1.10 BIG THICKET

The Big Thicket region of east Texas is a transition zone where southeastern swamps, eastern deciduous forest, central plains, pine savannas, and dry sandhills meet and intermingle. Variations in geology, climate, soils, elevation, and drainage have resulted in a rich biological diversity within the Big Thicket region that marks the western most distribution for many species. The diversity of ecosystems and species found within this region has led many to refer to the area as the "Biological Crossroads of North America" and "America's Ark." Peacock (1994) delineated the Big Thicket region as the area "from Pine Island Bayou on the south to the Sabine River on the east, north for about sixty or so miles, west-ward along a geological line that passes below Lufkin to about Shiro or Roan's Prairie, then swings southward in a modified curve to the mixed-grass prairie of east Liberty County, and on to Pine Island Bayou." Based on plant associations, the National Park Service has identified eleven plant communities within the Big Thicket region (Peacock 1994), including:

Baygall
Pine Savannah Wetlands
Cypress Slough
Longleaf Pine Upland
Oak-Gum Floodplain
Palmetto-Hardwood Flats
Beech-Magnolia-Loblolly
Mixed-Grass Prairie
Roadside
River Edge
Arid Sandylands

To ensure the preservation, conservation, and protection of a portion of the Big Thicket region that once totaled more than 3,000,000 acres, the Big Thicket National Preserve was established in 1974. The Big Thicket Preserve was the first preserve established as part of the National Park System. The Preserve consists of nine land units connected by six stream corridor units encompassing more than 97,000 acres. Of the eleven plant communities found in the Big Thicket region, ten can be found within the Big Thicket National Preserve (only Mixed-Grass Prairies are absent). Underscoring the importance of these communities, the Big Thicket National Preserve was designated an International Biosphere Reserve by the United Nations Education, Scientific and Cultural Organization (UNESCO) Man and the Biosphere Program in 1981. Additionally, in 2001 the American Bird Conservancy recognized the Preserve as a Globally Important Bird Area.

Best estimates of the flora and fauna found in the Big Thicket region include approximately 300 species of birds that live in or migrate through the area, about 50 species of reptiles, nearly 25 mammals, more than 30 kinds of orchids, over 150 species of trees and shrubs, and nearly 1,000 other flowering plants, including four of the five species of carnivorous plants found in North America (Gunter 1993, Peacock 1994). In terms of aquatic species, there are approximately 375 aquatic and/or wetland plant species, 100 native aquatic vertebrates (James Barker personal communication 2003) and one of the most abundant and diverse populations of freshwater mussels remaining in Texas (Howells et al. 1996). While little is known about the diversity of the insect fauna of this region, Abbott et al. (1997) collected 249 species of aquatic insects representing only 4 orders (Plecoptera, Odonata, Trichoptera, and Ephemeroptera), indicating a high degree of diversity among aquatic invertebrates associated with the Big Thicket region.

East Texas waterways are generally characterized by lush vegetation, deep channels with slow-moving water, relatively low banks, and meandering courses. Water clarity ranges from muddy brown (Neches River), due to the abundance of fine silt and sediments transported in the water column, to clear blackwater (Village Creek), due to the leaching of tannic acids from decomposing organic material. Sediments tend to be dominated by clay and silt, although large sand deposits are found throughout the region and are characteristic of blackwater streams such as Village Creek.

The Neches River is the primary drainage of Big Thicket National Preserve, capturing the majority of water from precipitation and overland flow. There are numerous streams and creeks within the Big Thicket region and several, such as Turkey Creek, Menard Creek and Village Creek, serve as main corridors of the Big Thicket National Preserve. These water bodies and others provide an invaluable resource to the biota of the Big Thicket region and local communities rely on water from these areas for various needs. As such, preserving the natural character of these streams will aid in preserving the character of the Big Thicket region as a whole. The following streams within the Big Thicket region have been identified by the TPWD as meeting one or more of the criteria for designation as Ecologically Unique as defined by Senate Bill 1 (1997):

Beech Creek
Big Cypress Creek
Big Sandy Creek
Little Pine Island Bayou
Menard Creek
Pine Island Bayou
Trout Creek
Turkey Creek
Village Creek
White Oak Creek

A brief characterization of these streams and a description of the criteria they meet follows.