

July 2007

Crisp Creek Landowners Workshop Summary

Watershed Education for Communities and Local Officials
www.ncsu.edu/WECO

Workshop Overview

Thank you to all who attended the landowner workshop on Friday, March 23, 2007 at the Edgecombe County Extension Center Auditorium.

Approximately 30 people joined us in March to learn about an effort to develop an innovative demonstration project in Crisp Creek. They heard about the local watershed planning process that included Crisp Creek from Christy Perrin, NC State University(NCSU); learned why yesterday's drainage practices are causing problems; and heard ideas about how to improve drainage and drainage water quality from Robert Evans, NCSU Department of Biological and Agricultural Engineering.

Rupert Hasty, Martin Soil & Water Conservation District, also provided an overview of other conservation programs available to residents.

Attendees participated in small group

discussions around maps of the watershed, and took the opportunity to identify potential project locations, problem areas, and areas of cultural and historical interest.

Participants enjoyed lunch courtesy of the NC Ecosystem Enhancement Program (EEP).

This summary includes overviews of the presentations and questions asked.

If you have any questions, feel free to contact any of the project partners:

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Next Steps for Demonstration Project

Kris Bass and Mike Burchell, NCSU Dept. of Biological and Agricultural Engineering, will be contacting landowners of sites in the watershed identified by participants as potential project sites.

They will look at sites and discuss specific issues and concerns with landowners. Since each site is unique, they will need to look at a site to determine what types of alternatives may be employed.

Alternative channel designs are gaining interest and acceptance throughout the country as more demonstration projects are successfully meeting environmental and landowner objectives. We look forward to working with Crisp Creek landowners to demonstrate similar successes in North Carolina.

What is this demonstration project all about?

Robert Evans, NCSU Dept. of Biological and Agricultural Engineering (BAE), provided an over view the demonstration project objectives.

The quick history behind why drainage ditches look like they do, and what we know better now

Drainage is an important function in Eastern North Carolina. We're seeking alternatives that satisfy landowner drainage requirements while also trying to achieve other objectives such as less pollution, and better habitat for aquatic and land animals.

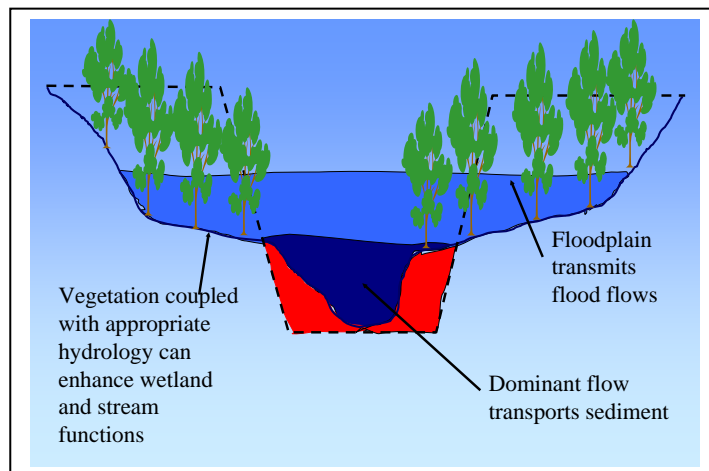
Stream restoration in Crisp Creek watershed would be under the jurisdiction of the Drainage District, so would need to meet their needs. Currently, drainage ditches have a trapezoidal shape, since that was easily constructed and the most efficient shape for transporting water. This drainage theory was developed in the 1930's and has not changed much since. Since then we have learned that this system is not stable. It fills in with sediment and the channel loses its capacity to carry water, requiring it to be cleaned out.

We need to look to natural stream channels to inform us of what makes a channel stable. Sediment is a natural part of a stream system, so for a system to be stable it must be able to transport sediment. Ditches will try to evolve to a more stable alignment, similar to a natural stream.

What will the demonstration project do?

This project provides an opportunity for us to incorporate some of what we've learned about stable stream systems. Our society is more interested now in maintaining natural systems, since we better appreciate the social and economic benefits of these systems.

Public funding, like that through the NC Ecosystem Enhancement Program, can allow us to improve natural systems that meet public objectives and some landowner needs. We would like to demonstrate that this is possible in this watershed, to monitor its impacts and educate other landowners. The exact design of the project will depend upon the site



The above diagram illustrates a restored channel

conditions, landowner objectives, and upstream objectives. The project can not result in "hydrologic trespass", meaning it will not result in backing up water on an upstream landowner.

Specifically, we would like to bring back more of the properties of a natural stream, by adding wide, shallow benches next to the main canal/stream. This would result in:

- Top width of channel increased by 3 times (20 ft. would increase to 60ft.)
- Thus, creating a wider flood plain
- Creating habitat benefits
- Increasing removal of pollutants
- A more stable stream

Dr. Evans showed pictures of a range of channel restoration project types.

