



RESTORATION REVIEW

September 2000

Issue 1

What's in a Name? Clearly Not Nearly Enough!

"We had no idea you worked on streams," she said. "I mean, you're the Wetlands Restoration Program, right? You only work in wetlands."

Yes, the North Carolina Wetlands Restoration Program (NCWRP) works in wetlands, all sorts of wetlands: bottomland hardwoods, mountain bogs, coastal salt marshes and others. **However**, we also work to restore streams and riparian buffer areas. In fact, we probably do the majority of our work in riparian areas.

The NCWRP restores a variety of aquatic habitats, including streams, wetlands and riparian buffers. The program works statewide in aquatic ecosystems, prioritizing watersheds for restoration efforts.

The NCWRP prioritizes the use of our resources as follows. A large river basin such as the Cape Fear or Neuse is subdivided into **subbasins**, and further subdivided into smaller **watersheds** (14-digit hydrologic units). The NCWRP prioritizes subbasins by analyzing water quality data, land use information, and the opportunities for successful restoration. Next, the targeted **watersheds** are chosen with the help of local citizens and resource professionals and by looking for the following attributes: degraded water quality, land use, nonpoint source pollution that can be remedied by wetland or riparian restoration projects.

Another important aspect the NCWRP looks for is the ability to do multiple projects in a watershed. The NCWRP uses a watershed approach to best protect water quality. In practice, this means we want to avoid going around the state applying individual "Band-Aids" to water quality problems. One wetland or stream restoration project will likely be insufficient to improve water quality within a small watershed or hydrologic unit. Yet, a series of projects, implemented by the NCWRP and a combination of other programs in a collective effort, may improve water quality.

It will certainly be the case that potential restoration sites outside of targeted watersheds will be brought to the attention of NCWRP staff. In that event, the area where the restoration site is located will be assessed first based on the need for restoration and then on the potential for successful restoration.

So in a nutshell, the NCWRP works to restore more than wetlands. We work to restore watersheds.

Restoration, Creation, Mitigation, Stabilization, Preservation, Enhancement, Huh?

These are terms that get thrown around a lot here at the NCWRP, and they are finding a wider audience as the science of wetland and riparian restoration grows. Many people think the terms and concepts are synonymous, but they actually differ quite a bit in their meanings. So here is our attempt to best describe them.

Restoration: re-establishing wetland or stream hydrology and vegetation in an area where it previously existed.

Example: A stream was straightened and deepened to move water faster. The stream's hydrology was altered by removing its curves and hardening the banks. By re-creating its original channel the stream can be restored to its original condition.

Creation: constructing a wetland in an area where wetlands did not exist previously.

Example: A wetland could be created in a agricultural field by lowering the surface elevation to obtain the hydrology and/or connecting the site to a creek for marsh creation. The hard part here is to create wetland functions, wildlife habitat, flood control, nutrient removal, and such.

Enhancement: increasing one or more of the functions of an existing wetland or stream by manipulating vegetation or hydrology.

Example: An existing wetland may have had its hydrology altered. The wetland could have been ditched to lower its water

levels making part of the site useful for grazing land. Filling in the ditches would allow the water level to come closer to its original condition and get water to wetland vegetation that depends on high water.

Preservation: protecting wetlands through purchase, donation or conveyance of a conservation easement to an appropriate government or non-profit agency for management.

Example: The NCWRP protects a 150-acre bottomland hardwood swamp on the Chowan River.

Mitigation: avoiding impacts, minimizing impacts and compensating for remaining unavoidable impacts. In practice this is called Compensatory Mitigation.

Example: A shopping center is built with a permit to fill 2 acres of wetlands. To mitigate for this impact, 4 acres of prior converted wetlands were restored to mitigate for the wetland loss at the shopping center.

Stabilization: in-place stabilizing a severely eroding streambank. Stabilization can be done with "soft" methods - which the DWQ supports, such as root wads, vegetated crib walls, and rock vanes, or "hard" designs such as concrete-lined channels or rip rap. Hard designs may protect property but cause worse problems downstream.

Example: hard design - Building a concrete wall on a stream. (Below: Ellerbee Creek in Durham)



Jumping Run Creek's Wetland Restoration Helps Protect Shellfish Beds

The first wetlands restoration project of the NCWRP, Jumping Run Creek, was unveiled March 9 at a wetlands dedication ceremony at the Carteret-Crave Electric Co-operative off Highway 24 near Morehead City. The Co-operative donated a conservation easement on the 4.4 - acre restoration site last year. The project is a cooperative effort of the NCWRP, other state and federal agencies, and private industries. The project will be completed by the end of the year. The project will be completed by the end of the year.

Jumping Run Creek is a tidal waterway that runs into a shellfishing area in Bogue Sound. Unfortunately, this productive oyster bed has often been closed to harvesting due to high fecal coliform levels. By restoring Jumping Run Creek's headwater wetlands, more freshwater can be held back from entering this brackish creek. The "first pulse" of freshwater from a storm brings high fecal coliform levels that make shellfish unsafe for human consumption and lowers salinity levels which damage the shellfish.

Other participants in the restoration project include: the Clean Water Management Trust Fund; Duke Marine Lab; N.C. State University's Cooperative Extension Service, School of Design and Biological and Agricultural Engineering; the U.S. Environmental Protection Agency Section 319 Program; N.C. Sea Grant; the Shellfish Sanitation Division, Department of Environment and Natural Resources; and the N.C. Department of Transportation.



The NCWRP Adds Some Green Space to the Million Acres Initiative

As many of you already know, Governor Hunt recently initiated a million acre open space proposal. Meeting this ambitious goal will take the combined efforts of state agencies, county and municipal governments, and North Carolina's many land trusts. While nobody will ever mistake the NCWRP for the state park system, we are adding some land to the state's protected green space.

The NCWRP's involvement in this effort arises from the way the program is funded. The General Assembly initially set up the NCWRP in 1996 with a \$9.2 million grant. The NCWRP continues to receive funding when developers or other state agencies pay a fee for wetland and stream mitigation. Using this funding, the program restores degraded wetlands and streams, thus mitigating for wetland losses and preserving green space

Sometimes the NCWRP receives land. For example, the program holds a 150 acre bottomland hardwood tract on the Chowan River and 100 acres close to Hoffman Forest in Onslow County

Donated conservation easements are not a rarity; in fact, for the NCWRP they are business as usual. What made the former examples noteworthy was their size. Our program is always "investing" in open space because the NCWRP's goal is to improve water quality by restoring wetlands and buffers. We currently have 34 projects in different stages of development that will restore 175 acres of wetlands and riparian habitat.

Although figures like these might seem like small contributions to the state's million acre goal, consider this: one of the most important functions of open space is its ability to protect water quality. When push comes to shove, restoring degraded open space to protect water quality is what we are all about.

