

OKLAHOMA CONSERVATION CONVERSATION

Information for and about Oklahoma's Conservation Districts

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Cooperative Conservation Partnership Initiative Will Help Repair Storm Damage in Southwest Oklahoma

A new Cooperative Conservation Partnership Initiative (CCPI) for Oklahoma has received federal approval, the Oklahoma Conservation Commission (OCC) has announced. Chief Dave White, USDA Natural Resources Conservation Service (NRCS), has approved the project for reconstruction of conservation and flood control infrastructure in the Sugar Creek Watershed in Caddo County in southwestern Oklahoma. The infrastructure was severely damaged by storm and flooding events in August 2007 when Tropical Depression Erin ravaged the western part of the state.

The project will bring \$99,943 of federal funding to Oklahoma in the first year of the project and a five-year commitment of just under \$2 million to be combined with state matching funds and in-kind matches of labor, materials and use of equipment.

Nationally, USDA is providing nearly \$7 million in financial assistance in fiscal year 2010 through CCPI, administered by NRCS. CCPI works through three existing programs — the Environmental Quality Incentives Program (EQIP), the Conservation Stewardship Program (CSP) and the Wildlife Incentives Program (WHIP) — to leverage additional services and resources from non-federal partners.

The partners involved in the project along with the OCC are the South Caddo Conservation District, North Caddo Conservation District, Caddo County Board of Commissioners and the Oklahoma branch of NRCS.

CCPI, continued on page 2

Conservation Stewardship Program Popular in Oklahoma

Oklahoma ranks seventh in the nation for the new Conservation Stewardship Program, both in contracts signed and dollars committed during the first ranking period, according to information on the USDA Natural Resources Conservation Service website.

The Conservation Stewardship Program (CSP) is a voluntary conservation program that encourages farmers, ranchers and other land managers who are already acting as good stewards of their land to improve their conservation performance by installing or adopting additional conservation practices and improving, maintaining or managing existing activities. A producer's entire operation, including all eligible land they operate or control, must be enrolled for the term of the contract. The program has a continuous signup period, so producers can enroll at any time.

Of nearly \$145 million obligated in 10,630 contracts nationwide, \$7,531,213 are obligated in 462 contracts in Oklahoma.

"Our federal conservation partners, members of the USDA Natural Resources Conservation Service, deserve our thanks and congratulations for actively rolling out this program in the state to help landowners in the conservation of our natural resources," said Mike Thralls, executive director of the Oklahoma Conservation Commission. "The CSP program was created as a way to acknowledge landowners who already practice good resource stewardship by helping them to enhance and extend their conservation stewardship," Thralls said.

Types of land eligible include cropland, grassland, prairie land, improved pastureland, rangeland, nonindustrial private forest lands and agricultural land under the jurisdiction of an Indian tribe. For the types of land enrolled, Oklahoma followed the national pattern with rangeland first followed closely by cropland, but pastureland was third in the state while nonindustrial private forestland ranked third nationally.

Land Use (acres)	Nation	Oklahoma
Cropland	4,878,339	205,107
Pastureland	754,764	115,335
Rangeland	5,888,855	211,462
Nonindustrial Private Forestland	1,166,978	15,045
Total	12,688,937	546,970

"This is another example of Oklahoma continuing to be a national leader in natural resource conservation ever since the days of the Dust Bowl," said Trey Lam, president of the Oklahoma Association of Conservation Districts.

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Going Green?

Want to receive the electronic newsletter instead of the paper one? Just email Mark.Harrison@conservation.ok.gov asking to be moved to the email subscription list!

Our vision:

Responsible care for Oklahoma's natural resources.

