

# Lower Colorado River Authority

## Final Report

### Project No. 15-03

*Continuation of the LCRA Creekside Soil and Water Conservation Program*



Funding for Cooperative Agreement No. 15-03, titled “Continuation of the LCRA Creekside Soil and Water Conservation Program,” was provided through a Clean Water Act §319(h) Nonpoint Source Grant from the Texas State Soil and Water Conservation Board and the U.S. Environmental Protection Agency.



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## Acknowledgements

This final report highlights the soil and water conservation benefits of the U.S Environmental Protection Agency Clean Water Act (CWA) §319(h) Nonpoint Source grant provided to Lower Colorado River Authority by Texas State Soil and Water Conservation Board.

Special acknowledgement is given to the agricultural landowners (producers) who invested their time and resources to implement best management practices to help reduce nonpoint source pollution within the lower Colorado River basin. Additional acknowledgment is also given to the agencies who support this partnership and make the LCRA Creekside Conservation Program (Creekside Program) possible:

- U.S. Environmental Protection Agency (EPA)
- Texas State Soil and Water Conservation Board (TSSWCB) Board of Directors, Management and Staff
- USDA Natural Resources Conservation Service (NRCS)
- Soil and Water Conservation District (SWCD) Boards of Directors and staff

## Executive Summary

Project No. 15-03 titled “Continuation of the LCRA Creekside Soil and Water Conservation Program” consisted of the Texas State Soil and Water Conservation Board (TSSWCB) working cooperatively with Lower Colorado River Authority (LCRA), local Soil and Water Conservation Districts (SWCDs), and the United States Department of Agriculture’s Natural Resources Conservation Service (NRCS) to provide technical and financial assistance for producers to plan and implement Best Management Practices (BMPs) on private land within the lower Colorado River basin.

Through this project, **22** comprehensive conservation plans of operation were developed for over **7,451** acres of private land with the collective purpose of reducing sedimentation and agricultural nonpoint source pollution into the Colorado River watershed of Bastrop, Blanco, Burnet, Colorado, Fayette, Lampasas, Llano, Matagorda, San Saba, Travis and Wharton Counties.

During the project, LCRA utilized the Texas Best Management Evaluation Tool (TBET) to estimate nutrient and sediment reductions and BMP effectiveness. TBET is a simplified and customized user interface for the Soil and Water Assessment Tool (SWAT), which predicts pollutant losses from field under a variety of management scenarios and conservation practices. Based on TBET results, the project yielded the following nutrient and sediment reduction results:

- Nitrogen: 38,922 lbs./year
- Phosphorus: 5,126 lbs./year
- Sediment: 4,801 tons/year

Education and outreach (Technology Transfer) was also a vital component of this project. Technology transfer is used to promote soil and water conservation and highlight stewardship efforts of agricultural producers. Technology transfer activities associated with this project included the following:

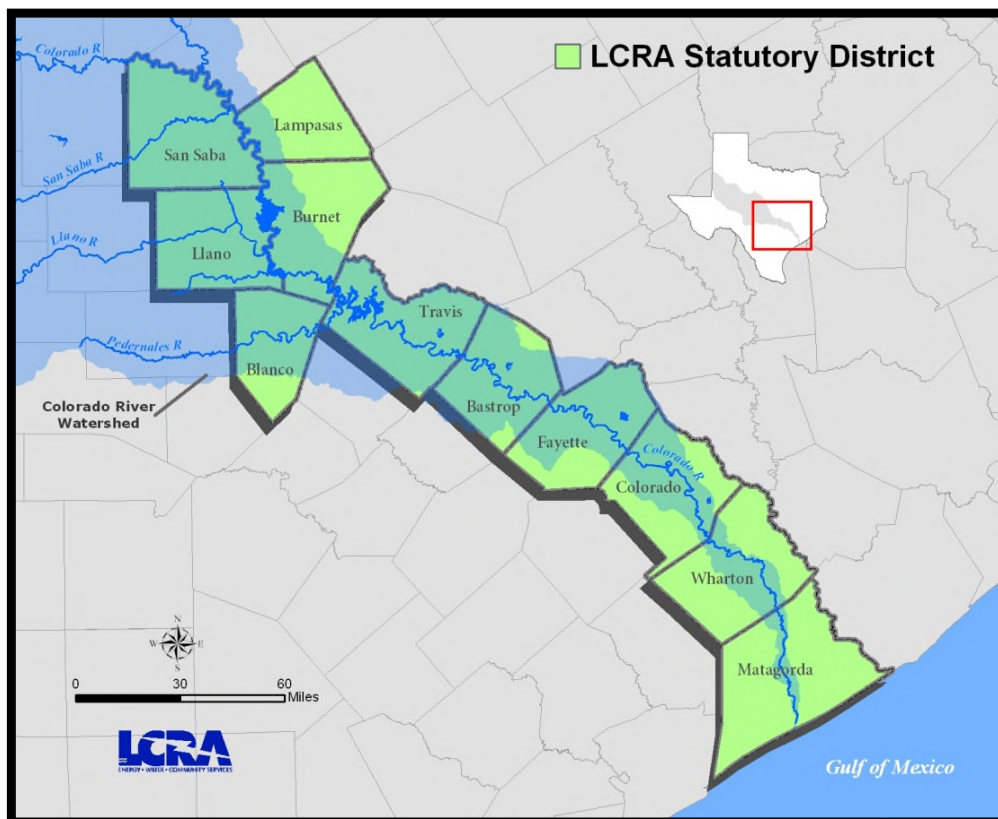
- 1 project video production posted to LCRA website
- 16 project site tours
- 8 public workshop presentations
- 1,000 LCRA Creekside Conservation Program rack cards distributed
- 19 “partner” gate sign presentations
- 2 LCRA lunch-and-learn workshops
- 10 newspaper articles/releases

## Program Introduction

The LCRA Creekside Conservation Program began in 1990 after a sediment reduction study determined that implementing Best Management Practices (BMPs) on private property could be a cost-effective approach to reduce sedimentation and enhance water quality of the Colorado River. Since inception, the Creekside Program has operated through a collaborative partnership between LCRA, TSSWCB, NRCS, local SWCDs and private land owners to provide cost-sharing incentives to implement conservation practices on private land within the lower Colorado River basin.

Since 2004, LCRA has received four separate grants. These grants have been vital to providing technical and financial assistance to agricultural producers and reducing nonpoint source pollution within the Colorado River watershed.

In 2015, LCRA continued administration of the Creekside Program with project 15-03, partially funded by a three-year, U.S. Environmental Protection Agency (EPA) grant passed through the TSSWCB. The Creekside Program is available to producers within the Colorado River watershed in LCRA's eleven county statutory district to include: Bastrop, Blanco, Burnet, Colorado, Fayette, Lampasas, Llano, Matagorda, San Saba, Travis and Wharton counties.



## Project Implementation

The Creekside Program project coordinator worked with local SWCDs and NRCS personnel to provide financial and technical assistance to multiple landowners within the project region. During the project, **22** new conservation plans were developed and a wide range of BMPs were implemented.

Through the Creekside Program, a holistic approach is taken towards land management, and for each project, a conservation plan of operation is developed to encompass the entire land unit. Within these conservation planned acres, specific treatments are applied as indicated in the table below:

LCRA Creekside Conservation Program Best Management Practice Summary								
County	Bastrop	Blanco	Fayette	Lampasas	Llano	San Saba	Travis	Total
Total Participants	4	3	5	3	5	1	1	22
Management Acres*	2,196	453	1,185	776	2,748	81	14	7,452
Cross Fencing Feet	24,549	0	5,098	2,640	5,763	0	0	38,050
Brush Management Acres	0	176	5	33	460	26	0	698
Range Reseeding Acres	0	0	5	34	0	0	13	51
Pipeline Feet	0	0	2,763	0	0	0	0	2,763
Grade Stabilization/Pond	0	0	4	0	0	0	1	5
Water Troughs	0	0	2	0	0	0	0	2

\* Management acres: The Creekside Program involves a holistic land management approach. For each project, LCRA and NRCS work with the producer to develop and implement a comprehensive plan of operation that encompasses the whole land unit. Each plan includes specific treatments, as well as recommendations for facilitating practices such as prescribed grazing and upland wildlife habitat management.

