



New Hanover County Local Watershed Planning Group

MEETING SUMMARY

Thursday, October 10, 2001 meeting held at the Pine Valley Country Club.
Summaries available on WECO website: www.ces.ncsu.edu/WECO

Watershed Design Charette is scheduled for Wednesday, November 14, 2001.

Meeting will start at 5:30 p.m.

**The meeting will be held at the Cape
Fear Riverwatch Educational Center.**

**Participants will work in small groups
to examine the various potential
management scenarios in the
watershed, using the water quality
models that KCI created.**

Group Members/alternates present:

Joe Blair, NC DOT
Jim Bordeaux, Castle Hayne Steering Committee
Stacy Smaltz/Bouty Baldrige, Cape Fear River Watch
Michael Pope, Sierra Club, Wrightsboro Community
Chris O'Keefe, New Hanover Co. Planning
Dick Loeffert, Northchase HOA
Jabe Hardee, Cameron Company
Marian McPhaul, UNCW
Don Cooke, CP&L
Curt Hensyl, Local watershed resident/ International Paper
Tommy Tew, Corbett Timber Co.
Bouty Baldrige, Cape Fear River Watch
David Mayes, City of Wilmington

Support staff & guests present:

Christy Perrin, WECO/NCSU
Jason Jolley, WECO/NCSU
Joe Pfeffer, KCI
Bonnie Duncan, NC WRP
Larry Hobbs, NCWRP
Scott McLendon, USACE
Scott Logal, Cape Fear Council of Governments
Penny Tysinger, Cape Fear Council of Governments
Jennifer Coyner, Cape Fear River Watch
Mike Hemmon, Guest

Pine Valley Stream Restoration Site

**Presented by Larry Hobbs, NC Wetlands
Restoration Program**

The group toured a stream restoration site at Pine Valley Country Club Golf Course. Larry Hobbs presented information on vegetation planted and modifications that occurred as part of this project. The group then broke for dinner.

Questions for Larry

Question: Does the golf course receive instructions for the long-term maintenance of the stream restoration site?

Yes, we will tell them where to mow, where not to mow, etc. How it is maintained depends upon where the restoration is located on the course so the course can still function. For example, if the course wants people to be able to play over an area it will be mowed. The NCWRP is also required to monitor the site for a minimum of 5 years- problems with a stream channel usually surface within a year.

Question: What is the price tag of a stream restoration project?

Usually approximately \$100 per foot, or \$350,000-\$500,000 per 3-5,000 feet of stream. Then it costs \$2,000-\$3,000 per year for monitoring.

Introduction for Water Quality Models for Charette

Presented by Joe Pfeiffer, KCI

Joe presented the water quality model to the group. Joe distributed a copy of the water quality model on disk to each member of the group and encouraged

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them to become familiar with the program. Joe explained that the water quality model gives three choices for loading and removal based on phosphorus, nitrogen, and the hydrologic unit.

Water Quality Model

Designed to assist in planning and assessment.

Phosphorus and Nitrogen loadings calculated as a function of land use

Removals calculated as a function of BMP efficiencies and loading

The number of acres for a particular land use is “plugged” into the model and then the type of BMP used is added. The result demonstrates how much nitrogen loading and removal typically occurs given this scenario.

Questions for Joe

Question: How did you obtain the run-off coefficient?

The run-off coefficient is calculated based on the land use classification and the associated amount of impervious service.

Question: Why does forested wetlands have higher nitrogen loading than other forests?

The references describe how these formulas were arrived at and will be included in the final document. Most likely, a variety of situations could contribute to wetlands having a higher nitrogen loading. All of these loading and removal rates for the model were derived based on scientific literature in this field of study.



Stream and Wetlands Restoration Requirements and Techniques

Presented by Larry Hobbs, NC Wetlands Restoration Program

Larry outlined the components and requirements associated with implementing a restoration project.

Implementation Involves

- Site identification
- Assessing watershed needs and water quality benefits
- Landowner contact and land acquisition
- Project construction oversight
- Maintenance and monitoring

Larry noted that NCWRP can work with any site, anywhere, but the site must provide water quality benefits if it is restored.

Considerations in Site Selection

- Water quality
- Habitat
- Land use
- Pressure from development trends

Plant Selection for Wetland/Stream Restoration

- Geographic distribution in reference communities
- Water depth tolerance
- Growth rate
- Wildlife benefits
- Aesthetics
- Function

Maintenance of Restoration Site

- Sufficient water supply
- Nutrients/use of fertilizer
- Survival/mortality rate
- Competition from other plant species

NCWRP prefers sites on public land or with limited ownership. Streams need 100 linear feet minimum on both sides of the stream and wetlands need a minimum of 5-10 acres in size.

