

BUFFERING GEORGIA WITH CREATIVITY AND FEDERAL PROGRAMS

Andrew P. Johnson

AUTHOR: Soil Conservationist, USDA Natural Resources Conservation Service, 333 Phillips Drive, McDonough, GA 30030.

REFERENCES: *Proceedings of the 1999 Georgia Water Resources Conference*, held March 30-31, 1999, at the University of Georgia. Kathryn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.

Abstract. Conservation buffers have struck a chord among the conservation community, to the point that the USDA's National Conservation Buffer Initiative Team grew quickly to 9 federal agencies, a National Conservation Buffer Council of agribusiness, and over 75 nonprofit agricultural and environmental organizations. This paper provides a discussion of the tools available through the USDA and its conservation partnerships for the promotion and installation of conservation buffers in Georgia. We have much work to do, but between available programs, a strong conservation delivery team spearheaded by the Soil and Water Conservation Districts and the NRCS, and an especially healthy partnership of wildlife, conservation, and agricultural agencies and organizations, the time is right and the outlook good.

THE IDEA

1999. Fifty years ago the father of private lands conservation as we know it died fighting a brush fire on his neighbor's farm. Eighty-five years ago another man immortalized in poetry that paradox of rural friendliness, that "good fences make good neighbors." Both men are remembered today because of the poetry with which they described, but also envisioned and imbibed, the American rural landscape.

In "Mending Wall" Robert Frost questions whether "something there is that doesn't love a wall", and yet accepts that walls and fences truly are a defining characteristic of private landscapes everywhere. Private landscapes are bounded landscapes, divided between land owners, land uses, and the varied attitudes, loyalties and affections of those who maintain (or fail to maintain) the fences. This metaphorical 'fence density' is exactly what makes buffers such promising, and aesthetically appealing, tools for private lands conservation.

Why? Because buffers can be the fences that make good neighbors of differing land uses, or different members of the land community. The riparian buffer or filter strip that reduces the potential harmful effects of cropland pollutants such as soil and associated fertilizers and pesticides on our streams and rivers is a good example. As are the upland buffers such as field borders, contour buffer strips, waterways, and windbreaks. All of these practices tend to make better neighbors of agriculture and the aquatic and

riparian ecosystems which they border, not to mention maintaining cleaner water for ourselves and those downstream.

Yet Aldo Leopold would be quick to remind us that conservation is and ought to be much more than simply a negative exercise of restraint or mitigation. Through poetry on both paper and land, he showed us that it is and ought to be a positive exercise of skill and insight on the part of the landowner conservationist herself. There is something more to buffers than simply preventing pollution. It is something that pulls at that part in the conservationist or landowner that says "enough, it's time to put something back", be it from the ecological or the aesthetic perspective ... and with the eye of an artist and the insight of an ecologist adds just a few careful but well-placed brushstrokes to the self-portrait that is his land.

THE TOOLS

The National Conservation Buffer Initiative

In April of 1997 the USDA officially launched the National Conservation Buffer Initiative. The Initiative began with an ambitious goal of helping landowners to install 2 million miles (up to 7 million acres) of conservation buffers by the year 2002. The Initiative is led by the Natural Resources Conservation Service (NRCS), but has quickly grown into a significant nationwide partnership.

The Buffer Team currently consists of nine federal agencies, a National Conservation Buffer Council, a Southeast Conservation Buffer Campaign, and over 75 nonprofit agricultural and environmental organizations. The National Conservation Buffer Council is made up of 7 private sector agribusinesses that have pledged more than \$1 million over three years to complement USDA efforts and promote the acceptance of conservation buffers among producers. And the Southeast Conservation Buffer Campaign is made up of four groups, Gold Kist, Inc., IMC Global, Mississippi Chemical, and the Tennessee Valley Authority, that have pledged to financially and promotionally support buffers in the Southeast.

Conservation Delivery

Success would seem guaranteed with such extensive and committed national support, but only to one who has never talked to a farmer about conservation and got an earful about

the weather! When it comes to private lands and landscapes all conservation is local, a notion that has been the backbone of the traditional conservation partnership since the 1930's.

In this triad of a partnership, the Soil and Water Conservation Districts (SWCD) have provided the local organization and support, NRCS has provided the technical skills and assistance to landowners, and the individual state conservation agencies have provided administrative support to the Districts and at times technical support as well. The Resource Conservation and Development Councils, a unique non-profit cooperative effort between NRCS and local representatives, continues to inject a spark of creativity and regional initiative into the process.