## Project Snapshots

### Grazing Management

During the project, producers completed over 38,000 linear feet of cross fencing, developed alternative water sources and implemented rotational grazing plans. These practices serve to improve rangeland conditions, increase the quality and quantity of forage, reduce soil erosion and enhance water quality.



**Photo 1:** A cross fence installed in Lampasas County by producer Elizabeth Griess. The fence allowed her to begin rotationally grazing her livestock and reduce grazing pressure on Antelope Creek.



**Photo 2:** Rick Castello inspects a water trough installed through the Creekside Program. Rick utilized the program to install two cross fences and two water troughs to implement a rotational grazing plan on the Vacek Family Farm in Fayette County.



## Grade Stabilization Structures

Through the project, a total of four grade stabilization structures were completed. These structures helped to reduce erosion and capture sediment and nonpoint source pollution.



**Photo 3:** One of the four grade stabilization structures completed through the project. This structure was implemented by Donald Sly in Fayette County.



**Photo 5:** Another grade stabilization structure installed by Dr. Russel Clark of Fayette County. Not only did this structure help reduce erosion and sedimentation, but also created an alternative water supply for livestock.

## Brush Management

A total of 698 acres of brush management were completed through the Creekside Program. Ultimately, brush management serves to enhance rangeland conditions, increase hydrologic function, reduce soil erosion and improve overall water quality of the Colorado River basin.



**Photo 6:** Gregg Gisslers's brush management project in Lampasas County. He targeted Ashe Juniper to improve rangeland health and enhance wildlife habitat.

## Evaluation

In FY 2011, TSSWCB began utilizing TBET to estimate nutrient and sediment reductions and BMP effectiveness for the agency's WQMP Program. TBET is a simplified and customized user interface for the Soil and Water Assessment Tool (SWAT), which predicts pollutant losses from fields under a variety of management scenarios and conservation practices.

During Project 15-03, TBET was used to compare estimated nutrient and sediment loading before and after project implementation. Nitrogen, phosphorus and sediment load reductions achieved through this project are as follows:

LCRA Creekside Conservation Program TBET Results Summary					
Fiscal Year	Number of Producers	Management Acres	Sediment Reduction (tons/year)	Phosphorus Reduction (lbs/year)	Nitrogen Reduction (lbs/year)
2016	3	776	1,035	795	5,895
2017	11	4,527	2,926	3,127	23,687
2018	8	2,149	840	1,205	9,341
<b>Total</b>	<b>22</b>	<b>7,451</b>	<b>4,801</b>	<b>5,127</b>	<b>38,922</b>

# Technology Transfer

Technology transfer was pivotal to the success of project 15-03. LCRA produced various feature stories, newsletters and a video production, all of which were submitted into local news publications and highlighted on LCRA's website ([www.lcra.org](http://www.lcra.org)). Additionally, LCRA participated in numerous educational field days, workshops and seminars in the project region.

**LCRA NEWS**

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Jan. 5, 2016

## LCRA RECEIVES \$412,100 GRANT TO HELP LANDOWNERS PRESERVE TEXAS LAND

### Creekside Conservation Program Helps Agricultural Landowners Implement Land and Water Conservation Practices

Media Contact:  
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LCRA3008@lcr.org

AUSTIN, Texas — The Lower Colorado River Authority has received a \$412,100 federal grant to help private agricultural landowners preserve and protect their land for future generations.

The grant from the Environmental Protection Agency, administered through the Texas State Soil and Water Conservation Board, will enable LCRA's Creekside Conservation Program to continue providing financial assistance to agricultural landowners who plan, implement and fund conservation practices that reduce soil erosion and protect water resources. The program supplies up to 50 percent of the cost of approved projects.

