



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

January 27, 2006

Mr. Dave Corlett
Progress Energy Carolinas, Inc.
Harris Nuclear Plant
P.O. Box 165
New Hill, NC 27562

Subject: License Renewal for the Harris Nuclear Plant (HNP); Wake and Chatham counties

Dear Mr. Corlett:

The Natural Heritage Program has numerous records of rare species, significant natural communities, and priority natural areas at the HNP site. Significant natural areas on the property are:

- Utley Creek Slopes, Regionally significant
- Shearon Harris Longleaf Pine Forest, Regionally significant
- Cape Fear River/Buckhorn Levees, Regionally significant
- Holleman's Crossroads Slopes, County significant
- Holleman's Crossroads Salamander Pools, County significant
- Jim Branch/Buckhorn Creek Forests, County significant

Our Program is currently working with Progress Energy to ensure protection for several of these sites through the Registry of Natural Heritage Areas. Progress Energy formerly registered a site with our Program to protect a red-cockaded woodpecker (*Picoides borealis*) colony, but the registry was terminated after all birds had vacated the site.

The HNP also fronts a portion of the Cape Fear River, whose aquatic habitat in this area is considered to be Nationally significant.

Rare species on the HNP are:

- red-cockaded woodpecker (*Picoides borealis*), Federal and State Endangered; several historic locations only
- bald eagle (*Haliaeetus leucocephalus*), Federal and State Threatened; active nest, plus foraging habitat at Harris Lake
- four-toed salamander (*Hemidactylium scutatum*), State Special Concern; might be located just off HNP

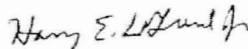
Lemmer's pinion [moth] (*Lithophane lemmeri*), State Significantly Rare
Colonial Wading Bird Colony – great blue heron nesting colony
Michaux's sumac (*Rhus michauxii*), Federal and State Endangered; transplanted
population from off-site
Virginia spiderwort (*Tradescantia virginiana*), State Significantly Rare
Lewis's heartleaf (*Hexastylis lewisii*), State Significantly Rare
buttercup phacelia (*Phacelia covillei*), State Significantly Rare and Federal Species of
Concern

Site reports for the natural areas are enclosed. A map showing the general HNP and the associated rare species and natural areas is also enclosed.

The request for data along the many and lengthy transmission lines covers numerous counties and/or quad maps and is too time-consuming for our staff to review and comment. We prefer that you obtain a data layer of Natural Heritage features (sites, element occurrences, etc.) from the N.C. Center for Geographic Information and Analysis, at <http://cgia.cgia.state.nc.us/cgia/>. You may still wish to contact our Program upon determination that a project might impact such a Natural Heritage feature.

You may wish to check the Natural Heritage Program database website at www.ncsparks.net/nhp/search.html for a listing of rare plants and animals and significant natural communities in the county and on the topographic quad map. Please do not hesitate to contact me at 919-715-8697 if you have questions or need further information.

Sincerely,



Harry E. LeGrand, Jr., Zoologist
Natural Heritage Program

Enclosures

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Wake County Natural Areas Inventory

HOLLEMANS CROSSROADS SLOPES

Site Number: 41 **Size:** about 135 acres
Site Significance: County **Quadrangles:** Cokesbury, New Hill
Ownership: Progress Energy (Carolina Power & Light Company), other private

SIGNIFICANT FEATURES: The natural area contains unusual ridges of sedimentary rocks with a mafic influence, though likely over felsic rock. There is an abundance of chalk maple (*Acer leucoderme*), which is very rare in the eastern Piedmont. The site contains a good diversity of shrubs and small trees of "mafic" character on some slopes and ridges. American lotus (*Nelumbo lutea*), a Watch List species, occurs as several stands in coves at the lake.

LANDSCAPE RELATIONSHIPS: This site lies very close – a few hundred yards – to Utley Creek Slopes and could be combined into a single large site of Regional significance. The Hollemans Crossroads Salamander Pools site lies adjacent to the southeast, along Old Avent Ferry Road (SR 1115). Across the lake to the north lies the Shearon Harris Longleaf Pine Forest. The natural area is a part of the much larger Harris Lake Wildlife Habitat site.

