

# Texas Riparian & Stream Ecosystem Education Program Final Report 2015

Texas Water Resources Institute TR-479  
September 2015



# Texas Riparian & Stream Ecosystem Education Program

## Final Report 2015

Authored and Prepared by:

Nikki Dictson<sup>1</sup>, Allen Berthold<sup>1</sup>, Clare Entwistle<sup>1</sup>, Hughes Simpson<sup>2</sup>, Sky Lewey<sup>3</sup>,

Major Contributors:

Kevin Wagner<sup>1</sup>, Lori Hazel<sup>2</sup>, Melissa Parker<sup>4</sup>, Ryan McGillicuddy<sup>4</sup>, Kyle Wright<sup>5</sup>, Russell Castro<sup>5</sup>, Steve Nelle<sup>6</sup>,  
Mark Tyson<sup>7</sup>, Josh Helcel<sup>7</sup>, Anne Rogers<sup>8</sup>, Blake Alldredge<sup>8</sup>, Tom Arsuffi<sup>8</sup>, Jacqueline Duke<sup>8</sup>, Georgianne  
Moore<sup>8</sup>

<sup>1</sup>Texas Water Resources Institute, <sup>2</sup>Texas A&M Forest Service, <sup>3</sup>Nueces River Authority, <sup>4</sup>Texas Parks and  
Wildlife Department, <sup>5</sup>USDA Natural Resources Conservation Service, <sup>6</sup>Retired, <sup>7</sup>Texas A&M AgriLife  
Extension, <sup>8</sup>Texas Riparian Association

Prepared for Texas State Soil and Water Conservation Board  
Contract #12-07

Texas Water Resources Institute Technical Report No. 479  
Texas A&M University System  
College Station, Texas 77843-2118  
September 2015

The Texas Riparian and Stream Ecosystem Education Program is hosted and coordinated by the Texas Water Resources Institute, part of Texas A&M AgriLife Research, the Texas A&M AgriLife Extension Service, and the College of Agriculture and Life Sciences at Texas A&M University.

*Funding provided by the U.S. Environmental Protection Agency through the Texas State Soil and Water Conservation Board.*



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## ACRONYMS

<b>BLM</b>	Bureau of Land Management
<b>BMPs</b>	Best Management Practices
<b>CE</b>	Continuing Education
<b>CEA</b>	County Extension Agent
<b>CEU</b>	Continuing Education Unit
<b>DO</b>	Dissolved Oxygen
<b>EPA</b>	U.S. Environmental Protection Agency
<b>ESSM</b>	Department of Ecosystem Science & Management, Texas A&M University
<b>GBRA</b>	Guadalupe-Blanco River Authority
<b>GLCI</b>	Grazing Lands Conservation Initiative
<b>GLO</b>	General Land Office
<b>IRNR</b>	Texas A&M Institute of Renewable Natural Resources
<b>NGO</b>	Non-governmental Organization
<b>NPS</b>	Nonpoint Source
<b>NRA</b>	Nueces River Authority
<b>NRCS</b>	Natural Resources Conservation Service, part of USDA
<b>PFC</b>	Proper Functioning Condition
<b>QPR</b>	Quarterly Progress Report
<b>SCSC</b>	Department of Soil and Crop Sciences, Texas A&M University
<b>SWCD</b>	Soil and Water Conservation District
<b>TCEQ</b>	Texas Commission on Environmental Quality
<b>TFS</b>	Texas A&M Forest Service
<b>TIAER</b>	Texas Institute for Applied Environmental Research
<b>TMDL</b>	Total Maximum Daily Load
<b>TPWD</b>	Texas Parks and Wildlife Department
<b>TRA</b>	Texas Riparian Association
<b>TSSWCB</b>	Texas State Soil and Water Conservation Board
<b>TST</b>	Texas Stream Team, Meadows Center for Water and the Environment
<b>TTU-LRFS</b>	Texas Tech University – Llano River Field Station
<b>TWRI</b>	Texas Water Resources Institute
<b>TXDOT</b>	Texas Department of Transportation
<b>USDA</b>	U.S. Department of Agriculture
<b>USFWS</b>	U.S. Fish and Wildlife Services
<b>WCSC</b>	Watershed Coordination Steering Committee
<b>WFSC</b>	Wildlife and Fisheries Sciences unit of Texas A&M AgriLife Extension Service
<b>WPP</b>	Watershed Protection Plan

## ACKNOWLEDGEMENTS

This report highlights the trainings, online modules, education and outreach and conferences of the Texas Riparian and Stream Ecosystem Education program. The program is funded by the federal Clean Water Act 319(h) Nonpoint Source grant provided by the Texas State Soil and Water Conservation Board (TSSWCB) and U.S. Environmental Protection Agency (US EPA) to Texas A&M AgriLife Extension Service's Texas Water Resources Institute (TWRI), Texas A&M Forest Service (TFS) and Nueces River Authority (NRA). This statewide project has been a wonderful collaboration of many entities of the Riparian Team that were guiding and assisting with the program. This project has been such a success because of the Riparian Team and the network of partners across the state. Thank you to the Texas Riparian Association (TRA), who have hosted this program and online modules on their website, as well as assisted with the statewide conferences. Thank you to the Nueces River Authority for their work on the online modules/educational videos and the additional matching funds provided by the Dixon Water Foundation that helped make all of this possible.

Special acknowledgement is given to the Course Instructors and their entities for their support of this program:

- Melissa Parker, Ryan McGillicuddy and Gary Garrett, Texas Parks and Wildlife Department (TPWD)
- Steve Nelle, Retired USDA Natural Resources Conservation Service (NRCS)
- Kyle Wright, Russell Castro, Ken Mayben, and Dan Keese, NRCS
- Hughes Simpson, Lori Hazel and Kristen Wickert, Texas A&M Forest Service
- Nikki Dictson, TWRI
- Tom Arsuffi, Texas Tech University Llano River Field Station

We would also like to thank all of the local partners and sponsors that helped with the many workshops and conferences across the State. This program has been a great success due to the support of these wonderful partners! THANK YOU!

- Institute of Renewable Natural Resources
- Guadalupe Blanco River Trust
- AgriLife Extension - Coryell County
- AgriLife Extension- Guadalupe County
- AgriLife Extension - Kimble County
- TTU Llano River Field Station
- Brazos County AG&NR Agent
- Lavaca County WMA
- AgriLife Extension - Lavaca County
- AgriLife Extension - Wharton County
- Houston Galveston Area Council
- Texas Water Resources Institute
- AgriLife Extension - Hidalgo County
- AgriLife Extension - Chambers County
- AgriLife Extension - Kerr County
- Upper Guadalupe River Authority
- AgriLife Extension - Chambers County
- Double Bayou Watershed Partnership
- AgriLife Extension - Nueces County
- Nueces River Authority
- AgriLife Extension - Tarrant County
- Tarrant Regional Water District
- Texas Parks and Wildlife Department
- Hill Country Alliance
- The Nature Conservancy
- Texas Coastal Watershed Program
- AgriLife Extension - Galveston County
- AgriLife Extension - Hamilton County
- Leon River Watershed Coordinator
- San Antonio River Authority
- AgriLife Extension - Wilson County
- City of Denton
- Upper Trinity Conservation Trust
- AgriLife Extension - Hays County
- Meadows Center for Water & the Environment
- AgriLife Extension - Ellis County
- Tarrant Regional Water District
- AgriLife Extension - Williamson County

## EXECUTIVE SUMMARY

The State of Texas has more than 191,000 miles of rivers and streams that comprise corridors of great economic, social, cultural, and environmental value. Riparian degradation is a major threat to water quality, in-stream habitat, terrestrial wildlife, aquatic species, and overall stream health. The Texas Riparian and Stream Ecosystem Education Program is funded by the U.S. Environmental Protection Agency (EPA) through the Texas State Soil and Water Conservation Board. The Texas Water Resources Institute coordinated and partnered with the Texas A&M AgriLife Extension Service, Texas A&M AgriLife Research, Texas State Soil and Water Conservation Board (TSSWB), EPA, Texas Parks and Wildlife Department, USDA Natural Resource Conservation Service, Texas A&M Forest Service, TTU Llano River Field Station, TCEQ, and Texas State University-River Systems Institute to conduct the Texas Riparian and Stream Ecosystem training project. The project supports the Texas Nonpoint Source Management Program's goal of protecting and restoring water quality. It provides training to land owners, land managers, water and natural resource professionals, and the general public in impaired watersheds through the help of local partners.

