

Georgia Department of Natural Resources

Wildlife Resources Division

Nongame Conservation Section
2065 U.S. Highway 278, S.E., Social Circle, Georgia 30025-4743
(770) 918-6411

Plant Vogtle Rare Plant Survey

Introduction

A rare plant survey was conducted on 13 April 2007 along the river bluffs at the proposed new water intake site and adjacent upland sandhill habitat. The nuclear power plant apparently is doubling capacity and needs an additional water intake structure from the river to the cooling towers above. The survey date was chosen especially to correspond with peak flowering of federally Endangered relict trillium (*Trillium reliquum*). This species is known from bluffs along the Savannah River north of Augusta in Columbia Co. in the Piedmont. However, since the preferred habitat of rich deciduous forest is found at Plant Vogtle, south of Augusta in Burke Co. on the Coastal Plain, a search for trilliums on the river bluffs at the Plant Vogtle facility was undertaken. I was accompanied on the survey by Georgia Power staff, including Jim Candler, Wildlife Biologist, and Department of Natural Resources botanist Mincy Moffett.

We accessed the bluff downstream from the proposed site, traveled diagonally down to the river's edge, explored the floodplain and bluffs at the intake site, and progressed northward, upstream, fairly steeply to the crest of the bluff. Following an access road along a powerline, then down once again to the floodplain, we explored bluff and floodplain habitats north of the proposed intake pipeline as well.

Results

No relict trillium was observed at this site. The habitat was similar to bluffs north of Augusta in many respects. The tree canopy and several herbaceous associates indicated good trillium habitat. The only member of the *Trillium* genus encountered was mottled trillium (*Trillium maculatum*). This is the same species with which relict trillium grows north of Augusta, but no vegetative or flowering relict trillium was observed at Plant Vogtle. Other herbaceous flora on the bluff was indicative of a moderately rich deciduous forest (see attached list). The canopy trees (see below, list of Woody Plants) were diverse. No rare plants or plants of conservation concern were observed in the area of the proposed construction.

A list of noteworthy and conspicuous plants is presented below. None of these plants represents a species of conservation concern that will be significantly impacted by this project. No federally listed or state-listed species were observed. Oconee Flame Azalea, tracked as an uncommon azalea often poached by collectors, was not observed near the construction site. It occurs at a few sites on Plant Vogtle adjacent to the construction site.

**Plants Observed at Proposed Intake Site
and Adjacent Savannah River Bluff and Sandhill Habitats
Plant Vogtle, Burke Co.**

Woody Plants

Southern Sugar Maple (*Acer floridanum*)
Red Buckeye (*Aesculus pavia*)
Mockernut Hickory (*Carya alba*)
Sand Hickory (*Carya pallida*)
Climbing Hydrangea (*Decumaria barbara*)
American Beech (*Fagus grandifolia*)
White Ash (*Fraxinus americana*)
Wild Privet (*Forestiera ligustrina*, on ledge with fossil oyster shells)
Wild Hydrangea (*Hydrangea arborescens*)
Red Mulberry (*Morus rubra*)
Hop Hornbeam (*Ostrya virginiana*)
Shortleaf Pine (*Pinus echinata*)
White Oak (*Quercus alba*)
Overcup Oak (*Quercus lyrata*, riverbank, remarkably large specimen)
Black Oak (*Quercus velutina*)
Oconee Flame Azalea (*Rhododendron flammeum*, in full bloom)
Gum Bumelia (*Sideroxylon lanuginosum*)
White Basswood (*Tilia heterophylla*)

Herbaceous Plants

Fly Poison (*Amianthemum muscaetoxicum*)
Jack-in-the-Pulpit (*Arisaema triphyllum* subsp. *triphyllum*)
Canada Ginger (*Asarum canadense*, found at base of bluff away from site)
Rattleweed (*Baptisia perfoliata*)
Longstalk Coreopsis (*Coreopsis lanceolata*)
Short Spurred Corydalis (*Corydalis flavula*, floodplain and low terrace along access road)
Sedge (several taxa, including *Carex digitalis*)

Squawroot (*Conopholis americana*)

Honewort (*Cryptotaenia canadensis*)

Wild Geranium (*Geranium maculatum*)

Woolly-white (*Hymenopappus scabiosaeus*, an unusual sandhills plant found in turkey oak woods)

Woodland Blue Phlox (*Phlox divaricata*)

Solomon's Plume (*Maianthemum racemosum*)

Wood Sorrel (*Oxalis violacea*)

Sanicle (*Sanicula gregaria*)

Early Saxifrage (*Saxifraga virginensis*, on ledge with fossil oyster shells)

Carolina Catchfly (*Silene caroliniana*)

Firepink (*Silene virginica*)

Meadow Parsnip (*Thaspium barbinode*)

Mottled Trillium (*Trillium maculatum*)

Perfoliate Bellwort (*Uvularia perfoliata*)

Atamasco Lily (*Zephyranthes atamasca*)

Golden Alexanders (*Zizia trifoliata*)

Other Plants

Southern Shield Fern (*Thelypteris kunthii*, an infrequent, but not rare, native fern found on limestone bluffs on the coastal plain; two populations observed, small one at the artesian well in the zone of construction, and a larger one among limestone boulders ca. 1 mi. downstream with Canada Ginger.)

Summary

The main reason for the Plant Vogtle survey was to look at the bluffs for rare plants and significant natural communities. There were no plants of conservation concern observed in the construction area. The bluffs were extremely fragile, steep and well developed with common wildflowers and hardwood vegetation. Some of the uplands are truly significant; there is a high component of shortleaf pine mixed with the longleaf pine in the adjacent sandhills of this region. The best sandhill vegetation, including remnant longleaf and shortleaf pine forests, will not be impacted by this project.

An unusual plant in the Aster Family was observed by me for the first time, namely, Woolly-white (*Hymenopappus scabiosaeus*). This distinctive composite is sporadic and infrequent in the sandhills of Georgia; it is not currently a plant of conservation concern.

It exemplifies some of the high quality natural diversity in the remaining sandhill habitat at Plant Vogtle. This project will not impact any federal or state-protected species, nor any of the unusual or noteworthy species observed during this survey. The better sandhill vegetation was observed well away from the path of the proposed construction.

These conclusions are based on use of the present access road to the floodplain by all construction road equipment. The bluffs are steep and fragile; no further construction roads down the bluff are anticipated. Care to prevent erosion is essential. The present access road to the floodplain was surveyed and, once again, no relict trillium was encountered.

Two additional comments warrant attention. First, there is an artesian well (a spring with a pipe) in place at the base of the bluff near or within the construction site. The well is at the base of the bluff and forms a small wetland area and intermittent stream through the floodplain. A small population of an infrequently encountered (but not rare) native fern was found near the well. The fern was identified as Southern Shield Fern or Kunth's Maiden Fern (*Thelypteris kunthii*). Second, there is a robust specimen of Overcup Oak on the bank of the Savannah River within the construction site. Avoidance of these two features during construction is highly recommended. The well or spring site, as well as the large Overcup Oak, need to be conspicuously flagged and protected during the construction phase if at all feasible. It is understood that these latter two comments are recommendations only.

Submitted: 14 June 2007

By: Tom Patrick, Botanist
Nongame Conservation Section
Wildlife Resources Division
Georgia Department of Natural Resources
2065 Hwy 278 SE
Social Circle, GA 30025
(706) 557-3032
tom_patrick@dnr.state.ga.us