Biogeographic Setting of the Study Area

Biological Significance of the Southeast Coastal Plain of North Carolina

The Southeast Coastal Plain of North Carolina is an area of particularly high biodiversity. Of the 17,601[2] occurrence records of NHP element species and communities, more than 3,756 (21%) are from the study area. One of the counties included in the study area, Brunswick, has the largest number of rare species monitored by NHP of any county in the state.

These element occurrence records represent 298 different species, including 19 species that are listed as Endangered or Threatened by the federal government and 63 that are included on the corresponding state lists of protected animals and plants. Also represented are 50 community types out of a total of 126 found within the state overall. As with the species, some of these communities have been identified as among the most threatened in North America (Noss and Peters, 1995). These include maritime forests and other beach habitats; longleaf pine dominated savannas, flatwoods and sandhills; and southern forested wetlands, such as wet marl forest and stands of Atlantic white cedar.

As described below, the significance of this area is attributable both to underlying biogeographic features that make it a region of fairly high endemism and to human land-use patterns that have left this area relatively less exploited than neighboring portions of the Coastal Plain, at least until recently.

Abiotic Features

Geology and Geomorphology

Southeastern North Carolina lies in the Coastal Plain physiographic and geologic province (see Figure 5 for some of the more prominent geographic features). Geologically this province is characterized by unconsolidated marine and coastal sediments of relatively recent geologic origin (Cretaceous or Tertiary age -- less than 130 million years old). Geomorphically the province is characterized by flat topography, young drainage systems with relatively few streams and many undrained basins, and remnants of coastal features left by recent higher stands of sea level.

Many of the distinctive ecological features of this region have been shaped by these landforms, particularly through their effect on drainage and soil properties. The study area, more specifically, has been strongly influenced by its history as part of the geologic region known as the Cape Fear Arch, an area slightly uplifted relative to the rest of the Coastal Plain a number of times during its geologic history. During certain periods, it stood as a peninsula when the

[2] Tallied on March 2, 1999.