Results of program goals:

- Conducted Workshops in 25 Watersheds to over 1,030 participants in prioritized watersheds
- Coordinated 2 Proper Functioning Condition (PFC) trainings to agency personnel and an Introduction to PFC pre-conference workshop at the Southwest Stream Restoration.
- Coordinated with Partners 2 Statewide Riparian Conferences and 2 Southwest US Stream Restoration Conferences in 2013 and 2014.
- Increased knowledge and understanding of riparian function showed a statistically significant increase of 19% based on matching pairs of pre-/post-tests (mean scores of 77 and 91 respectively;  $p$  value=0.001 with alpha 0.05). At the training, 94% of Respondents said they plan to adopt BMPs discussed during the workshop. For the post workshop follow up survey we had 293 respondents to the qualtrics online survey and 78% of respondents stated that they had adopted or still plan adopt the BMPs discussed during the workshop.

TWRI in partnership with TRA has developed and maintained a website – <http://texasriparian.org> hosted by TRA that serves as a public clearinghouse for project-related information. The Texas Riparian website had 31,229 visitors since January 2013 and has 4,956 subscribed to the website blog posts. The Texas Riparian Listserv has 283 subscribers. TWRI set up a Facebook and currently has 567 likes at <https://www.facebook.com/TexasRiparianAssociation>. Workshops were advertised through the websites, the listserv and facebook. TWRI, with assistance of the Riparian Team, with the watershed coordinators and local partners delivered daylong riparian education training events in 25 prioritized watersheds. Throughout the three year period, 53 news releases were published through 28 different media outlets across the state of Texas. Presentations of varying length were developed and delivered to a variety of audiences throughout the state. Overall 34 presentations were given about and supporting the Riparian Education Project. TWRI conducted presentations to a total of 1,237 people to promote riparian education and stream health statewide.

## INTRODUCTION

Riparian degradation is a major threat to water quality, in-stream habitat, terrestrial wildlife, aquatic species, and overall stream health. Conversely, proper management, protection, and restoration of riparian areas decrease bacteria, nutrient, and sediment loadings to waterbodies; lower in-stream temperatures; improve dissolved oxygen levels; improve aquatic habitat; and ultimately improves aquatic and fish community integrity. Elevated bacteria, low dissolved oxygen, and degraded habitat and aquatic communities account for most of the impairments in the *2012 Texas Integrated Report*.

To improve the management of these sensitive and vital ecosystems, riparian education programs are needed regarding the nature and function of riparian zones, their benefits, and BMPs for protecting them. This will not only lead to reduced NPS pollution, it will provide tremendous ecosystem service benefits and economic benefits to the community.

The State of Texas has more than 191,000 miles of rivers and streams that, along with closely associated floodplain and upland areas, comprise corridors of great economic, social, cultural, and environmental value. These riparian corridors are complex ecosystems that include the land, plants, animals, and network of streams within them. They perform a number of ecological functions such as modulating streamflow, storing water, removing harmful materials from water, and providing habitat for aquatic and terrestrial plants and animals. Simply put, the health of riparian systems is paramount to stream health.

Streams and riparian zones reflect the sum of impacts of natural and man-induced disturbances of drainage areas or watersheds. Management of the land, streams, and riparian zones affects not only individual landowners, but also livestock, wildlife, aquatic life and ecosystem services for everyone downstream. By understanding the processes, key indicators and impacts of disturbances, activities that hinder recovery, landowners and other citizen-stakeholders can evaluate these systems and improve their management to produce desired conditions.

Changes within a surrounding ecosystem (e.g., watershed) will impact the physical, chemical, and biological processes occurring within a stream corridor. Stream systems normally function within natural ranges of flow, sediment movement, temperature, and other variables, in “dynamic equilibrium.” Over the years, human activities have contributed to changes in the dynamic equilibrium of stream systems. These activities have manipulated stream corridor systems for a wide variety of purposes, including domestic and industrial water supplies, irrigation, transportation, hydropower, waste disposal, mining, flood control, timber management, recreation, aesthetics, and fish and wildlife habitat. Increases in human population, along with industrial, commercial, and residential development have placed heavy demands on stream corridors. The cumulative effects of these activities result in significant direct and indirect changes, not only to stream corridors, but also to the ecosystems or watersheds they are located in. The direct changes include degradation of water quality, decreased water storage and conveyance capacity, loss of habitat for fish and wildlife, and decreased recreational and aesthetic values. While the indirect changes are harder to quantify such as air quality, decomposition of wastes, and other ecosystem services we all take for granted, there is direct economic benefits that can be calculated. Many cities, such as Austin, have found that improving creek and floodplain protection is needed to prevent unsustainable public expense to maintain drainage infrastructure.

Benefits of healthy riparian/stream systems:

- High quality habitat for both aquatic and riparian species
- Dissipation of flood energy and reduced downstream flood intensity and frequency
- Higher, longer-lasting and less variable baseflow between storm events
- Deposition of sediment in the floodplain, stabilizing it and maintaining downstream reservoir capacity longer
- Debris and nutrient use and filtering in the floodplain to improve water quality and dissolved oxygen levels in the aquatic system
- Riparian vegetation canopies to shade streams and reduce their temperatures, providing a food base for aquatic and riparian fauna
- Fewer invasions of exotic undesirable riparian species
- Higher biodiversity than terrestrial uplands
- “Stabilized” banks, which reduce erosion and protect ownership boundaries
- Increased economic value through wildlife, livestock, timber, and recreational enterprises
- Improved rural land aesthetics and real estate values

This program has coordinated closely with TPWD on both delivery and content to ensure landowners throughout the state are provided a consistent message of riparian enhancement and protection. TWRI also contacted groups like the Stream Teams coordinated by Texas A&M AgriLife Research at Blackland Research and Extension Center and the North Central Texas Council of Governments and USEPA-Region 6. These groups were focused on providing technical assistance through consultations and recommendations, informal project review and ordinance review, and also worked to improve public awareness of the benefits of healthy streams and riparian areas through a geomorphology training workshops directed to local officials, city engineers, developers and consultants.

This project has created a synergy and an important network with others conducting stream and riparian education as well as build off of these past successful local programs to establish the State’s mechanism to deliver riparian education in high priority watersheds. This project has implemented a riparian education program to support and enhance riparian management and water quality protection efforts by all agencies and organizations actively engaged in watershed planning across Texas. This program will benefit watershed efforts regardless of constituent targeted or whether the watershed is urban or rural. Further, by protecting these ecologically sensitive riparian areas, communities will be able to improve water quality while maintaining healthy ecosystems, providing wildlife habitat, opportunities for outdoor recreation and enhanced ecosystem services.

## **PROJECT DESCRIPTION**

The main goal was to deliver riparian education programs to targeted watersheds to promote healthy riparian areas, thus healthy watersheds, by increasing citizen awareness, understanding, and knowledge about the nature and function of riparian zones, their benefits, and BMPs for protecting them and minimize NPS pollution.

TWRI employed Nikki Dictson, an Extension Program Specialist III, who has served as the Riparian Education Program Coordinator and has been responsible for the general oversight and coordination of all project activities and for promoting, coordinating, and delivering riparian education training events and web-based tools.

TWRI has assembled and coordinated closely with the Riparian Team to assist with the development of the Texas Riparian and Stream Ecosystem Program, marketing, and delivery (Table 1 ). TWRI has partnered with TRA to



host all of the information on the TRA website found at <http://texasriparian.org> . TWRI has developed an RSVP system on the Natural Resources Training website that allows registrants to RSVP for the trainings online at <http://naturalresourcestraining.tamu.edu/schedule/> . TWRI has coordinated with the County Agent for each event as well as the local watershed coordinator for all of the workshops. Partners of the program have been instructors at these workshops. TWRI developed a flier/registration form for each workshop to advertise the workshop in multiple places (Example Flier).