SITE DESCRIPTION: The Hollemans Crossroads Slopes is a narrow southwest-northeast corridor along the edge of Harris Lake. It consists of many rather narrow ridges and ravines, including some steep slopes overlooking the lake. Most of these slopes contain mature hardwood forests, over slightly acidic to nearly circumneutral soils in the Triassic Basin.

The site contains three main communities, with the most significant being Basic Oak-Hickory Forest. This type lies on dry ridges, especially near their ends overlooking the lake. The canopy is dominated by white oak (*Quercus alba*), but a variety of other oaks and hickories is present. The understory contains much white ash (*Fraxinus americana*), but chalk maple (*Acer leucoderme*) is quite common and is the indicator species for this community, which lies over "shaly" soil that has a mafic character. This maple is seemingly unknown elsewhere in Wake County. The shrub layer is dominated by dense stands of downy arrowwood (*Viburnum rafinesquianum*). Mafic conditions are indicated by the presence of species such as bigleaf snowbell (*Styrax grandifolia*) and the near lack of ericads. There are very few herbs.

Slopes more to the southwest, toward New Hill - Holleman Road (SR 1127), are covered in Dry Oak-Hickory Forest. White oak again is the dominant tree. Scarlet oak (*Q. coccinea*) is present, along with other oaks and hickories. Sourwood (*Oxydendrum arboreum*) is common in the subcanopy. The shrub layer is dense, with downy arrowwood being abundant but ericads being widespread, such as deerberry (*Vaccinium stamineum*) and dangleberry (*Gaylussacia frondosa*). Some light gaps contains various grasses.

Slopes facing the lake contain a dry subtype or variant of Mesic Mixed Hardwood Forest, which has some elements of a Heath Bluff. Though American beech (*Fagus grandifolia*) is dominant,

Wake County Natural Areas Inventory

HOLLEMANS CROSSROADS SALAMANDER POOLS

Site Number: 42
Site Significance: County
Ownership: private

Size: about 3 acres
Quadrangles: Cokesbury, New Hill

SIGNIFICANT FEATURES: This site is one of the few places in Wake County used for breeding by four-toed salamanders (*Hemidactylum scutatum*), a species of Special Concern in North Carolina. The seasonal pools also provide breeding habitat for several other species of amphibians.

LANDSCAPE RELATIONSHIPS: This site lies adjacent to two other sites – immediately southeast of Hollemans Crossroads Slopes and just southwest of Utley Creek Slopes. The area is part of the much larger Harris Lake Wildlife Habitat site.

SITE DESCRIPTION: There are two very small pools located off Old Avent Ferry Road (SR 1115), 1 mile northeast of the intersection with New Hill - Holleman Road (SR 1127), known as Hollemans Crossroads. One pool is just north of the road (by about about 10 yards), and the other is about 30 yards south of the road.

These vernal pools serve as breeding habitat for several species of amphibians. It is one of only a few places in the county where the Special Concern four-toed salamanders (*Hemidactylum scutatum*) are known to still breed. The pool just north of the road is completely lined in sphagnum moss, with portions of moss emerging above the water. It is under these protruding mats that the female salamanders deposit and attend to their eggs. The pool on the south side of the road has a much smaller amount of sphagnum and a substrate of silty soil and leaf litter. Spotted salamanders (*Ambystoma maculatum*), upland chorus frogs (*Pseudacris triseriata*), and southern leopard frogs (*Rana utricularia*) are among the other amphibian species that use this habitat.

