

# USGS/NCWRP Watershed Management Tool Cooperator Meeting

## August 18, 2003

### Meeting Summary

Prepared August 19, 2003

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*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.*

On August 18, 2003, Chris Dreps (UNRBA), Mary Giorgino (USGS), and Sylvia Terziotti (USGS) met with potential "cooperators" (USGS term) in the Watershed Evaluation Tool Project. The meeting took place at the USGS office in Raleigh. The objectives of the meeting were to:

- Introduce to the Watershed Evaluation Tool (WET)--What it is and how the cooperators fit into the project;
- Discuss what local governments want to gain from such a tool; and
- Discuss initial steps, our commitment, and some initial thoughts on possible applications, functions, and considerations about data.

Meeting attendees are listed below.

Name	Organization
Chris Dreps	UNRBA
Ben Bearden	UNRBA
Silvia Terziotti	USGS
Mary Giorgino	USGS
Barry Baker	Granville County Planning
Wright Lowery	Wake County GIS
Kenny Keel	Town of Hillsborough
Jocelyn Elliott	NC Wetlands Restoration Program
H. Dale Crisp	City of Raleigh
Melissa Carle	Duke/WRRI
Colleen Kiley	CGIA
Tom Hill	Wake County Environmental Services
Larry Band	UNC-Chapel Hill
Scott Miles	Town of Wake Forest
Cam McNutt	NC DWQ Basin Planning
Perry Sugg	Orange County
David Meaux	Orange County
Chris Kannan	USGS

#### **Project Background** - *Mary Giorgino*

Mary Giorgino and Silvia Terziotti of the USGS gave a brief background of the WET project. They provided a handout of the project proposal for the cooperators.

#### **Existing Tools and Software** - *Ben Bearden*

Ben Bearden gave a brief description of some of the existing tools that automate watershed evaluation. He focused on two tools:

1. Watershed Characterization System (WCS) - Tetra Tech
2. BASINS – EPA

Both rely on predefined data packages, many of which are old.

BASINS allows outside data to be incorporated fairly easily

WCS is more self-contained, harder to incorporate outside data.

BASINS has a good delineation tool

Functions:

WCS produces reports – tables, maps, statistics

BASINS contains some assessment tools for water quality, NPDES. It also features models for NPS runoff, pollutant loading, and erosion and sediment transport.

BASINS also produces some reports – point-source inventory; Water Quality Summary reports, land-use distribution.

Ben presented the example from Upper Barton Creek, for which he used BASINS to delineate subwatersheds and run a basic analysis of impervious cover.

### **Facilitated Discussion Summary**

The group held a facilitated discussion about possible applications of the WET, some functions needed for effectively supporting the desired applications, and questions of format and data.

The lists below summarize the major points made during the discussion.

#### *Applications*

- NCWRP (and other) local watershed plans
- TMDL development and implementation (state), support state 305(b) and 303(d) functions/ Basin-wide Plans
- Regional Planning – UNRBA Watershed Management Plan
- NPDES federal Stormwater rules, including Phase I retrofits, Phase II?
- Open Space planning
- Watershed-wide monitoring
- Pre-modeling – modeling support
- Prioritizing areas for modeling
- Sharing with other groups

#### *Functions*

- User-defined watershed delineation
- Pseudo-modelling, (point-sources, non-point sources)?
- Consistency of data throughout watershed
- Capability to update – data acquisition/management
- Tracking land use change and impacts in a timely manner
- Capability to use local data
- User-friendly for citizens, local government, other agencies
- Data that's transferable (to Arcview, ArcHYDRO)
- Prioritize areas/ Compare
- Automated LU/LC analysis
- Automated impervious cover analysis
- Better identification of potential sources of WQ impairment/degradation and communication of that information between agencies.
- Data Documentation
- Security of proprietary data – who's responsible?

- Nutrient/Sediment loading & modeling – monitoring changes and effects on water quality

#### *Format*

- Automated Reports, Tables, Maps (but this should not be overdone)
- GIS files automatically created?
- Sharing data
- Same projections
- Look into open source & other GIS Tools

#### *Data*

- There is a need for data compatibility
- Import GPS data/original data
- There is a need for a common projection
- Document any assumptions regarding modeling, including documentation of metadata, allowing for transparency of how data were generated.
- Planimetrics, building footprints
- Data transferability to ArcGIS/ArcHYDRO

### **Comments and Recommendations**

Consortium of Universities for Advancement of Hydrologic Science, Inc. (CUAHSI)

- Neuse Observatory
- Digital prototype will be developed for Neuse watershed in 6-12 months
- Share information if applicable
- Will be using ArchYDRO

Larry Band noted that many functions exist in just about every Arcview/ArcInfo project, so it is often an issue of formatting the data correctly to use the functions.

Cam suggested that the software needs to do a better job at identifying what conditions exist in the field – it should have "pre-modeling", rather than a "pseudo-modeling" focus. Chris Dreps agrees that we should err on the side of less automation of assumptions (aka, models) and more basic, dependable, up-to-date analysis of conditions. There needs to be better identification of sources of degradation and better communication and greater facilitation of information sharing between groups.

Larry Band noted that certain security issues need to be addressed when thinking about data availability. For example, what level of detail should accompany parcel data? Also, different local governments have different policies concerning what data can be made publicly available.

Larry Band also noted that having a self-documenting function would enable the user to identify assumptions used in modeling. Several members of the group agreed that documentation is key in this project.

### **Next steps**

The cooperators will meet again once the USGS and NC WRP have finalized the agreement and begun the project in earnest, which will likely be at the end of October.