STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

REPORT OF PROCEEDINGS ON THE PROPOSED RECLASSIFICATION OF A GREEN RIVER SEGMENT, INCLUDING LAKE ADGER, IN POLK COUNTY (BROAD RIVER BASIN) FROM C TO WS-IV CA AND WS-IV

PUBLIC HEARING
MARCH 27, 2014
MILL SPRING, NORTH CAROLINA

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SUMMARY AND RECOMMENDATION

SUMMARY

Polk County requested that a Green River segment, including Lake Adger, in Polk County be reclassified (request package attached as page a-2). Lake Adger is a dammed portion of the Green River, and serves as a reservoir. The reclassification is needed to construct a public water supply intake. The resulting water supply will allow Polk County to meet local water demands.

The WS-IV primary classification is assigned to waters protected as water supplies that are located generally in moderately to highly developed watersheds. The criteria and standards that must be met before waters can be classified to WS-IV are outlined in Rule 15A NCAC 2B .0104, Considerations/Assigning/Implementing Water Supply Classifications, and in Rule 15A NCAC 2B .0216, Fresh Surface Water Quality Standards for WS-IV Waters (rules attached as pages a-3 through a-11). These criteria include water supply standards and the requirement that water supply waters must be used for drinking, culinary, or food processing purposes. Additional management restrictions to prevent contamination are afforded to the Critical Area (CA) and Protected Area (PA) per these rules. A CA is the area adjacent to a water supply intake or reservoir where risk associated with pollution is greater than from the remaining portions of the watershed, and a PA is the area adjoining and upstream of the CA in a WS-IV water supply watershed in which protection measures are required. All Class C uses[1] are protected by the WS-IV classification.

For this proposed reclassification, the CA will extend approximately 0.5 mile from and draining to Lake Adger as measured from the normal pool elevation of that reservoir, and the waters in this area are to be reclassified from Class C and Class C Trout (Tr) to WS-IV CA and WS-IV CA Tr, respectively (Figure 1 on Page 2 and Table 1 on Page 3). The proposed CA includes nearly 3,154 acres around the lake**.** The proposed PA will extend approximately 5 miles from and draining to Lake Adger as measured from the normal pool elevation of that reservoir, and the waters in this area are to be reclassified from Class C and Class C Tr to WS-IV (PA) and WS-IV (PA) Tr, respectively. The proposed PA encompasses nearly 17,421 acres.

There are several tributaries to the Green River included in this reclassification proposal. Silver Creek, Ostin Creek, Rotten Creek, and Panther Creek, which are each currently Class C Tr from source to the Green River (Lake Adger), are located within the proposed PA and proposed CA; each waterbody would become WS-IV Tr CA within 0.5 mile of the reservoir's normal pool elevation, and the remainder of each waterbody would become WS-IV (PA) Tr. Rash Creek, which is currently Class C Tr from source to the Green River, and its two Class C Tr named tributaries, Brights Creek and Harm Creek, are to be entirely included within the proposed PA and, therefore, are proposed to be reclassified to WS-IV (PA) Tr.

[1] Class C uses, which are protected in all NC fresh surface waters, include aquatic life propagation, maintenance of biological integrity, fishing, wildlife, secondary recreation, agriculture and any other usages except primary recreation or as a source of water supply. Secondary recreation includes wading, boating, and other uses involving human body contact on an infrequent, unorganized, or incidental manner.

Figure 1. Proposed WS-IV Reclassification Area for Green River

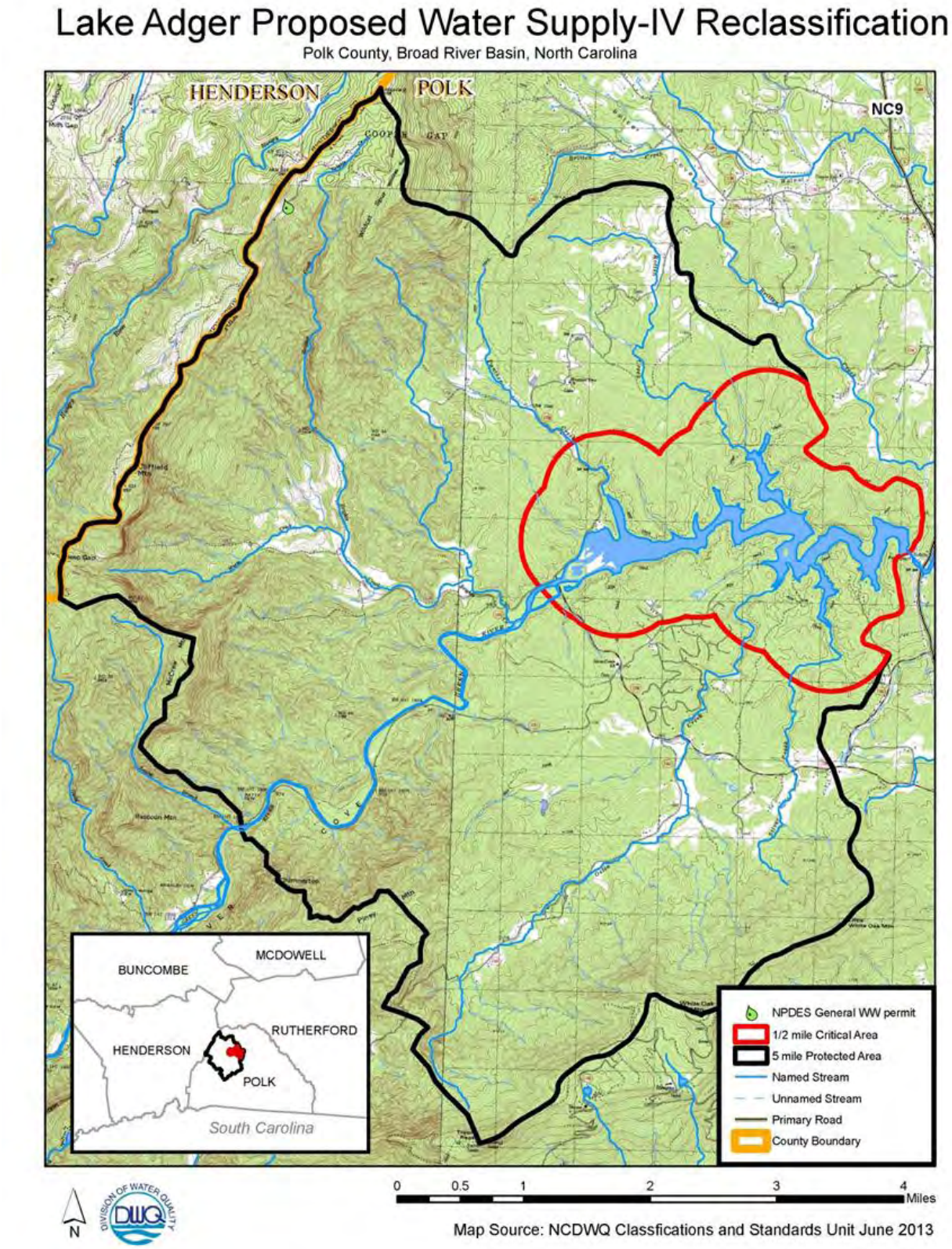

TABLE 1. PROPOSED AMENDMENT TO THE BROAD RIVER BASIN SCHEDULE OF CLASSIFICATIONS AS REFERENCED IN TITLE 15A NORTH CAROLINA ADMINISTRATIVE CODE 02B .0306				
Name of Stream	Description	Existing Class	Description of Recommended Segment	Recommended Class
Green River, including Lake Adger below elevation 913	From Cove Creek to Broad River	C	From Cove Creek to a point 300 feet downstream of Laurel Branch From a point 300 feet downstream of Laurel Branch to a point 0.35 mile downstream of Rash Creek From a point 0.35 mile downstream of Rash Creek to the dam at Lake Adger From the dam at Lake Adger to Broad River	C WS-IV WS-IV CA C
Silver Creek	From source to Lake Adger, Green River	C Tr	From source to a point approximately 0.9 miles downstream of SR1138 From a point approximately 0.9 miles downstream of SR1138 to Lake Adger, Green River	WS-IV Tr WS-IV CA Tr
Ostin Creek (Grease Creek)	From source to Lake Adger, Green River	C Tr	From source to a point approximately 1.2 miles downstream of SR1138 From a point approximately 1.2 miles downstream of SR1138 to Lake Adger, Green River	WS-IV Tr WS-IV CA Tr
Rotten Creek	From source to Lake Adger, Green River	C Tr	From source to a point approximately 1.8 miles downstream of SR1138 From a point approximately 1.8 miles downstream of SR1138 to Lake Adger, Green River	WS-IV Tr WS-IV CA Tr
Panther Creek	From source to Lake Adger, Green River	C Tr	From source to a point approximately 0.2 miles downstream of SR1138 From a point approximately 0.2 miles downstream of SR1138 to Lake Adger, Green River	WS-IV Tr WS-IV CA Tr
Rash Creek	From source to Lake Adger, Green River	C Tr	Same	WS-IV Tr
Brights Creek	From source to Rash Creek	C Tr	Same	WS-IV Tr
Harm Creek	From source to Brights Creek	C Tr	Same	WS-IV Tr

If reclassified, wastewater discharge and new development restrictions will apply throughout the proposed watershed. Other requirements, which apply only in the proposed CA, are additional treatment for new industrial process wastewater discharges as well as no new landfills and no new land application sites. There are currently no permitted wastewater discharges in the entire proposed reclassification area. In addition, according to Asheville Regional Office and local government staff, there are not any known planned land application sites or landfills in the proposed CA, and not any known planned wastewater discharges or developments in the entire proposed area. The subject watershed is a mixture of forested lands, grasslands, pasture lands, and developed properties.

Polk County is the only local government with jurisdiction in the reclassification area and will need to modify its water supply watershed protection ordinance within the required 270 days after the reclassification effective date. Given that Polk County requested the reclassification, it did not need to provide a resolution. As a reminder, the purpose of a resolution is to indicate whether or not a potentially impacted local government will implement the water supply rules within its jurisdiction once a reclassification becomes effective.

A fiscal analysis for this proposal was completed and has been approved by the NC Office of State Budget and Management (OSBM). The analysis' quantifiable results reveal a one-time cost of approximately $800 to the state and $1,600 to Polk County due to the proposal. The fiscal note with the proposed rule is attached as pages a-12 through a-19.

The project is required to complete an Environmental Assessment (EA) under the National Environmental Policy Act. A Finding of No Significant Impact (FONSI) for this project has not yet been issued but is being pursued. As a reminder, a FONSI indicates that the project, as proposed, will not result in significant impacts to the environment. Finally, the waters to be reclassified meet water supply water standards according to 2011 DWR studies (pages a-20 through a-28).

The estimated effective date of this reclassification is September 1, 2014.

Implications of the Proposed Reclassification

The protective management strategies for WS-IV watersheds are outlined in the following rules (pages a-3 through a-11):

- 15A NCAC 2B .0104 Considerations/Assigning/Implementing Water Supply Classifications
- 15A NCAC 2B .0216 Fresh Surface Water Quality Standards for WS-IV Waters

Rule 15A NCAC 2B .0104, Considerations/Assigning/Implementing Water Supply Classifications, describes regulations mainly pertaining to the responsibilities of local governments with jurisdiction in water supply watersheds, and these responsibilities involve actions concerning ordinances, engineered stormwater controls, normal pool elevation, Agricultural Cost Share Program, etc. (rule attached as pages a-3 through a-7). This regulation also addresses new, low density, high density, expanding, existing, and cluster development,

redevelopment, and variances pertaining to development in water supply watersheds. Further topics include, but are not limited to, suitability of waters for water supply classifications, critical water supply watersheds, and future water supply use, as well as groundwater remediation projects, joint water quality monitoring and information sharing programs, roads, bridges, and silviculture activities in water supply watersheds.

One of the most important aspects of the rule is that local governments that have land use jurisdiction within a water supply watershed are responsible for developing and implementing water supply watershed ordinances. Designated local governments have 270 days after the effective date of the proposed rule to develop or modify watershed protection land use ordinances to at least meet the state's minimum requirements (15A NCAC 2B .0100 and .0200). The result of this proposed reclassification will be that Polk County would be required to modify its water supply watershed protection ordinance within 270 days following the effective date of the proposed rule.

Rule 15A NCAC 2B .0216, Fresh Surface Water Quality Standards for WS-IV Waters, features regulations regarding the best usage of these waters, conditions related to best usage, and quality standards applicable to Class WS-IV waters (for sewage, industrial waste, non-process industrial wastes, or other wastes, as well as nonpoint source and stormwater pollution for the CA and PA) (rule attached as pages a-8 through a-11). The main features of the quality standards portion of this rule are described in the following paragraphs.

If reclassified, additional regulations associated with stormwater control for new development activities will be required in the proposed water supply watershed. Table 2 (on page 6) summarizes and compares the requirements of the existing and proposed classifications.

Projects located within the proposed water supply watershed and that require a state Sedimentation and Erosion Control Plan, which generally are projects disturbing one acre or more of land, will be required to comply with development density and setback requirements. More specifically, where land disturbing activities in WS-IV watersheds require a Sedimentation and Erosion Control Plan, development is limited to two dwelling units (du) per acre or 24% built upon area (low density option) in the CA and PA. For those developments without curb and gutter street systems, development may take place at up to three du/acre or 36% built upon area in the PA.

A high density option, which requires control of runoff of the first inch of rainfall though the use of engineered stormwater controls, permits development at up to 50% built upon area in the CA and 70% built upon area in the PA. Within these options there is considerable flexibility for local governments such as averaging development density.

Thirty foot stream setbacks are required with the low density option, and 100 foot setbacks are required with the high density option. State Department of Transportation (DOT) regulations for WS-IV watersheds require use of Best Management Practices (BMPs) associated with meeting the above-mentioned requirements.

In WS-IV water supply watersheds, water supply standards must be met by domestic and industrial permitted NPDES wastewater dischargers. In addition, new industrial process

wastewater discharges will have additional wastewater treatment requirements in the WS-IV CA, and no new landfills and no new land application sites are allowed in the WS-IV CA. Forestry and farming practices as well as docks and other water dependent structures, recreational use, animal operations, and dam and water resource projects will not be affected.

As mentioned above, there are no current wastewater discharges in the proposed water supply watershed. Furthermore, there are not any known planned discharges, land application sites, landfills, and developments in the proposed area that would be impacted by the proposal. The subject watershed is a mixture of forested lands, grasslands, pasture lands, and developed properties.

TABLE 2. SUMMARY AND COMPARISON OF EXISTING AND PROPOSED CLASSIFICATIONS' REQUIREMENTS

Classification	Area Affected	Low Density Development Option	High Density Development Option*	Allowable Wastewater Discharges	Landfills and Land Application Sites Allowed	DOT BMPs
Class C (Existing)	Receiving Stream	No Restrictions		Domestic and Industrial	No Specific Restrictions	No Specific BMPS Required
Class Tr (Existing)	Receiving Stream and 25' Buffer Area	No Restrictions		Domestic and Industrial (Stricter Treatment Standards)	No Specific Restrictions	Stricter NC DEMLR Erosion Controls Apply
WS-IV Critical Area (Proposed)	½ Mile and Draining to NPE of Reservoir	1 DU / 0.5 acre or 24% BUA and 30' Setbacks**	24-50% BUA and 100' Setbacks**	Domestic and Industrial (New Industrial Process Discharges Will Require Additional Treatment Requirements)	No New Landfills or Land Application Sites	Required
WS-IV Protected Area (Proposed)	5 miles and Draining to NPE of Reservoir	1 DU / 0.5 acre or 24% BUA and 30' Setbacks** Optional: 3 DU / 1.0 acre or 36% BUA w/o curb and gutter street system	24-70% BUA and 100' Setbacks** Optional: 3 DU / 1.0 acre or 36% BUA w/o curb and gutter street system	Domestic and Industrial	No Specific Restrictions	Required

NPE = Normal Pool Elevation; DU = Dwelling Unit; BUA = Built Upon Area; DEMLR = Division of Energy, Mineral and Land Resources

*High Density Option requires control of runoff from first 1" of rainfall by engineered stormwater controls. Local governments must assume ultimate responsibility for operation/maintenance of these controls in a WS-IV watershed.

** These rules apply only to projects requiring a Sedimentation and Erosion Control Plan.

Public Hearing Process and Comments Received

In accordance with North Carolina General Statutes, a public hearing was held on March 27th, 2014, in Mill Spring, North Carolina (Polk County). Notice of the proposal and hearing, including the proposed rule amendment, was published in the February 17th, 2014, *North Carolina Register* (Volume 28, Issue 16) (proposed rule amendment attached as pages a-17 through a-19).

Announcements of the public hearing (announcement attached as pages a-29 and a-30) were sent to the Water Quality Rule-Making Announcements mailing list, the Division of Water Resources Rules e-mail list, staff (including library staff) of the local government with jurisdiction over land adjacent to the waters proposed to be reclassified (Polk County), and to other persons potentially interested in the proposed reclassification, including staff of local interest groups such as the Green River Watershed Alliance, Lake Adger Property Owners Association, and Lake Adger Lake Advisory Committee , staff of environmental organizations and state agencies, and legislators within North Carolina. The public announcement and request for publication were submitted on February 21, 2014 to three local newspapers, *Tryon Daily Bulletin, Polk County News Journal, and Polk County News Citizen Advance* (newspaper request for publication attached as page a-31).

Bill Puette, a member of the Environmental Management Commission, served as hearing officer (hearing officer designation letter attached as page a-32). 38 people registered at the public hearing (list of attendees attached as page a-33**)**. Of those 38 people, 27 provided the organization they were representing: Green River Watershed Alliance, Lake Adger Lake Advisory Committee, landowner, council candidate, Lake Adger community, Odom Engineering, Pacolet Area Conservancy, Polk County Commission, retired, resident, self, Polk County Planning, Lake Adger Property Owners Association, and the Tryon Daily Bulletin.

Opening comments and slides were presented by DWR staff to provide a brief overview of the DWR classification program and detailed information about the proposed reclassification. Then public comments on the proposed reclassification were taken.

Seven individuals registered to make comments at the hearing. Two people who had registered to speak decided later not to provide verbal comments, and three people who had not registered to speak decided later to provide verbal comments. In total, eight individuals spoke. The speakers represented the Green River Watershed Alliance, a former Polk County Commission, the current Polk County Commission, residents, and landowners. Seven of the eight speakers supported the reclassification, and the remaining speaker, the current Chairman of the Polk County Commission, did not provide a stance on the proposal.

Written comments were accepted for this proposed reclassification from February 17th, 2014 through April 21st, 2014. 16 letters providing a positive position were received (letters attached as page a-34 through a-94). Nine comments, or nearly half of all comment letters received, were from people who attended the hearing, and of those nine comments, four letters (or nearly half) were from people who spoke at the hearing.

Summary of Concerns & Staff Responses

The majority of the comments contained several concerns. Each issue of concern (in *italics*) with a few comments demonstrating that concern, is provided below, and is followed by a DWR response:

1. ***Concern:*** *Drawdown will have negative impacts*
    - **"**The increase in sedimentation is an ongoing issue which has negatively impacted the environment, property values (consequent lower property tax revenues) and our ability to use the lake for boating and fishing, the reclassification would exacerbate the problem."
    - "..I am concerned with the effect of this reclassification and the subsequent water drawdown on the quality of life, emergency water supplies, and property values on our lake."
    - "…the drawdown from the operation of the power plant is not considered. This is an important factor especially during drought conditions."

    Response: The Environmental Assessment required by the state for this project and submitted by Polk County contains a Hydraulic Budget, and that budget is based on modeling that includes, but is not limited to, factors such as the current volume of the lake, the maximum drawdown, drought conditions, etc.. Furthermore, the WS-IV classification provides additional levels of protection to the subject waters for the intended use of drinking water.

2. ***Concern:*** *No need for reclassification*
    - "...all the streams supplying Lake Adger are protected trout streams. The Lakeside property is all residential and protected by covenants. There is no reason to believe the water needs any more special protection to preserve the used for drinking water in the future, should the need arise."
    - "..the overall population in Polk County is predicted to fall."
    - "…no evidence the current adequate water supply for Polk County is in any danger of failing in the near future."
    - "…many of the several developments currently underway in Polk County are financially struggling…"
    - "…(there is a) major developer who wants to secure Lake Adger as an inexpensive water source for a very large development in south Polk County."
    - "…the financial expense of a currently unnecessary additional water source leads me to the hope that this project will be held off until the need is apparent."

    Response: In order for a waterbody to be used as a permanent drinking water supply, state law mandates that the water carry a WS-I, II, II, or IV classification, irrespective of the classification that it or its tributaries carry, and regardless of the ownership of lands adjacent to it. In addition, according to the request received to reclassify these waters, this new water supply source is needed in order for Polk County to meet local water demands. Lastly, the excerpt below from the draft EA further describes the need for the proposed intake:

"A study completed by Odom & Associates Engineering in February of 2007 determined that the 50-year demand for Polk County was 8.0 MGD. The existing raw water supplies located within the county are approximately 3.3 MGD. Current supplies and uses in the County are as follows:

System	Supply	Usage Average	Maximum
BRWA Interconnect	0.6 MGD	0.11 MGD	0.15 MGD
Saluda Interconnect	0.2 MGD	0.1 MGD	0.2 MGD
Columbus	0.5 MGD	0.3 MGD	0.54 MGD
Tryon*	2 MGD	0.46 MGD	0.83 MGD

*Tryon is only legally allowed to produce water when water is overflowing the spillway from Lake Lanier.

Currently, peak day demand is 1.72 MGD. An increase in 2 MGD is expected to meet water demands for approximately 20 years provided towns within the county do not request additional supply. This project is vital in meeting Polk County's future water demand needs."

3. ***Concern:*** *No stakeholders involved*
   - "…County…has moved forward with their request…for reclassification without initiating conversations with …lake's many stakeholder groups. Decisions about policies and process related to using Lake Adger…affect us all…we would like …a formal process created and implemented that moves us forward in a collaborative way."
   - "The "County Day" meeting…at which four Polk County BOC (Board of Commission) members were present (a quorum) constituted an illegal meeting under the North Carolina Open Meetings law. Prior to the majority's sending Mr. Odom to DENR, no public vote was taken by the BOC to authorize him to do so or to authorize the BOC to request any reclassification, another violation of the Open Meetings law."

Response: Polk County officials and citizens are encouraged to participate together on this project in order to enhance communication about it.

4. ***Concern:*** *Desire more protection than WS-IV affords*
   - "I strongly favor even more stringent protection of this magnificent area for a larger portion of the watershed. Because it is far less costly to protect our most important resource – water – than to try to repair it."
   - "The difference in the quality of life and public expense from living downstream of watershed with real protection, compared to those left to fend for themselves, is too important to allow conditions to be left to chance."
   - "…a WS-IV designation will not adequately protect the waters from pollution from sedimentation; it will continue to rapidly get worse if the WS-IV designation is used. …sedimentation will increase the water processing costs… This will not only cost those on the Polk County water system more from higher water rates, but it will cost every property tax payer in Polk County more, as the water rates are insufficient to recoup any of the capital costs, or even all of the operating costs, of the system."
   - "I want to encourage the State to choose WS-III designation for the Green River, …even if it only includes Polk County, … It will be much easier to list the Green River as WS-

III now than it will be…when the real estate market is back in full swing and the development start popping up…"

- "The unique GRW (Green River Watershed) in Polk County should be classified in sections as follows (not watershed 4):-WS-1 Natural undeveloped public ownership 6450 +- Acres (38%) and Undeveloped private ownership 200 +-Acres (12%); WS-2 Predominately undeveloped private ownership 8000+- Acres (47%)…(In GRW), developed areas are generally single family residences or recreational cabins. There are no industrial facilities or landfills."
- "As upstream support in Henderson County, WS-3 low to predominately undeveloped private ownership. Henderson County may need this water in the future and should help preserve it's quality now with a WS-3."
- "…officials in Henderson County, poorly technical training and political motivation, rejected this (WS-III) concept. These resources should be protected at their highest and best use for all. Please use staff's professional technical knowledge to craft a solid watershed classification free of incompetent, political agendas."

Response: One way to put in place restrictions for the subject watershed that are greater than afforded by the WS-IV classification is via the Polk County water supply watershed ordinance. Secondly, should the EMC and subsequently Rules Review Commission (RRC) approve the proposed WS-IV reclassification, there is an opportunity for the public to request the RRC, in writing, to have the proposal go to the next legislative session; this process was outlined in the public notice (see page 1866 of http://www.oah.state.nc.us/rules/register/Volume28Issue16February172014.pdf).

5. ***Concern:*** *County does not want WS-IV restrictions*
   - "…the only reason to seek the WS-IV designation is to relieve the BOC of taking the proper actions to protect the watershed from pollution…It's clear the Board of Commissioners is afraid to take those steps. Indeed, Commission Vice Chair Michael Gage expressly stated that he does not want to place any restriction on "my people" in the Green River watershed."
   - "I have concerns about a reclassification that appears to be moving forward without any evidence of a steadfast commitment at the County level to effectively protect what is arguably this County's most valuable nature resource."

   Response: Polk County officials understand that the only local government that has land use within the proposed water supply watershed is Polk County, and thus, should the WS-IV reclassification become effective, that only Polk County will be responsible for modifying and implementing its local ordinance to at least meet the state's minimum requirements associated with new development activities in the lake's WS-IV watershed.

6. ***Concern:*** *Lack of County Planning*
   - "…it would not be wise for Polk County to enter into the water business without having a clear watershed/management plan."
   - "I think reasonable drawdown regulations need to be put in place to protect Polk County and it's lake properties. …the reclassification plan would include well thought out drawdown procedures."

- "…establishing a minimum required lake level of "X" feet below full pond would address these issues. This would require cooperation between the County and Northbrook."

Response: Polk County officials and/or Northbrook Hydroelectric could establish an operational plan for the dam at Lake Adger; such a plan is not required in this case from the state, but the state has recommended that such a plan be created.

RECOMMENDATION

It is the recommendation of the Hearing Officer that the reclassification of the segment of the Green River, including Lake Adger, as proposed herein, be approved by the Environmental Management Commission. In making this recommendation, the Hearing Officer has considered the requirements of General Statutes 150B-21.2, 143-214.1, 143-215, and 143-215.3(a)(1), and Rules 15A NCAC 2B .0100 [Procedures for Assignment of Water Quality Standards, especially 15A NCAC 2B .0104 (Considerations/Assigning/Implementing Water Supply Classifications)] and 15A NCAC 2B .0216 (Fresh Surface Water Quality Standards for WS-IV Waters). In addition, the need for a new permanent intake structure to be placed in Lake Adger in order for Polk County meet water demands was considered. Furthermore, comments received by DWR were considered as well as the status of the submitted EA, which has not yet received a FONSI.