Of course local conservation promotion has never been limited to these groups. Other state and federal agencies, environmental groups, producer groups, and sportsperson's and wildlife groups have all long played important roles. Though most may think immediately of financial programs, little to nothing would be accomplished without the technical assistance of NRCS and others, the local support of Districts, and the pressures and involvement of so many more. It is a formula that has accomplished tremendous amounts of private lands conservation through the years, even when lacking in major financial programs available to the farmer.

Conservation Planning

The technical assistance in conservation planning and implementation NRCS provides, through the framework of local SWCD's, has always been the backbone of USDA conservation programs. Upon request of a farmer or other landowner, a conservationist will visit the farm and work with the landowner to develop a conservation plan that meshes the goals and objectives of the landowner with the conservation needs of her or his land. Such conservation plans are based upon specific conservation practices. Each practice is described in detail with standards and specifications in the state-specific Field Office Technical Guide (FOTG) present in every NRCS field office and every NRCS Conservationist's mind throughout the country.

Take, for example, a cattle producer in the Georgia Piedmont with a herd currently grazing significant woodland and with unrestricted watering access to streams. A conservationist would work with the producer to address resource concerns relating to manure management, overgrazing, or negative stream impacts where applicable. Such a plan would likely include fencing, riparian buffers, and applicable watering facility practices. Other practices having to do with wildlife habitat management, pasture and forage management, nutrient management, and animal waste management would also be recommended. The riparian buffer practice standard may recommend that the area be established to or maintained in native hardwood trees suited to the site, and grazing either excluded or carefully managed. The minimum buffer width along all perennial and potentially intermittent streams would be 35 feet, but this minimum would increase as a function of 30% of the floodplain towards an upper minimum of 100 feet.

Programs that provide financial assistance to landowners for conservation all require a conservation plan based upon FOTG practices, and generally provide one or a combination of cost-share, incentive payments, rental payments, or the purchase of long-term easements. Though roles vary by program, NRCS' sister agency within the USDA Service Centers, the Farm Services Agency (FSA), often assists with the financial management on those programs providing financial assistance.

Cost-share means that a specified portion of the cost for practice installation or establishment, usually 50-75%, is covered through the program. Maximum cost-share available for each practice is determined by a statewide averaged cost list, and a landowner is reimbursed up to this practice maximum upon satisfactory completion of the practice. Incentive payments are simply flat rates for certain management (as opposed to structural) practices, such as conservation tillage or nutrient and pest management.

With rental payments the USDA is effectively renting certain priority lands for a 10-15 year period for the purposes of retiring that land from agricultural production and thus gaining conservation benefits. In the Conservation Reserve Program (CRP), rental rates are based upon the average dry land cash rental rate for that county, plus any maintenance costs or incentives for targeted lands. Easements are purchased for a percentage of the agricultural value of the land, which often depends on the length of the easement and generally ranges from 20 years to perpetuity. The purchase of conservation easements is usually reserved for especially ecologically important areas, and the applicable program often provides cost-share for restoration efforts as well.

Conservation Buffer Programs

Environmental Quality Incentives Program. Of the six programs in the conservation toolbox most applicable to buffer promotion in Georgia, the Environmental Quality Incentives Program (EQIP) is NRCS' main program devoted to comprehensive resource management and whole farm planning. It provides up to 75% cost-share along with incentive payments, on a competitive basis, to those agricultural producers willing to address a majority of their conservation needs. Unfortunately funding is limited, resulting in an acceptance of only about 10% of applicants in 1999.

Though a portion of EQIP dollars are spread across the state and distributed based upon statewide resource concerns, the majority are directed towards just a few priority watersheds. These watersheds are chosen based upon proposals submitted by local work groups, partnerships, or coalitions, which are generally chaired by the Soil and Water Conservation District. The proposals need to identify specific watershed resource concerns and conservation needs, and address these needs in their prioritization of practices or sets of practices to be funded. The growing concern over non-point source pollution makes this process especially friendly to practices such as riparian buffers, because of the

buffers' direct benefits to both water quality and wildlife and because of their inherent ability to pull the respective advocates together in effective partnership.

Wildlife Habitat Incentives Program. WHIP is similar to EQIP in that it provides up to 75% cost-share for the establishment of certain priority wildlife habitats across the state. Native hardwood riparian areas and field-edge early successional strips or borders are both buffer-related statewide priority habitats. Cost-shared practices can include everything from the trees, shrubs, or native grasses, forbs and legumes to site preparation and planting to fencing. Unfortunately the funding for WHIP is very limited.

