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**Board of Directors  
March 22, 2002**

**Prepared March 28, 2002**

The Board of Directors of the Upper Neuse River Basin Association (UNRBA) met at 10:00 A.M. on March 25, 2002 in the Triangle J Council of Governments conference room. The objectives of the meeting were to:

- Present a detailed summary of the Draft Upper Neuse Watershed Management Plan for new and continuing directors;
- Receive Director comment and recommendation on proceeding toward local review of, and comments on, watershed management recommendations;
- Review UNRBA accomplishments; and
- Update the Board on UNRBA finances.

Meeting attendees are listed below.

Name	Organization	E-mail Address or Phone
<b>BOARD OF DIRECTORS</b>		
Becky Heron	Durham County Commission	
Kevin Martin	Franklin County Commission	<a href="mailto:kmartin@sandec.com">kmartin@sandec.com</a>
Vivian Jones	Wake Forest	<a href="mailto:joyce.wilson@ci.wake-forest.nc.us">joyce.wilson@ci.wake-forest.nc.us</a>
Tom Davidson	Soil and Water Conservation Dist.	<a href="mailto:tdavidson@nc.rr.com">tdavidson@nc.rr.com</a>
Ellen Reckhow	Durham County	<a href="mailto:ereckhow@aol.com">ereckhow@aol.com</a>
Dale Crisp	City of Raleigh	<a href="mailto:dale.crisp@ci.raleigh.nc.us">dale.crisp@ci.raleigh.nc.us</a>
Jimmy B. Clayton	Person County	<a href="mailto:jimmyb31@juno.com">jimmyb31@juno.com</a>
Cora Cole-McFadden	City of Durham	<a href="mailto:ccole-mcfadden@ci.durham.nc.us">ccole-mcfadden@ci.durham.nc.us</a>
Janet Cowell	City of Raleigh Council	<a href="mailto:janet.cowell@ci.raleigh.nc.us">janet.cowell@ci.raleigh.nc.us</a>
Joe Phelps	Town of Hillsborough	<a href="mailto:orangerealty@mindspring.com">orangerealty@mindspring.com</a>

Tom McGee	Town of Butner	<a href="mailto:tom.mcgee@ncmail.net">tom.mcgee@ncmail.net</a>
Jack Day	Town of Stem	<a href="mailto:jackieday@aol.com">jackieday@aol.com</a>
Ron Alligood	Granville County Commission	(919) 693-4761
Donnie Woodlief	Wake Co. Soil & Water District	<a href="mailto:dcwoodlief@mindspring.com">dcwoodlief@mindspring.com</a>
Paul Thames	Orange County	<a href="mailto:pthames@co.orange.nc.us">pthames@co.orange.nc.us</a>
Steve Carpenter	Person County	<a href="mailto:scarpenter@personcounty.nc.us">scarpenter@personcounty.nc.us</a>

### TAC AND OTHERS

Danny Johnson	Granville County Planning	<a href="mailto:planning@granvillecounty.org">planning@granvillecounty.org</a>
Derek Day	Person County Coop. Extension	<a href="mailto:derek_day@ncsu.edu">derek_day@ncsu.edu</a>
Terry Rolan	City of Durham Env. Resources	<a href="mailto:trolan@ci.durham.nc.us">trolan@ci.durham.nc.us</a>
Klaus Albertin	Tetrattech	<a href="mailto:klaus.albertin@tetrattech.com">klaus.albertin@tetrattech.com</a>
Kimberly Brewer	Tetrattech	<a href="mailto:kimberly.brewer@tetrattech.com">kimberly.brewer@tetrattech.com</a>
Michael Adcock	City of Durham Env. Resources	<a href="mailto:madcock@ci.durham.nc.us">madcock@ci.durham.nc.us</a>
Rick Bailey	Wake County	<a href="mailto:jrbailey@co.wake.nc.us">jrbailey@co.wake.nc.us</a>
Pat Davis	Triangle J Council of Gov	<a href="mailto:pdavis@tjcog.org">pdavis@tjcog.org</a>
Don Moffitt	Eno River Association	<a href="mailto:d.moffitt@verizon.net">d.moffitt@verizon.net</a>
Perry Sugg	Orange County	<a href="mailto:psugg@co.orange.nc.us">psugg@co.orange.nc.us</a>
Wayne Cash	Durham Farmland Prot. Board	<a href="mailto:waycash@earthlink.net">waycash@earthlink.net</a>
Matthew S. Livingston	Franklin Co. Planning Dir.	<a href="mailto:mlivingston@co.franklin.nc.us">mlivingston@co.franklin.nc.us</a>
Jay Meyers	CH2MHill	<a href="mailto:jmeyers@ch2m.com">jmeyers@ch2m.com</a>
Paul Bailey	Person County	<a href="mailto:pbailey@personcounty.net">pbailey@personcounty.net</a>
Chris Dreps	UNRBA	<a href="mailto:dreps@tjcog.org">dreps@tjcog.org</a>

