Fishing Creek Watersheds

Watershed Education for Communities and Officials

May 2007

The Fishing Creek Local Watershed Planning team met on March 20, 2007 at the Granville County Multi-Specialty Complex. Rob Breeding of the NC Ecosystem Enhancement Program presented the preliminary results of the Phase 1 watershed assessment for Fishing, Gibbs, and Sand Creek Watersheds. Rob used 8 maps to tell the results. These draft maps can be found on the WECO website, or contact Patrick Beggs.

Participants then finalized discussions about how we would meet our educational and interest needs.

Next Fishing Creeks meeting - May 15, 2007

We will meet on May 15, 2007 from 6:30 - 8:30 pm at **Oxford City Hall.**

March 15, 2007 agenda includes:

- Stormwater Management: How developers and homeowners can help protect the watershed. Bill Lord, NC Cooperative Extension.

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March 20, 2007 Meeting Roster

Barry Baker.	Granville County Planning Dept.
Catherine Barker	WK Dickson
Patrick Beggs	NCSU WECO
Rob Breeding	EEP
Tommy Brooks	Cooperative Extension- Granville County
Brenda Currin	Environmental Affairs Committee
Nancy Daly.	Tar River land Conservancy
Warren Daniel	Granville Soil and Water Conservation
Susan Gale .	DWQ
John Hall	Coon Creek
Jeff Keaton .	WK Dickson
Tommy Marrow	City of Oxford
Christy Perrin	NCSU WECO
Charlie Richards	Oxford Public Ledger
Harvey Spurr	EAC, Coon/Fishing subcommittee
Larry Thomas	City of Oxford
Michi Vojta.	EEP

Rob Breeding of the NC Ecosystem Enhancement Program presented the results of the Phase 1 work in the watershed. Phase 1 consists of gathering all the available natural resource data and beginning some of the additional data gathering. This was all summed in 8 maps that were given to participants. These draft maps are available on the WECO website. Please contact WECO if you would like us to mail you color copies.

The Phase 1 data was characterized into eight areas and then given a preliminary priority, based on sub watershed. Each of the 3 watersheds in the study, Fishing, Gibbs and Sand, can be subdivided into smaller subwatersheds (or cachements). Each subwatershed is a complete system, with its own headwaters and mouth, which feeds into a larger creek. For example, Coon Creek is a subwatershed of Fishing Creek, but Coon Creek can then be further subdivided into smaller, more manageable subwatersheds also. This is done so that the area of the subwatershed is small enough handle from a data collection and a management perspective. The subwatersheds are numbered, from north to south in this case, and are then prioritized for each of the categories. These prioritized areas are subject to change with the addition of more analysis and local input.

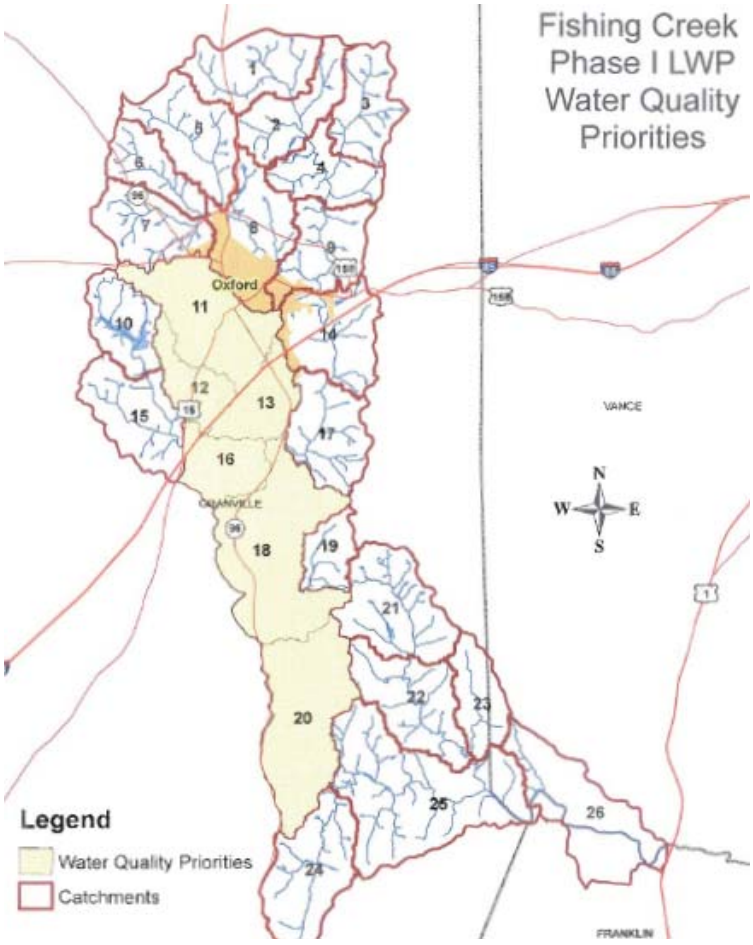
The following is best understood while viewing the 8 maps found on the WECO website.