Forestry Incentives Program. FIP in Georgia is focused on three primary practices: site preparation for tree planting, plant materials and tree planting itself, and stand maintenance and improvement. It provides cost-share up to a maximum of \$2,800 per landowner, and has traditionally been used to establish small pine plantations on land previously used for some type of agriculture. It could also, however, provide the same cost-share for the establishment of native hardwoods in riparian zones or other wetlands.

Wetlands Reserve Program. The purpose of the WRP is to restore and protect wetlands where the hydrology has been seriously altered by agricultural practices, usually involving drainage of some kind. The program will pay up to 100% of restoration costs in addition to the appraised agricultural value of the land, in return for a permanent easement on that land. It will pay 50-75% of restoration costs and 75% of the appraised agricultural value of the land in return for a 30-year easement. Or it will simply pay 50-75% of restoration costs without easement for a restoration agreement whereby the landowner agrees to maintain the practices for 10 years. WRP has received little participation in the Piedmont where agricultural drainage is minimal, but has great potential for wetland restoration and wetland buffers in the swamps and drainage ditch outlets of the Coastal Plain.

Conservation Reserve Program. The CRP is potentially the granddaddy of all programs when it comes to buffer promotion and establishment, even though they were not a priority of the original program. Designed in 1985 as a land set-aside and soil conservation program, CRP paid farmers 10-15 years of rental payments to take over 35 million acres of Highly Erodible Land out of production and establish it to a permanent cover – mostly brome grass in the midwest and loblolly pine in the southeast. Eligible land must have been cropped in 3 of the last 5 years prior to enrollment, and was ranked and accepted in large part based on the severity of the site-specific soil loss problem.

The 1996 Farm Bill added a provision to CRP called the Continuous Signup, known to many as the buffer signup. This allowed landowners to sign up, free from wait or competition, certain environmentally sensitive lands to be used for buffers. These practices included riparian buffers,

filter strips, field borders, waterways, contour buffer strips, windbreaks, shallow water areas for wildlife, and more. The provision provided annual rental payments and the usual 50% cost-share rate for establishment and associated practices, but also added a 20% incentive to the yearly rental rate for selected buffer practices.

Though the CRP buffer signup is the sole program available to landowners and conservationists as a tool that can be applied immediately and without competition on eligible lands, we in Georgia have not yet taken full advantage of the possibilities it offers. Where promoted by local conservationists, it has met with strong participation and support among producers (especially livestock farmers), but has been on hold for over 6 months in Georgia due to administrative problems. With a nationwide enrollment approaching a million acres and our neighbor South Carolina at over 15,000 acres, it is likely that at the time of this publication Georgia will not yet have reached 1,000 acres enrolled as buffers. Though frustrating, this situation also demonstrates the untapped potential for buffer promotion and establishment in the state.

CREP and the State Enhancement Programs. Another new and little known but extremely important provision of the CRP program is called the Conservation Reserve Enhancement Program. CREP is analogous to EQIP in that it allows for regional conservation partnerships to submit proposals for increased funding, or in CRP's case both increased funding and increased acreage enrollment. But in this case it is the individual states that submit proposals to USDA. The proposals must follow the basic eligibility and administrative rules of CRP, but there is a certain amount of flexibility both in terms of practice standards and in terms of rental rates and other financial incentives for enrollment.

State CRP enhancement proposals must identify and address key resource issues for the state or watershed being targeted and provide measurable goals and a feasible monitoring program for evaluation purposes. They must demonstrate significant support from a spectrum of agricultural and conservation groups, provide for at least 20% non-federal funding, and are limited to a total enrollment of 100,000 acres per state. As demonstrated by approved and functioning state enhancement programs, these basic guidelines open the door to an amazing amount of creativity and ingenuity, provided the cooperation and shared vision of the state-level partners is strong enough to support it.

Seven state enhancement proposals have been approved to date, the smallest aimed at protecting the New York City water supply watershed. Of the other six, all are approved for at least 100,000 acres and an average of nearly \$200 million. Minnesota is purchasing easements from 20-years to perpetuity on native riparian hardwoods, grasses, and wetlands to improve water quality and mitigate flood damage. Maryland is adding a 70% incentive rate to the average rental rate for riparian buffers in an effort to reduce nutrient loading in the Chesapeake Bay. And Oregon has

created incentive rates that increase with the percentage of land and landowners enrolled in a given watershed, in an attempt to restore salmon habitat through riparian and wetland restoration.

