

Jason Sullivan

From: Keith Megginson [keith.megginson@ncmail.net]
Sent: Tuesday, July 10, 2007 1:59 PM
To: 'Lynn Richardson'; jason.sullivan@ncmail.net
Subject: FW: Natural Heritage Program data and county planning

From: Alan S. Weakley [mailto:weakley@unc.edu]
Sent: Tuesday, July 10, 2007 12:46 PM
To: B.J. Copeland; Barb Ford; Chris Walker; Clyde Harris; David Klarmann; Delcenia Turner; Evelyn Cross; Jim Hinkley; Judy Sharman; Karl Ernst; Sally Kost; Warren Glick
Cc: Keith Megginson; Kevin Whiteheart; Stephen Hall; Kristen Sinclair; Allison Weakley; Connie Allred; Elaine Chiosso; Hal House; John Alderman; Mike Dunn; Raj Butalia; Sonny Keisler; Steve Wing; Tara Allden
Subject: Natural Heritage Program data and county planning

Dear Chatham County Planning Board members:

I have reviewed recent Planning and Zoning Review Notes posted on the Chatham County website and am concerned that the valuable resource of Natural Heritage Program (NHP) data is not being used to best effect in Chatham County. Portrayal of NHP information in staff recommendations suggests that there are some misunderstandings about its uses. For instance, recent staff recommendations about the "Subdivision of Barber lands" and "The Knolls at Fearington" state that "various subdivision of land have occurred in this area since this report [the 1992 Chatham County Inventory] was prepared including Big Woods Hills, The Preserve, The Legacy at Jordan Lake, and Windfall Creek," implying that the Big Woods area is therefore no longer significant. However, both tracts overlap the Big Woods Road Upland Forest Significant Natural Heritage Area, as defined and mapped currently (2007) by the Natural Heritage Program, based on recent analysis of aerial photography. The notes further state that "Staff's review of the Natural Heritage Program shows the property to potentially contain the Loggerhead Shrike, which is county wide." However, a simple online query of the Natural Heritage Program Database (<http://149.168.1.196/nhp/quad.html>) shows that other rare species are present in proximity to these two tracts and have potential to occur there, including the Carolina Ladle Crayfish and Sweet Pinesap, as well as high quality natural communities.

The county supported and provided some funding for a Natural Areas Inventory of Chatham County that was published in 1992. This document reported on the state (at that time) of the county's biodiversity elements -- rare plants, rare animals, high quality natural communities (streams, rivers, forests, etc.) by synthesizing that information into a set of Significant Natural Heritage Areas (SNHAs) that represented the "cream of the cream" of Chatham County's remaining natural landscapes.

From 1984 to 1994 I was Deputy Director of the North Carolina Natural Heritage Program and oversaw the county inventory effort, including the inventory done in Chatham County; I serve now as Chair of the Natural Heritage Advisory Committee. Several important points need to be remembered to make most effective use of Natural Heritage Program data:

1. County inventories represent a snapshot in time. The Chatham County inventory is still very useful but is dated. Some features have been destroyed, degraded, or reduced in size, new areas have been discovered and added; even the lists of biodiversity features have been upgraded based on new information over the last two decades. For instance, a rare crayfish occurring only in a several county area around Chatham, the Carolina Ladle Crayfish (*Cambarus davidi*), was scientifically recognized only in 2000, and then added to the lists of monitored rare species. *Recommendation: the county should consider funding a new or revised natural areas inventory, as has been done by other counties (such as Durham and Orange) with "old" inventories.*

2. County inventories are limited in scope and detail. In Minnesota, each county inventory costs ca. \$1,000,000 (funded with state monies), and the goal is to find and map all element occurrences and natural areas as a comprehensive planning tool for the state and county. In North Carolina, the goals and available funding have been much more modest. The 1992 Chatham County Inventory was minimally funded (costing less than \$20,000, less than 1/50th as much), and many areas with high potential were not surveyed or were surveyed only cursorily, because of limited resources and the requirement of landowner permission prior to survey. Therefore, many important natural features of the county were unknown at the time of the Inventory and many remain unknown today.

Recommendation: the absence in the Natural Heritage Program database of an Element Occurrence (EO) on a particular tract should never be considered as proof that such may not be present; ecological surveys should be conducted when initial analysis suggests that significant features may be present.

3. There are two layers of information available from the Natural Heritage Program (NHP): semi-raw data on the locations of elements of biodiversity (rare organisms and high quality terrestrial and aquatic communities), and synthesized information in the form of Significant Natural Heritage Areas (SNHAs) (recommended conservation areas), which are based on EO data and other information (such as aerial photographs, land use and ownership, and landscape ecology). These two layers are related to one another but are not duplicative – some SNHAs do not have EOs and many EOs are not included within the boundaries of a SNHA. *Recommendation: both data layers should be used by the County.*

4. The SNHA layer is the single most useful layer for county planning purposes, as it presents a synthesized assessment of the most important areas for biodiversity conservation in the county. The EO layer should also be used, for individual occurrences not included within SNHAs, and as an indicator for the need for survey for probable or possible occurrences not currently known. This requires a level of biological expertise: the presence of known EOs in geographic proximity and in similar habitats (as indicated by vegetation and soils) provide an indication of the probability that the rare species or community could be present on the subject property. For instance, the Conditional Use Permit issued in 2003 (I believe) for Westfall (Boothe Mountain) required survey for Sweet Pinesap (*Monotropis odorata*) and Mountain Witch-alder (*Fothergilla major*) prior to land-clearing activity because abundant suitable habitat was indicated by similarity of the site to nearby areas with known occurrences. *Recommendation: the professional opinions of the NHP and other trained conservation biologists should be respected and used. As stated by the NHP, the "probability of effects of a project on a SNHA depends on the nature of the species or community it contains, and on the nature of the action being considered. Interpretation of potential effects should be done only by ecologists familiar with the site using the best locational information available."*

5. New data flows into the Natural Heritage Program every year. This results in the creation of new EOs or modification of old ones, and also the creation, deletion, or modification of SNHAs. Therefore, features shown in the 1992 inventory have in many cases been updated and modified (though not comprehensively as would be done in a new inventory). *Recommendation: the most current information available should always be used by consulting the NHP, rather than referring to a document now 15 years old.*

Effective use of Natural Heritage Program information in the planning process can go a long way to maintaining the natural features and character of our county. The County can, of course, decide to approve a project that will impact natural heritage resources, but such a decision should at least be based on a considered and accurate assessment of the resources present, the likely impacts of the project on them, and the implications of those impacts for the county's future.

It would be wonderful to go beyond reactive use of NHP information in response to development proposals to affirmative conservation actions by the county to protect the most significant remaining natural areas -- truly our county's "natural heritage" which we pass on to future generations.

If you have questions or if I may be of assistance in any way, please let me know!

Sincerely,

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