In taking this action, Rule 15A NCAC 2B .0306, which references the Schedule of Classifications for the Broad River Basin, will show that the Environmental Management Commission has revised the schedule for:

- a portion of the Green River [Index No. 9-29-(33)] (including tributaries) from the dam at Lake Adger to a point 0.35 mile downstream of Rash Creek from Class C to Class WS-IV CA. The CA extends 0.5 mile from and draining to the normal pool elevation of Lake Adger.
- a portion of the Green River [Index No. 9-29-(33)] (including tributaries) from a point 0.35 mile downstream of Rash Creek to a point 300 feet downstream of Laurel Branch from Class C to Class WS-IV. The PA extends 5.0 miles from and draining to the normal pool elevation of Lake Adger.

The proposed effective date of this reclassification is September 1, 2014.

APPENDICES

D. Marche Pittman
Interim County Manager
Beth Fehrmann
Clerk to the Board
Assistant to County Manager

Polk County
GOVERNMENT

Tom Reeder
NC Division of Water Resources
Division Director
1611 Mail Service Center
Raleigh, NC 27699-1611

Dear Mr. Reeder,

Polk County purchased Lake Adger in 2008 as a future public water source. At this time, we would like to formally request that the Division assign a WS-IV Watershed Classification to Lake Adger in order to allow us to ultimately construct a Water Treatment Plant with an intake located at the Lake Adger dam. We appreciate your assistance in this matter. Please work with David Odom, P.E. who is our consulting engineer to provide you with all necessary information to complete this process.

Sincerely,

D. M. P

D. Marche Pittman
County Manager

15A NCAC 02B .0104 CONSIDERATIONS/ASSIGNING/IMPLEMENTING WATER SUPPLY CLASSIFICATIONS

(a) In determining the suitability of waters for use as a source of water supply for drinking, culinary or food processing purposes after approved treatment, the Commission will be guided by the physical, chemical, and bacteriological maximum contaminant levels specified by Environmental Protection Agency regulations adopted pursuant to the Public Health Service Act, 42 U.S.C. 201 et seq., as amended by the Safe Drinking Water Act, 42 U.S.C. 300(f) et seq. In addition, the Commission shall be guided by the requirements for unfiltered and filtered water supplies and the maximum contaminant levels specified in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1100, .1200 and .1500 and comments provided by the Division of Environmental Health.

(b) All local governments that have land use authority within designated water supply watersheds shall adopt and enforce ordinances that at a minimum meet the requirements of G.S. 143-214.5 and this Subchapter. The Commission shall approve local water supply protection programs if it determines that the requirements of the local program equal or exceed the minimum statewide water supply watershed management requirements adopted pursuant to this Section. Local governments may adopt and enforce more stringent controls. Local management programs and modifications to these programs must be approved by the Commission and shall be kept on file by the Division of Environmental Management, Division of Environmental Health and the Division of Community Assistance.

(c) All waters used for water supply purposes or intended for future water supply use shall be classified to the most appropriate water supply classification as determined by the Commission. Water supplies may be reclassified to a more or less protective water supply classification on a case-by-case basis through the rule-making process. A more protective water supply classification may be applied to existing water supply watersheds after receipt of a resolution from all local governments having land use jurisdiction within the designated water supply watershed requesting a more protective water supply classification. Local government(s) requesting the Future Water Supply classification must provide to the Division evidence of intent which may include one or a combination of the following: capital improvement plans, a Water Supply Plan as described in G.S. 143-355(l), bond issuance for the water treatment plant or land acquisition records. A 1:24,000 scale USGS topographical map delineating the location of the intended water supply intake is also required. Requirements for activities administered by the State of North Carolina, such as the issuance of permits for landfills, NPDES wastewater discharges, land application of residuals and road construction activities shall be effective upon reclassification for future water supply use. The requirements shall apply to the critical area and balance of the watershed or protected area as appropriate. Upon receipt of the final approval letter from the Division of Environmental Health for construction of the water treatment plant and water supply intake, the Commission shall initiate rule-making to modify the Future Water Supply supplemental classification. Local government implementation is not required until 270 days after the Commission has modified the Future Water Supply (FWS) supplemental classification through the rule-making process and notified the affected local government(s) that the appropriate local government land use requirements applicable for the water supply classifications are to be adopted, implemented and submitted to the Commission for approval. Local governments may also adopt land use ordinances that meet or exceed the state's minimum requirements for water supply watershed protection prior to the end of the 270 day deadline. The requirements for FWS may also be applied to waters formerly used for drinking water supply purposes, and currently classified for water supply use, at the request of local government(s) desiring protection of the watershed for future water supply use.

(d) In considering the reclassification of waters for water supply purposes, the Commission shall take into consideration the relative proximity, quantity, composition, natural dilution and diminution of potential sources of pollution to determine that risks posed by all significant pollutants are adequately considered.

(e) For the purposes of implementing the water supply watershed protection rules (15A NCAC 2B .0100, .0200 and .0300) and the requirements of G.S. 143-214.5, the following schedule of implementation shall be applicable:

August 3, 1992 - Activities administered by the State of North Carolina, such as the issuance of permits for landfills, NPDES wastewater discharges, and land application of sludge/residuals, and road construction activities, shall become effective regardless of the deadlines for municipal and county water supply watershed protection ordinance adoptions;

By July 1, 1993 - Affected municipalities with a population greater than 5,000 shall adopt and submit the appropriate drinking water supply protection, maps and ordinances that meet or exceed the minimum management requirements of these Rules;

By October 1, 1993 - Affected municipalities with a population less than 5,000 shall adopt and submit the appropriate drinking water supply protection, maps and ordinances that meet or exceed the minimum management requirements of these Rules;

By January 1, 1994 -Affected county governments shall adopt and submit the appropriate drinking water supply protection, maps and ordinances that meet or exceed the minimum management requirements of these Rules.

Affected local government drinking water supply protection ordinances shall become effective on or before these dates. Local governments may choose to adopt, implement and enforce these provisions prior to this date. Three copies of the adopted and effective relevant ordinances shall be sent to the Division along with a cover letter from the municipal or county attorney, or its designated legal counsel, stating that the local government drinking water supply protection ordinances shall meet or exceed the rules in 15A NCAC 2B .0100, .0200 and .0300. If the rules in 15A NCAC 2B .0100, .0200 and .0300 are revised, the Division shall modify and distribute to local governments, as appropriate, a revised model ordinance. The Division shall approve the amended local maps and ordinances, or request the Commission to take appropriate action under G.S. 143-214.5.

(f) Wherever in this Subchapter it is provided that local governments assume responsibility for operation and maintenance of engineered stormwater control(s), this shall be construed to require responsible local governments to inspect such controls at least once per year, to determine whether the controls are performing as designed and intended. Records of inspections shall be maintained on forms supplied by the Division. Local governments may require payment of reasonable inspection fees by entities which own the controls, as authorized by law. In the event inspection shows that a control is not performing adequately, the local government shall order the owning entity to take corrective actions. If the entity fails to take sufficient corrective actions, the local government may impose civil penalties and pursue other available remedies in accordance with the law. The availability of new engineered stormwater controls as an alternative to lower development density and other measures under the provisions of this Subchapter and local ordinances approved by the Commission shall be conditioned on the posting of adequate financial assurance, in the form of a cash deposit or bond made payable to the responsible local government, or other acceptable security. The establishment of a stormwater utility by the responsible local government shall be deemed adequate financial assurance. The purpose of the required financial assurance is to assure that maintenance, repairs or reconstruction necessary for adequate performance of the controls may be made by the owning entity or the local government which may choose to assume ownership and maintenance responsibility.

(g) Where higher density developments are allowed, stormwater control systems must use wet detention ponds as described in 15A NCAC 2H .1003(g)(2), (g)(3), (i), (j), (k), and (l). Alternative stormwater management systems consisting of other treatment options, or a combination of treatment options, may be approved by the Director. The design criteria for approval shall be 85 percent average annual removal of Total Suspended Solids. Also the discharge rate shall meet one of the following criteria:

(1) the discharge rate following the 1-inch design storm shall be such that the runoff draws down to the pre-storm design stage within five days, but not less than two days; or

(2) the post development peak discharge rate shall equal the predevelopment rate for the 1-year, 24-hour storm.

(h) Where no practicable alternative exists, discharge from groundwater remediation projects addressing water quality problems shall be allowed in accordance with other applicable requirements in all water supply classifications.

(i) To further the cooperative nature of the water supply watershed management and protection program provided for herein, local governments with jurisdiction over portions of classified watersheds and local governments which derive their water supply from within such watersheds are encouraged to establish joint water quality monitoring and information sharing programs, by interlocal agreement or otherwise. Such cooperative programs shall be established in consultation with the Division.

(j) Where no practicable alternative exists other than surface water discharge, previously unknown existing unpermitted wastewater discharges shall incorporate the best possible technology treatment as deemed appropriate by the Division.

(k) The Commission may designate water supply watersheds or portions thereof as critical water supply watersheds pursuant to G.S. 143-214.5(b).

(l) A more protective classification may be allowed by the Commission although minor occurrences of nonconforming activities are present prior to reclassification. When the Commission allows a more protective classification, expansions of existing wastewater discharges that otherwise would have been prohibited may be allowed if there is no increase in permitted pollutant loading; other discharges of treated wastewater existing at the time of reclassification may be required to meet more stringent effluent limitations as determined by the Division. Consideration of all practicable alternatives to surface water discharge must be documented.

(m) The construction of new roads and bridges and non-residential development shall minimize built-upon area, divert stormwater away from surface water supply waters as much as possible, and employ best management practices (BMPs)

to minimize water quality impacts. To the extent practicable, the construction of new roads in the critical area shall be avoided. The Department of Transportation shall use BMPs as outlined in their document entitled "Best Management Practices for the Protection of Surface Waters" which is hereby incorporated by reference including all subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Environmental Management, Water Quality Planning Branch, 512 North Salisbury Street, Raleigh, North Carolina.

(n) Activities within water supply watersheds are also governed by the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1100, .1200 and .1500. Proposed expansions of treated wastewater discharges to water supply waters must be approved by the Division of Environmental Health.

(o) Local governments shall correctly delineate the approximate normal pool elevation for backwaters of water supply reservoirs for the purposes of determining the critical and protected area boundaries as appropriate. Local governments must submit to the Division a 1:24,000 scale U.S.G.S. topographic map which shows the local government's corporate and extraterritorial jurisdiction boundaries, the Commission's adopted critical and protected area boundaries, as well as the local government's interpreted critical and protected area boundaries. All revisions (expansions or deletions) to these areas must be submitted to the Division and approved by the Commission prior to local government revision.

(p) Local governments shall encourage participation in the Agricultural Cost Share Program. The Soil and Water Conservation Commission is the designated management agency responsible for implementing the provisions of the rules in 15A NCAC 2H .0200 pertaining to agricultural activities. Agricultural activities are subject to the provisions of the Food Security Act of 1985 and the Food, Agriculture, Conservation and Trade Act of 1990 (Public Law 101-624) and 15A NCAC 2H .0217). The following shall be required within WS-I watersheds and the critical areas of WS-II, WS-III and WS-IV watersheds:

(1) Agricultural activities conducted after January 1, 1993 shall maintain a minimum 10 foot vegetated buffer, or equivalent control as determined by the Soil and Water Conservation Commission, along all perennial waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies; and

(2) Animal operation deemed permitted and permitted under 15A NCAC 2H .0217 are allowed in all classified water supply watersheds.

(q) Existing development is not subject to the requirements of these Rules. Redevelopment is allowed if the rebuilding activity does not have a net increase in built-upon area or provides equal or greater stormwater control than the previous development, except that there are no restrictions on single family residential redevelopment. Expansions to structures classified as existing development must meet the requirements of the rules in 15A NCAC 2B .0100, .0200 and .0300; however, the built-upon area of the existing development is not required to be included in the density calculations. Expansions to structures other than existing development must meet the density requirements of these Rules for the entire project site. If a nonconforming lot of record is not contiguous to any other lot owned by the same party, then that lot of record shall not be subject to the development restrictions of these Rules if it is developed for single-family residential purposes. Local governments may, however, require the combination of contiguous nonconforming lots of record owned by the same party in order to establish a lot or lots that meet or nearly meet the development restrictions of the rules under 15A NCAC 2B. Any lot or parcel created as part of a family subdivision after the effective date of these Rules shall be exempt from these Rules if it is developed for one single-family detached residence and if it is exempt from local subdivision regulation. Any lot or parcel created as part of any other type of subdivision that is exempt from a local subdivision ordinance shall be subject to the land use requirements (including impervious surface requirements) of these Rules, except that such a lot or parcel must meet the minimum buffer requirements to the maximum extent practicable. Local governments may also apply more stringent controls relating to determining existing development, redevelopment or expansions.

(r) Development activities may be granted minor variances by local governments utilizing the procedures of G.S. 153A Article 18, or G.S. 160A, Article 19. A description of each project receiving a variance and the reason for granting the variance shall be submitted to the Commission on an annual basis by January 1. For all proposed major and minor variances from the minimum statewide watershed protection rules, the local Watershed Review Board shall make findings of fact showing that:

(1) there are practical difficulties or unnecessary hardships that prevent compliance with the strict letter of the ordinance;

(2) the variance is in harmony with the general purpose and intent of the local watershed protection ordinance and preserves its spirit; and

(3) in granting the variance, the public safety and welfare have been assured and substantial justice has been done.

The local Watershed Review Board may attach conditions to the major or minor variance approval that support the purpose of the local watershed protection ordinance. If the variance request qualifies as a major variance, and the local Watershed Review Board decides in favor of granting the major variance, the Board shall then prepare a preliminary record of the hearing and submit it to the Commission for review and approval. If the Commission approves the major variance or approves with conditions or stipulations added, then the Commission shall prepare a Commission decision which authorizes the local Watershed Review Board to issue a final decision which would include any conditions or stipulations added by the Commission. If the Commission denies the major variance, then the Commission shall prepare a Commission decision to be sent to the local Watershed Review Board. The local Watershed Review Board shall prepare a final decision denying the major variance. For all proposed major and minor variances the local government considering or requesting the variance shall notify and allow a reasonable comment period for all other local governments having jurisdiction within the watershed area governed by these Rules and the entity using the water supply for consumption. Appeals from the local government decision on a major or minor variance request are made on certiorari to the local Superior Court. Appeals from the Commission decision on a major variance request are made on judicial review to Superior Court. When local ordinances are more stringent than the state's minimum water supply protection rules a variance to the local government's ordinance is not considered a major variance as long as the result of the variance is not less stringent than the state's minimum requirements.

(s) Cluster development is allowed on a project-by-project basis as follows:

(1) Overall density of the project meets associated density or stormwater control requirements under 15A NCAC 2B .0200;

(2) Buffers meet the minimum statewide water supply watershed protection requirements;

(3) Built-upon areas are designed and located to minimize stormwater runoff impact to the receiving waters, minimize concentrated stormwater flow, maximize the use of sheet flow through vegetated areas, and maximize the flow length through vegetated areas;

(4) Areas of concentrated density development are located in upland areas and away, to the maximum extent practicable, from surface waters and drainageways;

(5) Remainder of tract to remain in vegetated or natural state;

(6) The area in the vegetated or natural state may be conveyed to a property owners association; a local government for preservation as a park or greenway; a conservation organization; or placed in a permanent conservation or farmland preservation easement. A maintenance agreement shall be filed with the property deeds; and

(7) Cluster developments that meet the applicable low density requirements shall transport stormwater runoff by vegetated conveyances to the maximum extent practicable.

(t) Local governments may administer oversight of future development activities in single family residential developments that exceed the applicable low density requirements by tracking dwelling units rather than percentage built-upon area, as long as the wet detention pond or other approved stormwater control system is sized to capture and treat runoff from all pervious and built-upon surfaces shown on the development plan and any off-site drainage from pervious and built-upon surfaces, and when an additional safety factor of 15 percent of built-upon area of the project site is figured in.

(u) All new development shall meet the development requirements on a project-by-project basis except local governments may submit ordinances and ordinance revisions which use density or built-upon area criteria averaged throughout the local government's watershed jurisdiction instead of on a project-by-project basis within the watershed. Prior to approval of the ordinance or amendment, the local government must demonstrate to the Commission that the provisions as averaged meet or exceed the statewide minimum requirements, and that a mechanism exists to ensure the orderly and planned distribution of development potential throughout the watershed jurisdiction.

(v) Silviculture activities are subject to the provisions of the Forest Practices Guidelines Related to Water Quality (15A NCAC 1I .0101 - .0209). The Division of Forest Resources is the designated management agency responsible for implementing the provisions of the rules in 15A NCAC 2B .0200 pertaining to silviculture activities.

(w) Local governments shall, as the existing laws allow, develop, implement, and enforce comprehensive nonpoint source and stormwater discharge control programs to reduce water pollution from activities within water supply watersheds such as development, forestry, landfills, mining, on-site sanitary sewage systems which utilize ground adsorption, toxic and hazardous materials, transportation, and water based recreation.

(x) When the Commission assumes a local water supply protection program as specified under G.S. 143-214.5(e) all local permits authorizing construction and development activities as regulated by the statewide minimum water supply watershed protection rules of this Subchapter must be approved by the Commission prior to local government issuance.
(y) In the event that stormwater management systems or facilities may impact existing waters or wetlands of the United States, the Clean Water Act requires that these systems or facilities be consistent with all federal and state requirements.
(z) A model local water supply watershed management and protection ordinance, as approved by the Commission in accordance with G.S. 143-214.5, is on file with the Office of Administrative Hearings and may be obtained by writing to: Water Quality Planning Branch, Division of Environmental Management, Post Office Box 29535, Raleigh, North Carolina 27626-0535.
(aa) The Commission may delegate such matters as variance approval, extension of deadlines for submission of corrected ordinances and assessment of civil penalties to the Director.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. February 1, 1976;
Amended Eff. August 1, 1995; August 3, 1992; March 1, 1991; October 1, 1989.

15A NCAC 02B .0216 FRESH SURFACE WATER QUALITY STANDARDS FOR WS-IV WATERS

The following water quality standards apply to surface water supply waters that are classified WS-IV. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section also apply to Class WS-IV waters.

(1) The best usage of WS-IV waters are as follows: a source of water supply for drinking, culinary, or food-processing purposes for those users where a more protective WS-I, WS-II or WS-III classification is not feasible and any other best usage specified for Class C waters;

(2) The conditions related to the best usage are as follows: waters of this class are protected as water supplies which are generally in moderately to highly developed watersheds or protected areas and meet average watershed development density levels as specified in Sub-Items (3)(b)(i)(A), (3)(b)(i)(B), (3)(b)(ii)(A) and (3)(b)(ii)(B) of this Rule; discharges which qualify for a General Permit pursuant to 15A NCAC 02H .0127, trout farm discharges, recycle (closed loop) systems that only discharge in response to 10-year storm events, other stormwater discharges and domestic wastewater discharges shall be allowed in the protected and critical areas; treated industrial wastewater discharges are allowed in the protected and critical areas; however, new industrial wastewater discharges in the critical area shall be required to meet the provisions of 15A NCAC 02B .0224(1)(b)(iv), (v) and (vii), and 15A NCAC 02B .0203; new industrial connections and expansions to existing municipal discharges with a pretreatment program pursuant to 15A NCAC 02H .0904 are allowed; the waters, following treatment required by the Division of Environmental Health, shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, or food-processing purposes which are specified in the national drinking water regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500. Sources of water pollution which preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard. The Class WS-II or WS-III classifications may be used to protect portions of Class WS-IV water supplies. For reclassifications of these portions of WS-IV water supplies occurring after the July 1, 1992 statewide reclassification, the more protective classification requested by local governments shall be considered by the Commission when all local governments having jurisdiction in the affected area(s) have adopted a resolution and the appropriate ordinances to protect the watershed or the Commission acts to protect a watershed when one or more local governments has failed to adopt necessary protection measures;

(3) Quality standards applicable to Class WS-IV Waters are as follows:

(a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be allowed except for those specified in Item (2) of this Rule and Rule .0104 of this Subchapter and none shall be allowed that shall have an adverse effect on human health or that are not effectively treated to the satisfaction of the Commission and in accordance with the requirements of the Division of Environmental Health, North Carolina Department of Environment and Natural Resources. Any discharges or industrial users subject to pretreatment standards may be required by the Commission to disclose all chemical constituents present or potentially present in their wastes and chemicals which could be spilled or be present in runoff from their facility which may have an adverse impact on downstream water supplies. These facilities may be required to have spill and treatment failure control plans as well as perform special monitoring for toxic substances;

(b) Nonpoint Source and Stormwater Pollution: none shall be allowed that would adversely impact the waters for use as water supply or any other designated use.

(i) Nonpoint Source and Stormwater Pollution Control Criteria For Entire Watershed or Protected Area:

(A) Low Density Option: development activities which require a Sedimentation/Erosion Control Plan in accordance with 15A NCAC 4 established by the North Carolina Sedimentation Control Commission or approved local government programs as delegated by the Sedimentation Control Commission shall be limited to no more than either: two dwelling units of single family detached development per acre (or 20,000 square foot lot excluding roadway right-of-way) or 24 percent built-upon on area for all other residential and non-residential development; or three dwelling units per acre or 36 percent built-upon area for projects without curb and gutter street systems in the protected area outside of the critical area; stormwater

runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable;

(B) High Density Option: if new development activities which require a Sedimentation/Erosion Control Plan exceed the low density requirements of Sub-Item (3)(b)(i)(A) of this Rule then development shall control the runoff from the first inch of rainfall; new residential and non-residential development shall not exceed 70 percent built-upon area;

(C) Land within the critical and protected area shall be deemed compliant with the density requirements if the following condition is met: the density of all existing development at the time of reclassification does not exceed the density requirement when densities are averaged throughout the entire area;

(D) Cluster development shall be allowed on a project-by-project basis as follows:

(I) overall density of the project meets associated density or stormwater control requirements of this Rule;

(II) buffers meet the minimum statewide water supply watershed protection requirements;

(III) built-upon areas are designed and located to minimize stormwater runoff impact to the receiving waters, minimize concentrated stormwater flow, maximize the use of sheet flow through vegetated areas, and maximize the flow length through vegetated areas;

(IV) areas of concentrated development are located in upland areas and away, to the maximum extent practicable, from surface waters and drainageways;

(V) remainder of tract to remain in vegetated or natural state;

(VI) area in the vegetated or natural state may be conveyed to a property owners association, a local government for preservation as a park or greenway, a conservation organization, or placed in a permanent conservation or farmland preservation easement;

(VII) a maintenance agreement for the vegetated or natural area shall be filed with the Register of Deeds; and

(VIII) cluster development that meets the applicable low density option requirements shall transport stormwater runoff from the development by vegetated conveyances to the maximum extent practicable;

(E) If local governments choose the high density development option which requires engineered stormwater controls, then they shall assume ultimate responsibility for operation and maintenance of the required controls as outlined in Rule .0104 of this Subchapter;

(F) Minimum 100 foot vegetative buffer is required for all new development activities that exceed the low density option requirements as specified in Sub-Item (3)(b)(i)(A) or Sub-Item (3)(b)(ii)(A) of this Rule, otherwise a minimum 30 foot vegetative buffer for development shall be required along all perennial waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies;

(G) No new development shall be allowed in the buffer; water dependent structures, or other structures, such as flag poles, signs and security lights, which result in only de minimus increases in impervious area and public projects such as road crossings and greenways may be allowed where no practicable alternative exists. These activities shall minimize

built-upon surface area, divert runoff away from surface waters and maximize the utilization of BMPs;

(H) For local governments that do not use the high density option, a maximum of 10 percent of each jurisdiction's portion of the watershed outside of the critical area as delineated on July 1, 1995 may be developed with new development projects and expansions to existing development of up to 70 percent built-upon surface area in addition to the new development approved in compliance with the appropriate requirements of Sub-Item (3)(b)(i)(A) of this Rule. For expansions to existing development, the existing built-upon surface area shall not be counted toward the allowed 70 percent built-upon surface area. A local government having jurisdiction within the watershed may transfer, in whole or in part, its right to the 10 percent/70 percent land area to another local government within the watershed upon submittal of a joint resolution for review by the Commission. When the designated water supply watershed area is composed of public land, such as National Forest land, local governments may count the public land acreage within the designated watershed area outside of the critical area in figuring the acreage allowed under this provision. Each project shall, to the maximum extent practicable, minimize built-upon surface area, direct stormwater runoff away from surface waters and incorporate best management practices to minimize water quality impacts;

(ii) Critical Area Nonpoint Source and Stormwater Pollution Control Criteria:

(A) Low Density Option: new development activities which require a Sedimentation/Erosion Control Plan in accordance with 15A NCAC 4 established by the North Carolina Sedimentation Control Commission or approved local government programs as delegated by the Sedimentation Control Commission shall be limited to no more than two dwelling units of single family detached development per acre (or 20,000 square foot lot excluding roadway right-of-way) or 24 percent built-upon area for all other residential and non-residential development; stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable;

(B) High Density Option: if new development density exceeds the low density requirements specified in Sub-Item (3)(b)(ii)(A) of this Rule, engineered stormwater controls shall be used to control runoff from the first inch of rainfall; new residential and non-residential development shall not exceed 50 percent built-upon area;

(C) No new permitted sites for land application of residuals or petroleum contaminated soils shall be allowed;

(D) No new landfills shall be allowed;

(c) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;

(d) Odor producing substances contained in sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances or waste, as will not cause taste and odor difficulties in water supplies which can not be corrected by treatment, impair the palatability of fish, or have a deleterious effect upon any best usage established for waters of this class;

(e) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems due to chlorinated phenols shall be allowed. Specific phenolic compounds may be given a different limit if it is demonstrated not to cause taste and odor problems and not to be detrimental to other best usage;

(f) Total hardness shall not exceed 100 mg/l as calcium carbonate;

(g) Total dissolved solids shall not exceed 500 mg/l;

(h) Toxic and other deleterious substances:

(i) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption fornon-carcinogens in Class WS-IV waters:

(A) Barium: 1.0 mg/l;
(B) Chloride: 250 mg/l;
(C) Manganese: 200 ug/l;
(D) Nickel: 25 ug/l;
(E) Nitrate nitrogen: 10.0 mg/l;
(F) 2,4-D: 100 ug/l;
(G) 2,4,5-TP (Silvex): 10 ug/l;
(H) Sulfates: 250 mg/l;

(ii) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for carcinogens in Class WS-IV waters:

(A) Aldrin: 0.05 ng/l;
(B) Arsenic: 10 ug/l;
(C) Benzene: 1.19 ug/l;
(D) Carbon tetrachloride: 0.254 ug/l;
(E) Chlordane: 0.8 ng/l;
(F) Chlorinated benzenes: 488 ug/l;
(G) DDT: 0.2 ng/l;
(H) Dieldrin: 0.05 ng/l;
(I) Dioxin: 0.000005 ng/l;
(J) Heptachlor: 0.08 ng/l;
(K) Hexachlorobutadiene: 0.44 ug/l;
(L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
(M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
(N) Tetrachloroethylene: 0.7 ug/l;
(O) Trichloroethylene: 2.5 ug/l;
(P) Vinyl Chloride: 0.025 ug/l.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. February 1, 1986;
Amended Eff. May 1, 2007; April 1, 2003; June 1, 1996; October 1, 1995; August 1, 1995; June 1, 1994.