Participants had the following questions, which were answered by various project staff including NCSU Dept. of BAE faculty, NC EEP staff, and local SWCD staff.

Q: What size channel are you seeking for the project?

We prefer a channel that flows most of the year, since flow is needed to support aquatic animals. A field ditch is too small.

Q: What do environmental folks think about the proposed type of project?

So far they think it provides environmental benefits. The state is willing to use public monies for it because of benefits it will provide.

Q: Does it replace natural functions that have been destroyed?

Yes, it will have to for the NC Ecosystem Enhancement Program (EEP) to get credit.

Q: What is the funding source?

NCDOT construction mitigation funds. As a part of road improvement projects, DOT is required to replace wetlands and streams that are impacted by a project. This funding is administered by the Ecosystem Enhancement Program (EEP). Other large construction projects also pay funds to EEP because of stream impacts .

Q: What, besides easements would help to restore this watershed?

Many projects involve conservation easements, although there are other types of projects possible (including some agricultural best management practices).

Q: What about beaver dams?

That is a widespread issue, but intervention only occurs when serious flooding becomes a problem. Intervention involves moving beavers and tearing dams if needed. Counties have Beaver Management Assistance Programs- a long term professional approach is needed when there is a problem.

Comment: Rep Warren is trying to get additional funding for beaver removal. Please contact your legislator.

Q: How much will be paid for property that is involved with the demonstration project, and how?

About 80% fair market value or fee simple permanent easement purchase. Up front negotiations are provided for flexibility.

Q: Will one have to still pay taxes?

There are state and federal tax incentives for permanent easements. The land value will also be rated lower since the development right will be gone (on the part of the property where the project is located).

Conservation tax credit (EEP projects qualify)- property owners get appraised value before and after easement. Like a deduction, one has 5 years to use it.

Q: Drainage canals provide outlet for subsurface drainage. How can you accommodate this?

We would not be raising the bottom of the channel, so that is not an issue.

Q: How many acres are you seeking? How many buffers?

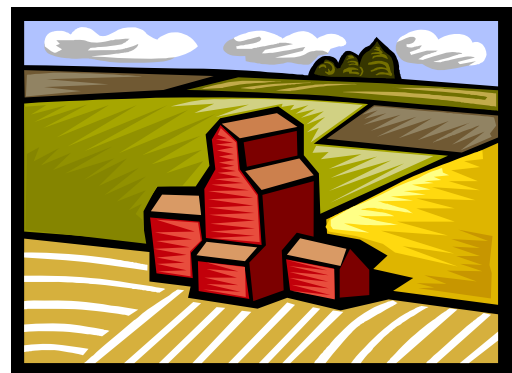
This will vary depending on the site. In this watershed EEP is seeking about 3000 linear feet of stream. Typically EEP prefers 2,000 feet in one segment, but shorter segments will be considered.

Q: Would you work in a wooded area?

EEP has not worked in such an area. US Army corps regulates wetlands and prefers not to impact existing wetlands. Another option for landowners with wooded property is for conservation (with local land conservancies), or CRP buffers.

Comment: Highway construction messed up a lateral in Crisp around Old 64 Highway and downstream areas.

Federal government should help with erosion. Different programs are targeted for different problems. This state funding source (from NC EEP) has limitations, though, and must be spent on restoration projects like the one proposed here.





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USDA Conservation Programs

Rupert Hasty, NRCS District Conservationist for Martin County, provided an overview of Conservation programs funded by the USDA and State of NC (Rupert provided a handout). Each program varies by purpose, contract length, eligibility, cost share required, and funding limits. Goals of the programs could be to protect/improve water quality, wildlife habitat (for example quail), and native vegetation (for example long leaf pine). The U.S. Farm Bill has provided significant funding for these types of programs.

Projects require either conservation of land or installation of Best Management Practices (BMPs), which include the newest technology for reducing agricultural pollution into streams.

In particular, he highlighted the Conservation Reserve Program (CRP) as one of the largest, most effective conservation programs. In Martin County, 400 CRP contracts have been signed in the last 5 years.

Programs that are available in Martin County include CRP, EQIP (mostly long-term no-till practices and animal waste management), NC Agricultural Cost Share Program, and CSP (in the Roanoke Basin).

Please contact your local NRCS office for more information about programs that may apply to your land.

Martin County NRCS: 252-792-4350
Edgecombe County NRCS: 252-641-7900
Pitt County: 252-752-2720 x3

The photo at right shows a channel in Newland, NC that has been improved by adding a ledge and vegetation on the side. Similar methods could be used in Crisp Creek, although exact methods will vary depending on site conditions and landowner interests.

