permit to compensate for unavoidable environmental impacts resulting from permitted activities.

Motorized Vehicle—Any vehicle which is self-propelled, but not including bicycles (St. Johns County Ordinance 97-34).

Native Vegetation—Non-introduced vegetation naturally adapted to prevailing environmental conditions.

National Geodetic Vertical Datum (NGVD)—As corrected in 1929, is a vertical control used as a reference for establishing varying elevations within the floodplain.

Nest—An area where marine turtle eggs have been naturally deposited or subsequently relocated (St. Johns County Ordinance 99-33).

Nest fate—The final disposition of a sea turtle nest. Typical nest fate categories include, hatched, infertile, destroyed by tidal inundation or root invasion, depredated, washed out, vandalized, and unknown.

Nesting Season—The inclusive period during which adult turtles are coming ashore to nest and hatchling sea turtles are emerging from their nests to enter the sea. In St. Johns County, the period from May 1 through October 31 of each year.

Nesting Success—The percentage of all crawls made by female turtles on the beach that result in nests.

North Beaches—A colloquial name referring to the beaches of St. Johns County north of St. Augustine Inlet.

Off-season—Period of time when many beach services are not offered, including lifeguards, toll booths, additional portable toilets, etc. In St. Johns County, this period stretches from the day after Labor Day until February 28th of each year.

Parking Area—A. That area of the beach west of the driving area near the border of the hard and soft sand but not to encroach into the conservation zone, delineated by signs separating it from the driving area which vehicles shall be allowed to park in one row perpendicular to the seawall or line of permanent vegetation and the edge of the water; B. When authorized by the Beach Code, that area west of the driving area on the hard sand delineated by signs separating it from the driving area in which vehicles shall be allowed to park in one row perpendicular to the seawall or line of permanent vegetation and the edge of the water (St. Johns County Ordinance 97-34).

Permanent Structure—A coastal armoring structure permitted by FDEP that is designed to remain in place for a protracted period of time, such as a seawall or rock revetment.

Plan Area—The area for which incidental take is requested under the Incidental Take Permit. The Plan Area encompasses all of the beaches within the entire 42.0-mile coastline in St. Johns County, including those beaches in GRSP, ASP, FMNM, and the municipalities of St. Augustine, St. Augustine Beach, and Marineland.

Primary Dune—The first natural or man-made mound or bluff of sand which is located landward of the Beach and which has substantial vegetation, height, continuity, and configuration (St. Johns County Ordinance 99-33).

Principal Permit Holder—Qualified individuals who are issued a Marine Turtle Permit by the FWC to perform specific activities in support of the State of Florida's sea turtle protection programs.

Public Safety Vehicles—All motorized vehicles involved in routine or emergency public safety operations, such as those used by lifeguards, and County and municipal law enforcement, and fire/rescue personnel.

Renesting interval—The period of time between successive egg laying episodes by a sea turtle within a given nesting season.

Reproductive Cost—The decrease in total annual egg production suffered by an individual as a result of increasing energy expenditures during nesting.

Reproductive Success—The relative success of a female turtle's egg laying efforts, typically expressed as either hatching success or emerging success.

Revetment—A sloped armoring structure composed of materials such as quarry stone, concrete, or geotextile fabric built to protect an escarpment, embankment, or upland structure against erosion by wave action or currents.

Sand Bypassing—The process of mechanically moving impounded sand from the updrift side of a structure (such as a jetty) to the downdrift side.

Scour—Erosion caused by the interaction of waves and currents with man-made structures or natural features.

Seawall—A vertical armoring structure separating land from water areas, primarily designed to prevent upland erosion and other damage as a result of wave action.

Semidiurnal Tide—Tides that occur in a cycle of two high tides and two low tides each tidal (lunar) day.

Shoreline Protection—The placement of sand, sandbags, or physical structures along eroding shorelines to prevent damage to eligible and vulnerable structures.

South Beaches—A colloquial name referring to the beaches of St. Johns County south of St. Augustine Inlet.

Special Event(s)—A. Any use, activity, or event conducted or promoted that would, if not permitted under the Beach Code, constitute a violation of any provision of the Beach Code or any rule or regulation issued under the authority of the Beach Code; B. Any activity or event that is organized and promoted to attract, and is likely to attract, a crowd of more than 50 persons to a certain place on the beach at a certain time under circumstances that are likely to interfere with the public's right of access and use of the beach or create a need for additional services or other resources; or C. Any activity or event on the beach that is promoted or sponsored by commercial interests and will advertise or promote private commercial interests (St. Johns County Ordinance 97-34).

Species of Special Concern (SSC)—A species which is protected by the FWC and the Florida Wildlife Code because the population is declining at a rate that will soon warrant designation as a threatened species.

Stranding—A dead, ill, or injured sea turtle that washes up onto the beach.

Summer Season—Period of time when many beach services are offered, including lifeguards, toll booths, additional portable toilets, etc. In St. Johns County, this period stretches from March 1st through Labor Day of each year.

Take—To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct with regard to federally listed endangered or threatened wildlife species (section 3(18) of the US Endangered Species Act).

Toe—Means the lowest part of an embankment (St. Johns County Ordinance 97-34).

Vehicle—Every device in, upon, or by which any person or property is or may be transported or drawn upon a highway (see Motorized Vehicle; St. Johns County Ordinance 97-34).

Washback hatchling—A hatchling sea turtle that left its nesting beach and may have been at sea for several weeks or months before being brought back onto shore by heavy winds and surf.

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