



North Carolina Department of Environment and Natural Resources
Office of Conservation, Planning, and Community Affairs

Beverly Eaves Perdue, Governor

Linda Pearsall, Director

Dee Freeman, Secretary

February 4, 2011

Mr. Patrick Davis
Sustainability Manager
Orange Water and Sewer Authority
400 Jones Ferry Road
Carrboro, NC 27510-2001

Subject: Request for review of OWASA's draft forestry management plan

Dear Mr. Davis:

Thank you for giving the NC Natural Heritage Program (NHP) the opportunity to review and provide comments on OWASA's draft Forest Management Plan. It is our understanding that OWASA's forest management plan was not developed for profit generation and NHP's recommendations focus on conservation and restoration of the natural and ecological resources on the site, rather than maximizing timber value.

In addition to identifying Significant Natural Heritage Areas (SNHA), NHP has identified Landscape/Habitat Indicator Guild core areas that are ecologically significant areas on a landscape scale. These core areas are habitat units that provide important foraging, denning, and breeding areas for animal species and also provide important connections across the landscape. In Orange County, many of the OWASA parcels fall within or close to the Dry-Wet Hardwood and Mixed Forest, Piedmont Wet-Mesic Hardwood Forest, and Piedmont Heath Bluffs core areas. These core areas serve as an important habitat connection between the Haw River and the Neuse River Basin, one of the few such connections left between these basins. Maintaining high quality forest habitat is critical for the species associated with hardwood forests and a goal for improving their function would be to allow the pine stands and old fields to succeed to mature hardwoods.

The attached map shows the Landscape/Habitat Indicator Guild core areas, SNHAs, and the OWASA parcels. The core area GIS data can be downloaded online from the Conservation Planning tool at <http://www.conservision-nc.net/>. We highly recommend the use of the Conservation Planning Tool for planning efforts because in addition to Natural Heritage data, it contains useful information on water services, forestry and agriculture lands, and other resources.

OWASA's Buckhorn Gameland (also referred to as Cane Creek Wildlife Mitigation Tract) is currently under active management and falls within the boundaries of the Turkey Hill Creek Forest Significant Natural Heritage Area (SNHA). This site is locally significant because it provides large, unbroken tracts of forest necessary for forest interior breeding birds that are adapted to these habitats.

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-715-4195 \ FAX: 919-715-3060 Internet: www.oneNCNaturally.org

An Equal Opportunity \ Affirmative Action Employer – 50% Recycled \ 10% Post Consumer Paper

One
North Carolina
Naturally

Other sections of the draft management plan listed on your website occur either entirely or partially within the Cane Creek/Crawford Mountain SNHA. These tracts include Apple Mill North, Apple Mill South, Mt. Mitchell East, Mt. Mitchell West, Teer East, and Teer West. The Cane Creek/Crawford Mountain SNHA is also locally significant for its extensive forested uplands that provide important habitat within the Cane Creek valley and a wildlife corridor connector to the Haw River system.

The Natural Heritage Program strongly supports the use of prescribed fire when and where possible, as mentioned in the management plans. Fire can promote oak regeneration, create more natural forest structure and composition, and benefit wildlife by allowing native grasses and herbs to become more abundant. Fires should be planned for low to moderate intensity. They do not need to be excluded from moist sites or bottomlands, but benefits are likely to be primarily in the drier uplands. If fire cannot be applied in some areas, mimicking one of its primary effects by understory thinning may be appropriate.

On the Buckhorn Gameland (Mitigation Tract), NHP supports hunting to reduce the deer population. However, we strongly discourage management for the purpose of increasing the deer population, such as the placement of food plots. Excessive deer populations cause harm to many plants and other animals and alter the forest structure. While hunting of quail and other species of open vegetation is not a problem, we would strongly discourage management of any of the forests to increase habitat for these species.

