LOCALLY LED CONSERVATION IN THE ICHAWAYNOCHAWAY WATERSHED

Kristin Ling Smith

AUTHOR: Water Quality Specialist, USDA Natural Resources Conservation Service, 30 West Broad Street, Camilla, GA 31730
REFERENCE: Proceedings of the 2001 Georgia Water Resources Conference, held March 26-27, 2001, at the University of Georgia. Kathyrn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.

Abstract. Local work groups in the nine counties comprising the Ichawaynochaway watershed in southwestern Georgia have identified natural resource concerns and implemented projects to address these concerns. Resource concerns are primarily related to water quality, water quantity and soil erosion. The groups prepared and submitted a proposal to the USDA Natural Resources Conservation Service (NRCS) for designation as an Environmental Quality Incentives Program (EQIP) Priority Area. 366 applications for EQIP assistance have been received from landowners, and contracts for over $900,000 in financial assistance for BMP implementation have been developed. Annual attendance at conservation field days exceeds 100 agricultural producers and other interested landowners. The Local Work Group has also identified obstacles to BMP implementation that may limit the success of a locally led conservation program.

INTRODUCTION

The Ichawaynochaway watershed is in the Dougherty Plain physiographic province of the Southern Coastal Plain Major Land Resource Area in southwestern Georgia. The 725,000 acre watershed originates in Stewart and Webster Counties and extends southward approximately 75 miles through Baker, Calhoun, Dougherty, Early, Miller, Randolph, and Terrell Counties, before discharging into the Flint River.

Cropland is the predominant land use in the watershed, covering 263,000 acres. Fifty-eight percent of the cropland is irrigated. Irrigated land in the watershed has increased over 900 percent since the 1970's and continues to increase. Groundwater is the main source of water for drinking and agricultural irrigation in the predominantly rural watershed. Conservation of this resource is critical to the health and economic welfare of the residents. With agricultural uses consuming up to seventy percent of groundwater withdrawals in some areas, water use allocations resulting from the Tri-State Compact between Alabama, Florida and Georgia could have a significant impact on the predominantly agricultural economy in southwestern Georgia.

The Ichawaynochaway watershed is an important recharge area for the Floridan and Claiborne aquifer systems. The Floridan aquifer is largely unconfined in the watershed, facilitating recharge of the aquifer, but also increasing the potential for land use to adversely impact ground and surface water quality. The watershed has been identified among the top 200 watersheds nationwide with a high potential for pesticide and nitrogen leaching and pounds of pesticides applied to crops (Kellogg, et al, 1997).

The hydrology and water quality of Ichawaynochaway Creek are dependent upon ground as well as surface water inputs. Aquifer waters have been found to contribute 31 percent of the creek discharge (Entrekin, 1997; Phillips et al, 1997). While riparian zones are largely intact in the watershed, buffers and filters around many depressional wetlands, which serve as critical exchange points between surface and ground waters, have been removed.

Soils in the watershed typically have sandy surface layers that are easily eroded by concentrated water flow. In some parts of the watershed, gully erosion is common. Customary agronomic practices in the watershed do little to reduce soil erosion. Increasing field size to accommodate center-pivot irrigation systems has decreased the quality of wildlife habitat.

The Ichawaynochaway watershed encompasses portions of the Flint River and Lower Chattahoochee River Soil and Water Conservation Districts and the Golden Triangle Resource Conservation and Development (RC&D) Area. The downstream reaches flow through the Joseph W. Jones Ecological Research Center. The Jones Center staff is actively and continuously monitoring the water quality and quantity in the watershed to determine the impacts of land use practices. Researchers from the USDA Agricultural Research Service Southeastern Watershed Laboratory and the University of Georgia National

Environmentally Sound Production Agriculture Laboratory (NESPAL) are also conducting research on precision farming in the watershed.

METHODS

The Local Work Group

The 1996 Farm Bill emphasized the need for locally led conservation, that is, local people assessing their natural resource conditions and needs, setting goals, and identifying ways to resolve resource problems (USDA, 1998). Local Work Groups, chaired by Soil and Water Conservation District Supervisors, met in each of the nine counties in the Ichawaynochaway watershed and identified priority natural resource concerns in the spring of 1997. In some counties, public meetings were held to obtain input from as many interested residents as possible. In other counties, a natural resource survey was published in the newspaper or mailed to landowners and agricultural producers. The Local Work Groups in the nine counties agreed to join to address common natural resource concerns in the Ichawaynochaway watershed.

