Carolina Species at Risk Project

Project # 07-348

Background:

Fire suppression, development, the proliferation of timber plantations, and other land use change on the coastal plain of the Carolinas has resulted in significant habitat loss that threatens many of the species dependent on the ecosystems of this region. Some of the best habitat remaining is located on military installations, where natural areas have thrived when compatible with training operations and periodic fire has remained a feature of the landscape. As military installations have increasingly become refuges for species at risk, taking proactive steps to protect these species is important both to ensure their survival and to ensure that military operations will not be adversely affected by legal mandates for protection, such as federal listing under the Endangered Species Act.

The northern pine snake, one of 13 species at risk identified for military installation on the Carolina coastal plain.

Objective:

This project sought to (1) identify species at risk occurring on and around military installations in the Carolina coastal plain, (2) map areas most likely to contain high quality habitat for a subset of those species, and (3) determine ownership information for those mapped areas. Three reptile species found in the longleaf pine habitat of the Carolina sandhills were chosen as the targets for mapping: the mimic glass lizard, northern pine snake, and southern hognose snake. An additional nine species were identified as at risk; recommendations for future habitat mapping efforts were made for these species and natural resource management guidelines were provided for all the at risk species.

Summary of Approach:

Maps of predicted habitat for the target reptiles were developed by obtaining vertebrate habitat models from the Southeast Gap Analysis program and then refining those models using detailed soils data. Areas most likely to contain the highest quality habitat were identified based on landscape characteristics including size, proximity to other habitat patches, and low road densities. Ownership information was then determined for those areas deemed most likely to contain the highest quality habitat. The study area for this analysis was comprised of two distinct areas consisting of a mix of military and non-military land: Onslow Bight in North Carolina (including Camp Lejeune, the Military Ocean Terminal at Sunny Point, and the Marine Corps Air Station at Cherry Point) and an area surrounding Fort Jackson and Shaw Air Force Base in South Carolina.

Benefit:

Identifying likely habitat for species at risk provides the basis for future survey and inventory efforts. If parcels are determined to support these species, they will be ideal candidates for conservation efforts. Such efforts, when taken proactively, can avoid both costly conflicts between military operations and potential future legal mandates for species protection.

Accomplishments:

Maps of likely high quality habitat for each of the three target species have been created and ownership information for these areas has been ascertained. The best candidates for future surveys include sites both on military installations and the privately-owned lands that surround them. Several areas likely to contain habitat for all three target species have been identified. In addition, best practices for resource management for all 13 species at risk have been developed, as have recommendations for creating similar habitat models for those species not included in this mapping effort.

Contact Information:

Name: Milo Pyne
Title: Southeast Senior Regional Ecologist
Org: NatureServe
Address: 6114 Fayetteville Road, Suite 109
Durham, NC 27713-6284
Phone: 919-484-7857 ext. 136
Fax: 919-484-7357