TWRI has coordinated the delivery of daylong riparian education programs by conducting riparian trainings in targeted watersheds and providing access to the program through web-based tools delivered via web, conferences, website, listserv, and facebook. TWRI organized instructor teams for each event, composed of members of the Riparian Team, contractors, and others as needed to deliver the riparian education programs. TWRI has hosted coordination meetings or conference calls, at least quarterly, with project partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TWRI kept in constant contact with instructors and planning members.

**Table 1. Riparian Team List of Members and Organizations**

<b>Riparian Team</b>		
First	Last	Organization
Blake	Allredge	Upper Trinity River Authority
Kevin	Anderson	Texas Riparian Association & City of Austin
Tom	Arsuffi	Texas Tech – Llano River Field Station
Russell	Castro	USDA- Natural Resource Conservation Service
Nikki	Dictson	Texas Water Resources Institute
Wesley	Gibson	Texas State Soil &Water Conservation Board
Lori	Hazel	Texas A&M Forest Service
Thom	Hardy	Meadows Center for Water & the Environment, Texas State University
Fouad	Jaber	Texas AgriLife Extension Service
Sky	Lewey	Nueces River Authority
Georgianne	Moore	Texas A&M University Ecosystem Science & Management
Steve	Nelle	Retired USDA Natural Resource Conservation Service
Melissa	Parker	Texas Parks & Wildlife Department
Anne	Rogers	Texas Riparian Association
Hughes	Simpson	Texas A&M Forest Service
Kevin	Wagner	Texas Water Resources Institute
Kyle	Wright	USDA- Natural Resource Conservation Service
Bill	Carter	Texas Commission on Environmental Quality
Lauren	Young	Texas Commission on Environmental Quality

TWRI in partnership with TRA has developed and maintained a website – <http://texasriparian.org> hosted by TRA that serves as a public clearinghouse for project-related information. This website serves as a means to disseminate information to stakeholders and the general public. TWRI also advertises and utilizes our Natural Resource trainings RSVP website that manages all of the training registrations. The training registration site has the newly scheduled dates available for attendees to RSVP to the workshops and it is linked to the TRA website. These websites are coordinated and linked to <http://RemarkableRiparian.org> website that is being managed by Sky Lewey - Nueces River Authority and both have the online educational materials.

The Texas Riparian website had 31,229 visitors since January 2013. The TRA website has 4,956 subscribed to the website blog posts. The Texas Riparian Listserv has 283 subscribers. TWRI set up a twitter feed on the TexasRiparian.org website so that all of the TWRI twitters are shown on the homepage of the website. TWRI set up a Facebook and currently has 567 likes at <https://www.facebook.com/TexasRiparianAssociation>. Materials that were developed and added to the websites weekly including information about upcoming Conferences, voice over PowerPoint videos, online tools and resources, and upcoming workshops are on both websites. Workshops were advertised through the websites, the listserv and facebook.

The original program goals included:

- Deliver a minimum of 25 riparian education programs to 550 participants in prioritized watersheds
- Coordinate 2 Riparian Proper Functioning Condition (PFC) trainings to agency personnel
- Coordinate 2 Statewide riparian conferences
- Increased knowledge and understanding of riparian function and implementation of BMPs by individuals participating in the program, as measured by pre-/post-tests and 6-month follow-up evaluation

Results of program goals:

- Conducted Workshops in 25 Watersheds to over 1,030 participants in prioritized watersheds
- Coordinated 2 Proper Functioning Condition (PFC) trainings to agency personnel and an Introduction to PFC pre-conference workshop at the Southwest Stream Restoration Conference in 2014.
- Coordinated with Partners 2 Statewide Riparian Conferences and 2 Southwest US Stream Restoration Conferences in 2013 and 2014.
- Increased knowledge and understanding of riparian function showed a statistically significant increase of 19% based on matching pairs of pre-/post-tests (mean scores of 77 and 91 respectively; p value=0.001 with alpha 0.05). At the training, 94% of Respondents said they plan to adopt BMPs discussed during the workshop. For the post workshop follow up survey we had 293 respondents to the qualtrics online survey and 78% of respondents stated that they had adopted or still plan adopt the BMPs discussed during the workshop.

## **PROGRAM DEVELOPMENT**

The program is adapted to each location and the local presentation was selected to meet local needs. For example, the program was adapted in coordination with the Riparian Team and others for urban areas and coastal areas. TFS was integral for both adapting the program and delivering it in East Texas and urban areas. Due to logging activities in this region and specific requirements placed on such operations, the program was adapted in coordination with the TFS to meet the needs of landowners and issues these logging areas and ensure consistency with existing logger training programs. Further, TFS is the recognized expert in Texas with regards to bottomland

hardwood forests and their vegetation and management. As these bottomland forests are vital to riparian protection and improvements, the TFS expertise was needed to ensure the program retains the needed expertise to appropriately manage these critical systems.

TWRI compiled presentation materials from past Extension presentations, from Dr. Jaber’s workshops, NRCS and NRA’s workshops, Texas Riparian Associations Workshops, and Texas Parks and Wildlife Department’s Workshops. These presentations were used as some of the basis of information utilized in the new workshops. TWRI also gathered workshop agenda’s from these other partners to assist with coming up with the program agenda. Stream Assessment and Field Guides were also gathered for both the landowner training and the professional riparian assessment training.

A 3-4 person instructor team was used at each training program along with local presentations. The basic existing framework established by TRA and other partner trainings was utilized and expanded upon to incorporate water quality and watershed management. The morning session includes indoor classroom style presentations. During lunch additional presentations were provided that relate to the issues and or landscape for the area. The afternoon session were conducted outside at one or more stream locations. Participants can see in the field firsthand the vegetation and functions they learned about in the classroom setting. Depending on the number of attendees the group was broken into two or more smaller groups and then rotated through the presentations and stream walk.



## Coordinate and Advertise Riparian Education Programs

The Riparian Team has assisted with program development, marketing, and delivery. This Riparian Team has served as the primary pool of instructors to deliver the Riparian Education Program. Multiple calls and emails occurred with planning team members to discuss who was available to be instructors for the workshops during the quarter. This included contact with Steve Nelle, Melissa Parker, Ryan McGillicuddy, Russell Castro, Kyle Wright, Hughes Simpson, Lori Hazel, Sky Lewey, Georgianne Moore, Anne Rogers, Kevin Anderson, Blake Alldredge, Tom Arsuffi and Ken Mayben. This included planning and assistance with the two Riparian Proper Functioning Conditioning Courses for Professionals in June.

TWRI worked in concert with TSSWCB, TCEQ, TPWD, NRCS, TFS, and other state and local organizations to select locations for the riparian education training events. This project delivered riparian education programs to targeted watersheds across the state. Priority watersheds were selected in collaboration with TSSWCB, and with input from TCEQ and others, and primarily represent watersheds with WPP or TMDL efforts ongoing or those planning development of WPPs or TMDLs.

TWRI, with assistance of the Riparian Team, with the watershed coordinators and local partners delivered daylong riparian education training events in 25 prioritized watersheds. Certificates of completion were provided to all participants in the trainings.

Trainings have been conducted at the following:

- a. Plum Creek in Lockhart on June 25, 2013.
- b. Leon River in Moody on Sept. 12, 2013.
- c. Geronimo and Alligator Creek in Seguin on Sept. 17<sup>th</sup>, 2013.
- d. WMHS Graduate Course in College Station on October 13, 2013.
- e. Upper Llano River on October 16<sup>th</sup>, 2013.
- f. TRA Junction Workshop on November 1, 2013.
- g. Carters and Burton Creek on November 21, 2013.
- h. Lavaca River Basin on February 25, 2014.
- i. San Bernard River on March 18, 2014.
- j. Arroyo Colorado on April 24, 2014.
- k. Cedar Bayou on May 8, 2014
- l. Upper Guadalupe River on May 13, 2013.
- m. Double Bayou on September 24, 2014
- n. Lower Nueces River on October 8, 2014
- o. Petronila Creek on October 8, 2014
- p. Oso Creek on October 8, 2014
- q. Eagle Mountain Lake on October 14, 2014
- r. Pedernales River on December 5, 2014.
- s. Dickinson Bayou on February 27, 2015
- t. Leon River on March 12, 2015
- u. Upper San Antonio River, April 1, 2015
- v. Cypress Creek in Wimberley on May 19, 2015.
- w. Hickory Creek in Denton on May 21, 2015.
- x. Richland Chambers in Waxahachie on June 2, 2015
- y. Professional PFC Workshop in Waxahachie on June 3-4, 2015
- z. Professional PFC Workshop in Belton on June 17-18, 2015
- aa. San Gabriel River in Georgetown on September 3, 2015.