We do not know how abundant invasive non-native species are on these tracts. We recommend that they be assessed and that invasive species be removed or controlled wherever possible. A number of species are often present along streams. Tree-of-heaven (*Ailanthus altissima*), princess tree (*Paulownia tomentosa*), and spring silverberry (*Elaeagnus umbellata*) have become established in upland and moist forests in some places in Orange County and are of potential concern.

In regard to the forest management plan provided for Buckhorn Creek and the 17 other tracts, NHP recommends that no logging be done in the hardwood forest stands that have relatively natural composition – oak-hickory forests in the uplands, beech on moist slopes, and alluvial hardwoods along streams. As some of the most natural forests remaining in the area, they are best left to mature and recover from past use for the foreseeable future. We would recommend the same for mixed pine-hardwood forests where the hardwood component resembles the natural vegetation of the site. Any limited ecological benefit that could result from the most careful silviculture in these areas would be offset by the impact of equipment and roads needed to carry out such an operation.

In the less natural forests, such as the loblolly pine forests and any stands of inappropriate hardwoods such as sweetgum or tulip poplar in uplands, allowing natural succession to return them to a more natural state still is the best option ecologically. However, if OWASA wishes to cut timber, these areas are the best places to focus. Thinning of pines to allow development of understory hardwoods, and careful cutting to release desired hardwoods already established, would allow these areas to move to more natural condition. Replanting of loblolly pine, or clearcutting stands without desirable advanced regeneration, would only perpetuate altered conditions, disrupt the continuity of the forests, and would make future restoration more difficult. In any case of forest cutting, we promote protection of shrubs and herbs for their role in animal habitat. It is also ecologically beneficial to leave tree debris such as snags and cut logs, as they provide important animal habitat. Monitoring and control of any non-native species would be particularly important in logging areas, as this kind of disturbance often allows for rapid invasion.

If any timbering is done, we strongly encourage OWASA to implement buffer recommendations provided in the [North Carolina Wildlife Resources Commission's Guidance memorandum to address and mitigate secondary and cumulative impacts to aquatic and terrestrial wildlife resources and water quality](#) (August 2002). In particular, "the maintenance or establishment of a minimum 100-foot native forested buffer along each side of perennial streams and 50-foot native forested buffer along each side of intermittent streams and wetlands throughout the present and future service areas or

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-715-4195 \ FAX: 919-715-3060 Internet: www.oneNCNaturally.org

An Equal Opportunity \ Affirmative Action Employer – 50% Recycled \ 10% Post Consumer Paper

One
North Carolina
Naturally

the entire municipal jurisdiction (EPA 2000; Stewart et al. 2000). We additionally encourage the implementation of buffers on ephemeral streams due to the important functions that they provide as headwater streams (Alexander et al. 2000; Peterson et al. 2001)." This document is available at http://www.ncwildlife.org/Wildlife_Species_Con/documents/pg7c3_impacts.pdf

In addition to these recommendations, we would strongly support a Dedication or Registry Agreement on these tracts, which would provide further protection of the natural areas. It would place OWASA on record as intending to manage these areas for their ecological values in the long term, and would give the state an interest in helping to protect them. Should we pursue dedication or registry, it would allow NHP biologists to conduct a complete, updated survey for rare species and delineate the natural communities.

There are several other SNHAs within the vicinity of OWASA parcels including University Lake Aquatic Habitat, University Lake Slopes, McCauley Mountain, Calvander Laurel Bluff and Bottom, and Morgan Creek Bluffs. Should any impacts be proposed within these SNHAs, we would appreciate the opportunity to provide input.

NHP would be happy to provide additional review on the final management plan. Please do not hesitate to contact me at 919-715-7808 if you have questions or need further information.

Sincerely,



Laura Gadd, Natural Areas Specialist
NC Natural Heritage Program

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-715-4195 \ FAX: 919-715-3060 Internet: www.oneNCNaturally.org

An Equal Opportunity \ Affirmative Action Employer – 50% Recycled \ 10% Post Consumer Paper

One
North Carolina
Naturally