### Introductions and Meeting Objectives

Becky Heron, Chair of the UNRBA Board, began the meeting by reviewing the UNRBA mission:

*To preserve and protect the water quality in the Upper Neuse River Basin through innovative, cost effective and environmentally sound strategies and to create a coalition of local governments and stakeholders in a water resources partnership.*

Directors and other attendees introduced themselves. Chris Dreps then presented the meeting

objectives:

- Detailed Review of the Draft Plan
- Director Release of the Draft Plan to local staff for review and comments
- UNRBA Finances Update

### Detailed Summary of the Draft Plan

Kimberly Brewer, with Tetra Tech, began a presentation of the Draft Watershed Management Plan Analysis and Recommendations. She began by reminding the group of the priority issues and explaining the planning approach rationale as it relates to these priorities. The priority issues identified through this planning process are:

- Level 1 (most important)--Drinking Water Safety
- Level 2 (very important)--Limits on Recreational Use, Threat to Aquatic and Riparian Habitat
- Level 3 (important)--Inadequate Water Supply, Threat to Aesthetics

Next, Ms. Brewer showed a map of the impaired water bodies (listed by the NC Division of Water Quality in compliance with the Clean Water Act Section 303(d)). These, and the key causes of impairment, are listed in the table below.

Impaired Stream	Source of Impairment
Little Lick Creek	Construction
	Urban Runoff/Storm Sewers
Flat River	Agriculture
	Flow Modification
Lick Creek	Construction
	Urban Runoff/Storm Sewers
North Fork Little River	Agriculture
South Flat River	Agriculture
Knap of Reeds	Urban Runoff/Storm Sewers
Ellerbe Creek	Urban Runoff/Storm Sewers
	Minor Non-Municipal Discharge
New Light Creek	Agriculture

Next, Ms. Brewer explained how the Draft Management Plan analysis used existing data to assess existing and potential future impacts in the priority areas. The table below shows stressors (for

example, sediment and erosion), the level of effort needed to address the stressors (largest), and the potential impacts these stressors have on the uses identified as priorities in the plan (sedimentation and erosion can affect drinking water safety, recreational use, aquatic and riparian habitat, and aesthetics).

Type of Stressor	Level of Effort	Priorities				
		Drinking Water Safety	Recreational Use	Aquatic & Riparian Habitat	Inadequate Water Supply	Aesthetics
Nutrients/Algae/TOC	Largest	✓	✓	✓		✓
Sedimentation and Erosion	Largest	✓	✓	✓		✓
Hydro-Modification	Moderate		✓	✓		✓
Inadequate Infrastructure	Moderate	✓		✓	✓	
Toxics	Some	✓		✓		
Pathogens	Some	✓	✓			
BOD	Some			✓		

Next, Ms. Brewer explained the modeling process used to assess the impacts of current and future land use (for both nonpoint and point sources), identify sensitive and threatened areas, and evaluate the effectiveness of management measures. The analysis models the indicators below, which are seen as indicators of the above-listed stressors.

Indicator	Stressor	Priority
Chlorophyll <i>a</i>	Nutrients/algae	Drinking Water, Habitat
Impervious Area	Sedimentation and Erosion	Habitat, Recreation
Impervious Area	Hydromodification	Habitat, Recreation

The Draft Plan identifies targets previously endorsed by the UNRBA Board of Directors: Water supply management--Chlorophyll a target of 15 ug/liter for Lake Holt, Little River Reservoir, Falls Lake intake and no significant increase for all other supplies Recreation and Habitat--Imperviousness (not to exceed 10% watershed avg. without enhanced peak flow control) and chlorophyll a (not to exceed 25 ug/l for lakes)

The analysis models conditions assuming full implementation of existing regulations for three scenarios:

- Year 2025
- Buildout low
- Buildout high

The key findings of the analysis are that, for water supply:

- Existing regulations are barely adequate to meet targets through 2025
- Low build-out exceeds targets for most watersheds
- High build-out exceeds targets for all watersheds except Falls Lake intake

(The build-out scenarios are not tied to a particular point in time, they only say what water quality would be like if, under current zoning, property owners exercised their rights to develop. These scenarios assumed that 15% of the land is not suitable for development. The low build-out scenario use an effective density and conservative estimates of removal efficiencies for stormwater best management practices.)