FISCAL NOTE

Rule Citation Number: 15A NCAC 2B .0306 Broad River Basin

Rule Topic: Proposed Reclassification of Portion of the Green River from Class C to Class Water Supply-IV (WS-IV) Critical Area (CA) and WS-IV (Protected Area or PA)

DENR Division: Division of Water Resources

Staff Contact: Elizabeth Kountis, Environmental Senior Specialist, Division of Water Resources (DWR)
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Impact Summary:

State government:	Yes
Local government:	Yes
Substantial impact:	No
Federal government:	No

Authority: G.S. 143-214.5

Necessity: This proposed reclassification is necessary to ensure the supply of drinking water for Polk County, North Carolina. Under North Carolina 15A NCAC 18C .0202, "any surface water which is to receive treatment...in order to be used for a public water system shall be obtained from a source which meets the water supply stream classification standards established by the EMC...".

Summary

Polk County has requested that a portion of the Green River and its associated watershed in Polk County (Broad River Basin) be reclassified for public water supply use. The WS-IV Critical Area[1] (CA) and WS-IV [Protected Area[2] (PA)] designations would be suitable classifications for this use and these waters (see Appendix 1 for the proposed rule change text). This proposal would permit Polk County to put a new water intake in Lake Adger for use as a permanent water supply and to meet future local water demands. Lake Adger is a dammed portion of the Green River, and serves as a reservoir.

There are no current or planned wastewater discharges, landfills, land application sites, or development activities that would be affected by this proposed rule change. Polk County is the sole local government with jurisdiction in the proposed reclassification area and is willing to incur costs due to the rule change. The one-time cost to Polk County and DENR for this proposal is estimated at $1,600 and $800, respectively. The fiscal analysis of the proposed rule does not indicate that estimated annual economic impacts would meet or exceed $1,000,000 threshold for substantial economic impact. The expected effective reclassification date is September 1, 2014.

[1] Critical Area: The lands and waters 0.5 mile and draining to water supplies as measured from the normal pool elevation of a reservoir.

[2] Protected Area: The lands and waters 5 miles and draining to water supplies as measured from the normal pool elevation of a reservoir, not including the Critical Area.

I. Purpose of Rules and Background

The purpose of this rule change is to provide Polk County with a permanent source of drinking water that meets future local water demands. The waters to be reclassified meet water supply standards according to 2011 studies. A Finding of No Significant Impact (FONSI) for this project has not yet been issued but is being pursued, which would indicate that the project will not result in significant impacts to the environment. In order to obtain this finding, an Environmental Assessment (EA) (the description of direct, secondary, cumulative, long-range, and short-term impacts of projects) has been generated that presents the preferred alternative[3] (a new water supply intake in Lake Adger) to allow resource agencies and the public to determine if the preferred alternative would have significant impacts to the environment. Multiple project factors are considered in the EA, and multiple state and federal agencies are reviewing the project to determine if it can move ahead as proposed with their feedback.

The Division of Water Resources assigns all surface waters a primary classification to designate their best uses. Class C is the most basic classification for freshwater and is intended to protect the following uses: secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, and agriculture. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized, or incidental manner. Other primary classifications are assigned to protect waters for such uses as shellfishing (Class SA), drinking water supply (WS-I through WS-V), and primary recreation (B). Supplemental classifications afford additional protections and include Nutrient Sensitive Waters (NSW) and High Quality Waters (HQW).

The five drinking water supply classifications, WS-I through WS-V, reflect the variability in the types of water supply watersheds across the state. The Water Supply Watershed Protection Act (North Carolina General Statute 143-214.5) requires the Environmental Management Commission to adopt rules to protect the state's surface drinking water supply watersheds.

In order to proceed with Polk County's preferred water-supply alternative, Polk County has requested that a portion of the Green River and its associated watershed in Polk County (Broad River Basin) be reclassified for public water supply use. The WS-IV CA and WS-IV PA designations would be suitable classifications for this use and these waters (see Appendix 1 for the proposed rule change text). The CA would extend approximately 0.5 mile from and draining to Lake Adger as measured from the normal pool elevation of that reservoir. The PA would extend approximately 5 miles from and draining to Lake Adger as measured from the normal pool elevation of that reservoir. See the Guide to Freshwater Classifications Chart (PDF) for WS-IV regulations at the following website: http://portal.ncdenr.org/web/wq/ps/csu/classifications.

The costs and benefits estimated in this fiscal note represent the direct benefits and costs of the proposed reclassification, as required by North Carolina General Statutes. However, the EA for the proposed project includes many of the potential environmental impacts, financial aspects, and other relevant features and impacts of the preferred project as well as the "no-action" project alternative. This report, including relevant amendments and supporting documents, can be provided electronically upon request.

[3] The other available alternative discussed in the EA is that of taking no action, which was deemed undesirable as it leaves the County without a reliable additional water source.

II. Costs

Regulated Parties

(a) New and Existing Wastewater Discharges, Landfills and Land Application Sites

There are no existing or planned landfills, wastewater discharges, or land application sites that would be impacted by the proposed reclassification. Under state regulations, as a result of this reclassification, no new landfills or new land application sites would be allowed within a WS-IV CA, and future new wastewater discharges throughout the proposed watershed would need to meet water supply water quality standards as noted in 15A NCAC 02B .0104 (Considerations/ Assigning/ Implementing Water Supply Classifications) and .0216 (Fresh Surface Water Quality Standards for WS-IV Waters).

(b) New Development

According to NC DWR Regional office staff, as well as Cathy Ruth (County Planner/Zoning Administrator for Polk County), there are no known plans for new development in either the proposed CA or PA. Although there are no known plans for new development, future development in the proposed WS-IV area would be subject to WS-IV development restrictions (as required in rules 15A NCAC 02B .0104 and .0216), including density and stream setback requirements that are to be implemented via local ordinances.

(c) Local Governments

Polk County would be required to modify its water supply watershed ordinance within 270 days after the effective date of the proposed rule to reflect the changes in surface water classifications and resulting changes in land management requirements (i.e. density and stream setback requirements).

There are one-time costs associated with the modification of water supply watershed ordinances. These expenditures include costs for creating or revising water supply watershed protection language in ordinances, creating or changing the water supply boundaries on maps, public notification, and hearing costs. A single local government or a paid consulting firm could perform these tasks. The estimated total cost of staff time and physical materials required for these activities to Polk County is approximately $1,600 according to Cathy Ruth, County Planner/Zoning Administrator for Polk County.

(d) Department of Transportation (DOT)

This reclassification would not affect any known DOT activities in the area according to Andrew McDaniel (NC DOT Highway Stormwater Program Engineer) and David Harris (NC DOT State Roadside Erosion Control and Vegetation Management Engineer).

Implementing Agencies

(a) Division of Water Resources

The NC DWR Central office and Regional office staff would oversee the processing of the proposed rule as well as the implementation and enforcement of the requirements. DWR staff would handle administrative procedures, educational and technical assistance and rule/policy evaluations. In addition, there are DWR staff that would specifically oversee and assist local governments with watershed planning and ordinances. The Division issues permits, conducts inspections and takes enforcement actions. DWR monitors and keep records of compliance associated with their inspections and enforcement activities.

The Division of Water Resources anticipates that if this rule becomes effective, there would be a one-time opportunity cost of $800 to the state from additional tasks assigned to existing staff. This cost is to

be incurred to support notification of Polk County, and review and approval of changes to its local ordinance and map.

The cost to the state varies depending on the particular staff required to review specific types of local programs as well as the complexity of the different local programs. The formula used to estimate the cost is the following:

> One-time Cost to State = [[#tasks] X [hrs/task] X [staff cost/hr]] + [25% overhead]
>
> "Tasks" include phone calls, letters, site visits, and meetings that would be performed by state staff, and "staff cost/hr," which is based on salary information from OSBM as of July 1, 2012, includes salary, payroll taxes, retirement, and health benefits.

The one-time cost estimate of $800 can be broken down into two subtotals:

1. $680 = Cost for notification, technical assistance, reviewing local ordinances
   This is comprised of the following: [12 tasks] X [average 1.25hrs/task] X [$36.10 staff cost/hr] + [$135.38 overhead] = [$676.88], rounded up to $680.

2. $120 = Cost for updating stormwater map and website
   This cost is comprised of the following: [1 task] X [2 hrs/task] X [$47.12 staff cost/hr] + [$23.56 overhead] = $117.80, rounded up to $120.

III. Benefits

(a) Humans

Polk County's citizens will benefit from the reclassification of this river segment for use as a source of permanent potable water. Reclassifying the waters would help protect the water supply for human consumption by decreasing the risk of potential contamination via implementation of wastewater discharge and stormwater management requirements for potential future developments and discharges.

After consideration of the proposed water supply intake and the lack of possible alternative sources, Polk County determined that an intake on Lake Adger is the most appropriate option to meet the potable water needs of its local residents while protecting the environment, adhering to applicable state and federal requirements, and wisely utilizing taxpayers' money.

(b) Environment/Ecosystem

Implementation of stormwater management strategies as well as narrative and numeric water quality standards protect environmental assets and ecosystem health. The protective management criteria associated with the WS-IV classification would help to mitigate potential impacts and reduce risk from potential future discharges and development and, thus could benefit fish and wildlife and their habitats. More specifically, portions of the area proposed to be reclassified may experience decreased stormwater runoff as well as decreased water pollution, which may increase and improve aquatic habitat and, in turn, may increase propagation and survival of wildlife and fish. DWR currently does not

have adequate data and models to quantify the potential benefits associated with reductions in water pollution and stormwater runoff or increases in wildlife habitat that this rule may create.

IV. Total Costs and Benefits

The one-time cost to Polk County is estimated at $1,600, and DENR anticipates approximately $800 in one-time costs for this reclassification. The analysis of the proposed rule indicates that estimated annual economic impacts would be significantly less than $1,000,000 for the foreseeable future.

APPENDIX 1

15A NCAC 02B .0306 is proposed for amendment as follows:

15A NCAC 02B .0306 BROAD RIVER BASIN

(a) Effective February 1, 1976, the adopted classifications assigned to the waters within the Broad River Basin are set forth in the~~The~~ Broad River Basin Schedule of Classifications and Water Quality ~~Standards~~Standards, which may be inspected at the following places:

(1) the Internet at http://portal.ncdenr.org/web/wq/ps/csu/classifications; andhttp://h2o.enr.state.nc.us/csu/;and~~Clerk of Court:~~

~~Buncombe County~~

~~Cleveland County~~

~~Gaston County~~

~~Henderson County~~

~~Lincoln County~~

~~McDowell County~~

~~Polk County~~

~~Rutherford County~~

(2) North Carolina Department of Environment and Natural Resources:

(A) Mooresville Regional Office
610 East Center Avenue
Suite 301
Mooresville, North Carolina

(B) Asheville Regional Office
2090 US Highway 70
Swannanoa, North Carolina.

(b) Unnamed Streams. Such streams entering South Carolina are classified "C."

(c) The Broad River Basin Schedule of Classifications and Water Quality Standards was amended effective:

(1) March 1, 1977;

(2) February 12, 1979;

(3) August 12, 1979;

(4) April 1, 1983;

(5) February 1, ~~1986;~~ 1986.

~~(6) August 3, 1992;~~

~~(7) September 1, 1994;~~

~~(8) August 1, 1998;~~

~~(9) August 1, 2000;~~

~~(10) April 1, 2001;~~

~~(11) March 1, 2007.~~

(d) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended effective August 3, 1992 with the reclassification of all water supply waters (waters with a primary classification of WS-I, WS-II or WS-III). These waters were reclassified to WS-I, WS-II, WS-III, WS-IV or WS-V as defined in the revised water supply protection rules, (15A NCAC 02B .0100, .0200 and .0300) which became effective on August 3, 1992. In some cases, streams with primary classifications other than WS were reclassified to a WS classification due to their proximity and linkage to water supply waters. In other cases, waters were reclassified from a WS classification to an alternate appropriate primary classification after being identified as downstream of a water supply intake or identified as not being used for water supply purposes.

(e) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended effective September 1, 1994 with the reclassification of the Second Broad River [Index No. 9-41-(0.5)] from its source to Roberson Creek including associated tributaries was reclassified from Class WS-V to Classes WS-V, WS-IV and WS-IV CA.

(f) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended effective August 1, 1998 with the revision to the primary classification for portions of the Broad River [Index No. 9-(23.5)] from Class WS-IV to Class C and Second Broad River [Index Nos. 9-41-(10.5) and 9-41-(14.5)] and First Broad River [Index No. 9-50-(11)] from Class WS-IV to Class WS-V.

(g) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended August 1, 2000 with the reclassification of the Green River [Index No. 9-29-(1)], including all tributaries, from its source to its mouth in Lake Summit at elevation 2011 from Class C Tr to Class B Tr.

(h) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended effective August 1, 2000 with the reclassification of Lake Montonia [Index No. 9-54-1-(1)], and all tributaries, from Class B to Class B HQW.

(i) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended effective April 1, 2001 with the reclassification of the Green River [Index No. 9-29-(1)], including all tributaries, from its source to the downstream side of the mouth of Rock Creek from Class B Tr to Class B Tr HQW.

(j) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended effective March 1, 2007 with the reclassification of the North Fork First Broad River (Index No. 9-50-4), including all tributaries, from its source to the First Broad River from Class C Tr to Class C Tr ORW.

(k) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended effective March 1, 2007 with the reclassification of a segment of the Broad River [Index No. 9-(25.5)] from a point 0.5 mile upstream of the City of Shelby proposed water supply intake to the City of Shelby proposed water supply intake from Class C to Class WS-IV CA, and from a point 0.5 mile upstream of the City of Shelby proposed water supply intake to a point approximately 0.3 mile downstream of its confluence with Cane Creek from Class C to Class WS-IV. The City of Shelby proposed water supply intake is to be placed on the Broad River at a point approximately one mile upstream of its confluence with the First Broad River.

(l) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended effective March 1, 2007 with the reclassification of a segment of the Broad River [Index No. 9-(25.5)] from a point 0.5 mile

upstream of the Town of Forest City proposed water supply intake to the Town of Forest City proposed water supply intake from Class C to Class WS-IV CA, and from a point 0.5 mile upstream of the Town of Forest City proposed water supply intake to a point approximately 0.2 mile downstream of Rutherford County SR 1145 (Town of Rutherfordton water supply intake) from Class C to Class WS-IV. The Town of Forest City proposed water supply intake is to be placed on the Broad River at a point approximately 0.4 mile downstream of McKinney Creek.

(m) The Schedule of Classifications and Water Quality Standards for the Broad River Basin was amended effective September 1, 2014, in order to allow a water supply intake to be placed in Lake Adger by Polk County, as follows:

(1) a portion of the Green River [Index No. 9-29-(33)] (including tributaries) from the dam at Lake Adger to a point 0.35 mile downstream of Rash Creek from Class C to Class WS-IV CA. The CA extends 0.5 mile from and draining to the normal pool elevation of Lake Adger.

(2) a portion of the Green River [Index No. 9-29-(33)] (including tributaries) from a point 0.35 mile downstream of Rash Creek to a point 300 feet downstream of Laurel Branch from Class C to Class WS-IV. The PA extends 5.0 miles from and draining to the normal pool elevation of Lake Adger.

History Note: *Authority G.S. 143-214.1; 143-215.1; 143-215.3(a)(1);*
Eff. February 1, 1976;
Amended Eff. September 1, 2014; March 1, 2007; April 1, 2001; August 1, 2000; August 1, 1998; September 1, 1994; August 3, 1992; February 1, 1986; January 1, 1985.

NC Division of Water Quality
Environmental Sciences Section
April 4, 2011

Memorandum

To: Elizabeth Kountis

From: Danielle Mir

Through: Jason Green

Subject: Evaluation of Lake Adger 2010 Study Report
Polk County, proposed water resource (WS-III) for the county
(subbasin 03-08-03) 10 digit HUC 0305010501

Request: At the request of the Division of Water Quality's Classifications and Standards Unit, the Intensive Survey Unit (ISU) conducted an evaluation on Lake Adger for reclassification from Class C to Water Supply III (WS-III). Polk County has recently purchased Lake Adger to be used as a public water resource for the county and has requested help in assessing whether a WS-III classification is appropriate for the currently classified C waters.

Background:
Lake Adger is an impoundment located in the mountains of southwestern North Carolina and is currently owned by Polk County. The dam was built in 1925, and the lake is used to generate hydroelectric power and supports a sport fishery. The maximum depth is 72 feet (22 meters) with a mean depth of 26 feet (8 meters). The lake has an average residence time of 21 days and a drainage area of 346 km^2. The major tributary to the lake is the Green River and its smaller tributaries include Panther and Rotten Creeks to the north, and Ostin and Silver Creeks to the south.

Lake Adger was sampled for chemical and physical parameters in August 1989, July 1995 and June 2000 by ISU as part of the Ambient Lakes Monitoring Program. A monthly study was done by Public Water Supply and Odom Hollifield and Associates in 2007-2008, all parameters tested were below state standards except for pH (5.9) at the most upstream station in February 2008.

There are five permitted dischargers in the watershed, but they do not discharge directly into Lake Adger nor are they close to the lake. Six Oaks Complex (NC0078697) is a 20,000 GPD individual permitted NPDES discharger located upstream of Lake Summit; along the Green River there are two general permitted wastewater dischargers, South Lake Summit Road (NCG550309) allowed 450 GPD, and Tuxedo Hydroelectric located at station (NCG500110). There are two other general permitted NPDES private residences wastewater dischargers with limits of 240 GPD at 209 Kidder Lane (NCG551029) and 2864 Ridge Road (NCG550544) which are north in the watershed.

If approved, the 36" raw water intake line would be cored through the dam from the right abutment (facing upstream). The exact withdrawal would be between 10 to 15 feet below the surface.

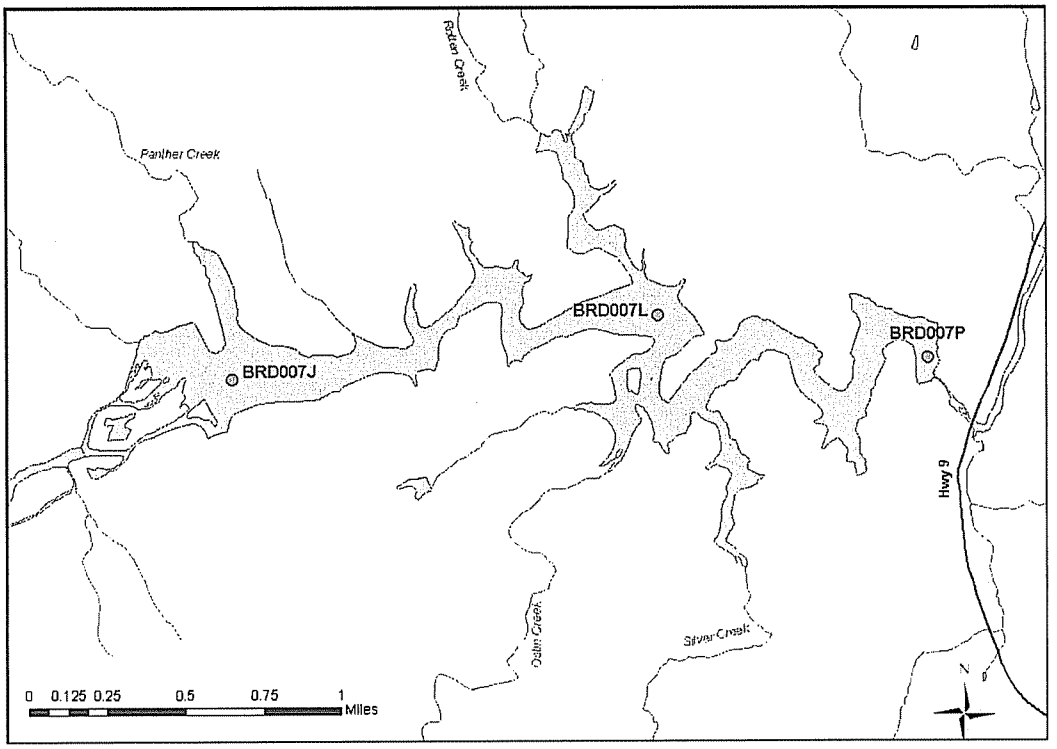
Study Design:

Lake Adger Sampling Frequency and Stations

A total of three ambient lake monitoring stations (Figure 1) were sampled by Intensive Survey Unit (ISU) five times during growing season (May through September) of 2010 with the additional Water Supply parameters. Station location and descriptions are as follows:

BRD007J	Lake Adger at mouth of Panther Creek near Sunny View, NC Latitude 35.334390; Longitude -82.227050	Polk County
BRD007L	Lake Adger at mouth of Jackson Cove near Sunny View, NC Latitude 35.337940; Longitude -82.203030	Polk County
BRD007P	Lake Adger at dam near Sunny View, NC Latitude 35.336380; Longitude -82.187760	Polk County

Figure 1. Lake Adger water quality stations.



Study Parameters

All study parameters evaluated for this project are shown on Table 1 as physical parameters, surface grab and photic zone composite sample. Physical parameters were taken as depth stratified measurements that are recorded at the surface (0.15 m), 1 m increments to a depth of 10 m, then every 5 m thereafter. The photic zone is the upper layer of the water column where there is enough light to encourage primary productivity. It is defined as a depth range from the water surface to a depth equal to two times the Secchi depth and samples are collected within this depth range. Surface grab samples were collected at 0.15 m from the surface. All samples

were analyzed at the DWQ Central laboratory except for fecal coliform, which was processed by the Asheville Regional Laboratory to avoid the sample exceeding the six hour holding time.

Table 1. Sample parameters collected from Lake Adger during 2010.

Physical Parameters	Surface Grab	Photic Zone Composite
Temperature	Fecal Coliform (at Dam -BRD007P)	Chlorophyll *a*
Dissolved Oxygen	Cyanide	Turbidity
pH	Chloride	Total Solids
Conductivity	Fluoride	Total Suspended Solids
	MBAS (Methylene-Blue-Active Sub)	Nutrients
	Phenolic Compounds	- Total P (Phosphorus)
	Sulfates	- TKN (Total Kjeldahl Nitrogen)
	Hardness	- NO_2+NO_3 (Nitrite & Nitrate)
	Metals	- NH_3 (Ammonia)
	- Barium (Ba)	
	- Cadmium (Cd)	
	- Total Chromium (Cr)	
	- Copper (Cu)	
	- Nickel (Ni)	
	- Lead (Pb)	
	- Zinc (Zn)	
	- Aluminum (Al)	
	- Calcium (Ca)	
	- Iron (Fe)	
	- Magnesium (Mg)	
	- Manganese (Mn)	
	- Total Arsenic (Ar)	
	- Mercury (Hg)	
	Organochlorine Pesticides	
	Acid Herbicides	
	Base/ Neutral/Acid Extractable Organics	
	VOA (Purgeable Organics)	

Study Results and Discussion:

Physical Parameters

Physical measurements for temperature, dissolved oxygen (DO), pH and conductivity were taken once per month during the summer (May-September) totaling to five sampling events. All measurements were taken at the surface (0.15m) and at depth in 1 m increments. Surface measurements (Table 2) are represented as the mean, median, min and max for each station for 2010. Physical parameters were measured using a Hydrolab Quanta multi-parameter meter. Meters were calibrated prior to and after each sampling event using the DWQ ISU Standard Operating Procedures for Physical and Chemical Monitoring, version 1.3. For all stations sampled, surface physical measurements had no exceedance of state standards for dissolved oxygen (DO), pH, or temperature (Table 2). Surface DO ranged from 7.2 to 9.4 mg/L, pH ranged from 7.1 to 8.5 and conductivity had values of 35 to 38 µS/cm for the entire lake in 2010. As part of the Ambient Lake Monitoring Program, the physical parameters were recorded at depth intervals of 1 m to 10 m, then in 5 m increments thereafter (Appendix A). This data shows that there were metalimnetic hypoxic conditions at the dam and mid-lake stations(BRD007P and BRD007L) from June through September starting at depths between 3 m to 7 m.

Nutrients

Nutrient concentrations for total phosphorus (TP), Total Kjeldahl Nitrogen (TKN), ammonia (NH_3) and nitrate + nitrite (NO_2+ NO_3) were collected at each of the three stations during all five sampling events (Table 3). TP ranged between 0.02- 0.04 mg/L at BRD007J, while concentrations at BRD007L and BRD007P were at/ or below detection limits (BDL). Concentrations for TKN were primarily BDL, except on 5/4/2010 and 9/1/2010 at the upstream most station (BRD007J) where concentrations were 0.2 mg/L and 0.25mg/L, respectively. Near the dam (BRD007P) TKN values were 0.2 mg/L on 6/2/2010 and 7/7/2010. Concentrations for NH_3 were consistently below or at the detection limits for all three stations during the five months. The greatest concentrations of NO_2+ NO_3 were recorded in May and June for the entire lake (all stations). Chlorophyll *a* had concentrations that ranged from 1.4 to 9.5 mg/L for the whole lake during all five sampling events. Turbidity concentrations were typically below 8.0 NTU for all stations during the study period, except at BRD007J on 5/4/2010 when the concentration was 19.0 NTU. Total solids for the entire lake were less than 56 mg/L with highest values for all stations in May, while total suspended solids were BLD except at BRD007J on 5/4/2010. Turbidity, chlorophyll *a*, and total solids were all well below state standards for Class C and Water Supply designated waters.

Fecal Coliform

Fecal coliform was collected once monthly near the dam (BRD007P), which is closest to where the proposed intake. Samples were collected during the months of May, June, August and September, with results of 0.3, 1.0, 1.0 and 5.0 CPF/100mL, respectively. This study did not collect a 5 in 30 sample (at least five consecutive samples in 30 days period) as requested by the Classification and Standards Unit.

Chemical Parameters

Surface water chemical sampling was conducted at all three stations monthly for five months, except for barium (Ba) and cyanide which were sampled May through July 2010.

Metals samples collected in Lake Adger for zinc (Zn), lead (Pb), nickel (Ni), copper (Cu), Chromium (Cr), cadmium (Cd), and arsenic (Ar) concentrations were all reported as BDL (Table 4). No differences between stations for mercury (Hg), calcium (Ca), magnesium (Mg), and Ba were found (Table 4). The upstream most station (BRD007J) had the greatest concentrations of manganese (Mn), iron (Fe), and aluminum (Al).

Surface chemical parameters collected for cyanide, fluoride, sulfate, methylene-blue-active-substance (MBAS) were all recorded as BDL (Table 5). Chloride and total harness had values that were 1.9 mg/L and 11 mg/L, respectively for all stations and these concentrations did not vary among stations or events. All metals and chemical concentrations were found to be below state standards or action levels for both Class C and Water Supply waters.

Pesticides

Chlorinated pesticide samples were collected at each station during all five months with analysis resulting in all 43 target compounds reported as non-detect (Table 7). Station BRD007P and BRD007J, had additional unidentified peaks ranging from 1 to 5 peaks. Phosphorus Based Pesticide samples for each site and event had all 21 target compounds reported as non-detect and no unidentified peaks. Nitrogen based pesticide results were reported as non-detect for all 42 targeted compounds and unidentified peaks that ranged from 1 to 7 for all three stations. Unidentified peaks are typically found in pesticide scans are not considered significant.

