

## **Loggerhead, Green, Kemp's Ridley, and Leatherback Sea Turtles**

### ***Status***

Currently, four species of sea turtles have been documented nesting on Eglin's barrier islands. These species include the loggerhead (*Caretta caretta*), green (*Chelonia mydas*), Kemp's ridley (*Lepidochelys kempii*), and leatherback (*Dermochelys coriacea*) sea turtles. The loggerhead is threatened, while the green, Kemp's ridley, and leatherback are endangered. The loggerhead is the most common of the four species and it nests every year on Eglin's beaches including parts of CSB in Gulf County and Okaloosa and SRI in Okaloosa and Santa Rosa counties. Green sea turtles typically nest on Eglin's beaches every other year and in lower numbers. The Kemp's ridley is a rare nester on Eglin's beaches that was first documented in 2008. The leatherbacks very rarely nest on SRI.

Peak loggerhead nesting on SRI occurs in June and July, with approximately 86 percent of nests established during this period. In addition, SRI supports the largest number of green sea turtle nests in northwest Florida which usually occurs every other year. However, leatherback nesting has been documented only one year on Eglin SRI, during 2000. In 2008, there were three Kemp's ridley nests laid on Eglin property, and since 2008, several more Kemp's nests have been documented, but none have contained viable eggs.

### ***Monitoring***

The USFWS delegated the authority and responsibility for monitoring sea turtle nesting and 44 hatching to the State, so Eglin maintains appropriate permits with the State for these activities at SRI and CSB. The State permit has very specific survey and monitoring protocols that Eglin must follow (summarized below), including daily 100 percent surveys during sea turtle season. At SRI, monitoring began in 1989, and since 1998 surveys have been conducted by trained volunteers under Eglin's permit. At CSB, University of Florida graduate researchers have conducted the surveys from 1994 to the present.

Daily early morning sea turtle surveys and monitoring are conducted each year at SRI and CSB (May 1 to October 31) until the last nest has either hatched or has reached 80 days incubation, at 8 which time the nest is evaluated per state protocol. These surveys are intended to locate the 9 crawls of nesting female turtles, determine the species of turtle by examining crawl 10 characteristics, determine whether the crawl is a nesting crawl or a false crawl, place protective screening over the nest to deter predators, and mark the nest location. The objective of the sea turtle monitoring program is to provide location information (for mission avoidance) and annual data on the distribution and abundance of sea turtle nesting activity on the 3 miles of CSB beachfront and 17 miles of SRI beachfront on Eglin AFB.

At each nest, four basic measurements are taken: crawl length, crawl width, distance of body pit

to vegetation line, and depth to clutch. Nests are marked with stakes, sea turtle nest sign, and surrounded with surveyor flagging tape. All sea turtle nests located on the restricted portion of the beach are screened to prevent depredation. Nests are then monitored throughout the entire incubation period for potential storm damage, hatching activity, and predation. Nests are only relocated if threatened by erosion, inundation, predation, or if approved as a condition of a Section 7 consultation. Each nest is closely monitored to determine the precise duration of incubation, and to gather data on the emergence of hatchlings, depredation, and possible effects from artificial lighting (hatchling disorientation), beginning at the 60<sup>th</sup> day from initial discovery. Recent years of tagging and tracking efforts by USGS have provided valuable information of sea turtle temporal and spatial utilization of the Gulf of Mexico. Future coordination between Eglin NR and USGS with tagging and tracking data will provide significant growth of knowledge and support Section 7 consultations.

### ***Management***

The primary goal of sea turtle management on Eglin AFB is to provide the highest level of capability and flexibility to the military testing and training mission while meeting the legal requirements of the ESA and other applicable laws by establishing strategic management objectives which are subject to change from consultation with the USFWS, changing circumstances, new mission requirements, or new scientific information. The main role NR plays in the management and conservation of sea turtles is to locate, mark, and protect sea turtle nests; assess potential impacts to sea turtles from proposed mission activity; recommend conservation measures to avoid impacts to nesting sea turtles, their nests, and emerging hatchlings; and relocate turtle nests under certain permitted conditions. Beachfront mission activities are minimized during sea turtle nesting and peak hatching periods in June, July, August, and September; missions that are approved during this period through the Section 7 consultation process are subject to the terms and conditions contained in their respective BAs (requirements summarized in EAFBI 13-212), including pre-mission briefings covering mission specific requirements to minimize impacts.

**Predator Control.** Eglin AFB is a member of the Northwest Florida Partnership to Protect Endangered and Threatened Species on Coastal Public Lands, which utilizes an integrated management approach to control species not native to coastal areas such as feral cats, red fox and coyotes. Eglin NR has also participated in the U.S. Fish and Wildlife Service (USFWS)/U.S. Department of Agriculture (USDA) Endangered Species Protection program to conduct predator control on the SRI and CSB. These efforts have significantly reduced the depredation of sea turtle nests. Additional information on these activities is provided in the INS section.

**Impact Avoidance Measures.** The primary management concern for sea turtles is to minimize the potential for impacts from mission and recreation activities. Potential impacts include direct impacts to nests and turtles, harassment due to noise and lighting, and habitat degradation. In addition to the monitoring and predator control measures described previously, NR also implements the additional requirements summarized here. On an annual or as required basis, NR surveys and re-establishes public access control measures on SRI and CSB to protect dune habitats which are important for island stabilization. Nests are also marked for avoidance.

NR management, monitoring, and enforcement activities also have the potential to affect sea turtles; therefore, they also require impact minimization measures. To address these concerns, the Eglin NR implements the following management actions during sea turtle season (May 1 through October 31):

- Beach driving during sea turtle season on SRI is only approved for Eglin Range Patrol Beach driving during sea turtle season on SRI is only approved for Eglin Range Patrol (security purposes), NR personnel (management and monitoring activities), and mission activities that have been previously authorized through Section 7 consultation;

- Low-pressure sodium vapor lighting has been installed at all test sites along SRI and CSB;

- Adherence to requirements in the Gulf County Coastal Habitat Conservation Plan;
- Continued dune protection as needed; and

- Eglin NR has voluntarily implemented a nest sitting protocol for sea turtle nests that are close to hatching

In addition, Eglin NR participates in Florida's sea turtle stranding and salvage network program. Additional details about these species including monitoring protocols and management actions are located in the *T&E Species CP* (Appendix G) and Eglin's Beach Management Plan.