(The group began a brief discussion on rain gardens, with Kimberly Brewer explaining their use. Kevin Martin made a point that we still need more information on the effectiveness of rain gardens. Kimberly Brewer recommended that we look into the experience of Prince George's County, Virginia.)

For habitat impacts,

- Eutrophication - existing regulations are adequate to meet targets
- Impervious Area - Existing regulations pose threats to habitat and recreation

Ms. Brewer showed the Figures 11 and 13 from the Draft Management Plan, which depict the chlorophyll a and impervious surface analysis results.

### **Recommended Management Strategies**

So, how are we to avoid the impacts predicted in the models? Ms. Brewer spoke about the strategies recommended in the Draft Plan. She began by summarizing the general management strategies

proposed in the Draft Plan. The following five general watershed management techniques are proposed:

- New Development Site Management
- Monitoring and Enforcement
- Education/Citizen Stewards
- Point Source Controls
- Stream Restoration Projects

The presentation focused primarily on new development and site management strategies. Ms. Brewer presented a map of the Draft Plan recommended 'watershed management zones' (Figure 15 in the Draft Plan). The watershed management zone approach divides the Upper Neuse Basin into urban development zones, suburban zones, and conservation zones. The overarching strategies are to:

- **Shape where growth occurs;**
- **Hold the requirements for new development constant in the existing and future urban development and suburban zones; and**
- **Increase requirements in the conservation zones to the level needed to meet water quality targets.**

Ms. Brewer explained to some of the new Directors that, early in the planning process, the UNRBA Board of Directors emphasized the need to shape new growth in the watershed. The Board asked the consultant to examine two management strategies, performance standards and zoning densities. The consultant used a variety of criteria, including location of sensitive watersheds and water and sewer infrastructure, and proposed a strategy defining the outlying areas as conservation zones.

Ellen Reckhow referred to the map of proposed management zones, making the point that there is a great potential for a transfer of development rights approach to balance the benefits and burdens of the management strategies. Chris Dreps reminded the Directors that the UNRBA Technical Advisory Committee has begun establishing task groups to research issues such as this one. Specifically, there is a task group being formed to focus on critical lands protection strategies. Although NC doesn't have enabling legislation in place to support TDR's, they have been identified by the TAC as one possible issue of focus for the group.

Next, the group reviewed the Draft Plan recommendations for new site development management. Again, the plan makes recommendations for urban/suburban and conservation zones, with more stringent recommendations in conservation zones. For both areas, performance standards are offered as an alternative approach to zoning density changes as a strategy for managing new site development. These recommendations, shown in the table below.

	Urban/Suburban	Conservation

<b>Performance Standards</b>		
Nitrogen (lbs/ac/yr)	3.6 (existing*)	1.7
Phosphorous**	0.6	0.3
Stream Buffer	50 feet (existing)	100 feet
Enhanced Peak Flow Control	For new development with greater than or equal to 10% total impervious cover	For new development with greater than or equal to 10% total impervious cover
<b>Zoning Density</b>		
Density Limits	Existing zoning	3-5 acre lots***
Impervious Limits	Existing zoning	3.5%-5% impervious area
Stream Buffer	50 feet (existing)	100 feet
Enhanced Peak Flow Control	For new development with greater than or equal to 10% total impervious cover	For new development with greater than or equal to 10% total impervious cover

\*--Refers to the existing standards established in the Neuse River Local Nutrient Sensitive Water rules.

\*\*--There are currently no existing standards for phosphorous.

\*\*\*--The 3-acre minimum lot option for Orange, Durham, and Person County also allows one mixed use village per township. The 3-acre minimum lot option for Granville County also allows 10% of the watershed to develop at 50% imperviousness (with stormwater controls).

After some discussion, it was clarified that the above nitrogen and phosphorous amounts are proposed to be the amounts allowed in runoff leaving sites. Rick Bailey asked, "Who will monitor this?" The group acknowledged that this is one of the major impediments to using a performance standard approach.