Acid Herbicides

Herbicide sample analysis for each station resulted in all 15 target compounds reported as non-detect with no unidentified peaks (Table 6).

Semivolatile Organics (BNA's)
Semivolatile organic samples were collected at each site during all five sampling events resulting in all 60 target compounds reported as non-detect (Table 7). On 5/19/10 at the mid-lake station BRD007L, there were 2 unidentified peaks. Unidentified peaks are found in BNA's and are not considered significant.

Volatile Organics (VOA's)
Volatile organic samples were collected at each station once monthly for five months and were analyzed for 60 targeted compounds (Table 7).

Benzene was detected at very low levels once at BRD007P (near dam) and BRD007L (mid-lake) on 7/7/10 at an estimated concentration of 0.12 µg/L and 0.14 µg/L, respectively. These values were reported with lab code "N3", meaning the values were estimated due to them being below PQL (Practical Quantitation Limit) but greater than MDL (Method Detection Limit). Toluene was detected in very low levels at BRD007L in 5/19/2010 and 7/7/2010 with an estimated concentration of 0.12 µg/L (N3). The mid-lake station also had a very low estimated concentration of chloromethane at 0.28 µg/L (N3) on 7/7/2010. The upstream most station (BRD007J) had one indentified VOA peak on 5/19/2010 with a very low estimated concentration of 0.67µg/L (N3) for carbon disulfide. Two unidentified peaks were detected at BRD007J, which are not considered to be significant.

Table 2. Basic statistics on surface physical parameters for May through September 2010.

Station	Statistics	Temp (°C)	Dissolved Oxygen (mg/L)	pH (s.u.)	Conductivity (µS/cm)
BRD007J	*Mean*	25.1	8.2	7.5	37
	Median	26.8	8.3	7.3	36
	Max	28.2	8.9	8.2	38
	Min	18.5	7.3	7.1	36
	n	5	5	5	5
BRD007L	*Mean*	26.0	8.5	8.0	36
	Median	27.1	8.8	8.0	35
	Max	28.3	9.4	8.5	38
	Min	20.6	7.3	7.5	35
	n	5	5	5	5
BRD007P	*Mean*	26.1	8.3	8.0	36
	Median	27.4	8.1	8.0	36
	Max	28.1	9.7	8.5	37
	Min	20.8	7.2	7.4	35
	n	5	5	5	5

Table 3. Mean and median on photic zone chemical concentrations for May through September 2010.

Station	Date	Secchi Depth (m)	TP (mg/L)	TKN (mg/L)	NH_3 (mg/L)	NO_2+NO_3 (mg/L)	Chl-a (mg/L)	Tot Solids (mg/L)	Sus Solids (mg/L)	Turbidity (NTU)
BRD007J	5/4/2010	0.60	0.04	0.20	<0.02	0.15	2.1	56	10	19
	6/2/2010	1.10	0.02	<0.02	<0.02	0.10	1.4	36	<6.2	7.4
	7/7/2010	1.40	<0.02	<0.02	<0.02	<0.02	7.6	38	<6.2	3.4
	8/3/2010	1.80	<0.02	<0.02	<0.02	<0.02	6.2	41	<6.2	3.8
	9/1/2010	1.80	0.02	0.25	<0.02	<0.02	5.4	44	<6.2	4
	Mean	**1.34**	**0.02**	**0.15**	**BD**	**0.06**	**4.5**	**43.0**	**n/a**	**7.5**
	Median	**1.40**	**0.02**	**0.10**	**BD**	**0.01**	**5.4**	**41.0**	**n/a**	**4.0**
BRD007L	5/4/2010	1.90	<0.02	<0.02	<0.02	0.12	3.8	50	<6.2	3.7
	6/2/2010	1.30	0.02	<0.02	<0.02	0.08	6.9	35	<6.2	6.5
	7/7/2010	2.00	<0.02	<0.02	<0.02	0.02	7.4	42	<6.2	4.6
	8/3/2010	2.20	<0.02	<0.02	0.03	0.04	4.1	34	<6.2	4.2
	9/1/2010	2.30	<0.02	<0.02	0.02	0.04	9.5	43	<6.2	3.3
	Mean	**1.94**	**n/a**	**BD**	**0.02**	**0.06**	**6.3**	**40.8**	**BD**	**4.5**
	Median	**2.00**	**n/a**	**BD**	**0.01**	**0.04**	**6.9**	**42.0**	**BD**	**4.2**
BRD007P	5/4/2010	2.30	<0.02	<0.02	<0.02	0.12	5.8	54	<12	3.5
	6/2/2010	1.50	<0.02	0.20	<0.02	0.02	7.1	35	<6.2	5.6
	7/7/2010	2.80	<0.02	0.22	<0.02	<0.02	2.5	41	<6.2	2.8
	8/3/2010	2.80	<0.02	<0.02	0.03	0.05	3.2	41	<6.2	2.1
	9/1/2010	2.30	<0.02	<0.02	<0.02	0.05	4.7	41	<6.2	2.3
	Mean	**2.34**	**BD**	**0.14**	**n/a**	**0.05**	**4.7**	**42.4**	**BD**	**3.3**
	Median	**2.30**	**BD**	**0.10**	**n/a**	**0.05**	**4.7**	**41.0**	**BD**	**2.8**

Table 4. Mean and median surface chemical concentrations for May through September 2010.

Station	Date	Cyanide (mg/L)	Flouride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	MBAS (mg/L)	Tot Hardness (mg/L)	Total Phenolics (µg/L)	Fecal Coliform (CPF/100mL)
BRD007J	9/1/2010	<0.02	<0.4	1.9	<2.0	<0.1	11.3	<10	n/a
	8/3/2010	<0.02	<0.4	2	<2.0	<0.1	11.5	11	n/a
	7/7/2010	<0.02	<0.04	1.8	<2.0	<0.1	11.3	<10	n/a
	6/2/2010	n/a	<0.4	1.9	<2.0	<0.1	11	<10	n/a
	5/19/2010	n/a	<0.4	1.9	<2.0	<0.1	10.6	<10	n/a
	Mean	***ND***	***ND***	***1.9***	***ND***	***ND***	***11.1***	n/a	***n/a***
	Median	***ND***	***ND***	***1.9***	***ND***	***ND***	***11.3***	n/a	***n/a***
BRD007L	9/1/2010	<0.02	<0.4	1.8	<2.0	<0.1	10.6	<10	n/a
	8/3/2010	<0.02	<0.4	2	<2.0	0.1	11.5	<10	n/a
	7/7/2010	<0.02	<0.4	1.8	<2.0	<0.1	11.5	<10	n/a
	6/2/2010	n/a	<0.4	1.8	<2.0	<0.1	10.6	<10	n/a
	5/19/2010	n/a	<0.4	1.9	<2.0	<0.1	10.6	10	n/a
	Mean	***ND***	***ND***	**1.9**	***ND***	***ND***	**11.0**	n/a	**n/a**
	Median	***ND***	***ND***	**1.8**	***ND***	***ND***	**10.6**	n/a	**n/a**
BRD007P	9/1/2010	<0.02	<0.4	1.9	<2.0	<0.1	10.4	<10	0.3
	8/3/2010	<0.02	<0.4	2.0	<2.0	<0.1	11.3	12	1
	7/7/2010	<0.02	<0.4	1.7	<2.0	<0.1	11.3	<10	n/a
	6/2/2010	n/a	<0.4	1.9	<2.0	<0.1	10.6	<10	1
	5/19/2010	n/a	<0.4	1.9	<2.0	<0.1	11.3	12	5
	Mean	***ND***	***ND***	***1.9***	***ND***	***ND***	***11.0***	n/a	***1.8***
	Median	***ND***	***ND***	***1.9***	***ND***	***ND***	***11.3***	n/a	***1***

Table 5. Mean and median surface metal concentrations for May through September 2010.

Station	Date	Hg (ng/L)	Zn (µg/L)	Pb (µg/L)	Ni (µg/L)	Ca (mg/L)	Cu (µg/L)	Cr (µg/L)	Cd (µg/L)	As (µg/L)	Mn (µg/L)	Mg (mg/L)	Fe (µg/L)	Al (µg/L)	Ba (µg/L)
BRD007J	9/1/2010	<1.00	<10	<10	<10	2.7	<2.0	<10	<1.0	<2.0	23	1.1	180	93	12
	8/3/2010	<1.00	<10	<10	<10	2.8	<2.0	<10	<1.0	<2.0	13	1.1	130	<50	12
	7/7/2010	<1.00	<10	<10	<10	2.7	<2.0	<10	<1.0	<2.0	19	1.1	150	66	11
	6/2/2010	<1.00	<10	<10	<10	2.6	<2.0	<10	<1.0	<2.0	27	1.1	280	200	n/a
	5/19/2010	1.08	<10	<10	<10	2.6	<2.0	<10	<1.0	<2.0	16	1	200	120	na
	Mean	***n/a***	***ND***	***ND***	***ND***	***2.7***	***ND***	***ND***	***ND***	***ND***	***20***	***1.1***	***188***	***120***	***12***
	Median	***n/a***	***ND***	***ND***	***ND***	***2.7***	***ND***	***ND***	***ND***	***ND***	***19***	***1.1***	***180***	***107***	***12***
BRD007L	9/1/2010	<1.00	<10	<10	<10	2.6	<2.0	<10	<1.0	<2.0	12	1.0	120	87	12
	8/3/2010	<1.00	<10	<10	<10	2.8	<2.0	<10	<1.0	<2.0	19	1.1	160	<50	12
	7/7/2010	<1.00	<10	<10	<10	2.8	<2.0	<10	<1.0	<2.0	11	1.1	140	84	12
	6/2/2010	<1.00	<10	<10	<10	2.6	<2.0	<10	<1.0	<2.0	15	1.0	240	150	n/a
	5/19/2010	1.02	<10	<10	<10	2.6	<2.0	<10	<1.0	<2.0	17	1.0	210	150	n/a
	Mean	***n/a***	***ND***	***ND***	***ND***	***2.7***	***ND***	***ND***	***ND***	***ND***	***15***	***1.0***	***174***	***118***	***12***
	Median	***n/a***	***ND***	***ND***	***ND***	***2.6***	***ND***	***ND***	***ND***	***ND***	***15***	***1.0***	***160***	***119***	***12***
BRD007P	9/1/2010	<1.00	<10	<10	<10	2.5	<2.0	<10	<1.0	<2.0	<10	1.0	95	69	11
	8/3/2010	<1.00	<10	<10	<10	2.7	<2.0	<10	<1.0	<2.0	<10	1.1	120	n/a	12
	7/7/2010	<1.00	<10	<10	<10	2.7	<2.0	<10	<1.0	<2.0	<10	1.1	120	81	11
	6/2/2010	<1.00	<10	<10	<10	2.6	<2.0	<10	<1.0	<2.0	12	1.0	200	130	n/a
	5/19/2010	<1.00	<10	<10	<10	2.7	<2.0	<10	<1.0	<2.0	16	1.1	180	92	n/a
	Mean	***ND***	***ND***	***ND***	***ND***	***2.6***	***ND***	***ND***	***ND***	***ND***	***14***	***1.1***	***143***	***93***	***11***
	Median	***ND***	***ND***	***ND***	***ND***	***2.7***	***ND***	***ND***	***ND***	***ND***	***14***	***1.1***	***120***	***87***	***11***

Table 6. Pesticide, semi-volatile, and volatile organics lab results for May through September 2010.

Pesticides and Organics Date (mm/dd/yy)	BRD007P Lake Adger- Near Dam	BRD007L Lake Adger - Mid Lake	BRD007J Lake Adger - Upstream of Lake
Chlorinated Pesticides	All 43 target compounds not detected (U)- for all 5 events	All 43 target compounds (U) not detected- at all 5 events	All 43 target compounds (U) not detected- at all 5 events
05/19/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
06/02/10	0 unidentified peaks detected	0 unidentified peaks detected	1 unidentified peak detected
07/07/10	0 unidentified peaks detected	0 unidentified peaks detected	5 unidentified peaks detected
08/03/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
09/01/10	5 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
Phosphorus Based Pesticides	All 21 target compounds not detected (U)- for all 5 events	All 21 target compounds not detected (U)- for all 5 events	All 21 target compounds not detected (U)- for all 5 events
05/19/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
06/02/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
07/07/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
08/03/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
09/01/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
Nitrogen Based Pesticides	All 42 target compounds not detected (U)- for all 5 events	All 42 target compounds not detected (U)- for all 5 events	All 42 target compounds not detected (U)- for all 5 events
05/19/10	3 unidentified peaks detected	0 unidentified peaks detected	3 unidentified peaks detected
06/02/10	2 unidentified peaks detected	7 unidentified peaks detected	3 unidentified peaks detected
07/07/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
08/03/10	3 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
09/01/10	0 unidentified peaks detected	0 unidentified peaks detected	1 unidentified peak detected
Acid Herbicides	All 15 target compounds not detected (U)- for all 5 events	All 15 target compounds not detected (U)- for all 5 events	All 15 target compounds not detected (U)- for all 5 events
05/19/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
06/02/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
07/07/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
08/03/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
09/01/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
Semi-volatile Organics (BNAs)	All 66 target compounds not detected (U)- for all 5 events	All 66 target compounds not detected (U)- for all 5 events	All 66 target compounds not detected (U)- for all 5 events
05/19/10	0 unidentified peaks detected	2 unidentified peaks detected	0 unidentified peaks detected
06/02/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
07/07/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
08/03/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
09/01/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
Volatile Organics (VOAs)	Not all 60 targeted compounds were non-detects (U) in July 2010	Not all 60 targeted compounds were non-detects (U) in May & July 2010	Not all 60 targeted compounds were non-detects (U) in May 2010
05/19/10	0 unidentified peaks detected	1 indentified peak detected Toluene = 0.12 µg/L (N3)	1 indentified peak detected Carbon disulfide = 0.67 µg/L (N3)
06/02/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected
07/07/10	1 indentified peak detected Benzene = 0.12 µg/L (N3)	3 indentified peaks detected Chloromethane = 0.28 µg/L (N3) Benzene = 0.14 µg/L (N3) Toluene = 0.12 µg/L (N3)	0 unidentified peaks detected 0 unidentified peaks detected
08/03/10	0 unidentified peaks detected	0 unidentified peaks detected	2 unidentified peaks detected
09/01/10	0 unidentified peaks detected	0 unidentified peaks detected	0 unidentified peaks detected

Qualifier Codes:
(U) - Samples analyzed for this compound but not detected (N3) - Estimated concentration is <PQL and >MDL

Appendix A. Depth stratified physical measurements for Lake Adger from May through September 2010.

		BRD007P				BRD007L				BRD007J			
Date	Depth	Temp	D.O.	pH	Cond	Temp	D.O.	pH	Cond	Temp	D.O.	pH	Cond
May 4, 2010	0.15	20.8	8.6	7.6	36.0	20.6	8.9	7.6	35.0	18.5	8.3	7.1	36.0
	1.0	19.5	9.0	7.5	36.0	20.5	8.9	7.6	35.0	17.3	8.4	6.9	36.0
	2.0	18.3	9.0	7.4	36.0	19.8	9.2	7.4	35.0	17.4	8.2	6.8	36.0
	3.0	16.8	8.8	7.3	36.0	18.2	8.7	7.3	35.0	16.6	8.2	6.8	37.0
	4.0	15.9	8.5	7.2	35.0	17.3	8.3	7.1	36.0	16.6	7.3	6.8	37.0
	5.0	15.3	8.1	7.1	36.0	16.5	7.9	7.0	36.0				
	6.0	14.9	7.8	6.9	36.0	15.0	7.9	6.9	36.0				
	7.0	14.1	7.9	6.9	36.0	14.5	7.8	6.8	36.0				
	8.0	13.7	7.7	6.9	36.0	13.9	6.9	6.9	37.0				
	9.0	12.3	7.6	6.7	39.0								
	10.0	10.1	6.9	6.8	37.0								
	15.0	5.6	8.5	6.7	38.0								
	20.0	5.6	8.3	6.6	41.0								
	21.8	5.6	5.5	6.8	41.0								
June 2, 2010	0.15	26.3	9.7	8.5	35.0	25.8	9.4	8.5	35.0	23.7	8.9	7.3	36.0
	1.0	26.1	9.4	8.5	36.0	25.0	9.7	8.1	36.0	23.3	8.9	7.2	37.0
	2.0	22.3	9.5	8.1	35.0	22.6	8.9	7.8	37.0	21.7	8.7	7.2	37.0
	3.0	21.3	8.8	7.7	37.0	21.4	8.4	7.5	37.0	20.8	8.2	7.1	37.0
	4.0	20.5	7.3	7.4	37.0	21.1	7.7	7.3	38.0	20.1	7.5	6.9	38.0
	5.0	19.7	6.4	7.3	37.0	20.2	7.0	7.1	38.0				
	6.0	17.7	5.6	7.0	37.0	19.6	6.8	6.9	39.0				
	7.0	17.3	5.1	6.9	38.0	18.9	6.2	6.8	39.0				
	8.0	16.6	4.9	6.8	38.0								
	9.0	15.7	4.8	6.7	38.0								
	10.0	13.8	5.2	6.6	38.0								
	15.0	6.2	7.3	6.6	39.0								
	20.0	5.8	7.4	6.6	50.0								
July 7, 2010	0.15	28.1	7.8	8.0	37.0	28.1	8.2	8.0	38.0	28.2	8.4	8.2	38.0
	1.0	27.9	8.0	7.9	37.0	27.8	8.4	7.9	38.0	27.4	8.5	8.0	37.0
	2.0	26.9	8.3	7.9	37.0	26.1	8.6	7.9	37.0	26.0	8.3	7.7	38.0
	3.0	25.9	8.5	7.6	37.0	25.4	9.0	7.7	38.0	24.9	7.4	7.4	41.0
	4.0	24.3	6.1	7.4	38.0	24.5	8.0	7.5	38.0				
	5.0	23.3	4.0	7.2	38.0	23.4	5.5	7.3	38.0				
	6.0	22.4	1.5	6.9	39.0	22.4	4.7	7.1	38.0				
	7.0	22.2	0.3	6.5	40.0	22.5	3.2	6.9	41.0				
	8.0	18.5	0.2	6.4	41.0	20.2	0.4	6.7	44.0				
	9.0	13.4	0.0	6.4	38.0	15.2	0.4	6.6	42.0				
	10.0	11.6	3.3	6.3	38.0	10.8	1.9	6.6	42.0				
	13.8					7.9	0.7	6.5	56.0				
	15.0	6.7	5.6	6.3	39.0								
	18.4	6.1	6.3	6.3	40.0								
August 3, 2010	0.15	28.0	7.2	7.4	37.0	28.3	7.3	7.5	37.0	28.1	7.3	7.2	37.0
	1.0	27.6	7.1	7.2	38.0	27.8	7.3	7.2	38.0	28.1	7.3	7.2	38.0
	2.0	27.4	6.9	7.1	38.0	27.5	6.8	7.1	39.0	27.0	7.3	7.1	38.0
	3.0	26.2	3.6	6.7	38.0	26.8	6.0	6.9	39.0	27.0	7.2	7.1	41.0
	4.0	25.4	1.8	6.6	40.0	25.6	5.8	6.8	39.0				
	5.0	25.3	0.7	6.5	41.0	25.0	5.4	6.8	38.0				
	6.0	24.3	0.5	6.4	40.0	24.2	5.1	6.7	39.0				
	7.0	22.3	0.1	6.3	41.0	22.6	1.0	6.4	51.0				
	8.0	17.9	0.1	6.3	46.0	20.9	0.4	6.5	63.0				
	9.0	14.9	0.6	6.3	39.0								
	10.0	12.3	1.9	6.3	38.0								
	15.0	6.7	5.8	6.3	40.0								
	18.8	6.1	4.0	6.4	42.0								
September 1, 2010	0.15	27.4	8.1	8.5	35.0	27.1	8.8	8.4	35.0	26.8	8.2	7.9	36.0
	1.0	27.3	8.2	8.3	34.0	27.1	8.8	8.2	35.0	26.8	8.4	7.7	36.0
	2.0	27.1	8.3	8.2	35.0	27.1	8.2	8.1	38.0	26.4	7.7	7.6	37.0
	3.0	26.3	7.1	8.1	35.0	25.7	5.3	7.9	38.0	25.7	5.9	7.6	39.0
	4.0	25.6	5.0	8.1	35.0	25.5	4.8	7.9	39.0				
	5.0	25.3	4.4	8.0	35.0	24.7	4.9	7.8	40.0				
	6.0	24.8	4.2	7.9	35.0	24.6	5.0	7.8	40.0				
	7.0	24.1	3.0	7.8	36.0	23.4	0.4	7.8	37.0				
	8.0	18.5	0.5	7.6	63.0	15.3	0.2	7.3	107.0				
	9.0	15.2	0.3	7.6	38.0	13.7	0.2	7.3	114.0				
	10.0	12.4	1.0	7.6	37.0	11.5	0.2	7.3	115.0				
	11.7					10.7	0.2	7.3	106.0				
	15.0	6.6	3.0	7.6	41.0								
	20.0	6.2	3.3	7.4	72.0								

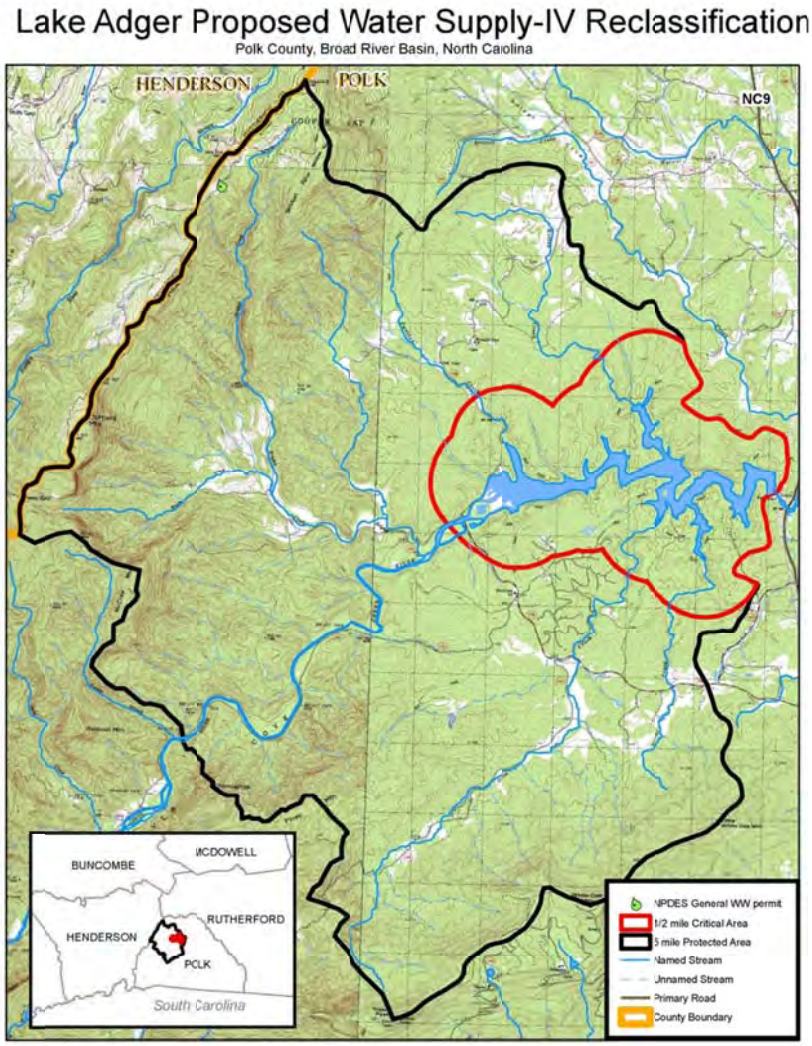
PROPOSED WATER SUPPLY RECLASSIFICATION OF GREEN RIVER INCLUDING LAKE ADGER: PUBLIC HEARING SET FOR MARCH

A public hearing is going to be conducted in order to receive public comments on the proposed reclassification and associated fiscal note for a section of the Green River in Polk County (Broad River Basin). This reclassification is needed to construct a new water supply intake in Lake Adger that Polk County intends to use. These waters will be reclassified to the Class Water Supply-IV (WS-IV) classification, including the Critical Area (CA) and Protected Area (PA) designations.

PUBLIC HEARING

Location: Polk County Middle School
321 Wolverine Trail
Mill Spring, NC 28756

Time & Date: 6:00 p.m., Thursday, March 27, 2014



WATERS TO BE AFFECTED BY THE PROPOSED RECLASSIFICATION

The portion of the Green River proposed to be reclassified to WS-IV CA extends nearly 0.5 mile from and draining to Lake Adger as measured from the normal pool elevation of that reservoir, and includes approximately 3,154 acres. The portion of the Green River proposed to be reclassification to WS-IV PA extends nearly 5 miles from and draining to Lake Adger as measured from the normal pool elevation of that reservoir, and includes approximately 17,421 acres. Silver Creek, Ostin Creek, Rotten Creek, and Panther Creek, which are each currently Class C Trout (Tr) from source to the Green River (Lake Adger), are located entirely within the proposed watershed; the portion of each waterbody located within 0.5 mile of the reservoir's normal pool elevation is proposed to reclassified to WS-IV Tr CA, and the remainder of each waterbody is proposed to become WS-IV (PA) Tr. Rash Creek, which is currently Class C Tr from source to the Green River, and its two Class C Tr named tributaries, Brights Creek and Harm Creek, are entirely included within the proposed PA and, thus, are proposed to be reclassified to WS-IV (PA) Tr.

REGULATIONS ASSOCIATED WITH THE PROPOSED RECLASSIFICATION

If these waters are reclassified, regulations affecting new development as well as existing and new wastewater discharges would apply throughout the proposed area. Other requirements, which would apply only in the CA, are additional treatment for new industrial process wastewater discharges, no new land application sites, and no new landfills. Forestry and farming practices will not be affected. There are no permitted wastewater discharges located in the entire proposed watershed. In addition, there are not any known planned land application sites or landfills in the proposed CA, and no known planned wastewater discharges or developments in the entire proposed area. The requirements related to the WS- IV designation are located on the internet at http://portal.ncdenr.org/web/wq/ps/csu/rules.

The local governments that have land use jurisdiction within the proposed area is responsible for developing and implementing the water supply watershed ordinances within the PA and the CA. The local governments will have 270 days after the effective date of the proposed reclassification to develop or modify water supply watershed protection ordinances that must at least meet the state's minimum requirements (15A NCAC 2B .0100 and .0200). The proposed area is located entirely within the jurisdiction of Polk County.

A fiscal analysis for this proposal has been completed and approved, and the analysis' quantifiable results revealed a one-time cost of approximately $800 to the state and $1,600 to Polk County.

