



The Illinois River Sub-Basin and Eucha-Spavinaw Lake Watershed Initiative (IRWI) is helping landowners in Arkansas and Oklahoma improve water quality and enhance economic viability of agricultural operations.

Background/Purpose

These watersheds provide drinking water for the urban center of Tulsa, Oklahoma, as well as many smaller municipalities. Water quality issues, including elevated concentrations of nitrogen, phosphorus, sediment and bacteria, have been identified in the region. Addressing the contribution of agricultural activities to these concerns is critical to ensuring adequate and safe water supplies for local communities.

The Natural Resources Conservation Service (NRCS) works through the IRWI to assist with poultry and livestock producers to voluntarily plan and install conservation practices to improve water quality while also enhancing the long-term sustainability of their agricultural operations. Key priorities of this initiative include improving the storage and application of animal manure and poultry litter used for fertilizer on farmlands in these watersheds and reducing surface runoff and stream bed sediments.

Among other benefits to the IRWI region, better water quality will improve fishing, recreation and tourism on the scenic Illinois River and will save taxpayer dollars by decreasing water treatment cost for communities. The IRWI project area includes 576,517 acres in Arkansas and 739,156 acres in Oklahoma.

Did You Know?

- The Illinois River is 145 miles long, and is a tributary of the Arkansas River.
- White bass make their annual run up to spawning points in primary tributaries every spring.
- The lower section, below Tenkiller Dam, is a designated year-round trout stream, stocked with rainbow and brown trout. The state record rainbow trout was caught in the cold tailwater of the dam.
- It is a popular summertime destination for tubing, rafting, kayaking and canoeing.
- The major streams in the Illinois River Watershed (Illinois River, Flint Creek, Baron Fork and Caney Creek) have developed within geological faults and fractures. These streams flow westerly and southwesterly and become, in general, progressively more deeply incised as they pass.

For more information about IRWI visit:
<http://www.nrcs.usda.gov>



Tim Crawley (left) and Mike Whitis, Benton County district conservationist, discuss prescribed grazing on Crawley's dairy operation in Benton County, Arkansas.

Goals/Objectives Achieved

The goal of IRWI is to reduce nutrients, bacteria and sediment within the Illinois River Sub-Basin and Eucha Spavinaw Lake Watershed of Arkansas and Oklahoma through a comprehensive and collaborative approach toward conservation.

At the local level, NRCS works closely with producers and landowners to reduce nutrient levels in key water sources, maintain adequate nutrient levels in forests and fields, and ensure agricultural operations are profitable and sustainable over the long term.

Monitoring conservation efforts' impacts each year ensures that conservation techniques and strategies being used are appropriate and effective. NRCS uses in-stream monitoring data obtained from Arkansas and Oklahoma state water quality agencies and the U.S. Geological Survey (USGS). Existing water quality monitoring for 319 projects is used as an initial baseline to measure IRWI's progress. Soil sampling will also be used to measure the success of nutrient management.

Conservation Funding/Practices Applied

Many landowners have successfully completed land treatment and structural practices in the IRWI region using Environmental Quality Incentives Program (EQIP) assistance. NRCS offers conservation planning and recommends conservation practices combined in a systems approach to avoid, trap, and control excess nutrients and sediment before they reach the local streams. Core practices for the initiative include nutrient management, waste utilization and manure storage and transfer along with prescribed grazing and associated fencing.

High priority is given to participants implementing a suite of complimentary conservation practices to address agriculture-related excess phosphorous and nitrogen runoff. With nearly \$5 million in FY 2011 EQIP financial assistance, NRCS funded 158 contracts and treated over 24,500 acres to improve water quality while helping producers grow food for the nation.

FISCAL YEAR 2011 – ILLINOIS RIVER WATERSHED INITIATIVE (IRWI)		
IRWI	Environmental Quality Incentives Program (EQIP)	
STATE	Number of Contracts	FA Contract Obligations
Arkansas	131	\$4,002,922
Oklahoma	27	\$946,562
Total	158	\$4,949,484

Source: NRCS Protracts 10/01/2011

Participation/Partnership Successes

NRCS partners with many agencies and organizations at the local, state, and national level in order to maximize coordination and cooperation to effectively improve the environmental health of the IRWI region. These partners for the IRWI include:

Local Partners	State Partners	Federal Partners
County Conservation Districts	AR and OK Associations of Conservation Districts	Farm Service Agency
Illinois River Watershed Partnership	Arkansas Department of Environmental Quality	US Geological Survey
	Arkansas Forestry Commission	US Environmental Protection Agency
	Arkansas Game and Fish Commission	
	Arkansas Natural Resources Commission	
	Cooperative Extension Service in AR and OK	
	Oklahoma Conservation Commission	
	Oklahoma Forestry Service	
	Oklahoma Scenic Rivers Commission	
	Oklahoma Water Resources Board	

Producer Benefits

Through IRWI, NRCS promotes and helps fund conservation practices to avoid, trap and control nutrients and sediments from agricultural operations within the watershed to improve water quality today and for future generations.

