

# Upper Neuse Watershed Evaluation Tool (WET) Task Group April 15, 2004 Meeting Summary

Prepared April 19, 2004

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The Upper Neuse Watershed Evaluation Tool (WET) Task Group met on Thursday, April 15, 2004 in the Triangle J Council of Governments conference room. The objectives of the meeting were to:

- Review progress on the WET;
- Hear an overview of current water-quality monitoring in the Upper Neuse;
- Begin developing a watershed monitoring program.

Meeting attendees are listed below.

Name	Organization	E-mail address or phone
Mary Giorgino	US Geological Survey	giorgino@usgs.gov
Chris Dreps	UNRBA	dreps@tjcog.org
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Mark Senior	City of Raleigh	Mark.Senior@ci.raleigh.nc.us
Katie Ertmer	Franklin County	kertmer@co.franklin.nc.us
Dr. James Gregory	NCSU Dept. of Forestry	jim_gregory@ncsu.edu
Wright Lowery	Wake County	Wlowery@co.wake.nc.us
Jocelyn Elliott	DENR EEP	jocelyn.elliott@ncmail.net
Nancy Newell	City of Durham Env. Svcs.	<a href="mailto:nnewell@ci.durham.nc.us">nnewell@ci.durham.nc.us</a>

## Introductions and Meeting Objectives

- Review progress on the WET
- Current Water-quality monitoring in the Upper Neuse
- Begin developing a watershed monitoring program

## Review Progress on the WET – Task Rankings and Data Selection

Mary Giorgino reported to the task group that the US Geological Survey has been working on the development of the key watershed evaluation tool functions that our group has identified since our last meeting. Mary provided the group with a handout prioritizing the functions based on our feedback. These functions are listed in the table below. Mary explained that, in addition to the basic functions of the WET, the USGS will try to include the first 15 priority tasks in the WET.

<b>Rank</b>	<b>Task</b>	<b>Mean response 1=most important 25=least important</b>
1	Provide current and future land use information for watersheds*	5.3
2	Display USGS streamflow gages and hot-link to online data	7.8
3	Display water-quality monitoring sites (Fed., State and local); hot-link to online data and/or provide contact info	7.8
4	Estimate current and future populations in watersheds	7.8
5	Display wetlands	8.1
6	Identify DWQ stream classification	8.4
7	Summarize soil characteristics (hydric Y/N; hydrologic group)	9.4
8	Identify DWQ stream use-support rating	10.6
9	Display Natural Heritage areas and element occurrences	10.6
10	Estimate impervious cover based on land use	11.1
11	Display areas with threatened and endangered species	11.2
12	Display water supply critical and protected areas	12.3
13	Summarize permitted point sources in watersheds	12.5
14	Identify potential nonpoint sources of pollution in watersheds	12.9
15	Assess protected lands in watersheds	13.5
16	Display meteorological monitoring sites	14.1
17	Display public water supply intakes and wells	14.7
18	Summarize riparian buffer condition/vegetation	14.8
19	Display restoration sites (only CWMTF sites are available)	16.4
20	Display dams	17
21	Display geology (1:250K)	17.5
22	Display over-water bridges	19.2
23	Summarize road miles	20.2
24	Display interbasin transfers	20.4
25	Display Upper Neuse Watershed Management Units	21.4
	*2 responders recommended splitting: Current land use Future or build-out land use (based on zoning)	

Comments from the task group are shown below.

- Chris Dreps – don't give up on separating "future land use", or at least zoning, from current land use to support future growth analyses.
- Mark Senior – Raleigh comprehensive development plan is in process, and land use designations will change
- Cheri Smith -- Durham's Unified Development Ordinance is also in process
- Chris Dreps -- Orange County also doing new Comp. Plan

The group discussed data layers still needed. Mary reviewed list and still needs Div. Coastal Mgmt. Wetlands (CREWS) coverage for the Upper Neuse.

The LIDAR – derived DEM has been created. The DEM has a 20-foot cell size. Dr. Gregory mentioned research being done by one of his graduate students showing that a 5-meter (15-foot) cell size is optimal for achieving detailed modeling results while minimizing the amount of memory needed to store the information. Silvia Terziotti mentioned that she has created a 10-

foot DEM; however, it will not be made available as part of the WET because it is too memory-intensive to include in the tool.