MEETING FEDERAL TRIENNIAL REVIEW REQUIREMENTS

The public hearing and comment period are to be held in accordance with the federal Clean Water Act that requires States, at least every three years, to review and revise water quality standards. These standards are provided in existing rules NCAC 15A 02B .0100 and .0201 through .0228. The process is called the Triennial Review and includes an assessment and revision of the designated uses of waters (classifications) and the water quality criteria (standards), which are based on the designated uses. More specifically, this public hearing and comment period are to address the potential assignment of a WS-IV classification to a portion of the Green River watershed, including Lake Adger, for the purpose of protecting its proposed designated use as a public water supply. This proposal will result in changing the water quality standards for waters within the above-mentioned Critical Area and Protected Area.

HOW TO SUBMIT COMMENTS

You may attend the public hearing and provide verbal comments that specifically address the proposed reclassification and its fiscal note for the subject portion of the Green River. The Hearing Officer may limit the length of time that you may speak at the public hearing, if necessary, so that all those who wish to speak may have an opportunity to do so. In addition, written comments addressing the proposed reclassification and fiscal note for the Green River segment will be accepted until April 21, 2014.

All persons interested and potentially affected by the proposal are encouraged to read this announcement and make comments on the proposal. The EMC may not adopt a rule that differs substantially from the text of the proposed rule published in the North Carolina Register unless the EMC publishes the text of the proposed different rule and accepts comments on the new text. The proposed effective date for this proposed reclassification is September 1, 2014. Written comments on the proposed reclassification and fiscal note for the Green River segment may be submitted to Elizabeth Kountis of the Division of Water Resources Planning Section at the postal address, e-mail address, or fax number listed below.

FOR ADDITIONAL INFORMATION

This announcement and a map of the waters proposed to be reclassified are located on the internet via http://portal.ncdenr.org/web/wq/event-calendar (look under "2014-03-27"). In the case of inclement weather on the day of the scheduled public hearing, please contact the telephone number below for a recorded message regarding any changes to the location, date, or time of the hearing. Further explanations and details on reclassifications may be obtained by writing or calling:

Elizabeth Kountis, DENR-Division of Water Resources, Planning Section
1611 Mail Service Center, Raleigh, NC 27699-1611
phone (919) 807-6418, fax (919) 807-6497, e-mail elizabeth.kountis@ncdenr.gov

To learn more about how the Division of Water Resources protects water quality in North Carolina, go to http://portal.ncdenr.org/web/wq/home/wyk.

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

February 21, 2014

TO: Major Newspapers of NC

FROM: Ms. Elizabeth Kountis
Environmental Senior Specialist
N.C. Department of Environment and Natural Resources
Division of Water Resources

SUBJECT: Publication of Announcement for Proposed Reclassification of Green River (Lake Adger)

Attached is an announcement for the Proposed Reclassification of the Green River (Lake Adger). The legal requirements for notice as required by G.S. 150B-21.2 have been met by publishing this notice in the *NC Register*. Publishing this notice in newspapers is not a statutory requirement and has therefore been recently cut from the Department's budget as non-essential spending. However, we do recognize that newspapers are one of the most effective methods to convey information to the public, and many newspapers contain a public announcement (or similar) section that does not charge a fee to service its readers with public announcements. Therefore, we are presenting the attached announcement to you for your information to publish at your discretion.

Should you decide to publish this information, it would be greatly appreciated if you would notify us. I can be contacted at any of the following:

By Email: Elizabeth.Kountis@ncdenr.gov
By Fax #: (919) 807-6497
By postal mail:
Ms. Elizabeth Kountis
NCDENR-DWR-Planning Section
1611 Mail Service Center, Raleigh, NC 27699-1611
By phone: (919) 807-6418

If you should have any questions, please do not hesitate to contact me. Thank you sincerely for your consideration.

Enclosure

January 16, 2014

MEMORANDUM

TO: Manning W. ("Bill") Puette

FROM: Benne C. Hutson

SUBJECT: Hearing Officer Appointment, Green River (Lake Adger) Reclassification

I hereby designate you to serve as hearing officer for the public hearing to be held on the proposed reclassification of the Green River, including Lake Adger, in Polk County (Broad River Basin) from Class C to Class WS-IV, including a Critical Area (CA) and Protected Area (PA). Staff will be contacting you to discuss the process and establish the date, time, and location of the public hearing. Please present your findings and recommendations to the Environmental Management Commission.

Thank you for your assistance and service.

cc: Tom Reeder
Tom Fransen
Jeff Manning
Elizabeth Kountis
Lois Thomas

LIST OF ATTENDEES

PROPOSED RECLASSIFICATION OF GREEN RIVER, INCLUDING LAKE ADGER
PUBLIC HEARING: MARCH 27 2014, MILL SPRING, NC

Hearing Officer

Puette	Bill	Environmental Management Commission

Div. of Water Resources (CSRRB=Classifications & Standards/Rules Review Branch)

Kountis	Elizabeth	Senior Environmental Specialist, CSRRB, Planning Section
Kreiser	Gary	Groundwater Variance and Rulemaking, CSRRB, Planning Section
Manning	Jeff	Chief, CSRRB, Planning Section
Cranford	Chuck	Assistant Regional Supervisor, Asheville Regional Office

Department of Environment and Natural Resources

Ventaloro	Julie	Water Supply Watershed Protection Program Coordinator, Division of Energy, Mineral and Land Resources

Citizens in Attendance (*=made verbal comments)

Last Name	First Name	Entity Representing	City	County	State
Ingham	Bill	Council Candidate	NA	NA	NA
Conard	Sky	Green River Watershed Alliance	Mill Spring	Polk	NC*
Atwood	Gerald	Lake Adger community	Mill Spring	Polk	NC
Hanson	John	Lake Adger community	Mill Spring	Polk	NC
Davidson	Jamie	Lake Adger Lake Advisory Comm.	Mill Spring	Polk	NC
Adams	J.G.	Lake Adger Property Owners Assoc.	Mill Spring	Polk	NC
Greensfelder	Linda	Lake Adger resident	Mill Spring	Polk	NC
Reid	Spencer	landowner	Green Cove	Henderson	NC*
Whitson	Denise	NA	Mill Spring	Polk	NC
Greensfelder	Chris	NA	Mill Spring	Polk	NC
Glass	Jeff	NA	Mill Spring	Polk	NC
Wedi	Stephanie	NA	Tryon	Polk	NC
Clapp	Dan	NA	Saluda	Polk/Henderson	NC
Synnestvedt	Rima	NA	Saluda	Polk/Henderson	NC
Collins	Mel	NA	Saluda	Polk/Henderson	NC
Collins	Patricia	NA	Saluda	Polk/Henderson	NC
Sykes	W.E.	NA	Saluda	Polk/Henderson	NC
Howard	Margie	NA	Saluda	Polk/Henderson	NC
Reid	Isabel	NA	Saluda	Polk/Henderson	NC
Odom	David	Odom Engineering	Forest City	Rutherford	NC
Walter	Mary	Pacolet Area Conservancy	Tryon	Polk	NC
Owens	Ted	Polk County Commission	Columbus	Polk	NC*
Gage	Michael	Polk County Commission	Columbus	Polk	NC
Gasperson	Ray	Polk County Commission	Columbus	Polk	NC*
McDermott	Renee	Polk County Commission (former)	Tryon	Polk	NC*
Ruth	Cathy	Polk County Planning	Columbus	Polk	NC
Smith	William	resident	Mill Spring	Polk	NC*
Schmerling	Mark	resident	Saluda	Polk/Henderson	NC*
Davies	Jay	retired	Mill Spring	Polk	NC
Kennedy	Robert	self	NA	NA	NA
Hill	Dennis	self	Columbus	Polk	NC
Maxwell	David	self	Columbus	Polk	NC
McDermott	Jim	self	Tryon	Polk	NC
Salley	Alexander	self	Saluda	Polk/Henderson	NC
Reid	Gary	self	Saluda	Polk/Henderson	NC
Harris	David	self / Lake Adger resident	Mill Spring	Polk	NC
Reid	Stewart	self, landowner	Saluda	Polk/Henderson	NC*
Justice	Leah	Tryon Daily Bulletin	Lynn	Polk	NC

Kountis, Elizabeth

From: John Hanson <john.hanson12@yahoo.com>
Sent: Monday, April 21, 2014 2:29 PM
To: Kountis, Elizabeth
Subject: Fw: Lake Adger water reclassification

Dear Ms. Kountis,

Thank you for sending me information on the proposed use of Lake Adger as a water source for Polk County. My wife Linda and I are new to the Lake Adger community and we felt we needed to study this issue before making comment.

The statement that water draw down will not hamper the recreation uses of Lake Adger is not correct. The silt build up over the past 88 years or so has made access to the lake from the public marina very difficult. The bottom silt in my 30hp outboard has caused the engine to overheat each time I have approached the marina. Any lowering of the lake will make it necessary to pole or paddle in. Your study on lake volume assumes a 15% loss of lake volume to the silt, but admits "We are unaware of any sedimentation studies on the lake since its construction. Sedimentation can greatly reduce available storage capacity; therefore we recommend conducting a bathymetric survey...". We believe the sedimentation is a significant issue and the study is likely to significantly alter your calculations.

The North Carolina Office of Budget and Management predicted the population of Polk county to undergo a slight decrease in population through the year 2033. The influx of baby boomers mentioned in the study you sent is not supported by North Carolina predictions. Though the over 65 population for the state is expected to increase, the over all population in Polk County is predicted to fall.

I saw no claim of falling water table, and no evidence the current adequate water supply for Polk county is in any danger of failing in the near future.

At the open hearing it was stated that there were no new developments officially proposed but I've been informed that there is a major developer who wants to secure Lake Adger as an inexpensive water source for a very large development in south Polk County. The study noted several developments currently under way in Polk County. In truth, many of these are financially struggling, and the inability of these projects to thrive falls in line with the North Carolina population predictions. This area is not currently a major, sought after area to buy a home.

We were informed at the open hearing that all the streams supplying Lake Adger are protected trout streams. The Lakeside property is all residential and protected by covenants. There is no reason to believe the water needs any more special protection to preserve the use for drinking water in the future, should the need arise. That need has not been demonstrated at this time or in Polk County's future through 2033.

The cost of this project in terms of partial loss of a beautiful "natural" resource and the financial expense of a currently unnecessary additional water source leads me to the hope that this project will be held off until the need is apparent.

Sincerely,

John and Linda Hanson
906 Parkway North Road
Mill Spring, N.C. 28756

Mark Schmerling, Photographer, Writer
www.schmerlingdocumentary.com
photodocmark@gmail.com
Cell: 215 495 5223

Elizabeth Kountis,
DENR Division of Water Resources, Planning Section
Raleigh, NC 27699-1611

April 13, 2014

Dear Ms. Kountis,

As a resident near Holbert Cove Road, outside Saluda, and as a hiker, hunter, angler and lover of the outdoors, I feel blessed to be living in the heart of the Green River Watershed (Little Cove Creek, a tributary of the Green River, runs through the property we are renting, and on which I spend a great deal of time hiking and photographing.

I've also hiked in the Green River Game Lands, and tell everyone I can that this watershed is a jewel.

I attended the recent public hearing at the Polk County Middle School, and vocalized my endorsement of the Lake Adger Water Supply to Level IV Reclassification.

In fact, while IV Reclassification would be an improvement on what now exists, I strongly favor even more stringent protection of this magnificent area, for a larger portion of the watershed upstream of the current proposed area. So, you can put me on record as supporting IV Reclassification as a stepping stone to even higher protection.

Why?

Because it is far less costly to protect our most important resource--water--than to try to repair it-- at taxpayer expense, of course. It is far less costly to protect downstream areas from flooding than to clean up the mess.

I'm afraid that the current majority of the Polk County Board of Commissioners does not favor strict protection of the watershed and all of its inhabitants, but would rather yield to the wishes of individual property owners whose actions would imperil the watershed, at short-term economic savings to the particular landowners. In fact, protecting water should not be a political issue. Clean water, healthy forests and vibrant wildlife populations--from algae and aquatic insects to

deer and bears--benefit everyone. Healthy forests also provide sustainable employment in the wood products industry.

As a forest land owner (in northern Pennsylvania), my timber management is performed in conjunction with certified and caring consulting foresters, to benefit wildlife, forest health and to eliminate erosion and sedimentation issues.

The only way to insure clean drinking water, fishing for wild trout (Comparing stocked adult trout to their wild (and sometimes native) counterparts is to compare a broken bat blooper to a vintage Mickey Mantle home run), a healthy forest ecosystem, and to minimize erosion and sedimentation problems is to hold landowners, and public officials, to the kind of high standard that will protect the watershed.

We all hold this watershed in trust for this generation, and for those who follow. Who would wish to answer a question posed thirty, one hundred or several hundred years from now: "How could anyone have let *this* happen to such a magnificent resource?"

"*This*" is what will happen without the strictest protections possible.

The recommendations in the Green River Watershed study are based on sound science and natural law(s). They should be implemented, to protect the watershed and all its human and other residents. Recreation is a major industry in this area. Who would venture here--and spend their money--to experience degraded waters and forests?

Landowners should be able to receive technical and financial assistance in providing protections for stream banks and similar sensitive areas.

As an aside, I don't buy the whining from some Polk County residents who argue that because Henderson County Commissioners have not taken responsibility for their portion of the GRW, that Polk officials shouldn't argue for stricter protection of their portion. We are obliged to do the best we can to protect what we can, for the greater good.

It is true that we all live downstream. The difference in the quality of life and in public expense from living downstream of watersheds with real protection, compared to those left to fend for themselves. is too important to allow conditions to be left to chance.

Thank you.

Mike Schmeltzer

P.O. Box 335
(Chaber Cove Road)
Saluda, NC 28773

Kountis, Elizabeth

From: Sanjay Malik <sanjaymalik63@gmail.com>
Sent: Monday, April 21, 2014 3:21 PM
To: Kountis, Elizabeth
Subject: Public Comments on Proposed Rule: 15A NCAC 02B .0306

Elizabeth Kountis

DENR

Division of Water Resources, Planning Section

1611 Mail Service Center

Raleigh, NC 27699

April 21, 2014

RE: Reclassification Green River/Lake Adger 15A NCAC 02B.0306

My name is Sanjay Malik, my wife Linda & I own a home on Lake Adger at 46 Indian Summer Lane as well as two additional lots of land within the Lake Adger community. I have concerns about the possibility of potential draw down of Lake Adger as a result of the proposed reclassification to drinking water status. In the past few years we have seen SIGNIFICANT INCREASE in sedimentation coming down the Green River and other tributaries into Lake Adger, The increase in sedimentation is especially noticeable after periodic draw down of water level for hydroelectricity production. Often times we see a very noticeable drop of water levels of 2 or more feet and it is compounded in drought years. There has been a dramatic change in the landscape, flora and fauna around the main marina of the lake and it continues to get worse year after year. Tremendous amount of silt has accumulated within the coves around the main marina and sandbars continue to form and grow, there are days when we look at the silt deposits around the main marina in utter disbelief. The navigation of boats from the main marina has been limited and in the very near future the combined effect of the draw down and silt accumulation could stop the navigation of boats from the main marina of the lake. I am very concerned with the impact on the environment and on the property values when the waters of Lake Adger are not only used for hydro electricity generation but also as a drinking water source. The increase in sedimentation is an ongoing issue which has negatively impacted the environment, property values (consequent lower property tax revenues) and our ability to use the lake for boating and fishing, the reclassification would exacerbate the problem. I support the use of public resources to benefit the county however I would sincerely request consideration of the predicament and devastating impact faced by Lake Adger residents and property owners when addressing Proposed Rule: 15ANCAC02B.0306.

Sincerely,

Sanjay & Linda Malik

Kountis, Elizabeth

From: Schuyler Conard <schuylerconard@gmail.com>
Sent: Monday, March 31, 2014 4:50 PM
To: Kountis, Elizabeth
Subject: Re: Green River Watershed Reclassification Public Comment
Attachments: GRWA Public Comment.docx; GRW Assessment Report 2013.docx; Polk County Commissioner Meeting March 17.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Elizabeth,
I hope it is not too much to attach all of the following pieces to my official public comment regarding the Reclassification of the Green River Watershed in Polk County. Just want to be sure the Environmental Management Commission is aware of several Green River Water Alliance works/efforts which relate directly to the proposed Reclassification, while they consider permission to proceed with the process.
Please find attached; 1) The 2013 Green River Watershed Assessment Report: A Supplement to the NCDWQ Broad River Basinwide Quality Plan, funded by a 2012, 205(j) Clean Water Act grant from NCDENR,DWR..... 2) Public Comment from GRWA/Sky Conard to Andy Painter, NCDENR regarding 2014 List of streams, rivers and lakes that are not meeting state water quality requirements and Need for new water quality monitoring sites.....3) GRWA,citizen comment given at Polk Counties Public Commissioner Meetings regarding Reclass on Feb.3,2014 and Feb.17,2014 and March 17,2014.
Thanks for sharing all of this
Sky Conard/Green River watershed Alliance

http://portal.ncdenr.org/c/document_library/get_file?uuid=b97ab065-8e18-42ed-8da8-aa5c87a06f97&groupId=38364

GRWA Public Comment @ Commissioners Meeting 2/3/2014

Reclassification of Lake Adger Watershed to WS IV

In regards to the Reclassification of the Lake Adger Watershed from Class C to WS IV, the Green River Watershed Alliance has the following comments. {Please show Comparative Historical Pictures; Appendices B of "The Green River Watershed Assessment: A Supplement to the NCDWR Broad River Basin 2013" prepared for IPDC by Altamont Environmental,Inc.}

The value of this report lies in its documentation of the present conditions found of the Green River/Lake Adger waterways as professionally observed by the Altamont Engineers. Sediment deposits/loads has been accumulating in Lake Adger for almost 90 years down from the Green River, the 4 major tributaries which drain into the lake and also from actively eroding/unstable banks surrounding the reservoir. The noted large sedimental islands are plainly visible, causing water shallowness and obstructing the navigation at the mouth of the Green, the public marina, the main channel of the lake and at least 2 of the incoming streams (Ostin, Panther Creeks) with no end in sight. Sediment negatively impacts recreation, navigation, property values, water treatment plants/hydroelectric operations and storage capacities; Aquatic /wildlife habitats and ecosystems by degrading the water quality and carrying harmful chemicals or nutrient pollution. In other words, sediment loads matter because it directly affects our watershed health and our pocket books.

The Classifications of surface waters are a tool that State and Federal agencies use to manage and protect all streams, rivers and lakes in North Carolina. Each classification carries with it certain water quality standards and rules which protect these water bodies for their specific uses. The Reclassification of Lake Adger Watershed to level WS IV means that these waters will be "Protected" so that its new uses; providing safe drinking water, can occur and continue. The waters previous designation of Class C "uses" are also protected; like secondary recreation(wading,boating,infrequent swimming), fishing/fish consumption, wildlife/aquatic life survival, biological integrity and agricultural uses.

GRWA is wondering; How will the new drinking water supply uses (classification WS IV) and the still applicable Class C uses be protected and managed by the state/federal agencies, which have jurisdiction over these waters, going forward?? Perhaps I will have to reserve the question for the State's Public Hearing on the matter March 27th.... How will Polk County show its intent to protect and manage these now drinking waters from further sedimentation runoff, loading and pollution with no special anti-sedimentation /erosion control ordinances in place? How can Polk County Citizens continue fish,boat or swim when the sediment island flows grow so large that we can't get out of the marina, into the Green River or into the Lake? How can the folks that live in Island Cove of Lake Adger, with its reported 20ft deep sediment deposits barreling down Ostin Creek, know that the aquatic life and the ecosystems in that stream are protected as "survivable"? How exactly will all these wonderful "uses" remain possible without major changes in our care of these resources? Even if Polk County uses tax budget dollars to participate in this newly available 50/50 Cost Share Program called "Shallow Draft Navigation Channel and Lake Dredging Fund" (DENR/DWR) how do we stop the re-accumulation of replacement sediment

from filling right back in without the plans/management or protective land use ordinances in place to Prevent it?

GRWA is all for the more protections for our vital water ways and a higher watershed classification designation from the State but only if Polk County says what it means and means what it says and walks the real talk. Collaboratively, I believe we can turn all of this deterioration around by using the GRW Report findings, utilizing the counties 20/20 Vision Plans Goals, forming a Water Commission where Stakeholders can strategize to create a relevant, collaborative Lake Adger Watershed Action Plan that speaks of smart economics will steer Polk County into.... If we fail to plan we are planning to fail. I have already a list of allies and supporters that could participate

GRW Assessment Report 2013, Reclassification of LAW and Need for a Protective Watershed Plan

February 17, 2014 GRWA Public Comment Polk Co. Commissioners Meeting

The GRW Assessment Report documents the accelerating sedimentation process occurring in our watershed and notes its accompanying negative impacts on water quality, water storage capacities (within the Lake Adger reservoir), aquatic life and recreational resource use.

or

- I will just let the report speak for itself –but would like to point out

70 % (22 of the 31) of the "priority sites" examined, along the watershed, exhibited conditions of erosion, channel incision, sediment accumulation and/ or the potential for downstream sediment impact. Large, heavy sediment(depostional) islands and water shallowness were observed at the Green Rivers and tributaries entrances to Lake Adger and throughout the public marina. (Houston we have a problem!)

Altamont Engineers then give their professional recommendations (to improve water quality, reduce the sedimentation and preserve the Green River/Lake Adger as a recreational resource)....; "The only way to reduce sediment inputs is to implement best management practices (BMP'S) and stabilize the exposed soil throughout the watershed because sediment is continually being supplied to the streams within this watershed." Adopting these Best Management Practices, partnering with local/State agencies to implement these BPM'S, dredging, and (shoreline/stream) bank stabilization and restoration projects were also advised.

So we have identified a severe, ongoing problem with our water resources here in Polk County, understand its far reaching (significant) implications to our watershed health and economics and even have been offered some recommendations to address the situation and still.... There (are no takers) is no acknowledgment of responsibility to act, intervene or change this course of events coming from our gov leaders. Just recently, there has been some talk of a NC State 50/50% Cost Share Program for dredging in Lake Adger but disturbingly, with majority of commissioners still holding firm onto NO plans for local protective sediment/erosion control ordinances to be adopted, the uncontrolled runoff sediment would just rush right back in. In other words this huge and expensive work project would be constantly undermined by the lack of said environmental ordinances. Obviously, the much better economic strategy here is to PREVENT the runoff from happening in the first place with..... county wide watershed education (of BMP'S), watershed planning and protective watershed policy making. Enacting sound environmental ordinances (or resolutions) that pursue the common good and the public interest of clean water supplies vs private rights of individuals to do what they want, would be the best ethical strategy here. If citizens are already doing the right thing, then they don't have to worry about it!

I am concerned that...

If today we show that we aren't willing to properly protect nor manage even our Class C Recreational waters(as evidenced by this report)... then how will Polk County demonstrate better management practices tomorrow when the same problematic waters are renamed/reclassified as public drinking waters?

Reclassification of our waters by the state is not an automatic cure that we now suddenly have drinking water and reclassification doesn't come with an instruction manual of HOW to best protect and manage our resources. The state has neither the budget nor the staff to do it or enforce it for us....the County has to, under its own initiative and sense of responsible stewardship over its waters and lands, get to work on an effective watershed plan that will get us the clean/sustainable water supplies that we all need. The watershed report with its red flags of identified problems, needs and solutions would be a good roadmap to get there.

It isn't prudent to start any business without a well thought out business plan and it would not be wise for Polk County to enter into the water business without having a clear watershed/ management plan, complete with action items and goals already in place; otherwise we will be just like the old adage says; when you fail to plan... you plan to fail.

Just like Commissioners understand the need to invest drafting an Economic Development Strategy Plan with a priority goal of creating a equine council, why not understand the dire need to invest in developing a Lake Adger Watershed Plan and strategy with a priority goal of creating a water advisory board or council? The water advisory board could illicit inputs from partners like: PCSWCD, PC Extension office, PC Recreation Dept., Farm/Ag Bureau, Economic/Tourism Commission, impacted communities such as LA, Bright's Creek, Green River communities, area environmental nonprofits, businesses and DENR/DWR to help build the comprehensive watershed plan. This current assessment report of the watershed can serve as a baseline tool to begin this process. Just like the economic development strategy is based on the 20/20 Vision Plan, so could be the strategies for the watershed plan to "aggressively protect and monitor our water quality and quantity and preserve and enhance the beauty/quality of our natural resources"... Let's say what we mean and mean what we say about our vital water resources...

Sky Conard/ Green River Watershed Alliance

GRWA has been working for the past 4 years seeking support for building a management plan for the Watershed using the current best standards of practice/principles/stewardship that it deserves

Polk County Commissioner Meeting March 17, 2014

- Thank You Commissioners for this opportunity to speak tonight.

- Sky Conard, founder of the Green River Watershed Alliance advocating for protective environmental policy, countywide watershed education and development of a restorative action plan that would effectively address our water resources here in Polk County.

- I am in the process of creating a public educational brochure for our Green River Watershed and its pending Reclassification of the Lake Adger Water Supply WS-IV designation. The purpose of this document is not to promote anything but Clean Waters, Responsible Stewardship and to provide needed, basic watershed information and definitions.

- The GRWA will be partnering with other knowledgeable agencies and several local environmental nonprofits in assembling this pamphlet and consulting with NCDENR/DWR for final approval. At this point I have received commitment and interest from Polk County Soil and Water Conservation District/ Sandra Reid, Pacolet Area Conservancy/Mary Walter, Western North Carolina Alliance/Julie Mayfield and Commissioner Ray Gasperson to work on this project. I intend to seek contribution from several other vital partners as well. Potential funding for this project will be explored.

- SHOW SAMPLE HAW RIVER WATERSHED IV RECLASSIFICATION BROCHURE-

This sample brochure requested from Elizabeth Kountis, Classifications&Standards/Rules Review Branch, NCDENR/DWR is an example of what I have in mind for Polk County.

The brochure for us would include the Lake Adger Proposed Water Supply-IV Map(for Polk County Broad River Basin, NC. prepared by NCDENR/DWR Classifications and Standards Unit, June 2013), an array of agreed upon, relevant watershed information and Best Management Practices/Principles for protecting water quality; such as Vegetated Stream Buffers/Riparian Zones, Water Monitoring Methods, Watershed definitions, Sediment Pollution- what it is-what it does- and how to control it and/or Citizen, State and local Government roles in protecting our water quality.

An educational publication such as this, will serve as a tool in the toolbox to help clarify and end the Controversial Comments, Pointing Finger of Blame and Lack of Responsible Stewardship over these God Given Gifts (our water resources here in Polk County) which surfaced last Commissioners meeting.

-Please show Historical Comparative Pictures from the 2013 Green River Watershed Assessment Report prepared by Altamont Environmental, Inc.