Our mission:

To conserve, protect and restore Oklahoma's natural resources, working in collaboration with the conservation districts and other partners, on behalf of the citizens of Oklahoma.

www.conservation.ok.gov

Conservation Calendar

For more events and information, click on
"Calendar of Events" at
www.conservation.ok.gov

Conservation Commission Meeting,
Sept. 2, Oklahoma City

Labor Day Holiday, Sept. 6

Women in Ag & Small Business,
Sept. 14, Muskogee

Blue Thumb Training for Volunteers,
Sept. 18-19, Tulsa

Oklahoma Wildlife Expo,
Sept. 24-26, Lazy E Arena, Guthrie

Conservation Commission Meeting,
Oct. 4, Oklahoma City

**Women in Ag & Small Business
State Conference,**

Oct. 14-15, Oklahoma City

Governor's Water Conference,
Oct. 26-27, Norman

**Renewable Energy Funding
Workshop,**

Oct. 27, Oklahoma City

Conservation Commission Meeting,
Nov. 1, Oklahoma City

OACD Area I Meeting,
Nov. 4, Beaver

OACD Area IV Meeting,
Nov. 9, Chickasha

Veterans Day Holiday, Nov. 11

OACD Area II Meeting,
Nov. 16, Oklahoma City

OACD Area V Meeting,
Nov. 18, Wilburton

OACD Area III Meeting,
to be announced

Thanksgiving Holiday, Nov. 25-26

In our thoughts...

Eldon Merklin, OCC/CP Cost-Share Program coordinator, lost his father Harl Merklin July 12.

Former Delaware County CD board member and current Dept. of Ag. Commissioner David Holcombe's three-year old granddaughter Adrian Holcombe was killed in a tragic accident on July 12.

Tom Wilson, Soil Conservationist in the Hobart Field Service Center, has lost his mother July 12.

Congratulations!

Greg Robertson, Kiamichi CD manager, has a new grandson, Jace Eli Loper, born July 20.

Brooks Trammell, OCC/WQ monitoring coordinator, and wife Cheryl have a new baby girl, Joely Grace Trammell, born July 28.

Bradley Hamilton, Pittsburg County CD manager, and his wife Tina are the proud parents of a baby boy. Wayton Wayne Hamilton was born July 28.

CCPI, continued from page 1 The expected benefits of this project will be to stabilize and protect 3,700 acres of prime farmland in the Sugar Creek watershed floodplain, stabilize the channels that are eroding their way toward numerous flood control structures in the watershed, and improve the water quality in Sugar Creek by reducing sedimentation and associated nutrient loads. This work will be done on privately-owned land with producers who all have long histories of cooperating with their local Conservation District and the NRCS to implement best management practices (BMPs) on their lands. Approximately one-fourth of the project area is tribal allotted land.

The Sugar Creek Watershed drains approximately 230 square miles of Caddo County, Oklahoma, into the Washita River. Beginning in the late 1950s, the Soil Conservation Service initiated intensive efforts to increase agricultural production through flood mitigation. The watershed experienced a 500-year storm event in August 2007 that resulted in catastrophic floods causing millions of dollars in damages to homes, crops, agricultural lands, and conservation infrastructure. Following the storm, the Oklahoma Conservation Commission, associated conservation districts, and local NRCS personnel have committed significant resources to damage assessment and strategic planning to repair flood ravaged farmland and conservation infrastructure. The proposed CCPI is a critical component of a multi-pronged strategy to leverage resources necessary to accomplish these goals.

"Although some of the flood damaged area is to be repaired and reconstructed with funds from a Federal Emergency Management Agency (FEMA) grant, many areas that desperately need conservation work do not qualify for FEMA assistance," said Ron Hilliard, USDA NRCS state conservationist for Oklahoma. This cooperative partnership program will potentially provide over \$3 million in state and federal funds through the CCPI over a five-year period to provide cost share to producers for conservation practices necessary to mitigate channel instability threatening the watershed's extensive flood structure network.

Partnership efforts would contribute \$491,850 in non-federal funds through technical and administrative support for local project delivery as well as \$539,378 in state funds to provide producer match for EQIP. Some of the practices planned are constructing grade stabilization structures, shaping and filling gullies and planting vegetation in critical areas.

OCC is able to provide the necessary state match to receive the federal funding because the state Legislature in 2009 passed a bond specifically to fund conservation and flood control-related efforts.

"The conservation bond was essential in allowing OCC to secure this CCPI program," said Mike Thralls, OCC executive director, "and to offer the opportunity for significant beneficial environmental, social and economic benefits in the Sugar Creek Watershed."

OCC will also incorporate its Blue Thumb volunteer water quality monitoring program into the Sugar Creek CCPI program, Thralls said. In addition to water quality monitoring, the Blue Thumb program will provide community outreach and education, he said.