TWRI, with assistance of the Riparian Team, has actively market riparian education trainings through news releases (AgriLife News and local media outlets), internet postings, newsletter announcements, public/conference presentations, flyers, etc., to enhance awareness and utilization. TWRI advertised the workshops and the two Riparian Properly Functioning Condition Assessment Courses on the TRA listserv, post to the website subscribers, the Texas Watershed Coordinators listserv, and facebook. TWRI worked with the County Extension Agents and Watershed Coordinators to develop press releases. Throughout the three year period, 53 news releases were published through 28 different media outlets across the state of Texas (Table 2).

**Table 2. TWRI developed with partners 53 news releases, published through 28 different media outlets.**

2015			
Media Outlet	Date	Title	Link
AgriLife Today	2/13/2015	Riparian and stream ecosystem workshop set for Feb. 27 in La Marque	<a href="http://today.agrilife.org/2015/02/13/riparian-and-stream-ecosystem-workshop-set-for-feb-27-in-la-marque/">http://today.agrilife.org/2015/02/13/riparian-and-stream-ecosystem-workshop-set-for-feb-27-in-la-marque/</a>
AgriLife Today	3/3/2015	Riparian and stream ecosystem workshop set for March 12 in Hamilton	<a href="http://today.agrilife.org/2015/03/03/riparian-workshop-hamilton/">http://today.agrilife.org/2015/03/03/riparian-workshop-hamilton/</a>
AgriLife Today	3/20/2015	Riparian and stream ecosystem workshop set for April 1 in Floresville	<a href="http://today.agrilife.org/2015/03/20/riparian-workshop-in-floresville/">http://today.agrilife.org/2015/03/20/riparian-workshop-in-floresville/</a>
AgriLife Today	5/19/2015	Riparian and stream ecosystem workshop set for May 19 in Wimberley	<a href="http://today.agrilife.org/2015/05/08/riparian-and-stream-ecosystem-workshop-set-for-may-19-in-wimberley/">http://today.agrilife.org/2015/05/08/riparian-and-stream-ecosystem-workshop-set-for-may-19-in-wimberley/</a>

Media Outlet	Date	Title	Link
AgriLife Today	6/25/15	Riparian and stream ecosystem workshop set for May 19 in Waxahachie	<a href="http://today.agrilife.org/2015/05/25/riparian-and-stream-ecosystem-workshop-set-for-june-2-in-waxahachie/">http://today.agrilife.org/2015/05/25/riparian-and-stream-ecosystem-workshop-set-for-june-2-in-waxahachie/</a>
Cornerstone Ranching Solutions	2/13/2015	Riparian and stream ecosystem workshop set for Feb. 27 in La Marque	<a href="http://www.cornerstoneranchingsolutions.com/2015/02/13/riparian-and-stream-ecosystem-workshop-set-for-feb-27-in-la-marque/">http://www.cornerstoneranchingsolutions.com/2015/02/13/riparian-and-stream-ecosystem-workshop-set-for-feb-27-in-la-marque/</a>
Glen Rose Reporter	3/10/2015	Riparian, stream education program scheduled	<a href="http://www.yourglenrosetx.com/news/community/article_cd070cf7-cf60-5788-8c9c-4a8d878c14c6.html">http://www.yourglenrosetx.com/news/community/article_cd070cf7-cf60-5788-8c9c-4a8d878c14c6.html</a>
Texas Farm Bureau	3/23/2015	Riparian and stream ecosystem workshop set for April 1 in Floresville	<a href="http://www.texasfarmbureau.org/newsmanager/templates/DailyNews.aspx?articleid=20469&amp;zoneid=1">http://www.texasfarmbureau.org/newsmanager/templates/DailyNews.aspx?articleid=20469&amp;zoneid=1</a>
Texas Environmental News	3/24/2015	Riparian and stream ecosystem workshop set for April 1 in Floresville	<a href="http://www.texasenvironmentalnews.com/riparian-and-stream-ecosystem-workshop-set-for-april-1-in-floresville/">http://www.texasenvironmentalnews.com/riparian-and-stream-ecosystem-workshop-set-for-april-1-in-floresville/</a>
Gainesville Daily Register	4/30/2015	Watershed conservation works to control flooding	<a href="http://www.gainesvilleregister.com/community/watershed-conservation-works-to-control-flooding/article_cf26e44c-ef44-11e4-9785-7747a0d91e07.html">http://www.gainesvilleregister.com/community/watershed-conservation-works-to-control-flooding/article_cf26e44c-ef44-11e4-9785-7747a0d91e07.html</a>
AgriLife Extension Wildlife & Fisheries	4/28/2015	Riparian and stream ecosystem workshop set for May 21 in Denton	<a href="http://wildlife.tamu.edu/2015/04/riparian-and-stream-ecosystem-workshop-set-for-may-21-in-denton/">http://wildlife.tamu.edu/2015/04/riparian-and-stream-ecosystem-workshop-set-for-may-21-in-denton/</a>
Wimberley Watershed News	4/30/2015	Texas Riparian & Stream Ecosystem Workshop	<a href="http://wimberleywatershednews.blogspot.com/2015/04/texas-riparian-stream-ecosystem.html">http://wimberleywatershednews.blogspot.com/2015/04/texas-riparian-stream-ecosystem.html</a>

#### 2014

Media Outlet	Date	Title	Link
AgriLife Today	1/27/14	Riparian and stream ecosystem workshop set for Feb. 25 in Hallettsville	<a href="http://today.agrilife.org/2014/01/27/riparian-workshop-hallettsville/">http://today.agrilife.org/2014/01/27/riparian-workshop-hallettsville/</a>
AgriLife Today	3/5/14	Riparian, stream ecosystem workshop set for March 18 in Wharton	<a href="http://today.agrilife.org/2014/03/05/riparian-stream-ws-wharton/">http://today.agrilife.org/2014/03/05/riparian-stream-ws-wharton/</a>
AgriLife Today	4/2/2014	Riparian and stream ecosystem workshop set for April 24 in Weslaco	<a href="https://today.agrilife.org/2014/04/02/arroyo-colorado-ecosystem-workshop-set-april-24/">https://today.agrilife.org/2014/04/02/arroyo-colorado-ecosystem-workshop-set-april-24/</a>
AgriLife Today	4/21/2014	Texas Riparian & Stream Ecosystem Workshop Kerrville	<a href="http://today.agrilife.org/2014/04/21/riparian-stream-ecosystem-kerrville/">http://today.agrilife.org/2014/04/21/riparian-stream-ecosystem-kerrville/</a>
AgriLife Today	4/21/2014	Riparian and stream ecosystem workshop set for May 8 in Mont Belvieu	<a href="http://today.agrilife.org/2014/04/21/riparian-stream-wshop-mont-belvieu/">http://today.agrilife.org/2014/04/21/riparian-stream-wshop-mont-belvieu/</a>
AgriLife Today	9/5/14	Riparian and stream ecosystem workshop set for Sept. 24 in Hankamer	<a href="http://today.agrilife.org/2014/09/05/riparian-workshop-hankamer/">http://today.agrilife.org/2014/09/05/riparian-workshop-hankamer/</a>
AgriLife Today	9/22/14	Riparian and stream ecosystem workshop set for Oct. 8 in Corpus Christi	<a href="http://today.agrilife.org/2014/09/22/riparian-stream-wkshop-corpus/">http://today.agrilife.org/2014/09/22/riparian-stream-wkshop-corpus/</a>
AgriLife Today	10/1/14	Riparian and stream ecosystem workshop set for Oct. 14 in Azle	<a href="http://today.agrilife.org/2014/10/01/riparian-stream-ecosystem-azle/">http://today.agrilife.org/2014/10/01/riparian-stream-ecosystem-azle/</a>
AgriLife Today	11/18/14	Riparian and stream ecosystem workshop set for Dec. 5 in Stonewall	<a href="http://today.agrilife.org/2014/11/18/riparian-stream-wshop-stonewall/">http://today.agrilife.org/2014/11/18/riparian-stream-wshop-stonewall/</a>
AgriLife Today	11/28/14	Urban Riparian Symposium coming to Austin Feb. 11-13	<a href="http://today.agrilife.org/2014/11/28/urban-riparian-symp-austin/">http://today.agrilife.org/2014/11/28/urban-riparian-symp-austin/</a>
Texas Farm Bureau	11/31/14	Riparian, stream ecosystem workshop to be held Feb. 25 Hallettsville	<a href="http://www.texasfarmbureau.org/newsmanager/templates/DailyNews.aspx?articleid=16996&amp;zoneid=1">http://www.texasfarmbureau.org/newsmanager/templates/DailyNews.aspx?articleid=16996&amp;zoneid=1</a>
AgriLife Extension	1/23/14	February Stream ecosystem	<a href="http://txmn.org/goodwater/2014/01/23/february-stream-ecosystem/">http://txmn.org/goodwater/2014/01/23/february-stream-ecosystem/</a>
Twitter	1/27/14	Riparian and stream ecosystem workshop	<a href="https://twitter.com/AgriLifeTODAY/status/427816586729521152">https://twitter.com/AgriLifeTODAY/status/427816586729521152</a>
Texas Wildlife Association	2/1/14	Texas Water Resource Institute Workshop	<a href="http://www.texas-wildlife.org/resources/events/texas-water-resource-institute-workshop">http://www.texas-wildlife.org/resources/events/texas-water-resource-institute-workshop</a>