Regulatory action under the Clean Water Act through the Environmental Protection Agency (EPA) may set Total Maximum Daily Loads (TMDLs) in both of these watersheds. Participating in voluntary conservation programs with NRCS will allow producers to take a proactive approach to prepare for potential TMDLs.

Resource Concerns

Water quality problems in this area have been identified by the USGS as high concentrations of nitrogen, phosphorus, sediments, and bacteria. Potential non-point sources of these degrading agents are runoff from land surfaces, application of animal manure/litter as fertilizer on pastures and hay land, and re-suspension of streambed sediments.



John Calhoun (left) and Rhonda Foster, Washington County district conservationist, check Calhoun's solar pumping plant on his 200-acre livestock farm.



Shane Tawr (left) is a bi-lingual translator/conservation district technician who works in Arkansas and Oklahoma as an interpreter for the Hmong/Laotian land users in the Illinois River Sub-Basin and Eucha-Spavinaw Watershed.

Conservation Across Cultures

Through the Strategic Watershed Action Team (SWAT) of NRCS, the Arkansas Association of Conservation Districts hired a bi-lingual translator and conservation district technician to work with the Hmong/Laotian land users in the Illinois River Sub-Basin and Eucha-Spavinaw Lake Watershed. Previously, language was a barrier to these land owners from understanding and using NRCS conservation programs and practices. The translator works throughout the IRWI region to provide bi-lingual assistance with NRCS conservation practices and programs.

IRWI Success in Arkansas

At the influence of friends in northwest Arkansas, Bruce Norindr gave up his machinist job in Florida and moved to Washington County to become a poultry producer.

“I moved here for the weather,” he said with a laugh. “My friends said I’d only have to work two hours. They just didn’t tell me how many two-hour shifts a day I’d have to work.”

For Norindr, who doesn’t have a farming background, the transition to poultry production a few years ago has required a steep learning curve. His neighbor suggested he contact USDA’s Natural Resources Conservation Service (NRCS) for technical assistance.

“Simply put, Mr. Norindr needed a way to dispose of dead chickens,” said Rhonda Foster, Washington County NRCS District Conservationist. With the help of Foster and funding through the Environmental Quality Incentives Program (EQIP), Norindr addressed his water quality needs by installing a sizable composting facility. Designed and funded by NRCS, the composting facility uses a mixture of raw organic byproducts and chicken litter to dispose of chicken carcasses in an environmentally-friendly way.

The EQIP-IRWI contract also provides alum treatment in his eight chicken houses three times a year which reduces phosphorous levels in chicken litter by up to 25 percent. This helps reduce excess phosphorous runoff that ends up in nearby rivers and streams.

Norindr is just one example of the IRWI watershed’s numerous successes in helping people help the land. IRWI is one of many NRCS initiatives that aim to work closely with producers to find beneficial solutions for everyone at every level—local, state, and national.



Rhonda Foster, left, Washington County NRCS district conservationist, meets with Diem and Bruce Norindr on their poultry farm to discuss the operation’s nutrient management plan.

IRWI Activities in Oklahoma

A Partnership to Protect Water Quality

Robert Faddis, who raises cattle along Baron Fork Creek in Adair County, Oklahoma, came to NRCS for assistance to tackle his resource conservation needs.

With funding help from the Environmental Quality Incentives Program (EQIP) and technical support from NRCS, Faddis was able to implement and fund innovative solutions to environmentally and financially improve his land. Faddis and NRCS developed a conservation plan for a rotational grazing system, which included cross fencing and energy-free watering facilities. Faddis also planted legumes as a way to meet his nitrogen requirements and minimize commercial fertilizer applications.

To keep his cattle out of the creek, Faddis installed critical-area fencing. Additionally, he used the land adjacent to the tributary for hay production. These activities reduced the excessive amount of phosphorus in the soil left from the former dairy and poultry operations.

Through NRCS EQIP-IRWI funding, producers like Faddis and other neighbors downstream improve water quality today and for generations to follow while sustaining profitable returns in their farming operation. Through IRWI, over 10,000 acres of land have been treated to improve water quality.



Andy Inman, left, Adair County NRCS district conservationist, discusses conservation practice installation with Robert Faddis, landowner, during a farm visit.



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