Partnership with Oklahoma Tribal Conservation Advisory Council

OCC and the Oklahoma Tribal Conservation Advisory Council shared a display booth and joined together with NRCS for a presentation session at the Inter-Tribal Environmental Council Annual Conference July 27-28 in Oklahoma City.

Darrel Dominick, OCC Tribal Liaison, and Mark Harrison, OCC Information Officer, talked about programs available to tribal members from OCC and conservation districts and about ongoing outreach programs. Carol Crouch, NRCS American Indian and Alaska Native Special Emphasis Program manager, explained the vision, mission and objectives of OTCAC. Richard Zetterberg, NRCS assistant state conservationist for programs, provided an overview of Farm Bill Programs.

OCC and OTCAC have more partnership events planned for the future.



Mark Harrison, OCC information officer (left), and Darrel Dominick, OCC tribal liaison, stand in front of the partnership display at the ITEC conference.



Carol Crouch, NRCS American Indian and Alaska Native Special Emphasis Program manager, explained the mission of OTCAC.

Awards & Recognition

Mike Kastl, OCC/AML director, was recognized at the August 2010 Commission meeting for 35 years of service to OCC and the state of Oklahoma.

Greg Kloxin, OCC/WQ assistant director, was recognized at the August 2010 Commission meeting for 10 years of service to OCC and the state of Oklahoma.

Stacey Day, OCC/WQ senior technical writer, was recognized at the August 2010 Commission meeting for five years of service to OCC and the state of Oklahoma.

Water Research Projects of Interest to Conservation Efforts

The Oklahoma Conservation Commission helps fund ongoing research to yield information to improve the effective and efficient implementation of conservation efforts, including a recent research project by Oklahoma State University. OCC, along with 23 representatives from other agencies and water professionals, also serves the Oklahoma Water Resources Research Institute (OWRRI) in a consultative capacity regarding water research needs for the state, annually reviewing research proposals and hearing technical reports from previously-awarded grantees.

Recently OCC received the final report from OSU on Riparian Buffers, Floodplain Management, and Subsurface Phosphorus Transport in Alluvial Floodplains in the Ozark Plateau research study. Also, descriptions and findings of two OWRRI research projects of interest related to Oklahoma conservation work were published recently in the OWRRI 2010 Annual Report.

OCC-Commissioned Study on Subsurface Phosphorus Transport

Riparian Buffers, Floodplain Management and Subsurface Phosphorus in Alluvial Floodplains in the Ozark Plateau.

To protect and enhance the status of drinking water, aquatic ecosystems, and recreation activities, water managers need to identify critical nutrient sources and transport mechanisms within a watershed to develop strategies for reducing contaminant loads. For phosphorus, the primary transport mechanism from source areas into surface water systems is usually considered to be surface runoff, with subsurface transport considered to be negligible. However, unique local or regional conditions in some areas call for consideration of subsurface transport as a contributor to pollutant loading.

With funding from the U.S. Environmental Protection Agency under Section 319 of the Clean Water Act, OCC has been implementing conservation practices in the Illinois River and Honey Creek basins in northeast Oklahoma to decrease phosphorus reaching the streams. Conservation practices of specific focus include the use of riparian buffers to filter surface runoff and fences to keep cattle out of the streams. Both of these have proven effective in decreasing phosphorus in surface runoff, but may not help with subsurface phosphorus transport.

The Ozark ecoregion includes caves, sinkholes and streams that lose water to ground saturation. Erosion of limestone has left an abundance of chert gravel, producing gravel-bed streams and aquifers overlain with gravelly loam or silt loam soils. Previous work conducted by OSU researchers at a site in eastern Oklahoma found that areas of gravel subsoil actually serve as subsurface “veins” or preferential flow paths (PFPs) of water to and from streams with estimated water movement of 140 to 230 meters per day. It was then hypothesized that these PFPs, if not blocked from the soil surface, could provide a rapid phosphorus transport mechanism through the groundwater system to the stream.