Larry then displayed some slides of restoration projects in North Carolina.

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Presentation on Restoration Opportunities for Early Implementation

Presented by Joe Pfeiffer, KCI

Joe noted that over 65 viable opportunities have been identified in the evaluated subcatchments for stream restoration, wetland restoration, or best management practices opportunities.

Consignment of Identified Opportunities

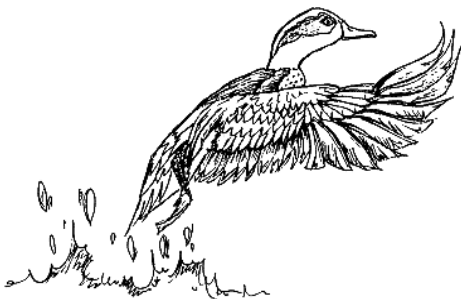
- WRP will immediately act on opportunities which are consistent with the program's objectives
- Stakeholders will evaluate and pursue remaining opportunities with WRP/WECO participation as appropriate.

WRP Restoration Opportunities

- 20 opportunities selected for WRP's immediate consideration due to restoration potential.

These 20 opportunities are divided into 10 primary and 10 secondary opportunities. Joe presented the 10 primary opportunities for each subcatchment and asked the group members to comment and assist in identifying landowners and evaluating the level of interest and potential for each site. The group did not have time to discuss the 10 secondary options and these will be presented at a later meeting. The 10 primary options and respective comments are listed below by subcatchment.

Each site is identified by a code. The first 2 letters indicate the stream, BM for Burnt Mill, the second 2 letters indicate type of project, SRO for Stream restoration opportunity or WRO for wetlands restoration opportunity, and the last numbers and letters are an identifying number given to the stream segment that corresponds with maps that Joe created. Each participant received a package with maps identifying the stream segments.



BMSRO106C

Site description: Third order stream; entrenched & straightened channels; banks moderately unstable and partially fabriciform; partial riparian buffer.

Comments:

- ◆ Subject to a lot of flooding in heavy rainstorms
- ◆ *The Hobby Greenhouse Club* is an active garden group in the area that might be interested in helping (Stacy Smaltz could contact)
- ◆ School may have plans for expansion
- ◆ Could be active interest in this area on behalf of landowners

Result: Site was selected by WRP and stakeholders to be included in final list of 10 primary sites.

BMSRO111

Site description: Second order stream; straightened, unstable channel, large sand deposits in stream, somewhat poor riparian vegetation.

Comments:

- ◆ There is a landowner interested (Bouty has spoken to her)
- ◆ Kerr Avenue is slated to be widened here
- ◆ *Landmark* is an owner of the southwest portion
- ◆ Mill Creek Apartments
- ◆ Wimbledon Chase Apartments
- ◆ Intersection of Kerr and Wilshire has inadequate drainage

Result: Site was not selected to be included in the final list of 10 primary sites due to WRP and/or stakeholder concerns.

BMSRO112

Site description: First order stream, straightened, moderately unstable channel; piped under apartment complex; stormwater conveyance clogged.

Comments:

- ◆ Most is commercially owned
- ◆ Trash and debris in creek
- ◆ Too much red tape involved with the site
- ◆ Seems like it is just a ditch although it is named Sweetwater Branch

Result: Site was not selected to be included in the final list of 10 primary sites due to WRP and/or stakeholder concerns.

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BMSRO602

Site description: Large undeveloped parcel cleared in the last 10 years; now covered with herbaceous groundcover & young pine trees. Parts of site have remained unvegetated and barren. Historic topo shoes stream likely crossed site, but no channel or riparian area exists; a fabriform channel forms the west parcel boundary.

Comments:

- ◆ Currently for sale and zoned for business
- ◆ Likely is very expensive to buy the land
- ◆ Flows into Burnt Mill Pond

Result: Site was not selected to be included in the final list of 10 primary sites due to WRP and/or stakeholder concerns.

Lower Smith Creek Subcatchment

LSRO703-

Site description: First order stream; plan form may have been altered, but types of alteration are unclear; poor riparian vegetation; very swampy.