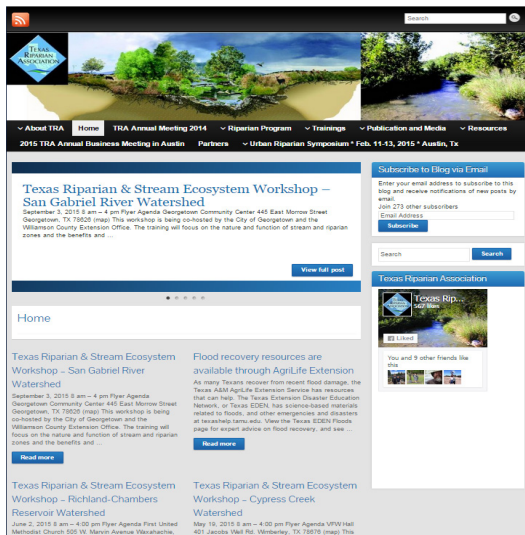
Media Outlet	Date	Title	Link
Catch Texas Rain	2/1/14	Texas Riparian and Stream ecosystem workshop-Lavaca river basin	<a href="http://catchtexasrain.com/index.php?page=events">http://catchtexasrain.com/index.php?page=events</a>
TPWD Texas Watersheds newsletter	3/1/14	The Texas riparian and stream ecosystem education program: A new initiative of the Texas water resources institute	<a href="http://texasriparian.org/wp-content/uploads/2012/07/The-Texas-Riparian-and-stream-ecosystem-education-program-Texas-Watershed-newsletter-3.1.14.pdf">http://texasriparian.org/wp-content/uploads/2012/07/The-Texas-Riparian-and-stream-ecosystem-education-program-Texas-Watershed-newsletter-3.1.14.pdf</a>
The Texas Tribune	4/2/2014	Event: Riparian and Stream Ecosystem Workshop in Weslaco	<a href="http://www.texastribune.org/2014/04/08/event-riparian-and-stream-ecosystem-workshop-wesla/">http://www.texastribune.org/2014/04/08/event-riparian-and-stream-ecosystem-workshop-wesla/</a>
CEC Houston	4/21/14	Texas Riparian & Stream Ecosystem Workshop	<a href="http://www.cechouston.org/ai1ec_event/texas-riparian-stream-ecosystem-workshop/?instance_id=168853">http://www.cechouston.org/ai1ec_event/texas-riparian-stream-ecosystem-workshop/?instance_id=168853</a>
Bay Area Observer	4/21/14	Riparian and Stream Ecosystem Workshop Set for May 8 in Mont Belvieu	<a href="http://bayareaobserver.com/riparian-and-stream-ecosystem-workshop-set-for-may-in-mont-belvieu-p1809-148.htm">http://bayareaobserver.com/riparian-and-stream-ecosystem-workshop-set-for-may-in-mont-belvieu-p1809-148.htm</a>
Wn.com	4/21/14	Riparian And Stream Ecosystem Workshop Set For May 13 In Kerrville (Texas A&M University)	<a href="http://article.wn.com/view/2014/04/21/Riparian_And_Stream_Ecosystem_Workshop_Set_For_May_13_In_Ker/">http://article.wn.com/view/2014/04/21/Riparian_And_Stream_Ecosystem_Workshop_Set_For_May_13_In_Ker/</a>
GoSanAngelo.com	4/26/14	Ag news in brief, 4/27	<a href="http://www.gosanangelo.com/news/2014/apr/26/ag_briefs/?print=1">http://www.gosanangelo.com/news/2014/apr/26/ag_briefs/?print=1</a>
TWRI	4/29/2014	Three riparian and stream ecosystem workshops coming up	<a href="http://twri.tamu.edu/publications/conservation-matters/2014/april/riparian-workshops/">http://twri.tamu.edu/publications/conservation-matters/2014/april/riparian-workshops/</a>
TSSWCB	4/29/14	Riparian and stream ecosystem workshop set for May 13 in Kerrville	<a href="https://tsswcb.texas.gov/en/event/20140513">https://tsswcb.texas.gov/en/event/20140513</a>
Bandera County Courier	5/8/14	Ecosystem workshop set	<a href="http://www.bccourier.com/Archives/Farm_detail.php?contentId=16954">http://www.bccourier.com/Archives/Farm_detail.php?contentId=16954</a>
North Texas e-News	8/12/2014	'Riparian Restoration on Farms and Ranches in Texas' is now available	<a href="http://www.ntxe-news.com/artman/publish/article_90962.shtml">http://www.ntxe-news.com/artman/publish/article_90962.shtml</a>
Houston Public Media	10/8/2014	Conservationists Disagree What To Do As Bayou's Banks Wash Away	<a href="http://www.houstonpublicmedia.org/news/conservationists-disagree-what-to-do-as-bayous-banks-wash-away/">http://www.houstonpublicmedia.org/news/conservationists-disagree-what-to-do-as-bayous-banks-wash-away/</a>
The Texas Tribune	10/9/2014	Conservationists Clash as Bayous' Banks Wash Away	<a href="http://www.texastribune.org/2014/10/09/conservationists-clash-as-bayous-banks-wash-away/">http://www.texastribune.org/2014/10/09/conservationists-clash-as-bayous-banks-wash-away/</a>
Morning AgClips	12/1/2014	Urban Riparian Symposium coming to Austin Feb. 11-13	<a href="https://www.morningagclips.com/urban-riparian-symposium-coming-in-feb/?utm_content=articles&amp;utm_campaign=NLCampaign&amp;utm_source=Newsletter&amp;utm_term=newsletteredition&amp;utm_medium=email">https://www.morningagclips.com/urban-riparian-symposium-coming-in-feb/?utm_content=articles&amp;utm_campaign=NLCampaign&amp;utm_source=Newsletter&amp;utm_term=newsletteredition&amp;utm_medium=email</a>
Trib+Water	12/5/2014	Event: Texas Riparian & Stream Ecosystem Workshop	<a href="http://www.texastribune.org/plus/water/vol-2/no-24/event-texas-riparian-stream-ecosystem-workshop/">http://www.texastribune.org/plus/water/vol-2/no-24/event-texas-riparian-stream-ecosystem-workshop/</a>
Texas Wildlife Association	02/25/2014	Texas Water Resource Institute workshop	<a href="http://www.texas-wildlife.org/resources/events/texas-water-resource-institute-workshop">http://www.texas-wildlife.org/resources/events/texas-water-resource-institute-workshop</a>