OCC funded a new study conducted by researchers at OSU’s Department of Biosystems and Agricultural Engineering. The study, *Riparian Buffers, Floodplain Management and Subsurface Phosphorus in Alluvial Floodplains in the Ozark Plateau*, specifically looked into the issue of transport of phosphorus at sites in the Illinois River and Honey Creek watersheds. The primary study objectives were to (1) document occurrence of PFPs from several floodplain sites of differing size and location in the watersheds, (2) determine the activity of the PFPs and their relation to instream flow dynamics and water quality, and finally, (3) determine the transport capacity of these PFPs to help quantify phosphorus loading to streams.

Using subsurface geophysics to map PFPs at four floodplain sites, researchers found zones of high water movement within each floodplain. Water table height data showed that PFPs act as divergent zones, allowing stream water to quickly enter the groundwater system, or convergent zones, draining a larger groundwater area, depending on stream stage. Active PFPs connected to the stream showed phosphorus levels approaching that found in the stream itself during flood events, proving the speed and completeness of interaction between groundwater and surface water. Modeling scenarios showed that alluvial aquifers have a capacity for subsurface phosphorus transport, substantiating the possibility of bypassing riparian

buffers. Also, where phosphorus leaching through topsoil is significant, subsurface flow paths may be a rapid means of transporting phosphorus from fertilizer at the soil surface into the stream, bypassing riparian buffers.

The findings of the study could have a significant impact on how riparian floodplains are managed in the Ozark and similar ecoregions, and may provide guidance on recommended buffer widths to prevent phosphorus bypassing buffers through subsurface flow paths.

The entire report is available on OCC’s website at www.conservation.ok.gov.

Eastern Redcedar Water Use in Tallgrass Prairie

Eastern Redcedar and Water Cycle in Tallgrass Prairie

A new research study is underway to learn about eastern redcedar water usage. The project, *Eastern Redcedar and Water Cycle in Tallgrass Prairie*, is a three-year collaborative effort by Oklahoma State University and the U.S. Geological Survey’s Oklahoma Water Science Center. The study focuses on the invasion of eastern redcedar into the state’s tall-grass prairie. The study is seeking answers to how the spread of eastern redcedar in the state will affect stream flow and water supply in the Great Plains states where water shortages are increasing. The project began in September 2009 and is proceeding on schedule. The first of three progress reports appears in the OWRRI 2010 Annual Report.

Water supply to streams and groundwater are influenced by vegetation and changes resulting from vegetation management. Current understanding of eastern redcedar water usage is based on inconclusive results of studies on semiarid savanna ecosystems, according to the researchers. Therefore, a climate and site-specific investigation focusing on prairies of the Great Plains with moderate or well-balanced moisture is urgently needed considering the long-term water planning that is ongoing for most of the affected states.

In the Great Plains, tallgrass prairie is rapidly transforming to woodland largely by the encroachment of eastern redcedar (*Juniperus virginiana*) trees. Of the 17 million acres of rangeland in Oklahoma, eight million acres are currently overgrown with eastern redcedar. This study will compare water usage in tallgrass prairie with and without eastern redcedar.

This research promises to significantly impact natural resource management in Oklahoma, and OCC will continue to follow progress reports and announce findings of this research as they are made available.

Groundwater Pumping and Stream Depletion

Stream Depletion by Ground Water Pumping: A Stream Depletion Factor for the State of Oklahoma

Another research project reported on in the OWRRI 2010 Annual Report is titled *Stream Depletion by Ground Water Pumping: A Stream Depletion Factor for the State of Oklahoma*. The goal of this research is to develop a stream depletion factor for analyzing the impact of groundwater pumping on stream flow. Two major alluvial river systems in Oklahoma, the North Canadian and Washita Rivers, were selected as test subjects.

Tasks of the study include performing tests at sites adjacent to both rivers to estimate the degree of interaction between the stream and the alluvial groundwater, and to test various existing equations for modeling the connection between stream water and adjacent groundwater for use in Oklahoma. To gather the data needed, researchers placed a series of 25-foot-deep monitoring wells between the river and adjacent municipal extraction wells at each site. Well pumps were then shut down for a period of days so groundwater levels could reestablish non-impacted conditions. The pumps were then restarted and data logs in each well recorded the groundwater level and water temperature for approximately 90 hours. The levels were plotted over time and compared to levels predicted by various equations.