Mussel Priorities

Only a handful of freshwater mussels species are found here due to habitat and water quality degradation. Three types of habitat conditions were determined:

1. Suitable habitat: mussels exist, good habitat for other species to move into. (Certain fish are host to mussel larvae, transporting them up and downstream.)
2. Chemical limitations: water quality not likely to support mussels. Common, tolerant species are found here, not sensitive species. A sensitive species is one that does not take well to changes like increased sedimentation or poor water quality.
3. Physical limitations: stream habitat is poor, usually too much sediment - mussel larvae suffocate.

Improving habitat and water quality can help sensitive and rare mussel species to return to previous habitat. Large, older, mussel shells are found upstream of the city, showing they were previously found here. Threatened and rare mussels are currently only found in the Tar River portions of the LWP study area.



Highly Erodible Soil Priorities

These soils consist of sandy, readily weatherable soils, usually on slopes. Some of the highly erodible soils are found in the mussel priority areas. The soil may not currently be eroded, causing sedimentation, in contrast, some of these soils are forested, providing suitable streamside habitat to protect the mussel habitat in the stream The soils are however, subject to erosion.

Stormwater Priorities

The priority stormwater areas are equivalent to areas of high impervious surface. Impervious surface, such as roads, parking lots, houses, and sidewalks do not allow water to soak into the ground. These areas are concentrated within the developed area of Oxford. For this survey, imper-

Phase 1 Results: Preliminary Watershed Assessment

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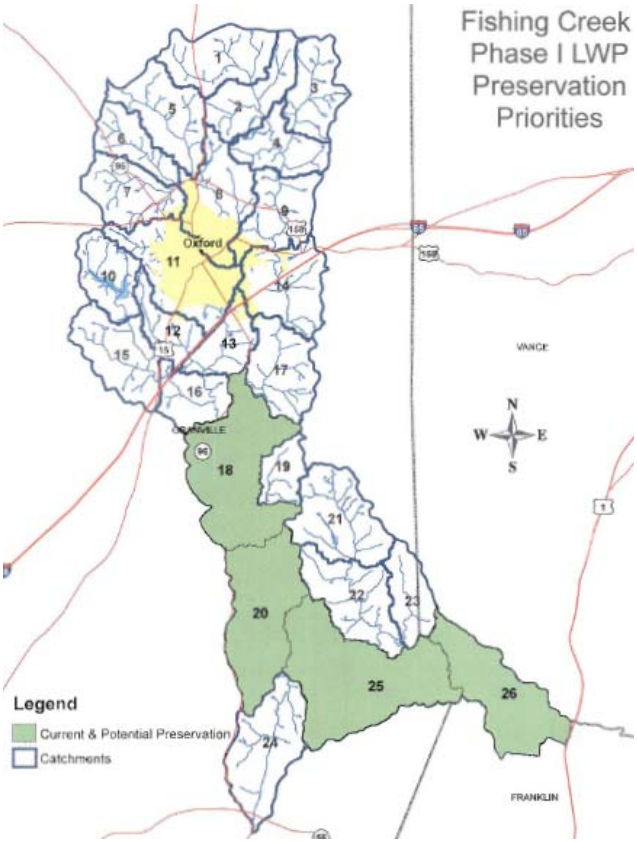
viousness was determined based on quantity of roads in a subwatershed. Further study may show other areas where residential development is causing increased stormwater problems.

Stormwater best management practices (BMPs) help to curb stormwater problems and protect aquatic areas. Oxford has a stormwater ordinance for new development, but can not require BMP additions and retrofits to already developed sites. EEP can not currently fund BMP retrofits but may be able to in the future. Other programs currently accept grant proposals for funding BMP retrofits.

Q: Does the city have a plan to fix faulty stormwater drainage systems in oxford?

A: Oxford has contracted with an engineering firm to identify infiltration and inflow (I&I) problems into the sanitary sewer system. There are over 54 miles of sewer lines.



Agricultural Priorities

Areas of high agricultural impacts have been identified. Agriculture can impact streams through runoff of sediment and pollutants. Much of the current data was gathered though "windshield surveys" as a preliminary assessment. Phase 2 work will help hone the areas of agricultural impacts by using better aerial photos. Granville County recently received high resolution 2005 aerial data.

Forestry Priorities

Parts of Gibbs Creek have significant concentrations of pine plantations owned by different land owners. Forested buffers protect streams, but timber harvesting has the potential to severely degrade streams, even with harvest rotations of 20-30 years for pine plantations. EEP would like to work with the pine plantation owners to help protect the creeks. The Tar River Land Conservancy has a Clean Water Management Trust Fund grant to work with forest landowners on a buffer project which would allow managed timber harvest within a conservation easement along a creek.