A steering committee having one representative from each of the following groups or organizations was established to direct the efforts of the Local Work Group: Flint River Soil and Water Conservation District, Lower Chattahoochee River Soil and Water Conservation District, Agricultural Producers, Farm Services Agency County Committees, Georgia Forestry Commission, UGA Cooperative Extension Service, Georgia Department of Natural Resources, J. W. Jones Ecological Research Center, Federation of Southern Cooperatives, Golden Triangle RC&D Council, USDA Farm Services Agency, and USDA Natural Resources Conservation Service.

Natural Resource Concerns Identified

The following common resource concerns were identified by the Local Work Groups in the watershed:

- Excessive soil erosion and sedimentation from cropland fields
- Excessive gully erosion on cropland and pastureland from concentrated water flow
- Increasing demands on a limited groundwater resource
- Transport/leaching of agricultural amendments into ground and surface waters
- Improper storage and potential for excess application rates of chicken litter
- Inadequate facilities for mixing pesticides and improper disposal of pesticide containers
- Declining quality of wildlife habitat
- Inadequate protection of depressional and limesink wetlands
- Low participation of limited resource producers in conservation programs

Project Proposal

The combined Local Work Group proposed that educational activities and financial and technical assistance be provided to agricultural producers and other landowners in the watershed to encourage voluntary implementation of Best Management Practices (BMPs). The Local Work Group agreed to investigate sources of funding for educational, technical, and financial assistance. A proposal to designate the Ichawaynochaway Watershed as a Priority Area for the Environmental Quality Incentives Program (EQIP) was developed and submitted to the USDA Natural Resources Conservation Service (NRCS). The Local Work Group requested $2.5 million in financial assistance and $74,000 for educational programs to implement a five-year project addressing the identified resource concerns.

Expected Outcomes

The Local Work Group identified ten general outcomes that were expected to result from the proposed educational activities and voluntary BMP implementation.

1. Reduced soil erosion and sedimentation, improved soil quality, and enhanced productivity;
2. Improved ground and surface water quality;
   primarily through reductions in nitrate leaching;
3. Improved pesticide handling and a reduction in the potential for groundwater contamination;
4. Increased utilization and expansion of pesticide container recycling program;
5. Better utilization and management of the region's groundwater resources;
6. Improved storage and application of chicken litter to protect water quality;
7. A greater public appreciation for, as well as protection and enhancement of depressional and limesink wetlands;
8. Increased acreage of quality wildlife habitat;
9. Increased participation of limited resource producers in conservation programs; and
10. Improved relationships and partnerships among natural resource agencies, other organizations, and landowners and users.

RESULTS AND DISCUSSION

Agricultural producers in the watershed submitted 366 EQIP applications, requesting $3.7 million in financial assistance, between 1997 and 2000. Due to limited funding, USDA allocated only $894,540 in EQIP financial assistance to the watershed over the same period. With these funds, 133 EQIP contracts have been developed with agricultural producers and other landowners (Table 1). Five Wildlife Habitat Incentives Program (WHIP) contracts have also been developed, providing an additional $20,000 in financial assistance,

Locally led conservation in the Ichawaynochaway watershed has successfully encouraged implementation of BMPs to reduce soil erosion, improve water quality and water use efficiency, and increase the quality of wildlife habitat. Over 8,000 acres of cropland in the watershed (3%) have been treated to date under EQIP (Table 2), with thousands more acres impacted indirectly as agricultural producers adopt improved management techniques.

Table 1: EQIP Financial Assistance Requested and Funding Provided to Date

Year	Funds Requested (by Local Work Group)	EQIP Funds Allocated to Date (by USDA)	Applications Funded (by USDA)	Applications Received (from producers)	Assistance Requested (by producers)
1997	$345,000	$283,100	63	108	$1,144,795
1998	$550,000	$228,930	32	92	$1,055,234
1999	$470,000	$170,435	20	78	$ 676,177
2000	$400,000	$212,075	18	88	$ 821,642
2001	$400,000				
2002	$345,000				
Total	$2,510,000	$894,540	133	366	$3,697,848

Table 2: EQIP Best Management Practices Planned in the Ichawaynochaway Watershed, 1997-2000

