



Turnbull Creek Educational
Forest's turpentine still



Not every gator has its own fishing lure

Brunswick Wildlife “Sticky Gold” Birding (Part II)

Last week's article explored the longleaf pine ecosystem, the adaptation of wildlife to it, and the need for prescribed burns to maintain high quality savanna habitat. It bears repeating...the natural history, cultural history, and our wildlife are intertwined around the unique and majestic longleaf pine.

These pines were considered superior in timber and resin production to that available in Europe or New England. High quality longleaf pine habitat, green needles whispering in the wind and shimmering in the sun, once existed from Virginia to eastern Texas. Now less than five percent of that forest remains.

The first stop on my educational journey was Brunswick Town to get advice from Brenda Marshburn and Jim McKee. They were very helpful! They gave me an earful, loaded me up with printed material, and told me where to go...in a good way.

The industry's story is mostly set in the colonial and antebellum periods plus the Civil War period through the first three decades of the twentieth century. Prior to 1700, England's forests were mostly depleted and naval stores were imported from Sweden and Finland. To gain independence from rising costs, foreign influence, and disruptions in supply caused by military conflicts, England looked to Colonial America to supply the British Royal Navy and a huge merchant fleet.

In the Lower Cape Fear, production dates back to the start of seventeenth century; however, large scale production began in 1705, spurred by a subsidy passed by Parliament. Thereby, our area's contribution to British self-sufficiency was vital. During the colonial period,

roughly seventy percent of world's supply was shipped out of Brunswick Town. From 1720 to 1870, North Carolina led the world in production of naval stores.

A lasting memorial to the former port, ballast stones used to stabilize inbound ships that would otherwise be sitting too high in the water, were used for building foundations at Brunswick Town. As naval stores and other exports were loaded on ships, unneeded stones were unloaded. The river bottom is still littered with ballast stones, visible at low tide.

Prior to the introduction of technology for distilling raw turpentine (called gum or resin), the gum itself from living trees was the main product. Also shingles, staves, planks, masts, and spars were produced. Staves were used by coopers for making barrels to hold liquid stores.

A tree was "boxed", creating a gum cavity at the base of the tree. Bark was removed above the box and "cat faces" were created by cutting chevron-like gashes in the wood to channel the gum. The box was replaced after 1902, with the introduction of the clay Herty cup. After 1915 the cups or trays were mainly tin or aluminum.

Unlike turpentine, tar was extracted from dead trees by slowly burning "lightwood" logs and stumps in dirt tar kilns (called tarkels) and pitch was made from tar boiled in cauldrons to thicken it by partially removing the oil. Lightwood is the resin-rich heartwood of pines.

Tar was used to protect rope riggings and to produce tar paper while rope soaked in pitch was used to caulk spaces between planks of ships and to protect their bottom from worms.

At first, the industry was based on natural stands on small farms. When plantations took over and, after the destruction of virgin forests, quality longleaf habitats dwindled rapidly. Longleaf pines were replaced it with faster growing species that were of little value for turpentine. Slash and loblolly pines not only grew faster but and also closer together.

A major innovation in the production of spirits of turpentine occurred with the 1834 invention of the copper still. Distilled resin yields spirits of turpentine (oil of turpentine) which was used for lamp oil and as a solvent.

A turpentine industry boom in the 1830's helped lift the state's economy. A major reason for this new burst in activity was the rapid increase in production of rubber products. Spirits of turpentine was used as a solvent in the manufacturing process.

The development of local distilling ended the shipment of resin to be distilled in England or in the north. Distilleries were located in port towns...Washington, Wilmington, and New Bern. Wilmington grew from two distilleries in 1841 to fifteen by 1846 and became the most important port given its rivers and railroads plus the extensive pine forests up the Cape Fear River.

Harvesting of gum turpentine in North Carolina peaked around 1850 and began to spread south through the longleaf pine belt as forests to the north were exhausted. It was a moving picture of destruction of our longleaf forests.

The Civil War, innovations in technology, and exhausted natural resources rapidly reduced the importance of the naval stores industry. Kerosene became an alternative, less-expensive lamp oil. In its day, the naval stores industry provided economic returns, financing roads and school improvements. A substitute was waiting in the wings to take over...tobacco.

Marshburn and McKee recommended visiting the North Carolina Museum of Forestry in Whiteville and talking to Harry Warren its director. The museum's exhibits demonstrate the interconnectedness of people and pine trees. Information provided by Warren was very valuable. All three recommended visiting Turnbull Creek.

The Turnbull Creek Educational State Forest north of Elizabethtown has a naval stores exhibit, including an actual turpentine still. It is near the Bladen Lakes State Forest Headquarters and across NC 242 from Jones Lake State Park.

To educate the public, Turnbull also features trails with product exhibits and tree identification tags; an education center; and a talking tree trail plus a creek trail for observing birds and other wildlife.

If you follow my sticky gold trail, stopping for wildlife watching at Lake Waccamaw and Jones Lake State Parks is recommended. Each site has species of interest. Lake Waccamaw has several endemic species of fish such as the Waccamaw Killifish. Also, many reptiles call the lake home including the juvenile gator shown above.

These lakes introduce birders to the Carolina bays habitat. Bays are shallow, crater-like depressions named for the three species of bay trees found around them and larger bays are lakes. Theories of how bays were formed are still being debated.

More birding information on Lake Waccamaw, Brunswick Town, and Boiling Spring Lakes, may be found on the Southeast section of the NC Birding Trail and Jones Lake is on the trail's Bay Lakes section: http://www.ncbirdingtrail.org/maps_coast.asp.

Have a little more time for history on the way home from Turnbull? Take NC 53 south to Elwell's Ferry Road, turn right and go the ferry landing, and then take the ferry across the Cape Fear River to NC87. It is one the last three inland ferries still operated by the state.

John Ennis



A partially-healed cat face with white stripes used to mark Red-cockaded Woodpecker trees



Foraging Red-cockaded Woodpecker



RCW cavity renovation for the new breeding season



Turnbull Creek's exhibit includes a simulated cat face with a gutter and Herty cup