Water Quality Priorities [map on page 2]

This map illustrates stormwater issues downstream of Oxford. Fish and insect sampling have shown improvement and parts of creeks have been removed from the 303(d) list of impaired streams. This bioassessment will be analyzed, included in the findings and presented to the planning team. It is difficult to determine cause and effect with fish and bug sampling, which is used as a broad indicator for impairment. The new wastewater treatment plant has contributed to the improvement in the creek. There is still much stormwater runoff from developed areas. High and low water levels can change results, but the bioassessment team at DWQ takes into account the annual fluctuations and does not base results on any one sampling. Participants discussed potential stormwater impacts on the wastewater treatment plant. Editor's note: This issue discussed is referred to as *combined sewer overflows,* and deserves additional educational information to clarify.

Preservation priorities [map above]

These areas contain the highest amount of currently preserved land. The best potential for further preservation is to connect these tracts of land. Preservation and connection preserves more biodiversity and makes tracts easier to manage. These areas have several large agricultural landholdings, providing the potential to work with limited landowners, which is easier than multiple landowners.

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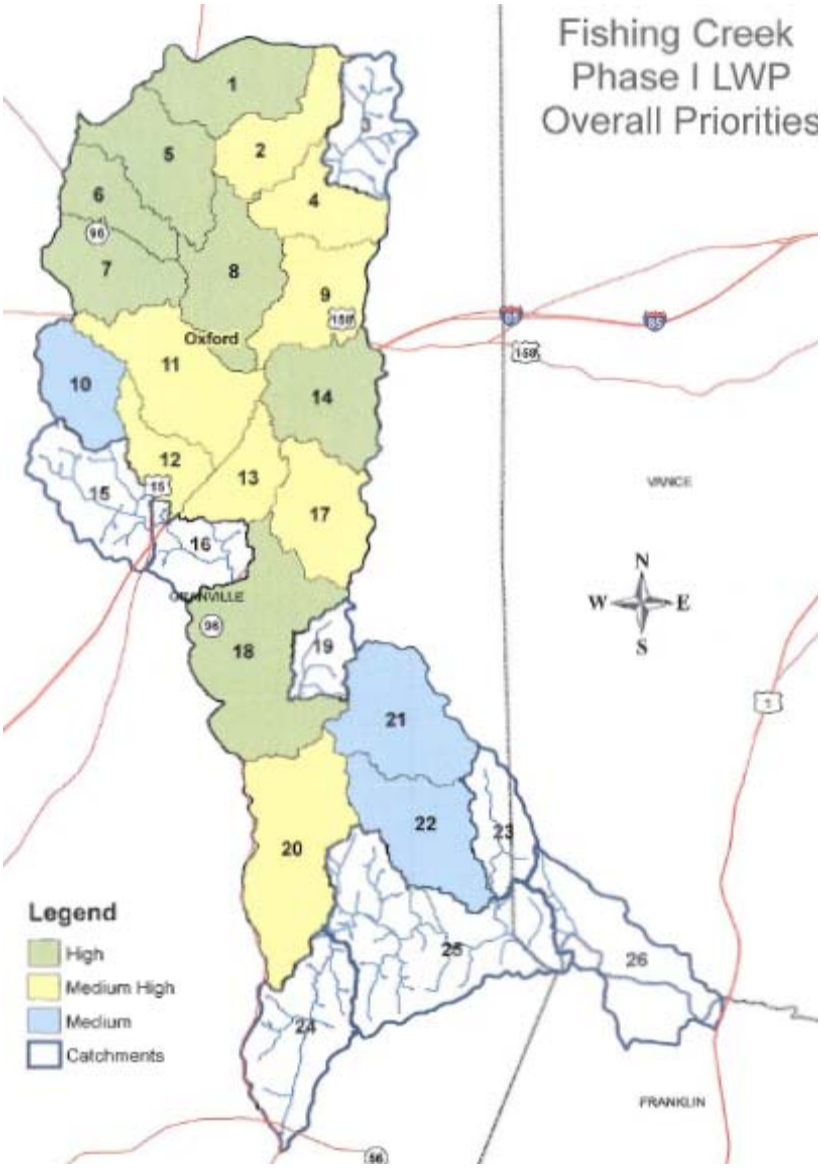
The subwatersheds along the Tar River have already been targeted by EEP and the Tar River Land Conservancy for preservation projects. There are numerous rock outcroppings and unique plant communities. NC natural heritage Program data will be included in Phase 2 studies.

Overall Priorities [map Right]

By taking all of the previous data into account, using a very basic method analysis, an overall priority map was developed. If a subwatershed had more of the previously mentioned priorities, it scored higher on the overall priority list. This prioritization is a draft and subject to change with additional data, including local comments. The high priority areas of this map represent the potential for the most restoration projects for EEP. Phase 1 identified broad issues. Now the field assessment can help verify assumptions.



Other comments from the meeting

- Tar River L.C. working with Granville County on a paddle trail and river access area
- County working on a Greenway plan. Perhaps this EEP project can tie into it. Maybe there can be biking trails, especially along Coon Creek. It is county wide but maybe could include the Tar River portions that flow into other counties, with their cooperation. Many greenways follow sewer line easements along creeks. This means Coon Creek area would be ideal.
- Webb High School campus is along a creek - this could be a good opportunity for education.
- Participants look forward to the ability to access the GIS data via a website.

Ecosystem Enhancement PROGRAM

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