The public comments received over the recently presented(2013 Green River Watershed Assessment) report were, unfortunately, counterproductive, contradictory, irresponsible and often incorrect regarding the present conditions and available information of our waterways. First of all the photos that document the sediment flowing into Lake Adger from the Green River is what it is. These pictures reflect the accumulation of 90 years' worth of minimally controlled erosion and sediment loads barreling down the Green and from the many incoming tributaries as well. Ask the fishermen or the folks from Trout Unlimited who have known these waters for so long about this sediment and their present day navigational and fishing experiences in these areas because of it. If the pictures are so "Unbelievably deceiving" and "Overblown" then why are you talking about the historical lack of care taken on the River and acknowledgment for the need of dredging? And how is it that many of the Tributaries (like Ostin, Panther and Bright's Creeks) which are entirely contained within Polk County lines and now filled with sediment pollution, are the result of activities and therefore the responsibility of Henderson County? Please see the Green River Watershed Maps and professional documentations contained within this official GRWAssessment Report. Also to the point of "restrictive, unnecessary 30' buffers preventing grandchildren from enjoying a picnic on them", I want to respond that these important natural, vegetated buffers are a lot more conducive to this fine activity than bare, eroded muddy ones and further, thinking of your grandchildren future; these pesky buffers are key in protecting and providing clean, sustainable water resources for them when you and I are dead and gone.

Everybody is not going to agree here and yes we all have a lot to learn but I believe it is important that Polk County NOT get stuck arguing in paper bags about the present day sedimented state of our Green River Watershed, individuals rights to do want they want on their properties and the changes associated with the possible reclassification. Time to take responsibility over of our own troubled waters, pull ourselves up by the boot straps and get to work on Solutions that will move Polk County toward Clean Water Resources for all of us. What is Best for protecting our public waters, NOT our own individual self-interests, is always the right decision. I hope that leaders of our county will see the value and need for this educational brochure and endorse and support this project.

Kountis, Elizabeth

From: Schuyler Conard <schuylerconard@gmail.com>
Sent: Monday, March 31, 2014 4:55 PM
To: Kountis, Elizabeth
Subject: Fwd: Public Comment on the DRAFT 2014 303(d) List
Attachments: Recap of Discussion with Green River Watershed Alliance.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Here is that Public Comment

Thanks, Sky Conard

---------- Forwarded message ----------
From: **Schuyler Conard** <schuylerconard@gmail.com>
Date: Thu, Mar 13, 2014 at 6:21 PM
Subject: Public Comment on the DRAFT 2014 303(d) List
To: andy.painter@ncdenr.gov

Dear Mr. Painter,

Thank you for this opportunity to give my public comment regarding the 2014 list of streams, rivers and lakes that are not meeting state water quality requirements. My concern is that the Green River Watershed, in Polk County, is not being adequately monitored or assessed by the state to even make this determination of meeting water quality standards or not (303(d)list). The GRW is a Subbasin to the Broad River Basin and I am not seeing any of our waterbodies listed as Category 5/Impaired but perhaps that is because many were not evaluated in the first place.

In 2013 a Green River Watershed Assessment was performed by Altamont Environmental, Inc for Isothermal Planning and Development Commission. This project was funded through a 2012 Clean Water Act 205(j) Grant by the NCDENR, DWR and is a Supplement to the NCDWQ Broad River Basinwide Quality Plan (see link below). This report looked at all existing reports, water quality data, historical records, local/state agency&resident interviews and conducted visual inspections throughout a 60 sq. mile area of the GRW in Polk County. 182 stream miles were studied, including the Green River, Lake Adger,along with the following tributaries; Casey Branch, Brights-Cove-Gadd-Ostin-Panther-Pullium-Rotten-Rash and Silver Creeks. The concluding, relevant points from this report are; 1) Water Quality data within this GRW study area was not abundant.There are no DWQ ambient water quality stations, no Watershed Assessment Team Projects, no Watershed Assessment/Restoration Programs and no Local Watershed Plans existing in the GRW. 2) 22 of the 31 assessed "priority sites"(or 70%) established for the report, exhibited signs of erosion, channel incision, sediment accumulation and/or potential for downstream sediment impact. In addition large, heavily sedimented depositional islands and water shallowness was documented at Panther and Ostin Creeks along with their coves, the Green Rivers flow entrance into Lake Adger and throughout the Public Marina areas. Further, actively eroding banks were observed throughout the Lake Adger which contributes directly to the sediment problem 3)The "NC DWQ Broad River Basin Plan: Green River Watershed 2008 Report" states that sedimentation observed in many streams is likely leading to habitat degradation and that further investigation is needed to determine if sediment is" *impairing*" the Green River Watershed. River Basin Plan Reports are now augmented to 10year cycles so this will not be updated until 2018!

I have been intensely involved with the Green River Watershed in Polk County for the last 4.5 years and represent the "Green River Watershed Alliance", a citizen advocacy organization working on all levels with all partners/stakeholders to address the health of our waterways with initiatives that promote clean water, responsible stewardship/management and the sustainability of this valuable natural resource. The fulfillment of the 2013 GRW Assessment Report was the end result that occurred primarily because of effective, successful on-going working partnerships with NCDENR/DWR staff and participation in the WNC Water Quality Collaborative Summits, facilitated by Ted Campbell and Chuck Cranford and to this I and the Green River Watershed is entirely grateful. This completed study, however, raises red flags of big stressors here which seem to warrant a closer look, as data/testing is minimal, so that proper protection and management, on all levels, can be triggered.

So to this end, GRWA has been in contact with Cam McNutt and Eric Fleet with DWR(see attached email 2/21/14 for details) to request that our GRW in Polk County gets some additional state water quality or benthos monitoring sites established. Particularly of concern is that there is only one benthic monitored site, AB-23 or AU#9-29-(33), located near Laurel Branch Creek, along the whole 37 mile stretch(from Cove Creek to White Oak Creek) of the Green River in Polk County and reported condition of the river deteriorates gradually after this site, as it approaches and feeds into the Lake Adger. Also the 4 tributaries flowing into Lake Adger that are presently Classified as "C", Tr.(Trout) waters since 1964 have never been monitored to support these classifications. Testimony and observations in the 2013 GRW Assessment Report describe heavily sedimented conditions that are uninhabitable for cold water trout, thus there is concern these streams may not meet water quality standards IF they were tested or adequately assessed by the state .

Other pressing issues are that part of the GRW in Polk County is pending Reclassification into (Lake Adger Watershed) WS IV, drinking water status. All above mentioned water bodies will be within the newly designated "Protected or Critical Areas" and would need monitoring in order to protect the water quality for this new use and their ongoing
Class "C" recreational uses. Just to complicate matters even further is that the political climate in Polk County remains unresponsive towards addressing water quality concerns with protective/preventive watershed policy making or planning despite exhaustive efforts like GRWA numerous presentations, the 2013 Green River Assessment Report and even pending Reclassification of its waters.

In closing, the Green River Watershed is an internationally famous & spectacular resource for all recreational users and is worthy of adequate monitoring, planning and protections to keeping it this way or mitigating the found stressors. Effectively protecting the health of our Green River waterways cannot begin without this vital first step of assessing the water quality so I hope NCDENR will respond to these concerns with some state level monitoring methods of said waterbodies.

This is my Public Comment on the 2014 water quality assessment list in behalf of our Green River Watershed in Polk County.

Thank you, Sky Conard/ Green River Watershed Alliance

http://portal.ncdenr.org/c/document_library/get_file?uuid=b97ab065-8e18-42ed-8da8-aa5c87a06f97&groupId=38364

Public Comment on the Proposed Reclassification of Segment of Green River/Lake Adger

To Water Supply-IV

March 27th, 2014

Sky Conard, founder of the Green River Watershed Alliance and citizen of Polk County, NC.

I would like to welcome the NC state Department of Environmental Natural Resources, Division of Water Resources to Polk County for their presentation and public hearing on the proposed Water Supply Reclassification of a Segment of our Green River Watershed, including Lake Adger to WS-IV designation. It's good to see so many familiar faces and GRWA appreciates each of you here tonight for your help in caring for our waterways.

The state (NCDENR/DWR) has been an invaluable partner to the GRWA over the years and earnest in your charge to protect and manage the waterways in North Carolina. The 2013 assessment work of our Green River Watershed in Polk County was accomplished because of a 205(j) Clean Water Act Grant awarded and facilitated through DENR, Thank You Jeff Manning, Ted Campbell and Chuck Cranford for that opportunity.... Watershed Reclassification/Standards and Planning information has been readily and consistently forthcoming from Elizabeth Kountis, Julie Ventaloro, Paul Clark, Jay Frick...(Thank you All for your countless hours of attention)..... Land Development, Clean Water and Turner Shoals Dam concerns have always been addressed by Shawna Rittle and Laura Herbert(thank you).....Discussions and Public Comment are presently ongoing for the need to establish more official state water quality monitoring sites within this pending WS-IV GR/Lake Adger Watershed, so Thank you to Cam Mcnutt ,Eric Fleek and Andy Painter for your serious consideration of this request .

Oh, while I am thanking people for their help in doing the right thing, I want to acknowledge Commissioner Ray Gasperson for getting the notice out to the public about this important, State Level Hearing on the front page of our community newspaper, the Tryon Daily Bulletin...better very late than never. Thank you Ray and reporter Leah Justice, for helping to make citizens aware of what's happening within our watershed.

The GRWA has been a grassroots organization since 2010, working on all levels, with all partners/stakeholders to address the health of our Green River Watershed with initiatives that promote clean waters, responsible stewardship /management and sustainability of this most valuable natural resource. Current ongoing projects include; creating an educational brochure for public distribution on Watershed Reclassifcation&related topics and developing a citizen/volunteer water monitoring program within our GRW called V-Winn. GRWA is collaborating with many local/knowledgeable partners and agencies in order to accomplish these things.... I guide all of my works first with this question; What Action/Plan or Decision of mine today will Best Protect and Properly Manage with Good Stewardship our water resources? This is, after all, my mission and goal of everything I do.

I am pleased that Polk County has had the foresight of the need to establish (secure) a public water supply source and requested the necessary State Reclassification proceedings to begin but am concerned the learning curve is going to be a steep one as to;.... How the county would roll out this new Classification, how would they effectively protect the drinking water quality/quantity, engage the public, work with other partners and manage this new venture. I believe the county would be well served to adopt the very same question as mine before they start their day of governing and important decision making;... What is Best in order to Protect and Properly Manage with Good Stewardship our water resources here in Polk County? vs... What is Best in order to protect my political agenda or platform and How can I avert environmental protections which just step on individual rights?... Unfortunately, this is the prevalent climate today with these majority leaders at the helm. Clean Water Resources should be an unpolitical decision. Everybody and every living thing deserves and needs clean water.

In closing my Public Commentary tonight..... The decision to Reclassify our waters in Polk County into drinking water supply uses (WS-IV) brings in the State DENR/DWR as a closer partner and I think this is a great thing because it will trigger their help in directing this county to current standards of practice of How to Best Protect and Manage our Resources so that these waters can be as clean and sustainable as possible for the future demands of new communities like White Oak Equestrian Development .It involves little additional regulation/development changes and operates more in the realm of informed, responsible decision making and willing stewardship/care of our valuable waters. It could well open the door to many State or Federal Grant opportunities to assist with watershed education, planning and restoration projects in keeping within new compliance standards. Reclassification would point this Polk County in the general right direction, more on track and earnest in its charge to protect and properly manage (in good stewardship) our public waters. It would be so productive to all be on the same page, instead on different agendas. Polk County has got to be more willing to step up to the plate, do what it takes to care for these waters, work with all stakeholders and partners to make this Reclassification the success that it could be. No one entity can do this alone, not the State, not the Polk County Government, not the Green River Watershed Alliance, not the citizens... We are all accountable for doing our own parts here....Just as this watershed is connected, so must be all of our efforts and works that would BEST protect it. Water is life and our future depends on it. What a great opportunity here for our county to embrace all of these partnerships that would help us and move forward with the reclassification, with everybody doing the right thing, in the right way, for the sake of our resources.

THANK YOU

Sky Conard/Green River Watershed Alliance

Citizen of Polk County, North Carolina

schuylerconard@gmail.com

March 27, 2014 Public Comment for NCDENR/DWR Reclassification of Green River Watershed

Kountis, Elizabeth

From: Schuyler Conard <schuylerconard@gmail.com>
Sent: Monday, April 21, 2014 4:14 PM
To: Kountis, Elizabeth
Subject: Public Comment on Reclassification of Green River Watershed
Attachments: Answers from DENR via GRWA.docx

Dear Elizabeth,

Could you please attach my"Reclassification Questions/Your DENR Answers" Document(see below attached) and this recent "Letter to the Editor from GRWA" to my previously submitted Public Comment on Green River Watershed Reclassification?

Thank you for all of your help in this complicated matter. Sky Conard

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Sky Conard/Green River Watershed Alliance/Polk County resident.
Letter to the Editor Tyron Daily Bulletin/April 15,2014
Title:Wanted; A Sediment/Erosion Control Officer for Clean Water

I am unhappily "knighting" myself as the Polk County Volunteer Sediment Erosion Control Officer, with faithful side-kick dog, Izzy.

Recently, out of concern for *our* Green River Watershed, I spent a day on the phone and visiting two sites of soil disturbances polluting our creeks. The first site was at Holbert Cove and Silver Creek roads (gas line problem). The other was on Highway 9 between Edwards and Metcalf roads (new county water line).

This is how it went....call to PSNC Energy/Asheville Region (total of nine people involved, including an environmental staff), then call to Polk County/Cathy Ruth, then call to report both concerns to DENR/Asheville, Land Quality Division (Shawna Riddle), then received call backs from Scott with Odem Engineers and Rusty from PSNC Energy/Asheville Region, then confirmation/plan call back with DENR, Shawna Riddle, then found out I need to make two more calls tomorrow regarding the Sheehan Grading Company contributing to the second site!

At the end of the day everybody promised to do the right thing because the state said they would check with follow-up visits on these sites as soon as possible and, oh, because Izzy and I made such a fuss.

Izzy and I would prefer for anybody disturbing our earth's soil adjacent to any waterways, be it our creeks, Green River or Lake Adger in Polk County to *please* use best-management practices to protect our water quality from this polluting silt/sedimentation/erosion!

Folks, this will soon be *our* dirty drinking water!

Adequate quality, proper installation and maintenance of the silt fencing are the known standards for best-management practices. So why on earth are we not making sure this is indeed happening, especially at such a crucial time of pending reclassification of *our* Green River Watershed into public drinking water status (WS-

IV), and why are we not being more vigilant in showing we can protect/care for our water resources? Is the thinking that the future White Oak Equestrian Community customers will just have to pay more for processing of their water supplies at the water treatment plant because we can't make the effort to prevent this man made sedimentation into the waterways from occurring? Is this like the thinking that we will spend taxpayer (*your*) money to dredge heavily-sedimented Lake Adger and not make *any* effort to prevent more sediment barreling back down the Green River just to replace it?

A responsible solution, far better for the watershed, and *much* more fair to taxpayers, would be for Polk County to adopt a local sediment/erosion control ordinance, complete with an officer to educate, monitor, fine and enforce, so we get prevention and best-management practices into the formula of clean drinking water, and stop this wasteful, vicious cycle. Polk County, please step up to this plate and show you are committed leader/partner in protecting and effectively managing *our/your* own Green River Watershed that is to provide drinking water to your citizens.

Even if we don't get uniforms, watchdog Izzy and I would gladly continue to be good citizens volunteering in assisting this greatly needed officer's duties. But, we need *your* help, too.

Thank you

The following questions were submitted by Sky Conard (GRWA) to NC DENR (Elizabeth Kountis, Environmental Senior Specialist Reclassifications Coordinator)

1. How does the State manage/protect the Lake Adger Watershed from further erosion and sedimentation going forward? Can they require Polk County to adopt an Erosion Control Program with an enforcing Officer? (Can't be mandated to adopt any stricter protective local ordinances due to recent legislative changes.)

Please contact Laura Herbert with the Division of Energy, Mineral and Land Resources in the Asheville Regional office for a response to this question. (see Laura's comments below)

With respect to Item 1 – Polk County is responsible for administering the Water Supply Watershed Protection Ordinance. Note that certain requirements will be triggered with the reclassification to WS (see attached brochure for the requirements for new construction in WS watersheds). NOTE: This is the Freshwater Classifications brochure found at the website below:
http://portal.ncdenr.org/c/document_library/get_file?p_l_id=1169848&folderId=2209568&name=DLFE-35732.pdf

Local Sediment and Erosion Control Programs are encouraged but not required. Resources, including enforcement officers and review engineers, are needed to staff these local programs. Note that the Town of Columbus has a local program. Approval from the North Carolina Sedimentation Control Commission is required for a local program (see attached Memorandum of Agreement between the NC SCC and "Local Government.").

Currently, an approved (by our office) erosion and sediment control plan is needed prior to disturbing one acre or more. This will continue to be the requirement.

I would also like to highlight that disturbances in the trout buffer (25 feet from top of bank) typically require a trout buffer variance from our Division prior to any disturbance (see attached guidance). Disturbances in the trout buffer should be temporary and minimal. For clarification, currently Lake Adger is classified C, but most of the streams draining to Lake Adger are classified trout.

Laura Herbert, P.E.
Regional Engineer
Division of Energy, Mineral, and Land Resources - Land Quality Section
NCDENR-Asheville Regional Office

Please note that the above mentioned documents "Memorandum of Agreement between the NC SCC and Local Government", trout buffer requirements and trout buffer waiver guidelines will be provided upon written request to the Lake Adger Lake Advisory Committee – lakeadvisorycommitee@yahoo.com

2. Can the State enlarge in size either the "Critical Area" of "Protected Area" in WSIV to encompass the entire LA Watershed for the purpose of improved monitoring, compliance and protections of these surface waters from further sedimentation and erosion?

Only if the involved local government(s) initiates and implements the appropriate regulations associated with enlarged CA or PA. Please note that only ***new*** *development projects that disturb*

one (1) acre or more *are impacted by the proposed WS-IV regulations, and that improved monitoring and/or compliance may not occur as a result of an enlarged CA or PA.*

3. How does the State manage and protect the water supply volumes (for WSIV Class) in the Lake Adger reservoir so that the combination of drawdowns for use (both public drinking water & Northbrook Hydroelectric operational needs) along with reduced storage capacity, due to sediment accumulation, doesn't drain the lake?

The Environmental Assessment required by the state for this project and submitted by Polk County contains a Hydraulic Budget that addresses this question, and that budget is based on modeling that includes, but is not limited to, factors such as the current volume of the lake, the maximum drawdown., etc. Please contact Polk County (Engineer) for further information.

4. How will the GRW Assessment Report 2013 with its documentation be used by the DENR/DWR during the Reclassification process?

Although the GRW Report contains a wealth of information, the reclassification process primarily utilizes the Use Attainability Study that was conducted on the subject waters, which in this case determined that the subject waters meet state water supply water quality standards, and thus, are eligible to be reclassified to WS-IV.

5. How does the State protect the Class C uses of these waters for secondary recreation like boating, fishing if the marina, entrance to the Green River and Lake are filling in with sediment?

The Class C standards to protect Class C uses are currently applicable to, and being met (according to DWR data) in, the lake, despite any sedimentation that may be taking place.

6. What is the impact of this accumulated sediment condition, as reported in the GRW Assessment 2013, on the model of 3'7"drawdown with 2mgd use during a drought=worst case scenario? Wouldn't navigation and accessibility be closed at public marina, Lake, Green River and certainly coves? How would Northbrook Hydroelectric operate under their arranged contract with the county to make their electricity?

Regarding the first two parts of this question, as noted above, the Environmental Assessment required by the state for this project and submitted by Polk County contains a Hydraulic Budget that addresses this question, and that budget is based on modeling that includes, but is not limited to, factors such as the current volume of the lake, the maximum drawdown., drought conditions, etc. Please contact Polk County (Engineer) for further information. The last part of this question would be best answered by Polk County officials and/or Northbrook Hydroelectric.

7. In light of conflicting hydrology prediction models stated (2mgd=drop of 3'7" vs. 8mgd=drop of 2/3" from full pond if lake static) and past 2010 spec's of lake depths mean=26 feet and new 2013 Assessment report noting accumulating sediment loads reducing storage capacity, is it not prudent to perform current bathymetry studies for updated #'s and accuracy?

The Hydraulic Budget in the Environmental Assessment does suggest a bathymetric survey be completed that would fully examine the lake's actual storage capacity. Please contact Polk County (Engineer) for further information.

8. Is WRC contractually "obligated" to dredge public marina in order to keep it opened?

Please contact Doug Besler with the Wildlife Resources Commission for an answer to this question.

9. Lake Adger has covenants, restrictions recreational easements and guidelines (Shoreline Remediation) regarding activities within our buffer 911.6-925 contour elevation. Does the new State 30' buffer (now 911.6-941.6) with its rules and regulations take precedent and ours is now null and void?

All rules and regulations applicable in the 30' setback would need to be followed, and where there is overlap for a particular parameter among rules/ordinances, the most stringent regulation would need to be followed. In addition, this setback is measured landward in a horizontal fashion from the top of the bank of each side of streams or rivers and from the normal pool elevation of reservoirs and lakes. Note that the 30' setback applies to low density projects, which are project that do not exceed 24% built upon area or 1 residence per ½ acre; for high density projects, which exceed the low density thresholds just mentioned, the required setback is 100'. Lastly, as mentioned above, only ***new*** *development projects that disturb* ***one (1) acre or more*** *are impacted by the proposed WS-IV regulations.*

10. How does Lake Adger proceed with shoreline stabilization projects within this buffer and what will be new guidelines besides "BMP's". Are there any incentives or cost share programs available from the state or county as these expensive citizens works contribute to counties (and hydroelectric plant) cleaner drinking water?

Please contact Laura Herbert with the Division of Energy, Mineral and Land Resources in the Asheville Regional office for a response to the first part of this question, and Polk County (Soil and Water Conservation District) and http://portal.ncdenr.org/web/wq/ps/bpu/urw/funding *for an answer to the second part of this question.*

11. Is the community of Lake Adger going to be able to hook up into or utilize this new county wide water supply system?

Please contact Polk County officials for a response to this question.

12. May the LA property owner place the buffer strip into a permanent conservation easement with a conservation organization or convey it to, say, the POA for a greenway?

Please contact the Triangle Land Conservancy to learn of local land trusts that are active in your area for a response to this question; Polk County (Soil and Water Conservation District) may also help answer this question.

Elizabeth Kountis
DENR
Division of Water Resources, Planning Section
1611 Mail Service Center
Raleigh, NC 27699

April 21, 2014 sent via email: elizabeth.kountis@ncdenr.gov

ATTN: Environmental Management Commission

RE: Reclassification Green River/Lake Adger 15A NCAC 2B.0306

My name is Jamie Davidson and I am a resident of Lake Adger. When we purchased our beautiful waterfront lot on Lake Adger in 2003 as a retirement property we were impressed that it was advertised as "environmentally sensitive". In 2006 we moved into our green built home and remain full time residents on Lake Adger. In the past few years we have seen much sedimentation coming down the Green River and other tributaries into Lake Adger, polluting the water due to the lack of erosion and sedimentation ordinances in Polk County. I organize a clean-up every October for Big Sweep on Lake Adger's shoreline and every year we collect approx. 700 pounds of trash and recyclables, not including the over 200 flip flops lost by users of the Green River. During high rain (flooding) events residents have recovered refrigerators, pet carriers, floating docks, etc. As the process of reclassification is taking place, we have been told that the reclassification will offer us no more protection for our waters, which means the pollution will continue.

As chair of the Lake Adger Lake Advisory Committee (LA LAC), I provided residents with information from DENR regarding the classification, public hearings, etc., along with the history of the reclassification proceedings from 2004 to 2009. Note that the reclassification was reduced from WS-III to WS-IV due to opposition by Henderson County. The LA LAC asked residents to provide us with questions regarding the reclassification which would be sent to the County for answers. Answers were also provided by DENR. I have asked Elizabeth Kountis to include those questions and answers as part of the reclassification comments and it should be included in the packet you are receiving for review. It appears to me that the County cannot answer many of our questions due to lack of planning for utilization of this valuable water resource. The Polk County Commissioners recently struck down the recommendations of the Unified Development Ordinance (UDO) committee which would have put more protective measures in place. As there are no protective erosion and sedimentation ordinances in place, nor is there an erosion control officer, our lake continues to become polluted with sedimentation and trash coming downstream into Lake Adger from tributaries. Evidence of this was reported in the study released last year via the Green River Watershed Assessment Report:
http://www.regionc.org/Planning/Docs/Report%20Green%20River.pdf

Not only is sedimentation a concern, but Polk County residents have no guarantee that our lake won't have a drawdown that will not only affect our ability to recreate on the lake, but will affect property values. Nor is there a guarantee that the water won't be sold to South Carolina. Water lines are already in place linking Polk County with South Carolina. Lake Adger is currently a source of hydroelectricity being sold by Northbrook Energy LLC which leases the dam from Polk County for $1 a year. Often times we see our water levels drop two to three feet due to Northbrook's control of the dam. During that time there are residents whose boats are on dry land due to the drawdown. In the spring the drawdown

affects the fish that are spawning as their beds are destroyed. What will happen when the water is being drawn for a drinking source and electricity? What about the drought years? Although there is a water shortage response plan for drought there is little to no enforcement for violations during severe drought.

Much of the waters being reclassified along the Green River are already designated Trout Waters. Due to the fact that the restrictions placed upon trout waters are not being enforced, I do not see any future protection of those waters. Violations in the designated trout water areas include dirt (red mud) parking lots along the river's edge and trees removed for those parking lots, just to mention a few. The restriction for an undisturbed buffer zone 25 feet wide is not being adhered to nor is there any consequence for those in violation.

In principal, I support the reclassification, however, I do not see that it provides any additional protection for the Green River Watershed including the waters of Lake Adger. It would be in the best interest for the citizens of Polk County if the Commissioners would take a stronger stance on protecting the Green River and Lake Adger.

Respectfully,
Jamie Davidson
Mill Spring, NC

Kountis, Elizabeth

From: Lake Advisory Committee <lakeadvisorycommittee@yahoo.com>
Sent: Friday, April 18, 2014 11:37 AM
To: Kountis, Elizabeth
Cc: Joe Boeckx; Sky Conard; Jamie Davidson; Tom Fitzgerald; Linda Greensfelder; Ed Krause; Eric McKaig; John Watts
Subject: Reclassification Green River/Lake Adger
Attachments: AnswerstoProposedLakeAdgerReclassification FINAL March 24 2014.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Elizabeth:
I am sure you have received a couple of comments in relation to the reclassification. I am working on writing mine. I wanted to be sure that the questions and answers from Lake Adger were included in the public comment and sent to the EMC. I think these questions reflect the concerns of many residents who may have not written formal comments. As noted the answers that are underlined came from Polk County and the ones in italics came from DENR. I am sending you the full document with the email that was sent out to our residents prior to the public hearing, which includes websites for their research. If you want to extract just the questions, I am okay with that as long as notation is made that the questions were submitted from Lake Adger residents and the underlined answers come from Polk County and the italicized ones came from DENR. I am also okay with including the full document. I don't know if there is a size limit.

Thank you and the DENR staff for holding the public hearing and allowing public comment on the issue. The main thing that disturbs me about the reclassification process is that the reclassification will provide no additional protection for Lake Adger. In Polk County we continue to witness poor management practices which cause sedimentation into our rivers and lake with no prevention nor remediation of these issues. The kicker is that the construction of water lines throughout the county has resulted in degrading of streams as the contractors don't utilize silt fencing and the county has no policing of these violations, nor any ordinances that prevent this type of damage.