The recently-published report contains only the results for the tests along the North Canadian River. The analytical solutions predicted that after one day of pumping, 30 to 35 percent of the flow pumping from the well was groundwater flowing from the stream. After five days, the figure rose to 60 to 70 percent. Continuing work includes a similar test along the Washita River where hydrologic and streambed conditions are more diverse.

OCC will follow this research and report findings as they become available.

Portrait of a Steward of the Soil

Editor's introduction: Frank Acker, Little River Conservation District manager, passing through Stillwater recently, stopped by the Payne County Conservation District office to wish Doris Anderson good luck on her pending retirement after 30 years as district secretary. At the office he and Darrel Dominick, OCC tribal liaison and NRCS retiree, visited for a while. Darrel commented that his father Max remembered working with Frank's grandfather, a well respected farmer in Sequoyah County when Max worked for the U.S. Soil Conservation Service in that county. Here are Frank's words to me:

"I got to thinking, on the way home, about my Granddad, then remembered his eulogy, which was given by Dick Mayo, editor of the Sequoyah County Times. I have kept it for many years because it described my Grandpa to a "T." Grandpa was a conservationist before it became a proper term in everyday language. I don't think there was ever a person I respected more than Grandpa."

Frank shared this with me because he knows I love a good story. I enjoyed it and I am sharing it with you because I think you will enjoy it. As you read it, see if it reminds you of anyone you have known who set an example that inspired you as a conservationist — I think it will. I believe it was people like Mr. Acker and others you and I have known or people we have known of who founded the conservation efforts that we depend on and try to carry on today. — Mark Harrison, editor.

Pervin Acker, 1901-1993

Obviously, I am not a contemporary of Pervin Acker, him having about 28 years head start. Nor am I a farmer-stockman. And as I look over the friends of Pervin gathered today, I see that most of you aren't either.

Many here have known Pervin longer and closer than some others of us. Yet we find common ground in that we are here to honor this man and to commemorate his life among us. To each of us, Pervin's life means something different, something special. Yet so much the same. Always honorable, always upright. always forth-

right. Those were Pervin's ways. and you could count on it.

Husband, father, grandfather, great-grandfather, farmer, member of Sequoyah County's community of man, Pervin wore many hats. And he wore them all exceedingly well. He was an honorable man among men.

Through lean years of drought and years of too much rain, Pervin regularly harvested crops far more bountiful than those who hadn't his experience, his love of the land, his knowledge. Pervin could make a crop when no one else could. Sequoyah County has lost its very best farmer in the death of Pervin.

Wheeler Mayo, my dad, was an excellent judge of men — and of their capabilities. In the 1960s, dad raised soybeans on upland patches here and there around the county. He had two farm hands. Lots of mornings they would ask dad what he wanted done that day and how they should do it. If it was an important task, he would put his decision off until noon or after. "I'll have to think about it," he would tell them.

One day, I asked my mother why he did that. "It gives him time to go find Pervin Acker and ask him what to do!"

Shortly after dad's death, Pervin and I shook hands on the sale of some land of dad's. Shook hands - nothing more. I told him it would be "some time" before I could complete the sale and give him a deed. Three years later, I was ready and here came Pervin with the check. Right down to the penny. On a hand-shake. You don't see much business done like that any more!

Knowing how Pervin liked his farmland neat and trim, I kidded him about there being no extra charge for the grown-up fence lines. Pervin clamped his jaw flat, looked me in the eye and told me to "stick around I'll show you how the preacher and the bear had at it."

I have no idea when, where or by whom the term "Steward of the Soil" got started. But I do believe the originator had Pervin Acker in mind. Pervin took his stewardship seriously. He dutifully followed farming practices that nurtured the land. Sometimes, I thought it was incidental to Pervin that he brought in excellent harvests. It was the LAND that concerned Pervin. He was living proof that the land takes care of those who care for it.

So long, Pervin - friend of mankind, sower of seeds, harvester of grain - and above all, STEWARD OF THE SOIL... We return you to the arms of Mother Earth. —Dick Mayo

WORKSHOPS & TRUNKS

Project WET Workshops
Karla Beatty, 405.521.2384

Project Learning Tree
Workshops or Trunks
Christina Stallings, 405.521-3864

Project WILD Workshops
Lisa Anderson, 405.521-3857

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