To be eligible for a Creekside Conservation Program grant, land must be in the Colorado River basin in Bexar, Blanco, Burnet, Colorado, Fayette, Lampasas, Llano, Matagorda, San Saba, Travis or Wharton counties.

"This program helps farmers and ranchers stabilize the soil and improve water quality throughout the basin," said Bobby Hummerly, supervisor of LCRA Natural Resource Conservation. "This is a great example of what we can achieve when we join forces in the interest of land stewardship."

The Creekside Conservation Program is a partnership among LCRA, the U.S. Department of Agriculture's Natural Resources Conservation Service, and local soil and water conservation districts. LCRA follows NRCS technical guidelines to determine eligible practices, which can include brush management, rangeand reseedings, cross fencing and developing alternative water sources for livestock.

Since the Creekside Conservation Program began more than 25 years ago, the program has helped more than 295 agricultural landowners develop and complete management plans on more than 166,000 acres of private land.

To apply for a Creekside Conservation Program grant, contact LCRA at [grantsideconservation@lcr.org](mailto:grantsideconservation@lcr.org) or 512-596-7226.

About LCRA  
The Lower Colorado River Authority serves customers and communities throughout Texas by managing the lower Colorado River, generating and transmitting electric power, ensuring a clean, reliable water supply, and offering access to nature at more than 50 parks, recreation areas and river access sites along the Texas Colorado River, from the Hill Country to the Gulf Coast. LCRA and its employees are committed to enhancing the lives of Texans through water stewardship, energy and community services. LCRA was created by the Texas Legislature in 1934. The organization neither levies taxes nor receives tax money. For more information, visit [www.lcra.org](http://www.lcra.org).

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## Field Days, Workshops and Other Educational Events

The Creekside Program project coordinator participated in field tours, workshops and various other educational events in the project region. The events are listed below by county:

County	Year	Event	Attendance
Bastrop	2016	Bastrop Weed and Pollinator Management Workshop	40
	2016	Bastrop Conservation Field Tour	45
	2017	Bastrop Grazing Lands Soil Health Workshop	20
	2017	White-tailed Deer Management Workshop	55
	2017	Bastrop SWCD Fall Field Tour	40
	2018	Bastrop Wildfire Prevention Workshop	35
Blanco	2016	Blanco County Land Stewardship Workshop	75
	2016	Blanco County Welcome to Hill Country Living	85
	2017	Pedernales SWCD- Ranch Tour Field Day	50
Burnet	2017	Hill Country Land Stewardship Lunch and Learn	40
Fayette	2016	Colorado/Fayette County Pecan Field Day	47
	2018	Multi-County New Landowner Series	45
	2018	Fayette County Cow Calf Clinic	70
Lampasas	2016	Lampasas River Watershed Riparian & Stream Ecosystems Meeting	55
Llano	2016	Llano Earth and Arts Festival	75
	2016	Llano Welcome to Hill Country Living Meeting	76
	2016	Llano Beef Range and Field Day	330
Matagorda	2018	Tres Palacios & Lower Colorado River Stream Ecosystem Training	30
San Saba	2018	San Saba Spring Field Day	60
Travis	2016	Gilleland Creek Watershed Riparian & Stream Ecosystems Meeting	50
	2017	Texas Land Conservation Conference	100
	2018	Texas Land Conservation Conference	100
Wharton	2016	Spring Beef and Forage Seminar	55
<b>23 Events</b>		<b>1,578 Attendees</b>	

## LCRA Events

During the project, the LCRA coordinator worked together with partnering agencies to host multiple educational events in the project region.

- In June of 2017, LCRA hosted the Hill Country Lunch and Learn in Burnet, Texas. Landowners were invited to learn about available land and wildlife management programs, while enjoying a complimentary barbecue lunch.



- In October of 2017, LCRA hosted the White-Tailed Deer Lunch at Learn at McKinney Roughs Nature Park in Cedar Creek, Texas.