The north pool has several standing snags and live trees rooted in the water. The canopy here consists mainly of sweetgum (*Liquidambar styraciflua*) and loblolly pine (*Pinus taeda*). The south side of the road has a greater diversity of tree species, including tuliptree (*Liriodendron tulipifera*), hickories (*Carya* spp.), and river birch (*Betula nigra*). Both pools contain emergent vegetation, primarily sedges (*Carex* sp.). Greenbrier (*Smilax rotundifolia*) is abundant along the edges of both pools. The natural community represented by these pools is unclear. The sites are formed by blocked drainage of the upper end of a south-flowing stream, with the northern pool blocked by the road and the southern pool possibly blocked by treefall or other woody debris.

PROTECTION AND MANAGEMENT: The site is owned by a private landowner – not Progress Energy -- and is unprotected. The landowner should be informed of the significance of these pools and the options available for their protection, such as a conservation easement or

NATURAL COMMUNITIES: Dry Oak-Hickory Forest, Dry-Mesic Oak-Hickory Forest, Mesic Mixed Hardwood Forest (Slope variant)

RARE PLANTS: Virginia spiderwort (*Tradescantia virginiana*)

RARE ANIMALS: Black vulture (*Coragyps atratus*)

REFERENCES:

LeGrand, H.E., Jr. 2002. Site survey report: Harris Lake – Utley Creek Slopes. N.C. Natural Heritage Program, DPR, DENR, Raleigh.

Wake County Natural Areas Inventory

JIM BRANCH/BUCKHORN CREEK FORESTS

Site Number: 44 Size: about 25 acres
Site Significance: County Quadrangle: Cokesbury
Ownership: Progress Energy (Carolina Power & Light Company), other private

SIGNIFICANT FEATURES: There are fairly rich hardwood slopes at the site, and the presence of both showy orchis (*Orchis spectabilis*) and lily-leaved twayblade (*Liparis lilifolia*) indicates rich soils. The natural area contains a nesting colony of great blue herons (*Ardea herodias*) along Jim Branch.

LANDSCAPE RELATIONSHIPS: The site is roughly 2 miles south of the Hollemans Crossroads Slopes. It is part of the Harris Lake Wildlife Habitat site that encompasses much of the southwestern corner of Wake County and extends into neighboring Chatham and Harnett counties.

SITE DESCRIPTION: The natural area consists of two separate portions – slopes along Buckhorn Creek, south of Cass Holt Road (SR 1188); and slopes and creek along Jim Branch (north of the road). Both areas have fairly rich hardwood slopes, mostly with Mesic Mixed Hardwood Forest and some Dry-Mesic Oak-Hickory Forest. Along Jim Branch is a moderate-sized colony of nesting great blue herons (*Ardea herodias*). On the site visit, about 32 nests were counted in six to seven trees, mostly in mature loblolly pines (*Pinus taeda*); this is apparently the largest known colony in the county and one of the larger ones for the eastern Piedmont.

The primary natural community at the site is Mesic Mixed Hardwood Forest. The portion along Buckhorn Creek, especially along an unnamed tributary, is of good quality. The slope facing Buckhorn Creek is somewhat of a dry example of this type. The canopy contains much American beech (*Fagus grandifolia*), along with white oak (*Quercus alba*) and white ash (*Fraxinus americana*). Hop-hornbeam (*Ostrya virginiana*) dominates the understory, but Florida maple (*Acer barbatum*) is numerous. The shrub layer is moderate, featuring dry-mesic species such as fringetree (*Chionanthus virginicus*), maple-leaved viburnum (*Viburnum acerifolium*), downy arrowwood (*V. rafinesquianum*), and pink azalea (*Rhododendron periclymenoides*). The herb layer is sparse, dominated by Christmas fern (*Polystichum acrostichoides*).

On the tributary streams, especially the one to the west, the soil is richer and herb diversity increases. Tuliptree (*Liriodendron tulipifera*) and northern red oak (*Q. rubra*) are major canopy components. Hop-hornbeam is common in the understory. The herb layer contains much Christmas fern, and broad beech fern (*Thelypteris hexagonoptera*) is locally abundant, as is hog-peanut (*Amphicarpa bracteata*). Black cohosh (*Cimicifuga racemosa*) is widespread and conspicuous, and a few showy orchis (*Orchis spectabilis*) plants are present.