## 2013

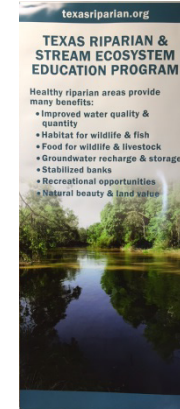
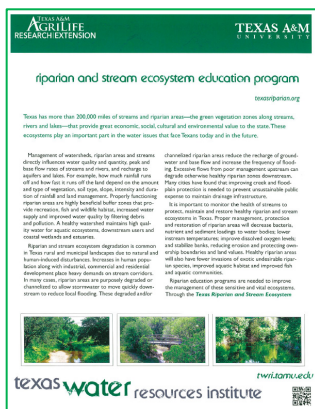
Media Outlet	Date	Title	Link
AgriLife Today	6/5/13	Riparian, stream ecosystem workshop set June 25 in Lockhart	<a href="http://today.agrilife.org/2013/06/05/riparian-workshop-june-25-lockhart/">http://today.agrilife.org/2013/06/05/riparian-workshop-june-25-lockhart/</a>
AgriLife Today	8/12/13	Riparian, stream ecosystem workshop for Leon River watershed set for Sept. 12	<a href="http://today.agrilife.org/2013/08/12/riparian-stream-workshop-moody/">http://today.agrilife.org/2013/08/12/riparian-stream-workshop-moody/</a>
AgriLife Today	8/28/13	Riparian and stream ecosystem program workshop set for Sept. 17 in Seguin	<a href="http://today.agrilife.org/2013/08/28/riparian-stream-workshop-seguin/">http://today.agrilife.org/2013/08/28/riparian-stream-workshop-seguin/</a>
AgriLife Today	9/11/13	Riparian, stream ecosystem workshop set Oct. 16 in Junction	<a href="http://today.agrilife.org/2013/09/11/riparian-workshop-oct-16-junction/">http://today.agrilife.org/2013/09/11/riparian-workshop-oct-16-junction/</a>
AgriLife Today	11/4/13	Riparian and stream ecosystem workshop set for Nov. 21 in College Station	<a href="http://today.agrilife.org/2013/11/04/riparian-stream-ws-nov-21-cs/">http://today.agrilife.org/2013/11/04/riparian-stream-ws-nov-21-cs/</a>
Conservation Matters	July 2013	Stakeholders eager to learn from new riparian education program	<a href="http://twri.tamu.edu/publications/conservation-matters/2013/july/riparian-education-program/">http://twri.tamu.edu/publications/conservation-matters/2013/july/riparian-education-program/</a>

Media Outlet	Date	Title	Link
Wn.com	9/11/2013	Riparian, Stream Ecosystem Workshop Set Oct. 16 In Junction	<a href="http://article.wn.com/view/2013/09/11/Riparian_Stream_Ecosystem_Workshop_Set_Oct_16_In_Junction_Th/">http://article.wn.com/view/2013/09/11/Riparian_Stream_Ecosystem_Workshop_Set_Oct_16_In_Junction_Th/</a>
Junction Eagle FB	9/12/13	Riparian and stream ecosystem workshop set for Oct. 16	<a href="https://www.facebook.com/permalink.php?story_fbid=646353058722318&amp;id=125559754134987">https://www.facebook.com/permalink.php?story_fbid=646353058722318&amp;id=125559754134987</a>
High Beam	9/11/13	Riparian, Stream Ecosystem Workshop Set Oct. 16 in Junction	<a href="http://www.highbeam.com/doc/1G1-342745575.html">http://www.highbeam.com/doc/1G1-342745575.html</a>
Texas Riparian	11/15/13	Riparian & stream workshop for Carters Creek Nov. 21	<a href="http://texasriparian.org/riparian-stream-workshop-for-carters-creek-nov-21-2013/">http://texasriparian.org/riparian-stream-workshop-for-carters-creek-nov-21-2013/</a>
Texas A&M Forest Service	11/8/13	Texas Riparian & Stream Ecosystem Workshop – Carters Creek Watershed	<a href="http://fswater.blogspot.com/2013/11/texas-riparian-stream-ecosystem.html">fswater.blogspot.com/2013/11/texas-riparian-stream-ecosystem.html</a>
<b>Total</b>	<b>53</b>		

TWRI has developed a Workshop flier/registration form for each of the workshops. TWRI provided them the flier/registration form and materials to advertise to their local groups. TWRI has developed the RSVP system online to track attendance at the workshops and continues to update it for each workshop.



TWRI and the Riparian Team developed a program fact sheet and fliers for each workshop. TWRI developed a program banner to advertise about the program and use to direct folks at each workshop.



To help market the program and further expand the reach of the program, presentations of varying length (15/30/45/60 min.) were developed and delivered to audiences throughout the state through county Extension programs, watershed stakeholder meetings, Clean Rivers Program Basin Steering committees, and other venues. These presentations are available for delivery by anyone on the Riparian Team. Overall 34 presentations were given about and supporting the Riparian Education Project. TWRI conducted presentations to a total of 1,237 people to promote riparian education and stream health statewide as well as market and expand the reach of the Riparian program. Additionally, key elements and messages will be incorporated into presentations delivered by the TWRI Program Coordinator, TFS, and others on the Riparian Team throughout the state to generate greater interest in riparian protection efforts and increasingly expand requests for the program and its resources. This has greatly increased program momentum, attendance and implementation of riparian protection concepts by landowners, setting the stage for greater improvements in riparian habitat, stream stability, and water quality.

Presentations included:

- Nikki Dictson gave a 1 hour presentation at the GLCI sponsored Grazing Riparian management Workshop on May 10, in Navarro County, Texas about the nature and function of stream and riparian areas and advertised the Riparian Workshops.
- Nikki Dictson advertised the Riparian Workshops at the Southwest Stream Restoration Conference and Riparian Vegetation Workshops by providing the program fact sheet and save the date for joint Texas Riparian Association and Texas Society for Ecological Restoration Meeting in November 1, 2013.
- Dictson presented to over 300 individuals at the 2014 Brazos Valley CEU Conference on Friday, January 31, 2014 in Caldwell.
- Dictson presented for an hour at the Beef Quality Producers Series Program in Wharton County to over 60 producers on August 26, 2014.
- Dictson conducted a 3 hour education program for the Gideum Lincecum Master Naturalist Chapter in Roundtop, TX on February 9, 2015 for over 30 attendees on aquatic systems and discussed the Riparian Program.
- Dictson presented about the Riparian and Stream Ecosystem Program at the Urban Riparian Symposium in Austin February 13, 2015.
- TWRI attended and conducted a booth with information on the Riparian Program at the Urban Riparian Symposium in Austin, Texas on February 11-13, 2015.
- TWRI also talked to 150 attendees at the Brazos Valley Water and Riparian issues at the Brazos County AgriLife Extension Feral hog workshop.
- Nikki Dictson conducted a 45 minute presentation at the Texas Wildlife Associations Women of the Land Conference on Saturday, April 20, 2013 at the Cedar Mountain Lodge in Scurry, TX.
- Nikki Dictson provided an hour long presentation at the Navarro County Riparian Grazing workshop on May 10th, 2013 and advertised the upcoming workshops.
- TWRI advertised the workshops at the Texas Riparian Association and Texas Society of Ecological Restoration Conference.
- TWRI presented a brief presentation on the workshops that have been planned and conducted at the TRA Business Meeting during the Texas Riparian Association and Texas Society for Ecological Restoration in November 2013.
- TWRI met with representatives of TCEQ on the Basins Project and Dictson provided an overview of the Riparian Ecosystem Program and examples for the Lavaca River Workshop.
- TWRI did a one hour educational presentation on Riparian Areas and advertised upcoming workshops in August at the Wharton County Beef Quality Producers Series program to over 60 producers in Wharton County.



