

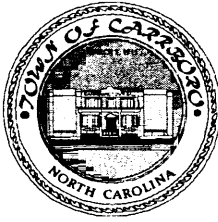
ATTACHMENT A

**A RESOLUTION ACCEPTING THE STAFF REPORT ON SILVICULTURE IN THE
UNIVERSITY LAKE WATERSHED
Resolution No. 163/2003-04**

WHEREAS, the Carrboro Board of Aldermen seeks to ensure that its existing and proposed policies and regulations are conducive to land use management that minimizes export of nutrients to Morgan Creek; and

NOW, THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that the Aldermen accept this report and request that staff develop ordinance amendments that would make silvicultural activities a permitted use in the WR zone.

This is the 1st day of June in the year 2004.



TOWN OF CARRBORO

NORTH CAROLINA

STAFF REPORT

PLANNING DEPARTMENT

DELIVERED VIA: ☐ HAND ☐ MAIL ☐ FAX ☒ EMAIL

To: Steve Stewart, Town Manager
Mayor and Board of Aldermen

From: Noah Ranells, Environmental Planner

Date: 21 May 2004

Subject: Silviculture in University Lake Watershed

Information has been compiled through communications with Orange County Forest Ranger, NC Department of Environment and Natural Resources (DENR) Division of Water Quality (DWQ) Water Resources staff, and NC DENR Division of Forest Resources (DFR) staff. Should the Board wish to take further action, staff recommends that Board adopt the resolution to direct staff to prepare a draft ordinance, set a public hearing, and refer the draft ordinance to the Planning Board, the Orange Water & Sewer Authority (OWASA) Board of Directors, Orange County, and NC DENR DWQ & DFR.

Staff evaluated information provided in the ULW Study, commissioned by OWASA and completed by Camp, Dresser, McKee (CDM) in 1989 for historical information on silviculture in the ULW (Figures 1 and 2). In addition to the OWASA study, staff also reviewed the Carrboro Water Quality Task Force Report and Recommendations that was published in November 1982.

The CDM study stressed that minimizing impervious surface was critical to managing nutrient and heavy metal loads to the ULW (Table 1). Forest, open land, and pasture contribute least to ULW nutrient loads. The CDM report stated that urban land contributes 10 to 20 times greater nutrient load and 10 to 50 times greater heavy metals compared to silvicultural land uses.

Figure 1. Orange County, Chatham County, and Carrboro ETJ portions of University Lake Watershed (Total = 19,179 acres)

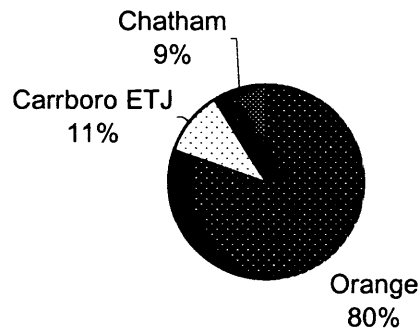


Figure 2. Land Use in 2,077-Acre portion of University Lake that is within the Carrboro ETJ

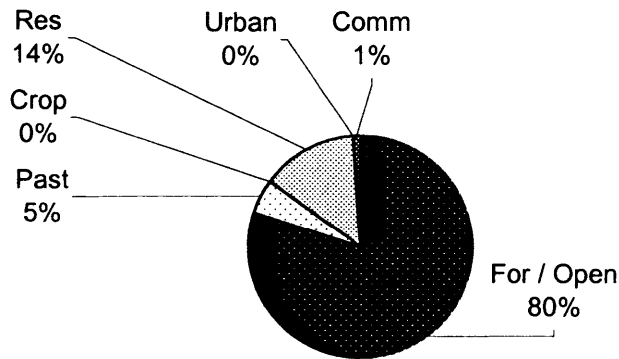


Table 1. Average Percent Impervious Values for different land uses

Land Use	Impervious Surface	Land Use	Impervious Surface
Residential		Institutional	25 %
5 acre lot single family	4%	Industrial	70 %
2 acre lot single family	6 %	Commercial / Office	90 %
1 acre lot single family	12 %	Forest / Open	0.5 %
½ acre lot single family	20 %	Agricultural	0.5 %
¼ acre lot single family	25 %		
Multifamily	45 %		

While forestry practices can be visibly unsettling at the time of harvest, the overwhelming concern from a long term environmental management perspective is minimizing nutrient and other pollutant loads to ULW. With the near-term possibility of mandatory nutrient reductions as the Jordan Lake Nutrient Management Plan develops over the next two years, it is timely that the issue of silviculture be addressed by the Board of Aldermen and consideration given to enhancing this land use in University Lake Watershed. However, effort to pursue this issue requires acknowledgement of the actual land area that would be affected by new ToC policies and / or ordinances.