Best Management Practices Planned	1997	1998	1999	2000	Total
Conservation Tillage (acres)	668	1,288	871	2,084	4,911
Cover Crop (acres)	580	53	1,177	2,202	4,012
Contour Farming (acres)	327	0	0	0	327
Crop Residue Use (acres)	237	403	450	0	1,090
Critical Area Treatment (acres)	12	6	0	1	19
Field Borders (feet)	28,000	1,000	48,500	40,150	117,650
Forage Harvest Management (acres)	104	86	0	0	190
Grassed Waterway (acres)	9	7	0	3	19
Heavy Use Area Protection (number)	9	12	0	0	21
Irrigation Water Management (acres)	0	0	270	1,557	1,827
Nutrient Management (acres)	251	0	2,650	1,590	4,491
Pasture & Hayland Planting	315	343	2	92	752
Prescribed Grazing (acres)	154	100	0	0	254
Pest Management (acres)	426	0	2,370		4,193
Stackhouses (number)	0	3	1	1	5
Terraces (feet)	21,000	18,000	0	0	39,000
Tree & Shrub Planting (acres)	629	31	38	7	705
Upland Wildlife Habitat Mgmt (acres)	662	85	207	25	979
Use Exclusion (acres)	108	12	40	173	333
Water & Sediment Control Basin (number)	5	0	0	0	5
Wetland Wildlife Habitat Mgmt (acres)	198	1	6	0	205

Conservation field days held in 1998, 1999, and 2001 were attended by over 100 agricultural producers and other interested landowners. In April of 1999, the Local Work Group assisted the Flint River Soil and Water Conservation District in sponsoring a wetland field day for local middle school students. Over 250 students toured the Flint River District Wetland Outdoor Classroom. Conservation tours were held for Congressional representatives and their aides in the watershed in 1998 and 2000. A special outreach program was also conducted in the watershed by the Golden Triangle RC&D Area to document assistance needed by and services to limited resource producers.

While much has been accomplished, it is evident from the large number of applications for assistance that the number of BMPs implemented could have been greater. The Local Work Group has identified six obstacles to conservation implementation through the locally led process in the Ichawaynochaway watershed:

1. Many of the more expensive conservation practices provide a greater benefit to the general public and the environment than to the farmer. Many farmers cannot afford to implement conservation measures that do not provide a direct increase in on-farm profits. Public funding to provide these public benefits at a reduced cost to the farmer is needed, especially in the current farm economy.

2. Insufficient funding for conservation programs discourages potential participants. Some farmers in the watershed have submitted applications in each of the past four years, but have not received EQIP financial assistance due to insufficient funding.

3. Farmers with limited financial resources, often the smaller farmers, are unable to compete for funding against operations having greater resources under a competitive ranking process.

4. Lengthy (5+ year) contracts discourage additional conservation on lands enrolled in conservation programs. Only one EQIP contract is allowed on a tract over the 5-year minimum contract period. If an applicant enrolls a tract to treat an identified resource concern, and then identifies an additional concern within the 5-year contract period, he or she cannot receive additional EQIP funding on the same tract.

5. It is difficult to persuade renters to apply conservation practices on the many acres of rented lands in the watershed. The crops grown in this area and the rotations followed often result in a high annual turnover of rented croplands. Short-term renters will not or cannot afford to spend their limited operating funds to install conservation measures on lands that they may not be farming next year. Very few renters have longer-term leases that would make conservation cost-effective. Absentee landowners may not be aware that conservation practices are needed on their rented lands, or they may believe that the renter is practicing good conservation.

6. All needed practices do not "fit" the available programs. It is difficult to design a ranking process that gives equal or appropriate credit to the various environmental benefits of numerous conservation practices. In addition, resolving on-site resource concerns requires a flexibility that is seldom available in the current conservation programs.

CONCLUSION

Locally led conservation has provided technical, financial and educational assistance to agricultural producers and other landowners in the Ichawaynochaway watershed. Programs implemented by the Local Work Group have directly impacted over 3 percent of the croplands in the watershed, and an additional 5 to 10 percent are estimated to have been indirectly impacted. With only 36 percent of the EQIP applications received in the watershed approved due to limited funding, the potential to impact a much larger percentage of the watershed if identified obstacles to the locally led process could be removed is evident.

LITERATURE CITED

Entrekin, Michael G. 1997. Storm Flowpaths and Biochemistry of a Karst Stream in Southwest Georgia. M.S. Thesis. University of South Carolina, Columbia, SC.

Kellogg, Robert L., Susan Wallace, Klasue Alt, and Don Gross. 1997. Potential Priority Watersheds for Protection of Nonpoint Sources Related to Agriculture. Poster presented at the 52nd Annual Soil & Water Conservation Society Conference.

Philips, Joe S., Elizabeth R. Blood, and Michael G. Entrekin. 1997. Nitrogen Exports from a Large Karst Watershed. Poster presented at the Ecological Society of America Conference. J.W. Jones Ecological Research Center, Newton, GA.

USDA. 1998. The NRCS Watershed Program Role in the Locally Led Conservation: A Strategy for the 21st Century. USDA-NRCS, Washington, DC.