- Nikki Dictson delivered a brief presentation on the new program at the TSSWCB Southeast and South Central Texas Regional Watershed Coordination Steering Committee Meeting for March 7, 2013 in Columbus.
- Nikki Dictson delivered a brief presentation on the new program at the GBRA 2013 Clean Rivers Program Basin Steering Committee Meeting on March 21, 2013 in Seguin
- Nikki Dictson delivered a presentation to advertise the Riparian Workshop at the Plum Creek Watershed Partnership Meeting on May 2, 2013.
- Nikki Dictson advertised the Riparian Workshops at the Southwest Stream Restoration Conference and Riparian Vegetation Workshops by providing the program fact sheet and save the date for joint Texas Riparian Association and Texas Society for Ecological Restoration Meeting in November 1, 2013. Nikki Dictson delivered a presentation to advertise the Riparian Workshop at the Texas Watershed Coordinators Roundtable in Dallas on July 30, 2013. There were 68 watershed coordinators present at the roundtable.
- TWRI presented the dates of the upcoming workshops at the Southeast South Central Watershed Coordination Steering Committee Meeting on March 6, 2014. Dictson presented on the upcoming workshops to the 23 attendees at the March 17<sup>th</sup> Watershed Coordinators Roundtable Planning Meeting in Temple to advertise the program and upcoming workshops.
- Allen Berthold and Matt Brown attended and presented at the TSSWCB Southeast and South Central Texas Regional WCSC meeting in March.
- Dictson presented on the workshops at the July 31<sup>st</sup> Watershed Coordinators Roundtable Planning Meeting in Waco to advertise the program and upcoming workshops. There were 61 participants at the roundtable.
- TWRI hosted a booth with information on the Riparian Program at the TSSWCB Annual Meeting in Galveston, Texas on October 27-28, 2014.
- TWRI advertised upcoming Riparian workshops to 55 attendees at the January 22, 2015 Watershed Coordinators Roundtable in San Antonio at San Antonio Water Systems.
- Dictson presented for a one-hour education program for the Lavaca-Navidad River Authorities Clean Rivers Program Meeting near Edna, TX on July 30, 2015 to 24 attendees. Dictson discussed Riparian and Stream Issues and the Riparian Program.
- TWRI announced future workshops at the Watershed Coordinators Roundtable on August 12. There were 66 participants at the Roundtable.
- Nikki Dictson presented a brief presentation on the new program at the TSSWCB Southeast and South Central Texas Regional Watershed Coordination Steering Committee Meeting at the March 7, 2013 in Columbus.
- Nikki Dictson presented a brief presentation on the new program at the GBRA 2013 Clean Rivers Program Basin Steering Committee Meeting on March 21, 2013 in Seguin.
- Nikki Dictson conducted a 45 minute presentation at the Texas Wildlife Associations Women of the Land Conference on Saturday, April 20, 2013 at the Cedar Mountain Lodge in Scurry, TX.
- Nikki Dictson provided an hour long presentation at the Navarro County Riparian Grazing workshop on May 10<sup>th</sup>, 2013 and advertised the upcoming workshops.
- TWRI advertised the Riparian Workshops at the July 30, Texas Watershed Coordinators Roundtable Meeting.
- TWRI advertised the workshops at the Texas Riparian Association and Texas Society of Ecological Restoration Conference.
- TWRI presented a brief presentation on the workshops that have been planned and conducted at the TRA Business Meeting during the Texas Riparian Association and Texas Society for Ecological Restoration in November 2013.

- TWRI did a one hour educational presentation on Riparian Areas and advertised upcoming workshops in January at the Brazos Valley CEU program in Caldwell, TX.
- TWRI presented the upcoming workshops at the March 17, 2014 Watershed Coordinators Roundtable in Temple.
- TWRI presented the dates of the upcoming workshops at the Southeast South Central Watershed Coordination Steering Committee Meeting on March 6, 2014.
- TWRI met with representatives of TCEQ on the Basins Project and Dictson provided an overview of the Riparian Ecosystem Program and examples for the Lavaca River Workshop TWRI did a one hour educational presentation on Riparian Areas and advertised upcoming workshops in January at the Brazos Valley CEU program in Caldwell, TX.
- TWRI presented the upcoming workshops at the March 17, 2014 Watershed Coordinators Roundtable in Temple.
- TWRI presented the dates of the upcoming workshops at the Southeast South Central Watershed Coordination Steering Committee Meeting on March 6, 2014.
- TWRI met with representatives of TCEQ on the Basins Project and Dictson provided an overview of the Riparian Ecosystem Program and examples for the Lavaca River Workshop.
- TWRI did a one hour educational presentation on Riparian Areas and advertised upcoming workshops in August at the Wharton County Beef Quality Producers Series program to over 60 producers in Wharton County.
- TWRI presented the upcoming workshops at the July 31, 2014 Watershed Coordinators Roundtable in Temple.
- Nikki Dictson provided a 15-20 minute presentation at the Plum Creek Watershed Partnership Meeting on May 2, 2013 in Lockhart to advertise.
- TWRI is scheduled to present at the August Watershed Coordinators Roundtable in San Marcos on the Riparian programs upcoming trainings.
- TWRI is scheduled to present at the Lavaca Navidad River Authority Clean Rivers Meeting for a 1 hour program on riparian and river systems near Edna, TX on July 30, 2015.
- Many of the planning team members spent time assisting landowners calls and emails after the devastating floods that occurred on the Blanco River and in Wimberley about 4 days after our workshop there that had 73 attendees. This included landowner workshops on recovery after the flood during the two weeks after the flood.

Our Partners have also helped advertise the program and the workshops. TFS published an article on the Riparian Education Project in the Forest Stewardship Briefings newsletter (June 2013). TFS Published an article in the October 2013 issue of *Forest Stewardship Briefings*, a newsletter targeting natural resource professionals across the state, highlighting the importance of riparian areas and activities that can hinder their function. TFS published an article in the October 2013 issue of *Texas Water Source*, a newsletter targeting forest landowners in the Attoyac Bayou watershed, discussing riparian areas and the Riparian Education Program. TPWD published an article in the Spring 2014 edition of *Texas Watersheds: Conservation News from Headwaters to Coast* in coordination with TWRI on the Riparian and Stream Ecosystem Education Program.

## Continuing Education Units

The Extension Program Specialist established CEU credits for the riparian education program to encourage participation by landowners and water resource professionals. TWRI provided program materials to potential CEU providers who reviewed the agenda and evaluated the program and established the following:

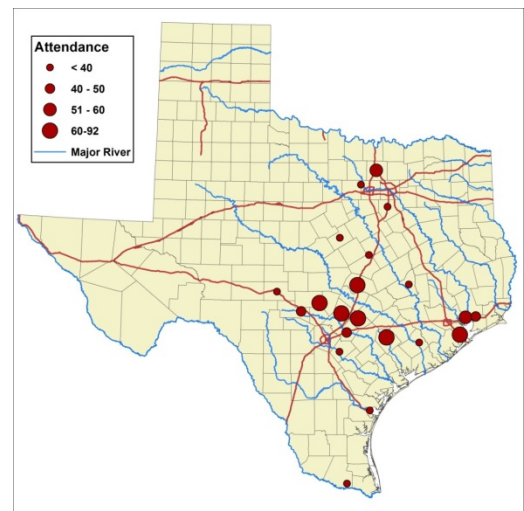
- Texas Water Resources Institute – 1 hour
- Texas Nutrient Management Planning Specialists – Approved for 6 hrs.
- Texas Master Naturalists – approval required at the chapter level each time
- Texas Master Gardeners – approval required at the chapter level each time
- Texas Forestry Association – approved for up to 6 hrs approved
- Society of American Foresters – approved for up to 4.5 hrs
- Texas Board of Architectural Examiners does not approve courses but said we should advertise as “Acceptable for HSW” – or good for State CE hours
- TWRI will coordinate with County Extension Agents in each county for Texas Department of Agriculture – Pesticide Applicators – approved for 3 hrs (2 general and 1 IPM).
- The program may also be used for CEUs for Professional Engineers.
- Rangeland Management CEUs for the Riparian Proper Functioning Condition Courses were obtained for 8.5 CEUs for each 2-day session.