Currently, the Carrboro Land Use Ordinance does not allow silviculture in the WR zone. While there is only one landowner in the ToC WR zone who has an active Forest Management Plan on a 74-acre parcel, there are 6 other landowners or landowner groups with a common last name comprising 317 acres in the WR zone with either agricultural or forestry "Use Value" designation for property tax purposes.

Forestry is a permitted use under the state's rules for water supply watersheds, even in buffers. However, additional DWQ rules for the Neuse, Tar-Pamlico, and Catawba river basins do limit the uses within riparian buffer areas. State statute does require that all loggers comply with the Forest Practice Guidelines Related to Water Quality published by the NC Department of Environment and Natural Resources.

Options under consideration

Option 1

No changes.

Option 2

While there is no definition of silvicultural operations, ToC could consider ongoing forestry and silvicultural operations as legally nonconforming uses and subject to 15-124 c.

15-124 c: Subject to Section 15-128 (authorizing the completion of nonconforming projects in certain circumstances), a nonconforming use of open land may not be extended to cover more land than was occupied by that use when it became nonconforming, except that a use that involves the removal of natural materials from the lot (e.g., a quarry) may be expanded to the boundaries of the lot where the use was established at the time it became nonconforming if ten percent or more of the earth products had already been removed at the effective date of this chapter.

In addition, while "silvicultural operations" is listed on the ToC Land Use Table (14.200), a definition for silviculture would need to be added; e.g. Silviculture: The development and / or maintenance of a forest or wooded preserve¹. ToC would need

¹ The New Illustrated Book of Development Definitions. P. 255. Harvey Moskowitz and Carl Lindbloom

to clarify degree of control available to control the activity. While there is an Orange County Forest Ranger with county responsibilities and a Water Quality Forester in the Hillsborough District office who serves 7 counties, there is no mandatory inspection of silvicultural activities. Landowners may choose to develop Forest Management Plans and be eligible for cost-share funds to assist with planting and other forest management activities sites. Acceptance of cost-share funds involve preliminary and final inspection of activities funded, however, landowners are still able to proceed with other activities not part of the cost share agreement without any oversight from DFR.

Sediment and erosion control concerns would need to be addressed given that silvicultural operations are exempt from Orange County Sediment and Erosion Control oversight. Silvicultural practices are addressed by the Forest Practices Guidelines Related to Water Quality that indicate performance standards. Current efforts by DFR to gain a more thorough understanding of best management practice (BMP) implementation are ongoing with a BMP / Water Quality survey.

The Board could add use standards and definition(s) that would apply and allow determination of nonconformity based on evidence provided. This may include 1) a Forest Management Plan developed with assistance of DFR staff and / or a consulting forester, 2) use value records with county tax assessor, or 3) individual landowner contact via a letter written to all landowners with parcels larger than 20 acres requesting that if they wish to be considered as a legal nonconforming use they must respond within a given time period to the Town of Carrboro.

Option 3

Alternatively, the board could consider the development of a new permitted use for silvicultural operations in WR zone, subject to the issuance of a conditional use permit and use standards noted in Option 2.

In addition, this option provides the most support and clarity for landowners wishing to consider or continue silvicultural activities. Furthermore, Option 3 enhances the opportunity for staff to facilitate consideration of wildlife corridors as well as rare and endangered trees and vegetative communities.

Silvicultural Guidelines for University Lake Watershed

Regardless whether a legally nonconforming option or new development of permitted use, it would be appropriate to develop standards that control several aspects of silvicultural operations, with special focus on tree harvesting events. Examples of some of the standards that could be included are provided here:

- ❖ **Buffer**
 - No cutting in buffer
- ❖ **Erosion and Sediment control**
- ❖ **Logging**
 - Selective harvesting is strongly preferred
 - Decks and sawmills will not be placed in buffer areas
 - Access roads and skid trails will be avoided in buffer areas and minimize crossing drainage ways and creeks
 - Timber felling will be directed away from the buffer area
 - No tracked vehicle in buffer areas

Next Steps

Land uses in the University Lake Watershed are currently limited. Silviculture offers a reasonable land use alternative to landowners. While the lower impervious surface of silvicultural land use is in itself beneficial, additional management strategies noted above can further ensure that water quality is maintained. It is recommended that the Board direct the staff to develop ordinance amendments that would make silvicultural operations a permitted use in the WR zone.

In the past, land use issues in the Carrboro extra-territorial jurisdiction have been shared with OWASA Board of Directors as part of ongoing courtesy review. In addition, foresters with the Orange County NC Division of Forest Resources office have indicated their sincere interest in cooperating with any possible course the Board of Aldermen chooses to pursue.

Once reviewed by local county-based partners, any changes to the ordinance provisions affecting the University Lake watershed will require review by staff of the NC Division of Water Quality (DWQ). DWQ staff must make a determination regarding the need for any further review and approval by the Environmental Management Commission. The additional review and approval procedures may lengthen the process for development of a final text amendment for the University Lake watershed.