Becky Heron asked if most local governments have the expertise to analyze sites for runoff and associated nutrient loading. Kimberly Brewer responded that there is a standardized approach that uses an Excel spreadsheet. Terry Rolan acknowledged that Durham does not currently have the expertise, but that the methods are simple enough that the staff could learn them in a day. However, he warned the group to remember that these models are not exact, but are predictive tools.

(Note: Although it was not discussed at the meeting, it should be noted that the approach proposed in the Draft Plan is the same as that required under the Neuse River Basin Stormwater Program Rules now in effect.)

Finally, Ms. Brewer presented a slide summarizing what the recommendations mean for each local government.

- For habitat protection, enhanced peak flow control.
- For water quality, the plan offers two options for management plus enhanced monitoring and enforcement, education, point source controls, and stream/wetland restoration projects.

## Discussion

The group held a lively discussion about potential issues surrounding the recommendations and steps to take in proceeding toward local implementation of the Plan.

Kimberly Brewer presented a rough idea of the associated cost projections, which underestimate because they do not address minor subdivisions and do not include costs to the development community. The total programmatic cost is \$4.9 million, and marginal programmatic cost is approximately \$3 million. The most costly component is the septic tank inspection program, which represents 62% of the total costs and 95% of the marginal costs. The point was made that costs will increase in future years with inflation and growth.

Ms. Brewer suggested that an inspection program requiring inspection once every five years and charging \$65 per year for each individual tank inspected could be one alternative revenue source. Whatever the method, the implementation will require new revenue sources.

Joe Phelps asked if we have any information regarding loading rates/acre for total nitrogen and phosphorous. Kimberly Brewer responded that she will provide this information.

Next, Chris Dreps proposed a process for releasing the Draft Plan for review by local staff. The steps would be:

1. The UNRBA Board agree to release the Draft Plan for local informal discussion (staff);
2. Local staff review and informal discussions;
3. Local staff (TAC) recommendations to their UNRBA Board member (this could also be the time to familiarize local boards with the Draft Plan); and
4. Local Staff (TAC) returns to UNRBA Board with review and recommendations.

Danny Johnson added that each County and its municipalities should discuss these issues together before sending responses to the Board. Regardless of how this is done, the key element is for the Board to authorize commencement of release and discussion of the preliminary draft. This will give local staff a chance to begin to understand the document.

Ellen Reckhow and Becky Heron recommended that the UNRBA call a meeting of planning directors, county and city managers, public works and utilities directors, and other appropriate staff to introduce the Draft Plan. Chris Dreps mentioned that several staff have been involved in the development of this plan, and that the UNRBA TAC is the most appropriate forum for this meeting. The next meeting is scheduled for April 2 (since changed to April 4) at 10:00 a.m. in the North Durham Water Reclamation Facility.

Janet Cowell suggested that local staff be strongly encouraged in an official memo to attend this meeting.

The group held some discussion about the timing of the meeting, the type of staff to invite, and the type of letter to be sent.

Becky Heron made a motion that the UNRBA send Planning Directors and Public Works Directors a strong letter about the need to attend a meeting concerning the Draft Upper Neuse Watershed Management Plan analysis and recommendations. This letter would be copied to local elected officials and city/county managers. Vivian Jones seconded the motion.

The group agreed that, after this April meeting, local staffs should review the Draft Plan internally and go to their respective boards with a staff review. The UNRBA Board should then reconvene after local staffs and governments have reviewed the Draft Plan.

Kimberly Brewer reminded the group that we are doing something truly unique in North Carolina. We are taking steps to protect a large watershed for the long term. We should be proud of this effort.

### **UNRBA Projects Update**

After a brief break, Chris Dreps presented the Board with a very brief update of the projects and accomplishments, following the UNRBA's major objectives (Watershed Management Plan, Board communications and deliberations, TAC support, outreach and educational efforts, NCWRP detailed watershed assessments, pursuit of supplemental funding, and public information). Chris Dreps will continue to present this update on a regular, quarterly basis.

### **Financial Report**

Finally, Chris Dreps presented a brief financial report to the Board. Chris reported on the three categories of UNRBA funding:

- Dues
- State Appropriation
- Wetlands Restoration Program grant funds

### **Next steps**

The group agreed to send the memo to staff early next week. The April 4 meeting will give staff a chance to review the Draft Plan and make recommendations to their representatives on the UNRBA Board of Directors. Once review and local recommendations have occurred, the Board will reconvene to discuss next steps.

**The meeting adjourned at 12:00.**