Comments:

- ◆ Maids Park is within the site
- ◆ High priority on the Transportation Improvement Plan to extend Independence Blvd. to the left of Maid's Park
- ◆ Bruce Cameron is owner south of the river
- ◆ Positive benefit- could be a lot of continuity and public connection to the site

Result: Site was selected by WRP and stakeholders to be included in final list of 10 primary sites.

LSWRO-5

Site description: Part of property is an utility easement. Site dominated by herbaceous grass and wetland vegetation (cattails in particular).

Comments:

- ◆ Corbett Package Company is a landowner
- ◆ Power plant on site
- ◆ Godwin Lumber is a landowner
- ◆ Not all is wetlands
- ◆ Could be a sensitive site because of industrial activities
- ◆ Potential industrial contaminants could require a Phase I assessment (landowner unlikely to be pleased)

Result: Site was selected by WRP and stakeholders to be included in final list of 10 primary sites.

Prince George's Creek Subcatchment

PGSRO1401

Site description: First order stream in the upper Prince George Creek watershed. It crosses under Sidbury Road before connecting with the main thread of Prince George Creek.

Comments:

- ◆ Trask or Buck are possible landowners
- ◆ May be difficult to get the (Bucks) owners involved since there are many of them to please

Result: Site was not selected to be included in the final list of 10 primary sites due to WRP and/or stakeholder concerns.

PGSRO905

Site description: First order stream located in the south central portion of the Prince George Creek Watershed. This reach is adjacent to PGWRO11.

Comments:

- ◆ Next to juvenile detention center
- ◆ Paul Burton is an owner
- ◆ County owns some land on the east portion
- ◆ Could serve as a wildlife corridor
- ◆ Farmers are interested in saving soil from erosion

Result: Site was considered as one site with PGWRO-11 and was selected by WRP and stakeholders to be included in the final list of 10 primary sites.

PGWRO-8

Site description: Agricultural fields

Comments:

- ◆ Raeford and Web Trask own the property

Result: Site was selected by WRP and stakeholders to be included in final list of 10 primary sites.

PGWRO-11

Description of location: Agricultural field-corn field adjacent to PGSRO905

Comments: none recorded

Result: Site was considered as one site with PGSRO905 and was selected by WRP and stakeholders to be included in the final list of 10 primary sites.

Final List of Ten Primary Sites

1. BMSRO106C (previously described)
2. BMSRO110A
Site description: Second order stream, straightened, entrenched channel; partial riprap/rock on banks; good vegetation; bank undercutting/basal clean-out; large amounts of trash in stream; major erosion caused by nearby parking lots.
3. BMSRO301
Site description: Second order stream; straightened, unstable channel; confined by apartment housing and parking lots; very poor riparian vegetation; stormwater and sewer pipes in channel.
4. BMSRO302
Site description: Sufficient length; unstable channel; confined by apartment housing; broken concrete walls in stream; poor riparian vegetation; area bank failure.
5. LSSRO703 (previously described)
6. LSWRO-5 (previously described)
7. PGSRO905 & PGWRO-11 (considered one site; previously described)
8. PGWRO-8 (previously described)
9. PGSRO907 & PGSRO908 (considered one site)
Site description: Stream restoration opportunity. No site description available.
10. PGSRO1201
Site description: First order stream in the upper watershed of Prince George Creek. The site (reach) begins near Sidbury Road in the eastern portion of the watershed.

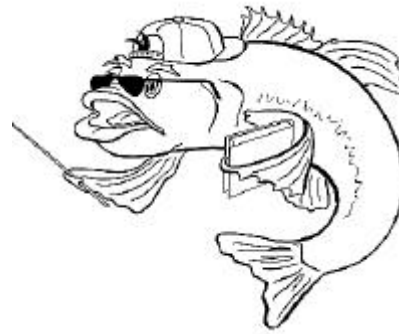
DECISION: The following individuals were listed as contacts for each subcatchment.

Burnt Mill Creek: *Bouty, Stacey, Curtis, Don*
Lower Smith Creek: *Tommy*
Prince George's Creek: *Jim, Dick*

Questions for Joe

Question: Do you consider tidal influence in the selection of these sites?

Yes, but it represents a small effect on the stream because of stream elevation. It just effects the lower elevation.



Homework for Committee Members!

1. Look at and “play with” water quality models
2. Review BMP handout
3. Review NCCLT “Property Evaluation Protocol”

Bring your *Watershed Characterization Report* with you in November!

*For more information about the New Hanover County Local Watershed Planning Group, or to be removed from this mailing list, contact Christy Perrin at (919) 515-4542
email: christy_perrin@ncsu.edu*