## LCRA Video Production

During project 15-03, LCRA produced a video highlighting the conservation efforts of a Bastrop County producer, Henry Newton Bell III. The video production detailed the success of Mr. Bell's cross fencing project and the partnership developed through the Creekside Program. The video can be viewed at the following link:

<https://www.lcra.org/about/newsroom/news-releases/Pages/LCRA-helps-local-landowners-manage-protect-natural-resources.aspx>.



## News Releases and Newsletters

In 2016, LCRA ran a news release in local papers to advertise a new three-year grant (project 15-03) available to eligible landowners in the project region. Additionally, the Creekside Program was featured in the Llano County SWCD Fall Newsletter in 2018.



**LCRA  
CREEKSIDE  
CONSERVATION  
PROGRAM**

The Lower Colorado River Authority's Creekside Conservation Program

Since 1990, the LCRA Creekside Conservation Program has provided technical and financial assistance to numerous agricultural producers in Llano County. By partnering with local Soil and Water conservation Districts and the USDA Natural Resources Conservation Service (NRCS) the program offers a 50 percent cost sharing incentive to help private landowners complete various soil and water conservation projects within 11 counties of the Colorado River watershed. Practices cost-shareable through the program include mechanical brush management, cross fencing, rangeland reseeding and alternative water resource development for livestock.

The program, which is ultimately designed to reduce soil erosion and enhance water quality, is funded through a U.S. Environmental Protection Agency 319 (h) non-point pollution grant administered through the Texas State Soil and Water Conservation Board. To learn more about enrolling in the upcoming LCRA Creekside Conservation Program grant period, contact LCRA Natural Resource Conservation Coordinator Marshall Trigg at (830) 596-7239 or [Marshall.Trigg@LCRA.org](mailto:Marshall.Trigg@LCRA.org).



## Program Logo

During the project, LCRA continued to use the Creekside Program logo in various publications and promotional items.



## Partner Gate Sign

The LCRA Coordinator worked together with the partnering agencies to produce a new Creekside Program “partner” gate sign. It was distributed throughout the project region to participating producers.



## Gate Sign Presentations

During the project, there were 19 “partner” gate sign presentations. Presentations took place during site tours, field days, SWCD Meetings and workshops.

- This gate sign presentation occurred during a site tour of Robert Rabalais property in Fayette County. All partnering entities were present to include: the private landowner, Fayette County NRCS staff, LCRA project coordinator, TSSWCB project coordinator and a director of the local Fayette County SWCD.



- In this photo, Marshall Trigg, LCRA project coordinator, poses with the Bastrop County SWCD to present Jerry Ingram his partner gate sign.



- This gate sign was presented to Lonnie Seipp of Llano County at the Hill Country Lunch and Learn workshop in June 2017.



## Conclusion

Since 1990, the LCRA Creekside Conservation Program has utilized a unique partnership to assist agricultural producers implementing BMPs within the Colorado River basin. By continuing these efforts through project 15-03, LCRA worked together with the TSSWCB, NRCS, local SWCDs and private landowners to help 22 producers plan, implement and fund soil and water conservation projects.

As a result, a wide range of BMPs were implemented and a total of 7,451 acres of private property were placed under conservation plans. Ultimately, this technical and financial assistance helped producers to achieve their land management goals and functioned to improve the water quality of the Colorado River by reducing sedimentation and non-point source pollution.

LCRA worked collaboratively with the NRCS and TSSWCB to estimate sedimentation and pollutant load reductions achieved through the program. By utilizing TBET, a soil and water assessment tool, LCRA was able to determine project 15-03 resulted in the reduction of the 4,801 tons/year of sediment, 5,127 pounds/year of phosphorus and 38,922 pounds/year of nitrogen.

Technology transfer was also vital to the success of project 15-03. LCRA worked with local SWCDs, NRCS and private landowners to produce newsletters, feature stories and a feature video that were highlighted on LCRA's website. Additionally, the project coordinator presented program information at various educational events such as field days and workshops that reached thousands of attendees throughout the project region.