### **Monitoring Sites**

Mary Giorgino gave a comprehensive overview of ongoing monitoring sites located in the Upper Neuse. The group discussed these sites and talked about sites that have not yet been included.

- Nancy Newell mentioned that we do not have landfill sites – by law, streams leaving landfill sites must be monitored during their lifetime and for at least 30 years after closing.
- USGS still needs monitoring locations associated with NPDES and Water supply sources
- Durham Stormwater Services--we have ambient monitoring sites, but do these include the benthic macroinvertebrate sites?
- The WET currently uses NCDOT roads coverage, and there seem to be lots of errors. Are there better coverages at the COGs?
- Wake County beach monitoring sites--Wright Lowery will try to track these down.
- Cam McNutt pointed out that the DWQ's NPDES Layer doesn't have:
  - General Wastewater permits (single family)
  - General Stormwater permits
  - Cam will check about individual sand filters coverage

### **Monitoring guidance to USGS**

The purpose of this portion of the meeting was to provide guidance to the USGS as they think about basin-wide monitoring strategies for the Upper Neuse communities. Since this was the first meeting of this group to discuss monitoring, the group began by discussing general water resource problems and challenges for communities in the Upper Neuse. Chris Dreps facilitated this discussion using a "snow card" activity that allows for the sharing of an abundance of information in a short time period.

### **What are the Greatest Water-Resource Problems/Challenges for Communities in the Upper Neuse?**

Each member of the group shared his or her top three answers to this question. The group then grouped the responses into the following categories.

- Adequate Water Supply
- Land use changes and water resource degradation
- Education/Information
- Regional Cooperation
- Management Response to degradations
- Resources needed to address infrastructure problems
- Basic Information for Decisions

### **What information do we need?**

For each of the categories above, the group addressed the question, "What information will we need to address these problems and challenges?" The responses are listed below.

#### **Adequate Water Supply**

- How much do we have?
- Where is it?

- Population/Growth projections
- Quality adequate?
- Meteorological Info to plan for drought
- Conservation Alternatives
- How much are people using and for what?
- Alternative technologies

#### Land use changes & degradation

- What causes degradation?
- Sources of pollution
- Actual land use, projections, historic
- What does it take to prevent and/or reverse degradation?
- Understanding thresholds
- Better knowledge of effectiveness of approaches that protect water quality
- Analyzing costs (to environment) of impacts
- Who pays/Who benefits?
- Higher resolution information about stream health
- Stream/water body responses to stress/change
- Representative sites – Mary's note
- Baseline information for healthy systems
- Why are they healthy?

#### Education/Information – getting communities and public to buy into

- How to translate water quality for public consumption
- Current level of education about systems
- Cost effective ways of communicating?
- Effective ways of communicating to the most people; multi-faceted ways of reaching difference demographic segments
- Target audience needs to be identified for each effort

#### Regional Cooperation

- Who are the stakeholders?
- What's their level of expertise and their priorities?
- What are their resources, including "trading/bargaining" chips?
- Do they have public WS?
- Forms that exist for cooperation?

#### Management Response

- Resources available
- Public infrastructure – is it organized to respond?
- What's the value of resources – Env. Economics

#### **Which Questions can be addressed through monitoring?**

The group was then asked to identify which of the information needs listed above require monitoring in some form. The monitoring needs are listed below.

#### Adequate Water Supply

- How much do we have?

- Is water quality adequate?
- Meteorological information to plan for drought
- How much are people using?
- What are we using water for?

#### Land Use Changes and Degradation

- Better understanding of new approaches for post development storm water management
- Better knowledge of effectiveness of approaches that protect water quality
- Higher resolution information about stream health
- Stream/water body responses to stress/changes
- Baseline information for healthy systems

#### Education/Information

(No monitoring identified)

#### Regional Cooperation

(No monitoring identified)

#### Management Response

(No monitoring identified)

#### Discussion:

Cam – There are lots of studies going on now with NCSU and researchers and other institutions. Need better sharing of that information to reduce duplication of effort.

#### **Next Steps**

Continue compiling data sets for the WET (Mary and Silvia)

Monitoring--finish compiling information for existing monitoring programs (Silvia, Mary, and others); compare identified monitoring needs with existing efforts to determine information gaps and opportunities for strategic monitoring; distribute information to the Task Group for comment.