Thanks again,
Jamie Davidson
Chair, Lake Adger Lake Advisory Committee
lakeadgeradvisorycommittee@yahoo.com

Dear Lake Adger resident:

In this document please find the answers to the questions that were gathered from Lake Adger residents regarding the Reclassification of the Green River, including Lake Adger. The questions were compiled by the Lake Adger Lake Advisory Committee (LA LAC)and sent to Polk County (County Manager, County Planner, and County Commissioners) for their answers. The same questions were sent to Elizabeth Kountis, Environmental Senior Specialist for NC DENR, per her request. You will find the Polk County answers underlined and NC DENR answers are found in *italics.*

The last two pages included in this document contain website links regarding RECLASSIFICATION and related subjects. I urge all residents to educate themselves on this issue. Please note that the public hearing is being held this Thursday, March 27 at 6 pm at the Polk County Middle School at 321 Wolverine Drive in Mill Spring, NC. According to Elizabeth Kountis there will not be time allocated for questions. This public hearing is for public comments only. She stated that if you have questions, either arrive early or stay late to ask questions. Please note that the deadline for making public comment in writing is April 21, 2014 and can be mailed to Elizabeth Kountis; DENR/DWR Planning Section; 1617 Mail Service Center; Raleigh, NC 27699-1617 or by email to elizabeth.kountis@ncdenr.gov or faxed to 919-807-6947.

If you have any questions please email them to the Lake Adger Lake Advisory Committee at: lakeadvisorycommittee@yahoo.com

PLEASE DO NOT RESPOND TO IPM

Thank you,
Jamie Davidson
Chair, Lake Adger Lake Advisory Committee

Proposed Lake Adger Reclassification
Lake Adger Resident Questions to Polk County Commissioners (and NC DENR)
2/17/14

1. Following reclassification, when and where would a water intake and water treatment plant be built? Future intake is proposed as a floating intake at the dam. The water treatment plant is proposed to be located on the property owned by the County that the transfer station in a vacant area. The exact time has not yet been determined.

2. Once the build-out is complete, how many new permanent staff will be needed to run the water system and how much will they cost? This is impossible to answer at this time.

3. What are the funding sources for building the new water system? Reserve funds? New taxes? Private investments from industries or developers? New grants? There are a variety of sources that have been discussed, including grants, low interest loans from the State, etc.

4. What areas of Polk County would be served by the new water supply? What areas will not be served? The overall intent is to provide as many customers as possible.

5. How many new customers do you anticipate following the build-out and how much revenue do you project taking in from these new customers? This is impossible to answer at this time.

6. Will this revenue meet or exceed the annual ongoing costs for running the water treatment plant and distribution system? It has always been proposed that 100% of the operating costs would be met by the system revenues.

7. When does the County expect to "break even" on the initial investments for intake, treatment plant, and distribution lines? This is difficult to answer due to the unpredictability of the system growth.

8. How much water (gallons per day) can be taken from Lake Adger or the Green River per day? What document(s) set those limits? How will water removal affect lake water levels on a daily basis? The current proposal is 2 mgd (million gallons per day), that is well below 20% of 7Q10 (DNER established low stream flow rate) and the safe yield of the lake.

9. How much will Lake Adger levels drop if the maximum water allowed is drawn out each day? (Would have to consider average rainfall on watershed and incoming water from river and streams and springs.) In normal conditions, 2 mgd would cause

less than 1 inch fluctuation.

10. Are there other water intakes upstream of Lake Adger, like Summit Lake? Are there plans for such by Henderson County? If so, when, how much water, etc?

In terms of existing upstream water supply classified waters and associated intakes on the Green River, there are none.

11. What will be the capacity of the water treatment plant in gallons per day? Proposed 2 mgd.

12. Is the capacity of the water treatment plant incrementally reduced by the amount of sediment in the source water? If so, what is the capacity range? The plant capacity is not affected by silt.

13. Is the cost of treating water incrementally increased by the amount of sediment in the source water? If so, by what factor? There is a possibility of increased treatment cost. The factor is impossible to determine at this time.

14. How many households would this amount typically serve? Approximately 10,000

15. Is expansion or a larger water treatment plant planned for the future? No specific proposals have been evaluated.

16. Is the County allowed to sell treated water to customers outside Polk County? If so, is this planned? Yes it is possible. There are other entities in the State that provide water out of their jurisdiction. No specific proposals have been evaluated by staff. If an opportunity does arise, we will evaluate it based upon its merits and benefits to the Citizens of Polk County.

17. Is the County allowed to sell un-treated raw water to customers outside Polk County? If so, is this planned? Yes it is possible. There are other entities in the State that provide out of their jurisdiction. No specific proposals have been evaluated by staff. If an opportunity does arise, we will evaluate it based upon its merits and benefits to the Citizens of Polk County.

18. What is the 30' buffer? With WS-IV classification, no development will be allowed in this buffer. How does this affect current property owners who have not yet built a home? Will sheds, walkways or driveways be allowed in the buffer?

The 30' setback from perennial waters and shorelines only applies to ***new development that disturbs one (1) acre or more of land.*** *Sheds and driveways would not be allowed in the vegetated setback. Some walkways could be allowed if they are considered a water-dependent structure and built-upon area is minimized. For example, stepping stone or mulched pathways would be preferred over concrete*

walkways. For further information, including activities allowed in the 30' buffer, please see 15A NCAC 02B .0216 (3)(b)(D), (F), and (as follows) (G):

> No new development shall be allowed in the buffer; water dependent structures, or other structures, such as flag poles, signs and security lights, which result in only deminimus increases in impervious area and public projects such as road crossings and greenways may be allowed where no practicable alternative exists. These activities shall minimize built-upon surface area, divert runoff away from surface waters and maximize the utilization of BMPs;

19. How is 30' restriction measured? Elevation, or running along the terrain, or along a horizontal line surveyed from the shoreline?

The 30' setback is measured landward in a horizontal fashion from the top of bank of each side of streams or rivers and from the normal pool elevation of the lakes and reservoirs. Note that the 30' setback applies to low-density projects, which are projects that do not exceed 24% built upon area or 1 residence per ½ acre; for high density projects, which exceed the low density thresholds just mentioned, the required setback is 100'. As a reminder and as mentioned above, only ***new*** *development projects that disturb* ***one (1) acre or more*** *are impacted by the proposed WS-IV regulations.*

20. Lake Adger has covenants, restrictions, recreational easements and guidelines (Shoreline Remediation) regarding activities within our 911.6 to 925 contour elevation. Does the proposed WS-IV classification's 30' buffer with its rules and regulations take precedence, making ours null and void?

All rules and regulations applicable in the 30' or 100' setback would need to be followed, and where overlap for a particular parameter exists among rules/ordinances, the most stringent regulation would need to be followed.

21. Will there be any change in regulations regarding boating and/or motor size in Lake Adger?

The requirements associated with the WS-IV classification (15A NCAC 02B. 0104 and .0216) do not regulate boating and/or motor size.

22. Will there be any new restrictions on the recreational use of Lake Adger as a result of this reclassification?

The requirements associated with the WS-IV classification (15A NCAC 02B. 0104 and .0216) do not regulate recreational use.

23. Will this proposed reclassification have any impact on the public access to the lake? Will this be restricted or limited relative to the current access?

The requirements associated with the WS-IV classification (15A NCAC 02B. 0104 and .0216) do not regulate public access.

24. Do you anticipate any increase in home construction costs as a consequence of reclassification?

The economic impact of the WS-IV classification's regulations on home construction costs is extremely difficult to assess, partially because it would vary based on the characteristics of each specific property. The Division of Water Resources is not aware of any publicly available evaluation that has adequately assessed the impact of a WS-IV classification on home construction costs.

25. What, if any, consequence does reclassification and utilization of Lake Adger water for drinking have for property values within the Lake Adger development?

The economic impact of the WS-IV classification's regulations on property values is extremely difficult to assess, partially because it would vary based on the characteristics of each specific property. The Division of Water Resources is not aware of any publicly available evaluation that has adequately assessed the impact of a WS-IV classification on property values.

26. Lake Adger is in need of dredging. Will reclassification for use as a source of drinking water necessitate action on this issue?

The requirements associated with the WS-IV classification (15A NCAC 02B. 0104 and .0216) do not regulate dredging.

27. Does the County foresee working, either alone or in concert with other government agencies, to reduce the amount of sediment flowing into Lake Adger waters via tributary creeks and rivers located within the bounds of Polk County?
The County will work with State Agencies to enforce the requirements of the Watershed Regulations. The County will work hand in hand with the State in enforcing the Erosion Control requirements. However the state does have the final say. We will also help pursue grants in conjunction with our soil and water department at the direction of the soil and water board.

28. Lead arsenate treatments were allowed several decades ago in the apple orchards at higher elevations to the West of the Lake. Has that soil been tested for lead and arsenic pesticide residue? If the soil has tested positive then that soil must not be disturbed. Any level of development or digging will require that lead & arsenic contaminated soil be carefully taken to a toxic waste dump.

ARO DWR staff are not aware of any such soil testing, but will continue to investigate to determine if any assessment has been performed in the area. Lead arsenate is highly immobile in the soils, including its very limited ability to leach to groundwater or discharge to surface waters. State regulations have limited applicability in regard to requiring assessment of former agricultural lands prior to development. However, if impacts are documented, mitigation of risk can be required.

Lake Adger Reclassification (aka: Proposed Water Supply Reclassification of the Green River including Lake Adger)

The following website links go to NC Dept of Environment and Natural Resources (NC DENR) Division of Water Resources (DWR)

North Carolina Administrative Code Division of Water Resources Rules & North Carolina General Statutes
http://portal.ncdenr.org/web/wq/rules
Choose 15 NCAC 02B.0306 for Broad River Basin/Lake Adger reclassification

Proposed Water Supply Reclassification of Green River Including Lake Adger Public Hearing Announcement
http://portal.ncdenr.org/c/document_library/get_file?uuid=8d2b9c02-37a6-4f86-88fa-f754f8b29411&groupId=38364

This site also contains the above information with a map of the proposed Critical Area(CA) and Protected Area (PA) along with other reclassification information pertaining to Green River/Lake Adger Reclassification
http://portal.ncdenr.org/web/wq/event-calendar/-/journal_content/56_INSTANCE_pFx2/38364/18813695

Hearing Officer Reports: Also known as a "Report of Proceedings," these reports are written by the presiding hearing officers after a public hearing. They give details about the proposed amendments and include comments from the public at the time of the hearing. (Examples of previous reclass hearings) http://portal.ncdenr.org/web/wq/ps/csu/hor

Environmental Management Commission (Water Quality Committee sends approval to EMC for legislative action after receiving recommendations from DENR DWQ)
http://portal.ncdenr.org/web/emc

Guide to Surface Freshwater Classification (brochure 2011)
http://portal.ncdenr.org/c/document_library/get_file?p_l_id=1169848&folderId=2209568&name=DLFE-35732.pdf

Classification and Standards Rule Review
http://portal.ncdenr.org/web/wq/ps/csu

Classification descriptions
http://portal.ncdenr.org/web/wq/ps/csu/classifications

Surface Water Standards
http://portal.ncdenr.org/web/wq/ps/csu/swstandards

Trout Water Frequently Asked Questions
http://portal.ncdenr.org/c/document_library/get_file?folderId=125637&name=DLFE-8313.pdf

Maps and GIS
http://portal.ncdenr.org/web/wq/ps/csu/maps

Water Supply Planning Branch: You can find local water supply plans – see websites below
http://www.ncwater.org/?page=128

Frequently Asked Questions for Water Supply Plans
http://www.ncwater.org/Water_Supply_Planning/Local_Water_Supply_Plan/learn.php

Polk Water Department – South (Local Water Supply Plan – LWSP)
http://www.ncwater.org/Water_Supply_Planning/Local_Water_Supply_Plan/report.php?pwsid=10-75-010&year=2012

http://www.ncwater.org/Water_Supply_Planning/Local_Water_Supply_Plan/index.php
Choose county: Polk
Choose sub basin: Broad
Choose year: 2012

Rules Governing Public Water Supply:
http://www.ncwater.org/?page=192

Water Shortage Response Plans (look for Polk County Water Department – South)
http://www.ncwater.org/Water_Supply_Planning/Water_Shortage_Response_Plans/plan

Erosion and Sedimentation Control Commission:
http://portal.ncdenr.org/web/lr/erosion

May or may not be of interest to you:

1974 info: (Polk County info found on page 191 of pdf)
http://www.ncwater.org/Education_and_Technical_Assistance/Ground_Water/Publications/Part%203%20Mtns%20and%20Western%20Piedmont.pdf

Arsenic in apple orchards (NC info found on page 19 of report – Barber Orchards, Hendersonville, NC)
http://www.deq.state.va.us/Portals/0/DEQ/Land/RemediationPrograms/Brownfields/Weaver1-195-1-PB-8r.pdf
This report was sent by a homeowner because of concern in Bright's Creek area and sediment at marina.

Kountis, Elizabeth

From: lynne and glenn <lynneandglenndulken@gmail.com>
Sent: Monday, April 21, 2014 6:03 AM
To: Kountis, Elizabeth
Cc: Lake Advisory Committee; Schuyler Conard
Subject: Public Comments on Proposed Rule: 15A NCAC 02B .0306

Dear Ms. Kountis,

We bought land at Lake Adger at the mouth of Ostin Creek (which is a certified N.C. trout stream) sixteen years ago. At that time Ostin creek , was a pristine mountain stream where you could see round river stones covering the bottom from one end to the other. Now that same creek is filled with sediment many feet thick and sending a huge sprawling delta of mud into Lake Adger. The entire cove we live on is now in danger of becoming a mud flat. I hope that using Lake Adger as a source of drinking water will help everyone wake up to the devastating environmental degradation that is happening all around Lake Adger, with heavy silting at all of the inlets and severe shore line erosion leaving our once beautiful lake looking like a war zone of fallen trees and ever deepening cliffs of exposed red clay or loamy dirt. Any help you can bring to this calamity will be greatly appreciated.

Thank you,

Glenn and Lynne Dulken

--

"Compassion and love are not mere luxuries. As the source both of inner and external peace, they are fundamental to the continued survival of our species." The Dalai Lama

Lake Adger Property Owners Association, Inc.

Elizabeth Kountis
DENR
Division of Water Resources, Planning Section
Raleigh, NC 27699

April 20, 2014 sent via email: elizabeth.kountis@ncdenr.gov

Dear Ms. Kountis:

RE: Reclassification GreenRiver/Lake Adger 15A NCAC 2B.0306

The Lake Adger Property Owners Association Board of Directors is the governing body of our Lake Adger Property Owners Association. We are directly elected by Lake Adger property owners and as such, believe it is important to comment on the watershed reclassification process currently under way.

While the Lake Adger Property Owners Board of Directors supports in principle the use of portions of the Green River and Lake Adger as a source of drinking water for the citizens of Polk County, we have significant concerns about the lack of adequate protections for our watershed and the potential unintended consequences of the proposed reclassification to WS-IV. Our concerns fall into five general but interrelated areas: Drawdown, Siltation, Property Values, Planning and Partnering with Stakeholders:

- Drawdown – Lake Adger currently experiences frequent drawdowns in the two to three foot range as a result of Northbrook's operation of the hydroelectric dam. At low lake levels, moored boats become stuck in mud and fish spawn nests are exposed to the air. With the added drawdown for drinking water, this situation has the potential to only get worse, not better. And drought conditions, perhaps coupled with drawdowns that exceed the current projection of 2 million gallons per day, could have even more serious adverse impact on aquatic wildlife and recreational use of the lake.
- Siltation – Per the Green River Watershed Alliance Report, Lake Adger faces substantial siltation challenges, partly as a result of natural river to lake siltation processes and partly due to lack of erosion control measures within the Lake Adger watershed. Siltation negatively impacts aquatic wildlife, overall water quality, overall lake storage capacity and navigability of these waters. Reclassification offers no additional erosion protection, and County decisions to date have favored lack of regulation and oversight in this area.

- Property Values – The combination of excessive drawdown and increasing siltation combine to increase the likelihood of both aesthetic and functional reduction in the desirability of owning lakefront property at Lake Adger. Plummeting property values not only negatively impact property owners; they also erode the County tax base and provide a basis for future lawsuits.
- Planning – Concerns about drawdown, siltation and property values would be less acute if information was available regarding the specific plans the County has for moving forward once reclassification is achieved. While the County has responded to questions posed by Lake Adger residents, much of the information currently available reflects a position of "we don't know yet, but we'll make good decisions when the time comes".
- Partnering with Stakeholders – To date, Polk County government has moved forward with their request to the State for reclassification without initiating conversations with Lake Adger property owners or, to the best of our knowledge, any of the lake's many stakeholder groups. Decisions about policies and processes related to using Lake Adger as a source of drinking water affect us all, and we would like to see a formal process created and implemented that moves us forward in a collaborative way.

While we are mindful of the fact that many of the issues outlined above don't fall within the specific charge of DENR with regard to reclassification, we understand your larger mission to be the protection of North Carolina's environment and natural resources. With that more overarching objective in mind, we request that when considering reclassification of parts of the Green River and Lake Adger, you do all within your power to help us protect this valuable water and wildlife resource.

Respectfully submitted,

Lake Adger Property Owners Association Board of Directors

Jay Adams, Chair

Kountis, Elizabeth

From: dave.g.harris@att.net
Sent: Sunday, April 20, 2014 8:15 PM
To: Kountis, Elizabeth
Subject: Lake Adger Reclassification

As a Lake Adger resident, I am concerned with the effect of this reclassification and the subsequent water draw down on the quality of life, emergency water supplies, and property values on our Lake.

While there has been mention of a less than one inch estimated change in lake level due to operation of the 2mgd water treatment plant during normal in-flow conditions, the draw down from the operation of the power plant is not considered. This is an important factor especially during drought conditions when in-flow is below the normal.

Question: What is the maximum draw down rate when both the treatment plant and the power plant are operating? What is the corresponding decrease in lake level?

Question: How has the decreased storage volume in the lake due to the displacement of water by the sediment deposits been accounted for in the calculation of these draw downs?

The recent forest fire near the Lake Adger Marina was quickly contained due to the efforts of fire fighters and the forestry service. A helicopter with dip bag was utilized to remove water from the lake in close proximity to the fire and dump in on the burning areas. That happens to be the inlet end of the lake most effected by the severe ongoing sedimentation accumulation problem. If the combination of treatment plant and power plant draw down as well as low in-flow happened to intersect that day, the helicopter would have had to travel further down the lake to find sufficient depth to fill the water bag. This delay could have caused the loss of some chalets which were only a couple hundred yards down wind from the fire.

It seems that establishing a minimum required lake level of "X" feet below full pond would address these issues. This would require cooperation between the County and Northbrook. It would be easiest to define this at a certain point in the navigation channel leading to the marina. There were days last fall when the lake level was down and I could not travel this channel without bottoming out my pontoon boat which has a low draft.

Thank you for your consideration.

David and Regina Harris
272 Canoe Drive
Mill Spring, NC 28756

828-894-5956

Kountis, Elizabeth

From: reganbj8 <reganbj8@aol.com>
Sent: Friday, April 18, 2014 10:13 PM
To: Kountis, Elizabeth
Subject: Public Comments on Proposed Rule: 15A NCAC 02B .0306

Dear Ms Kountis:

My name is Bob Regan and my wife, Ann and I live on the cove next to the main Marina at 986 Parkway N Rd. We chose to build our last home here at Lake Adger over 7 years ago. Initially it was ideal.
But we have became increasingly concerned when the water depth in our cove went from 7-9 feet to 1-3 feet ! And the sandbar (silt) between us and the south side where the Green River enters the lake continues to grow so much that it won't be long before people start erecting stilt shacks to live right ON the lake! (illegally).
Our pontoon pleasure boating and fishing are dramatically reduced and the value of our home and lakeside property investment has plummeted.

Please seriously consider doing everything possible to preserve Lake Adger- the jewel of Polk County, when addressing Proposed Rule: 15ANCAC02B.0306.

Sincerely,
Bob & Ann Regan

Kountis, Elizabeth

From: Joe Boeckx <jboeckx@yahoo.com>
Sent: Thursday, April 17, 2014 9:47 PM
To: Kountis, Elizabeth
Subject: Green River Watershed/Lake Adger

1. In general I support the reclassification of the watershed, including Lake Adger, to drinking water status. I think doing so is an effective use of available public resources.
2. I have concerns about the possibility of potential draw down levels of Lake Adger as a result of the proposed reclassification to drinking water status.
I think reasonable draw done regulations need to be put in place to protect Polk County and it's lake properties.
3. I am concerned that if future draw downs of the lake are significant enough to stop navigation in the Lake Adger Marina and coves property values and property tax revenues will decrease.
4. I think the reclassification plan should include well thought out draw down procedures.
5. I am concerned that if we reclassify our water shed without appropriate draw down plans we risk lost property tax revenue and expensive litigation as a result of damage to home owner property values.

I think the development of the proposed drinking water system is in the best interest of our county. Thank you for giving me an opportunity to make these comments.

Joe Boeckx
100 South

Pointe Road

Mill Spring,

NC 28756

To: ELIZABETH KOUNTIS
DENR - DIVISION OF WATER RESOURCES
PLANNING SECTION
1611 MAIL SERVICE CENTER
RALEIGH, NC.27699-1611

From: W.G. SMITH
P.O. BOX 517
MILL SPRING, NC. 28756
828-894-6043

SUBJECT: PUBLIC HEARING, MARCH 20, 2014
GREEN RIVER RECLASSIFICATION
POLK COUNTY, NORTH CAROLINA

This information is addressed to your professional technically trained staff. It is based on the reviewer training and facts to preserve and maintain the state surface water resources for present and future citizen use. These resources should be protected at their highest and best use for all. The decision should not be diluted or dummied down for individuals or politically motivated or greedy personal gains or technically incompetent decisions by untrained elected officials.

GIVEN FACTS:

1) The Green River watershed in Polk and Southern Henderson Counties Is a unique undeveloped or predominantly undeveloped area.

2) Developed areas are generally single family residences or recreational cabins. There are no industrial facilities or landfills.

3) In Polk County, the 17000+- acre watershed, consists of the following.
   A) State of North Carolina owned Game Land (undeveloped watershed of 6000 acres) (WS - 1)
   B) Polk County owned Lake Adger Dam & Lake undeveloped watershed, 450 +- acres (WS -1)
   C) Privately owned undeveloped watershed, 2000 +- acres (WS-1)
   D) Predominately undeveloped golf courses 5000 +- acres (WS-2)
   E) Privately owned predominately undeveloped watershed Estimated 3000 +- acres (WS - 2)
   F) One Trailer Park (WS - 4)

IN SUMMARY:

- State or County owned, 6450 +- (38%) (WS-1)
- Privately owned undeveloped 2000 +- (12%) (WS-1)

- Privately owned predominately undeveloped 8000+- (47%) (WS -2)

Therefore, the Polk County watershed is a 1 or 2, not watershed 4.

4) State tests indicate Trout waters

5) State tests indicate high quality waters

6) Henderson County Green River Watershed upstream of Polk County Watershed, is low to predominately undeveloped.

MY OPINION:

No technical judgment and poor political judgment on Hendersonville's part, stopped cooperative effort between counties. This cooperative effort was required by North Carolina for area wide resource protection. It appears that this area should be WS-3 or 4, as part of this program or as an addition to this program.

CONCLUSIONS:

1) The unique Green River watershed in Polk County, should be classified in sections as follows:
WS-1 Natural undeveloped public ownership 6450 +- Acres (38%)
WS-1 Undeveloped private ownership 2000+- Acres (12%)
WS-2 Predominately undeveloped private ownership 8000+- Acres (47%)

2) As upstream support in Henderson County,
WS-3 Low to predominately undeveloped private ownership
Trout waters and high quality waters apply in Polk County. If these exist in Henderson County, they should also apply.

3) Polk County Dam and Reservoir ownership (Lake Adger) should be a positive initial step in water supply planning.

4) Polk County willingness to share water with Henderson County, showed a positive attitude. Henderson County may need this water in the future and should help preserve it's quality now with a WS-3.

5) Please use the staff's professional technical knowledge to craft a solid Watershed classification free of incompetent, political agendas.

NCDENR
North Carolina Department of Environment and Natural Resources
Office of Land and Water Stewardship

Pat McCrory
Governor

Bryan Gossage
Director

John E. Skvarla, III
Secretary

April 3, 2014

Elizabeth Kountis
DENR/DWR Planning Section
1617 Mail Service Center
Raleigh, NC 27699-1617

Dear Ms. Kountis,

The Division of Water Resources is proposing the reclassification of a reach of the Green River, including Lake Adger to Class IV Critical Area and Class IV. This will support Polk County's intention to use Lake Adger as a water supply source.

The Green River downstream of Lake Adger supports the most diverse mussel assemblage in the Broad River basin, hosting five species, including the Carolina lance (*Ellipito angustata*), Variable spike (*Elliptio icterina*), Eastern Elliptio (*Elliptio complanata*), Eastern floater (*Pyganodon cataracta*) and the State Threatened Creeper (*Strophitus undulatus*). Although all of these species are not considered rare in North Carolina, the co-occurrence of so many mussels together stands out in the Broad River basin. In addition, this stretch of river hosts the Significantly Rare Carolina foothills crayfish (*Cambarus johni*) and the Significantly Rare Seagreen darter (*Etheostoma thalassinum*). This important aquatic community is dependent not only on water and habitat quality but also on stream flows that continue to support these species.

Thank you for the opportunity to provide you this information on the natural heritage of the Green River.

Sincerely,

Andrea Leslie

Andrea Leslie
Western Freshwater Ecologist
Natural Heritage Program
andrea.leslie@ncdenr.gov
828-296-4720

ec: Chris Goudreau and T.R. Russ, NC Wildlife Resources Commission

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-707-8600 \ Internet: www.ncdenr.gov

Lake Adger Reclassification Public Hearing

March 27, 2014

Comments by Renée McDermott, Tryon, NC

My name is Renee McDermott and I'm a retired environmental attorney. I was based in Indianapolis, but I've worked throughout the United States on environmental matters, with a number of state environmental agencies including Indiana, Illinois, New Jersey, and Florida and with EPA offices in Washington, D.C., Chicago, Boston, Philadelphia, Atlanta and San Francisco.

I also have served as a Polk County Commissioner. In fact, I was one of the five Commissioners who voted to acquire Lake Adger for a Polk County water source.

Preliminarily, I object to the secrecy the Polk County Board of Commissioners (BOC) used in seeking a WS-IV classification rather than WS-III classification for the Green River watershed. I understand that the State previously wanted WS-III, and I'm sorry that apparently has changed.

The Polk County Board of Commissioners gave no public indication that they were seeking a WS-IV, rather than WS-III, classification until long after they had pretty much "sealed the deal" with DENR officials. Other than a brief mention during a North Carolina Association of County Commissioners (NCACC) "County Day" meeting at the state legislature with Representative Chris Whitmire, the majority on the BOC did not even tell the fifth commissioner about their further discussions with Representative Chris Whitmire or that, in June, 2013, they had directed County Engineer Dave Odom to meet with DENR to officially ask for WS-IV classification.