THE UPSHOT

What does all this mean for Georgia? The time is right and the tools are in our hands, if we have the skill, the insight, and the desire to use them. It is encouraging that many have already begun to do so. Watershed groups such as the Conasagua Watershed Coalition, the Tussahaw Creek Partnership and others have successfully made riparian buffers a top priority in certain areas of the state. Though program acreage and contract numbers may be low throughout the southeast, enthusiasm in Georgia is high and many different groups and individuals throughout the conservation-agricultural-environmental community are rising to the challenge.

An exciting new statewide collaboration is the Georgia Stream Buffer Coalition. This partnership is made up of state and federal agencies, university researchers, and agricultural and environmental groups. They have already submitted and received tentative approval for an EPA 319 proposal to establish a statewide network of buffer demonstration sites throughout the state. Imagine how a creative state enhancement program could build on this beginning and add to the long-term ecological health of our streams and rivers, quail and migratory songbirds!

The author, while living and working in the mountains of Guatemala, once asked a group of schoolchildren what they thought conservation meant. After a long pause a young girl quietly but confidently replied "significa cuidarle a las cosas, pues", or "it means to take care of things, of course." There is something about the concept of buffers that goes beyond pollution prevention or resource management to incorporate many positive aspects of land restoration, of true land and water care. That is a good thing to the ecologist or the resource conservationist. But to the kid who can catch and eat fish out of her own stream, or to the fish that teases the kid, the tree that shades the fish, and the prothonotary that sings obliviously to the action below, that is a very wonderful thing indeed.

SELECTED REFERENCES

Research References

- Karr, J.R. and I.J. Schlosser, 1978. Water resources and the land water interface. *Science* 201, 229-234.
- Lowrance, R., R.L. Todd, J. Fail Jr., O. Hendrickson Jr., R. Leonard and L. Asmussen, 1984. Riparian forests as nutrient filters in agricultural watersheds. *BioScience* 34, 374-377.

- Lowrance, R., L.S. Altier, R.G. Williams, S.P. Inamdar, D.D. Bosch, J.M. Sheridan, D.L. Thomas and R.K. Hubbard, 1998. The riparian ecosystem management model: simulator for ecological processes in riparian zones. In *Proceedings of the First Federal Interagency Hydrologic Modeling Conference*, Las Vegas, NV, April 1998. USDA, Washington D.C.
- Peterjohn, W.T. and D.L. Correll, 1984. Nutrient dynamics in an agricultural watershed: observation on the role of a riparian forest. *Ecology* 65, 1466-1475.
- Schultz, R.C., T.M. Isenhardt and J.P. Colletti, 1994. Riparian buffer systems in crop and rangelands. In *Agroforestry and Sustainable Systems: Symposium Proceedings*, Fort Collins, CO, August 1994. Gen. Tech. Rep. RM-GTR-261, USDA Forest Service, Rocky Mountain Forest and Range Experiment Station.
- Schultz, R.C., J.P. Colletti and T.M. Isenhardt, 1996. Riparian management system (RIMS) design, function and location. Progress Report of the Agroecology Issue Team, Leopold Center for Sustainable Agriculture, Ames, IA.

General References

- Carmichael, B., 1998. Buffers – how they can help quail in the Southeast. Presented at *Achieving Wildlife Objectives of the 1996 Farm Bill Workshop*, April 1998, Arlington, VA.
- Cooperative Farmer, 1999. Conservation buffers made easy: a Cooperative Farmer special report. *Conservation Partners* pp 60-73.
- Federal Interagency Stream Restoration Working Group, 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Washington, D.C.
- Tuttle, R.W., and R.D. Wenberg, 1996. Streambank and Shoreline Protection. Chapter 16, *Engineering Field Handbook*, USDA Natural Resources Conservation Service, Washington, D.C.
- USDA-NRCS, 1997. *A Geography of Hope*. Washington, D.C.
- USDA-NRCS, 1999. *Field Office Technical Guide Practice Standards and Specifications*. Athens, GA.
- Welsch, D.J., 1991. *Riparian Forest Buffers: Function and Design for Protection and Enhancement of Water Resources*. Gen. Tech. Rep. NA-PR-07-91, USDA Forest Service, Radnor, PA.

Internet References

- Natural Resources Conservation Service Homepage
www.nrcs.usda.gov
- National Handbook of Conservation Practices and Job Sheets
www.ncg.nrcs.usda.gov/nhcp_2.html
- Selecting and Sizing Buffer Practices for the Buffer Initiative
www.ftw.nrcs.usda.gov/tpham/buffer/akey.htm
- National Agroforestry Center
www.unl.edu:80/nac