The "County Day" meeting with Representative Whitmire, at which four Polk County BOC members were present (a quorum), constituted an illegal meeting under the North Carolina Open Meetings law. No public notice was given that the meeting would be held, and no minutes were kept or shared with the public. The Polk County public was kept entirely in the dark about what was said, including what was said about reclassification of the watershed.

Nothing was said to the public until the subject of reclassification showed up on a BOC agenda seven months after County Engineer Odom met with DENR and

asked for the WS-IV classification. Prior to the majority's sending Mr. Odom to DENR, no public vote was taken by the BOC to authorize him to do so or to authorize the BOC to request any reclassification, another violation of the Open Meetings law.

The BOC kept the public completely in the dark.

I am in favor of reclassification of the Green River Watershed as a drinking water source. **But a Class IV designation for the Green River Watershed is much too liberal to protect Lake Adger and the drinking water Polk County hopes to take from the Lake.**

According to the information in a recent Board of Commissioners Board Packet, some of which was explained at the public hearing, a Class IV designation would allow industrial waste to be discharged in the watershed. With no use restrictions on the land in the Green River Watershed in Polk County, it is unzoned, industrial facilities can be built there. And with a Class IV watershed designation, those industrial facilities will be able to discharge their wastes, adding those wastes to the water Polk County citizens will drink, swim and fish in.

In addition, the information in the board packet stated that landfills can be built in a Class IV Watershed, though not in the "critical area". Again, with no use restrictions, landfills can be sited where the county's drinking water will come from. We don't want that to happen. It's a very bad idea.

Information provided by DENR states that the WS-IV designation is generally used in "moderately to highly developed" watersheds and where a better watershed designation "is not feasible." The Green River watershed is certainly not moderately to highly developed, and it cannot be honestly argued that a higher watershed designation, at least WS-III, is not feasible.

It's clear that the only reason to seek the WS-IV designation is to relieve the Board of Commissioners of taking the proper actions to protect the watershed from pollution, to protect Polk County's drinking water. It's clear the Board of Commissioners is afraid to take those steps. At least they're more afraid to take those steps than to allow the waters of the Green River watershed to become polluted. Indeed, Commission Vice Chair Michael Gage expressly stated that he does not want to place any restriction on "my people" in the Green River watershed.

In addition, having a WS-IV designation will not adequately protect the waters from pollution from sedimentation. Lake Adger is already rapidly filling with sediment. There are sediment sandbars. The way out into the lake from the marina has closed into a narrow path because of sediment. It will continue to rapidly get worse if the WS-IV designation is used.

And, the current and future sedimentation will increase the water processing costs when Polk County starts selling drinking water from the lake, raising the water rates. This will not only cost those on the Polk County water system more from higher water rates, but it will cost every property tax payer in Polk County more, as the water rates are insufficient to recoup any of the capital costs, or even all of the operating costs, of the system.

Renée McDermott

845 Fox Run Lane

Tryon, NC 28782

(828) 859-6131

rmcdermott@windstream.net

188 Green Meadows Lane
Columbus, NC 28722
March 26, 2014

Ms Elizabeth Kountis
DENR-Division of Water Resources, Planning Section
1611 Mail Service Center
Raleigh, NC 27699-1611

Dear Ms Kountis

I'd like to provide you with my comments re: the Proposed Water Supply Reclassification of the Green River in Polk County, Including Lake Adger. I was at the Public Hearing in Polk County and was encouraged at the support the proposal received.

By way of background I am a retired 32 yr employee of Eastman Kodak in Rochester, NY. My early career was that of an environmental engineer. We performed numerous water quality studies of the Genesee River, the receiving water for our treated wastewater effluent. We made annual surveys of the upstream and downstream quality including hydraulic math modeling during various discharges. We worked with the NYS Department of Environmental Conservation on regulatory development as well as improvement programs.

It's vitally important that Polk County secure a reliable drinking water source for the future. We've been here for 9 years and experienced moderate drought over a 2-yr period. A number of residents lost their wells and required a hauler to bring drinking water to them. Using Lake Adger as a drinking water source means the upstream sources within the designated areas be reclassified.

I strongly support this need and believe the County government will take responsible action to maintain the designated watershed providing this reliable supply to the County.

In NY, I lived on the shore of Lake Ontario where water availability was never in doubt. Here in Western NC this is not the case. We're fortunate to have Lake Adger as an option.

Thanks.

John D. Hill

My name is Linda Greensfelder. I make my home at Lake Adger. I welcome the opportunity to comment on the proposed reclassification of parts of the Green River and Lake Adger.

If the proposed reclassification is approved by the State, Polk County will enjoy a valuable new source of drinking water. Lake Adger water will support growth in the County, and will presumably at some point produce important revenues. As water becomes an increasingly scarce commodity in our world, the value of our waters will continue to grow. And as assured by the State, with reclassification, the Green River and Lake Adger will continue to serve the County and its many visitors as a destination for recreation – floating, kayaking, canoeing, fishing, swimming. These are all good things for the people of Polk County.

However, as with many proposals that we would consider to be "good ideas", the devil is in the details. And many of the details of the plans that this proposed reclassification will set in motion are as yet unknown or perhaps undisclosed. While the State cites certain requirements regarding building setbacks, soil disturbance and buffer zones, many of the decisions related to the protection of Lake Adger and Green River waters within Polk County will be made at the local level. This includes, for example, the handling of the numerous existing erosion issues that fall outside of State WS-IV requirements and also many aspects of the management of silt build-up in Lake Adger. As ongoing siltation continues to reduce the storage capacity of the lake, in the years to come drawdowns could have increasing impact on Lake Adger water levels. Decisions regarding how much water will be taken and to whom it will be sold will also be made by the

County. While the current proposal is for a cap at 2 million gallons per day, I have heard no assurances that this number won't change. What if the County decides it needs to generate additional revenues by selling water to other jurisdictions? What if our area experiences another multi-year drought? I picture Lake Lanier, outside of Atlanta, in 2007, and again in 2012 – a little bit of water surrounded by lots and lots and lots of red clay. Such a scenario is not good for fish and wildlife, not good for Lake Adger residents and not good for the citizens of Polk County.

I am not writing in opposition to this proposed reclassification. But I am leery of big changes that happen without careful planning, and of County decision processes that occur in the absence of stakeholder involvement and full transparency. I have concerns about a reclassification that appears to be moving forward in a manner comparable to building a car while already driving it down the road. I have concerns about a reclassification that appears to be moving forward without any evidence of a steadfast commitment at the County level to effectively protect what is arguably this County's most valuable natural resource. I am hopeful that such a commitment will be forthcoming, and that current and future Polk County Commissioners will thoroughly and objectively study the issues associated with this reclassification and openly and inclusively engage with our County's diversity of stakeholders to craft plans and policies that will truly serve the best interests of us all.

Kountis, Elizabeth

From: Elizabeth Burdett <puzzlegully@tds.net>
Sent: Thursday, April 03, 2014 9:14 AM
To: Kountis, Elizabeth
Subject: Green River designation

Dear Ms. Kountis,

I want to encourage the State to choose WS-III designation for the Green River. Our family owns 100+ acres near Camp Creek, at the Henderson/Polk Co.line. Camp Creek has experienced a good bit of sedimentation in the past, coming from developments in Henderson Co., though that has stopped because the developments have gone bankrupt or been completed. Not much earth moving is taking place at present.

It seems to me that a WS-III is more appropriate for the Green River, thanks to the fact that some much of the watershed is already protected through conservation easements or State ownership. Ninety five acres on Camp Creek are preserved with a very restrictive conservation easement. It will be much easier to list the Green River as WS-III now than it will be in 20 years when the real-estate market is back in full swing and the developments start popping up on the ridge lines at the top of the watershed.

So, please consider the WS-III designation for Green River very seriously, even if it only includes Polk County. Most of the sediment from the upper reaches of the river in Henderson Co., gets dropped off in Lake Summit long before it can flow into Polk Co.

Thank you for your time and consideration. Sincerely, Elizabeth Burdett

Kountis, Elizabeth

From: Kountis, Elizabeth
Sent: Thursday, April 03, 2014 3:26 PM
To: billpuette@hughes.net; doug.besler@ncwildlife.org
Cc: Manning, Jeff (jeff.manning@ncdenr.gov)
Subject: FW: Maintenance of Lake Adger Marina
Attachments: DOC007.pdf

fyi

Elizabeth Kountis
Senior Environmental Specialist
Classifications & Standards/Rules Review Branch
NC DENR Division of Water Resources
Tel: (919) 807.6418 FAX: (919) 807.6497

From: Jim Smith [mailto:jimsmith@lakeadger.com]
Sent: Thursday, March 27, 2014 10:52 AM
To: Kountis, Elizabeth
Cc: 'Chuck Lowe'; 'Mike and Jamie Davidson'; Jay Adams; Tom Fitzgerald; 'Jean Boles'; dbrannon1@charter.net; 'Gerald and Susan Atwood'; jeffdglass@gmail.com; spleune@pmgco.com
Subject: Maintenance of Lake Adger Marina

Dear Ms. Kountis:

In reading questions regarding Lake Adger and the Watershed Reclassification, I noticed Sky Conard's question number 8 regarding who is obligated to dredge the Lake Adger Marina.

In case you need the document, attached is a copy of the recorded " Lake Adger Marina and Marina Boat Ramp Facility Public Access Agreement", executed by Lake Adger Developers, Inc., Lake Adger Property Owner's Association, Inc., The North Carolina Wildlife Resources Commission, and by Polk County, NC.

Item 9 in this document is highlighted for ease of reference and clearly places the responsibility to maintain the channel and parking lot on WRC.

Best wishes,

Jim

James R. Smith
Jim Smith & Associates, Inc.
135 Metro Drive
P.O. Box 4125
Spartanburg, SC 29305
864-583-8150

FILED in POLK County, NC
on Dec 15 2004 at 12:03:34 PM
by: SHEILA W. WHITMIRE
REGISTER OF DEEDS
BOOK 321 PAGE 1719

LAKE ADGER MARINA AND MARINA BOAT RAMP FACILITY PUBLIC ACCESS AGREEMENT
[TYPE OF DOCUMENT]

GRANTOR(S): BY AND BETWEEN LAKE ADGER PROPERTY OWNERS ASSOCIATION, INC., LAKE ADGER DEVELOPERS, INC., NORTH CAROLINA WILDLIFE RESOURCES COMMISSION, POLK COUNTY, AND NORTHBROOK CAROLINA HYDRO, LLC

GRANTEE(S):

PREPARED BY: William Clarke, attorney at law

MAIL TO: * William Clarke
Roberts & Stevens, P.A.
P.O. Box 7647
Asheville, NC 28802

R&S:317711-1

BOOK 321 PAGE 1720

STATE OF NORTH CAROLINA
COUNTY OF POLK

LAKE ADGER MARINA AND MARINA BOAT RAMP FACILITY PUBLIC ACCESS AGREEMENT

This Agreement made this 13th day of December, 2004, by and between the Lake Adger Property Owners Association, Inc. ("POA") with an office and place of business at 135 Metro Drive, Post Office Box 4125, Spartanburg, South Carolina 29305 , Lake Adger Developers, Inc. ("LAD") with an office and place of business at 135 Metro Drive, Post Office Box 4125, Spartanburg, South Carolina 29305, the North Carolina Wildlife Resources Commission ("WRC") an agency of the State of North Carolina with its principal office at 512 North Salisbury Street, Raleigh, North Carolina, Polk County, North Carolina ("Polk County") a body corporate and politic with its principal office at Womack Building, Columbus, North Carolina, 22722 and Northbrook Carolina Hydro, LLC ("Northbrook" or "Northbrook Carolina") with its principal office at 20 North Wacker Drive, Suite 3123, Chicago, Illinois 60606;

WHEREAS, LAD acquired from Duke Power Company in December, 1996, certain real property described in Deed Book 237 at Page 1876 Polk County Registry together with an appurtenant non-exclusive recreational easement (the "Recreational Easement") as set forth in a Special Warranty Deed from Duke Power Company to Northbrook Hydro, LLC recorded in Deed Book 237 at Page 1416 Polk County Registry;

WHEREAS, the real property described in Deed Book 237 at Page 1876 surrounds most of the waters of Lake Adger;

WHEREAS, the Recreational Easement allows for fishing, swimming, boating and other similar recreational activities on Lake Adger subject to certain restrictions and limitations all as set forth in Exhibit A, a true and accurate copy of the Recreational Easement;

WHEREAS, The Recreational Easement allows for the construction and operation of a marina for the storage and maintenance of boats and a boat dock;

WHEREAS, The Recreational Easement requires, as a condition of constructing and operating the marina, that a public access point for the launching and retrieving of boats (the "Marina Boat Ramp Facility") be provided and maintained;

WHEREAS, LAD has commenced development of the property around Lake Adger and formed the Lake Adger Property Owners Association, Inc. ("POA");

WHEREAS, LAD has constructed and operates a marina (the "Lake Adger Marina") including a public access point for the launching and retrieving of boats (the "Marina Boat Ramp Facility") ;

WHEREAS, the POA, LAD, WRC, Polk County and Northbrook all desire to clarify and define public access to Lake Adger via the Lake Adger Marina and the Marina Boat Ramp Facility;

WHEREAS, Polk County joins in this Agreement to indicate and signify its agreement with the provision of public access via the Lake Adger Marina and the Marina Boat Ramp Facility in accordance with the terms and conditions described herein;

WHEREAS, Northbrook joins in this Agreement solely to indicate and signify its agreement with the provision of public access via the Lake Adger Marina and the Marina Boat Ramp Facility;

It is Now Therefore, in consideration of the covenants, promises and conditions set forth herein, hereby agreed as follows:

1. The POA and LAD hereby convey to the North Carolina State Property Agency for the benefit of WRC and the public, a non exclusive perpetual permanent easement over that portion of the Lake Adger Marina property designated as Tract A on a plat recorded in Card File E, Page 803 Polk County Registry and the Marina Boat Launch Facility show on the same plat (hereinafter referred to as the " Lake Adger Marina and Marina Boat Launch Facility"). The easement shall be for members of the general public to make use of the Lake Adger Marina to park vehicles, including boat trailers and to make use of the Marina Boat Ramp Facility to launch boats and otherwise access the waters of Lake Adger for fishing, swimming, boating and other recreational purposes. The Scope of the Easement is limited to use consistent with the terms and conditions of the Recreational Easement and this Agreement.

2. The Marina Boat Ramp Facility and Lake Adger Marina shall be operated jointly by WRC, LAD and the POA. All of the parties hereto agree that this will be the only public access point to the waters of Lake Adger for the launching and retrieval of boats and for fishing, swimming and other recreational purposes.

3. Use of the Lake Adger Marina, the Marina Boat Ramp Facility and the waters of Lake Adger, pursuant to the easement granted herein to WRC by LAD and POA, shall be subject to all those restrictions, limitations and conditions set forth in the Recreational Easement including the prohibitions against personal watercraft, the horsepower limitation of sixty (60) horsepower for boats and 80 horsepower for pontoon boats and any other conditions set forth herein except there shall be no fee charged to individual members of the public for use of the Lake Adger Marina to access the waters of Lake Adger. LAD and the POA will be responsible for enforcing the restrictions, limitations and conditions set forth in the Recreational Easement and this Agreement at the Lake Adger Marina, the Marina Boat Ramp Facility and on the waters of Lake Adger. LAD and the POA reserve the right to exercise any and all lawful remedies against members of the public making use of the Lake Adger Marina and Marina Boat Ramp Facility not in accordance with the terms and conditions of the Recreational Easement and this Agreement including restricting or limiting access to and use of the Lake Adger Marina and Marina Boat Ramp Facility. WRC shall have no responsibility for the acts of LAD and POA in restricting or limiting access or use by members of the public of the Lake Adger Marina or Marina Boat Ramp Facility. Use of the Lake Adger Marina or the

Marina Boat Ramp Facility in violation of the Recreational Easement or this Agreement shall be considered a trespass.

4. Use of the easement across the Lake Adger Marina and Marina Boat Ramp Facility shall be only for access to the waters of Lake Adger for fishing, boating, swimming and other recreational activities all as defined in and limited by the terms and conditions of the Recreational Easement and this Agreement. The Lake Adger Marina and Marina Boat Ramp Facility shall be used only for the launching and retrieval of boats and parking vehicles and boat trailers. All other uses including swimming, skiing, camping or fishing are strictly prohibited.

5. All terms and conditions of the Recreational Easement remain in force and effect, and this Agreement shall have no effect on such terms and conditions except all the parties to this Agreement acknowledge and agree that the WRC will pay an annual fee of $15,000 per year to LAD, the POA and their successors, in lieu of the individual fee(s) described in the Recreational Easement. WRC, its agents and employees shall advise members of the public that use of the Lake Adger Marina and Marina Boat Ramp Facility occurs pursuant to this Easement Agreement across private property and that use of Lake Adger is subject to the restrictions in the Recreational Easement and this Agreement.

6. No alcoholic beverages shall be permitted in the Lake Adger Marina or Marina Boat Ramp Facility at any time. No dogs, pets, or animals of any type shall be permitted in the Lake Adger Marina or Marina Boat Ramp Facility at any time unless properly restrained by leash or cage. All watercraft using the Lake Adger Marina and Marina Boat Ramp Facility must be properly licensed and equipped as required by any and all applicable laws and regulations governing watercraft. There shall be no loitering at the Lake Adger Marina or Marina Boat Ramp Facility.

7. Use of the Lake Adger Marina and Marina Boat Ramp Facility to access the waters of Lake Adger will be available 24 hours a day, 7 days a week, 365 days a year. Watercraft launched from the Marina Boat Ramp Facility and operated on the waters of Lake Adger after sunset & before sunrise will be encouraged to operate at a speed which creates no appreciable wake within 100 yards of the shoreline. WRC, LAD and the POA will work together to develop a boating safety plan for Lake Adger. Upon review and approval of such boating safety plan by LAD, POA and the WRC, the plan shall be implemented. Where required by the plan, rulemaking may be sought pursuant to G.S. 75A-15 and this Agreement, provided however implementation shall be only upon agreement by WRC, LAD and the POA. Buoys and signage shall be installed only upon agreement of WRC, LAD and POA.

8. The right of the WRC to jointly operate the Lake Adger Marina and Marina Boat Ramp Facility and the easement of public access across the Lake Adger Marina and the Marina Boat Ramp Facility shall be subject to payment of a fee of $15,000 per year to the Lake Adger Property Owners Association. Such fee shall be payable in advance on or before the 5th day of January, each year. The fee described in this paragraph will be subject to

adjustment on or about January 1, of each year, based on the increase in the Consumer Price Index.

9. POA, LAD and WRC agree to provide staffing necessary for joint operation of the Lake Adger Marina and Marina Boat Ramp Facility. WRC and POA and LAD agree to split equally the cost of providing two portable toilets at the Lake Adger Marina and Marina Boat Ramp Facility. WRC's portion of the cost of providing such portable toilets will be billed with the fee described in paragraph 8. herein. WRC will be responsible for maintaining the access channel from the Lake Adger Marina and Marina Boat Ramp Facility to the main body of Lake Adger so that watercraft can access the waters of Lake Adger Marina from the Marina Boat Ramp Facility. Such responsibility will include the obligation to dredge the channel as necessary to maintain access to the waters of Lake Adger for watercraft. WRC will maintain the parking lot to its present standard. LAD and the POA shall provide one portable toilets for public use and WRC will provide one portable toilet for public use. LAD and the POA reserve the right to add fuel tanks, concessions or other amenities, provided however, such amenities shall be constructed and maintained in a good and workmanlike manner and shall not interfere with the use of the Lake Adger Marina and Marina Boat Ramp Facility for public access. There shall be no obligation on the part of LAD or the POA to install such amenities.

10. WRC will assume responsibility for liability claims by members of the public for injury to person or property arising out of the use of the Lake Adger Marina and Marina Boat Ramp Facility as a result of the alleged negligent acts of its agents or employees to the extent allowed by law. LAD and the POA will assume responsibility for liability claims by members of the public arising out of the alleged negligent acts of its agents or employees.

11. Suitable signage, subject to approval by LAD, consistent with the existing Lake Adger color scheme, in a location approved by LAD and the POA and two (2) feet by three (3) feet or smaller, will be installed at the Marina Boat Ramp area by WRC. The sign will include the following wording: *"Public Access to Lake Adger is provided through cooperation between the Lake Adger Property Owners Association, Lake Adger Developers and the North Carolina Wildlife Resources Commission."* If desired, the sign may include the logo of the North Carolina Wildlife Resources Commission. In addition, appropriate signage will be posted spelling out the restrictions in the Recreational Easement. Other than as set out herein, there shall be no other signage installed by WRC. Any other signage installed by LAD or the POA shall not be inconsistent with the Recreational Easement and this Agreement.

12. WRC will enforce North Carolina Boating Laws and Regulations at the Lake Adger Marina, the Marina Boat Ramp Facility and on the waters of Lake Adger.

13. Any reference to Lake Adger in WRC material including publications and website shall note that public access to Lake Adger is via an easement over private property and is subject to the restrictions, limitations and conditions in the Recreational Easement and this Agreement.

14. WRC, the POA, LAD and Polk County will meet annually to discuss public access via the Lake Adger Marina and the Marina Boat Ramp Facility. Northbrook shall be notified of such meetings and shall be entitled to attend.

15. Should WRC, LAD or POA commit a material breach of any condition of this Agreement and the material breach remain uncured for more than thirty days, then the non breaching party shall have the right to bring an action in the Superior Court for Polk County to enforce the terms and conditions of this Agreement or to extinguish the easement granted herein. LAD, POA and WRC agree that this provision of this agreement may be specifically enforced and that LAD may seek injunctive relief pending any final decision by the Court.

16. The POA and LAD reserve the right not to operate the Lake Adger Marina and the Marina Boat Ramp Facility, provided, however, the right of the public to use the Lake Adger Marina and Marina Boat Ramp Facility to access and use the waters of Lake Adger in accordance with the terms and conditions of the Recreational Easement and this Agreement shall continue uninterrupted.

17. Except as expressly set forth herein, neither the POA, LAD, WRC, Polk County, or Northbrook Carolina intends to waive any legal rights and all such rights are expressly reserved.

18. This Agreement shall be binding upon and inure to the benefit of the POA, LAD, WRC, Polk County and Northbrook Carolina and each of their successors and assigns.

19. This Agreement shall be governed by and under the laws of the State of North Carolina.

20. The original of this Agreement will be recorded in the Office of the Register of Deeds for Polk County.

21. The POA, LAD, WRC, Polk County and Northbrook Carolina each warrants and represents that it has the authority to enter into this Agreement.

22. Nothing herein shall be deemed to modify the terms and conditions of the Recreational Easement with respect to payments to Northbrook.

LAKE ADGER PROPERTY OWNERS ASSOCIATION, INC.

By: Charles W. Lowe Jr. Pres

STATE OF SOUTH CAROLINA

COUNTY OF Spartanburg

I, ANN E. IPOCK, a Notary Public of the County and State aforesaid, hereby certify that Charles W. Lowe Jr. personally appeared before me this day and, as President of **Lake Adger Property Owners Association, Inc.**, and acknowledged the execution of the foregoing Lake Adger Marina and Boat Launch Facility Public Access Agreement.

Witness my hand and official stamp or seal, this the 13th day of December 2004.

Ann E. Ipock
Notary Public

My commission expires:

MY COMMISSION EXPIRES SEPTEMBER 4, 2008

[SEAL]

R&S:374972-1

BOOK 321 PAGE 1726

LAKE ADGER DEVELOPERS, INC.

By: James R Smith, Pres.
Charles W. Lowe, Jr. V.P.

STATE OF SOUTH CAROLINA

COUNTY OF Spartanburg

I, Ann T Pack, a Notary Public of the County and State aforesaid, hereby certify that James R. Smith & Charlie W. Lowe, Jr. personally appeared before me this day and, as President & V.P. of **Lake Adger Developers, Inc.**, and acknowledged the execution of the foregoing Lake Adger Marina and Boat Launch Facility Public Access Agreement.

Witness my hand and official stamp or seal, this the 6th day of December 2004.

Ann T. Pack
Notary Public

My commission expires:

MY COMMISSION EXPIRES SEPTEMBER 4, 2013

[SEAL]

R&S:374972-1

BOOK 321 PAGE 1727

NORTH CAROLINA WILDLIFE RESOURCES COMMISSION

By: Richard B. Hamilton

STATE OF NORTH CAROLINA

COUNTY OF Wake

I, Angela F. Wainright, a Notary Public of the County and State aforesaid, hereby certify that Richard B. Hamilton personally appeared before me this day and as executive director of **North Carolina Wildlife Resources Commission**, and acknowledged the execution of the foregoing Lake Adger Marina and Boat Launch Facility Public Access Agreement.

Witness my hand and official stamp or seal, this the 1st day of December, 2004.

Angela F. Wainright
Notary Public

My Commission Expires:
April 20, 2008

[SEAL]

ANGELA F. WAINRIGHT NOTARY PUBLIC WAKE COUNTY, N.C.

R&S:374972-1

BOOK 321 PAGE 1728

POLK COUNTY

By: _____
Chair of County Commissioners

STATE OF NORTH CAROLINA

COUNTY OF Polk

I, Sheila S Ford, a Notary Public of the County and State aforesaid, hereby certify that Daryl Kim Talbot personally appeared before me this day and as Chairman of the County Commissioners of **Polk County**, and acknowledged the execution of the foregoing Lake Adger Marina and Boat Launch Facility Public Access Agreement.

Witness my hand and official stamp or seal, this the 7th day of December, 2004.

Sheila S Ford
Notary Public

My Commission Expires:
6-13-05

[SEAL]

SHEILA S. FORD
NOTARY
PUBLIC
POLK COUNTY, NC

R&S:374972-1

BOOK 321 PAGE 1729

NORTHBROOK CAROLINA HYDRO, LLC

By: _____

STATE OF ILLINOIS

COUNTY OF Cook

I, Lynne M. Trojanowski, a Notary Public of the County and State aforesaid, hereby certify that Stephen J. Sinclair personally appeared before me this day and as the Member of Omega Energy, LLC for **Northbrook Carolina Hydro, LLC**, and acknowledged the execution of the foregoing Lake Adger Marina and Boat Launch Facility Public Access Agreement.

Witness my hand and official stamp or seal, this the 1st day of Dec., 2004.

_____
Notary Public

My Commission Expires:

OFFICIAL SEAL
LYNNE M TROJANOWSKI
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:07/19/07

[SEAL]

NORTH CAROLINA POLK COUNTY
The foregoing certificate of Ann E. Hooks, Angela F. Wiseman, Sheila W. Ste, Lynne M. Trojanowski
Notary Public/Notaries Public is/are certified to be correct.
This instrument was filed for registration on the 15th day
of December, 2004 at 12:03 o'clock
P M. and recorded in this office in Book 321,
Page 1719.
Sheila W. Waterworth
Register of Deeds
by Joyce M. Ashley

R&S:374972-1