## Riparian Landowner Trainings

Riparian landowner trainings focus on the nature and function of riparian zones (fluvial geomorphology, hydrology, and vegetation), the benefits and economic impacts from ecological services of healthy riparian zones, BMPs for enhancing and protecting riparian zones, and technical and financial resources and incentives available for implementing riparian BMPs and riparian protection measures. Riparian education programs cover an introduction to riparian principles, watershed processes, basic hydrology, erosion/deposition principles, and riparian vegetation, potential causes of degradation and possible resulting impairment, and available local resources including technical assistance and tools that can be employed to prevent and/or resolve degradation.

Existing resources and guides were used for these trainings and the Remarkable Riparian Field Guide was handed out at almost all of the trainings for participants. The goal is for participants to better understand and relate to riparian and watershed processes, the benefits that healthy riparian areas provide, and the tools that can be employed to prevent and/or resolve degradation and improve water quality. As a part of the training, participants will be educated on the importance of riparian protection activities. A major goal of the program will be to foster implementation of riparian BMPs. Training will also emphasize the need for watershed planning that supports maintenance of a natural hydrograph. Restoration of riparian areas degraded by changes to the natural hydrologic regime must be conducted in concert with efforts to remedy those upstream disturbances. At the conclusion of the training, participants received a certificate of completion.

TWRI and the Riparian Team worked in concert with state and local organizations to select and schedule locations for the riparian education programs. TWRI conducted workshops for over 25 watersheds with 1,030 in attendance. Priority was given to agencies and organizations currently involved in WPP or TMDL processes and those planning future watershed efforts (Table.3). Subsequently, additional watersheds will be selected based on impairment status, environmental sensitivity, and/or other priority issues. Due to the size of many watersheds in the state and in an effort to enhance outreach, riparian education programs, in both urban and rural settings, may be offered multiple times and at different locations within prioritized watersheds.



**Table 3. Watershed Training Partners and Co-hosts as well as acres owned or managed by participants.**

<b>Watershed</b>	<b>Dates</b>	<b>Local Contacts</b>	<b>Affiliation</b>	<b>Acres Owned</b>
<b>Plum Creek Watershed</b>	June 25, 2013	Nick Dornak	PCWP	*
<b>Leon River</b>	September 12, 2013	Mike Marshall/ Dickie Clary	Hamilton County	3920.7
<b>Geronimo Creek Watershed</b>	September 17, 2013	Ward Ling	AgriLife Extension	10152.7
<b>Upper Llano River watershed</b>	October 16, 2013	Tom Arsuffi	Texas Tech LRFS	7229.75
<b>WMHS Graduate Course</b>	October 1, 2013	Lucas Gregory	TAMU TWRI	*
<b>TRA &amp; TXSER Meeting</b>	November 1, 2013	Dictson/Arsuffi	TRA & TXSER	*
<b>Carters Creek</b>	Nov. 21, 2013	Lucas Gregory	TWRI	9548.75
<b>Lavaca Basin</b>	Feb. 25, 2014	Allen Berthold/Joel Wagner	TWRI/ Wildlife Association	25373
<b>San Bernard River Watershed</b>	March 18, 2014	Aubin Phillips	H-GAC	10743.8
<b>Arroyo Colorado</b>	April 24, 2014	Jaime Flores	TWRI	2018
<b>Cedar Bayou</b>	May 8, 2014	Justin Bower	H-GAC	4049.5
<b>Guadalupe River Above Canyon Lake</b>	May 13, 2014	Tara Bushnoe/ Lauren Young	UGRA/TCEQ	6521
<b>Double Bayou</b>	September 24, 2014	Linda Shead	HARC/Shead Associates	2723.8
<b>Lower Nueces</b>	October 8, 2014	Rocky Freund/ Lauren Young	Nueces River Authority	17888
<b>Petronila Creek</b>	October 8, 2014	Rocky Freund/ Lauren Young	Nueces River Authority	17888
<b>Oso Creek/Oso Bay</b>	October 8, 2014	Teresa Carrillo	Coastal Bend Bays Foundation	17888
<b>Eagle Mountain Lake</b>	October 14, 2014	Tina Hendon	Tarrant Regional Water/ NRCS	6033
<b>Pedernales River</b>	December 5, 2014	Melissa / Katherine Romans/ Rachel Ranft	TPWD/ HCA/ TNC	*
<b>Dickinson Bayou</b>	February 27, 2014	Charriss York & Phoenix	AgriLife Extension	1109.25
<b>Leon River</b>	March 12, 2015	Mike Marshall/ Dickie Clary	Hamilton County	2983
<b>Upper San Antonio River</b>	April 1, 2015	Patty Carvajal/ Larry Berans	SARA	2590.85

<b>Cypress Creek</b>	May 19, 2015	Richard Parrish/ Meredith Miller	Meadows Center / AgriLife Extension	3753
<b>Hickory Creek</b>	May 21, 2015	David Hunter /Blake Alldredge	City of Denton / Upper Trinity Conservation	65402.1
<b>Richland Chambers /Trinity River</b>	June 2, 2015	Tina Hendon/NRCS	Tarrant Regional Water/ NRCS	846.415
<b>San Gabriel River</b>	September 3, 2015	Nat Waggoner/ Fred Hall	Georgetown & Williamson Agrilife Extension	1,843.4

\* No Data was received on land amounts owned or managed at these workshops.

### Agency Proper Functioning Condition Trainings

TWRI worked with the National Riparian Service Team and BLM to get the newest version for the Proper Functioning Condition Assessment Guidance Document to use at the two Riparian PFC 2-day courses for professionals. TWRI, TRA, NRCS, Texas Parks and Wildlife Department, Texas A&M Forest Service all assisted with coordinating and planning of the courses in June 2015.

Conducted two Riparian Proper Functioning Condition Assessment Courses held in Waxahachie on June 3-4, 2015 and in Belton on June 17-18, 2015. Two 2-day training programs were coordinated to provide detailed training on proper functioning condition for agency personnel. These were led by the NRCS – Texas State Riparian Service Team and TPWD and coordinated by TWRI. TWRI had been coordinating with NRCS, TPWD, Texas A&M Forest Service and the TRA Board to prepare and advertise for a PFC Riparian Assessment Training to be held in Waxahachie, TX on June 3-4 A second PFC and reschedule of the earlier one will be held in Belton, Texas on June 17-18, 2015. Advertising and registration was conducted for RSVPs for both trainings in June. The first day was indoor classroom style presentations and the second day will be walking through the PFC Assessment in the field at two sites on creeks. These workshops were conducted with 25 attendees in Waxahachie and 31 attendees in Belton.



## Conferences

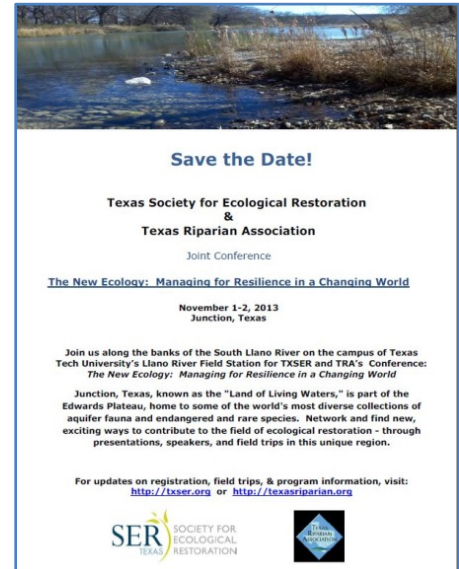
The workshops and conferences were coordinated with the TPWD, TFS, NRCS, TRA, River Authorities, local soil and water conservation districts (SWCDs), County Extension Agents (CEAs), on its riparian programs. Two Statewide Riparian Conferences were held to provide additional riparian information to interested attendees and two Southwest US Stream Restoration Conferences were coordinated with the Resource Institute. TWRI and TRA were on the planning committees, coordination committees, coordinated and conducted pre-conference workshops, assisted with moderating, and presented at these conferences. More information about these conferences can be found at <http://texasriparian.org>.

### 2013 Joint TRA & TxSER Conference:

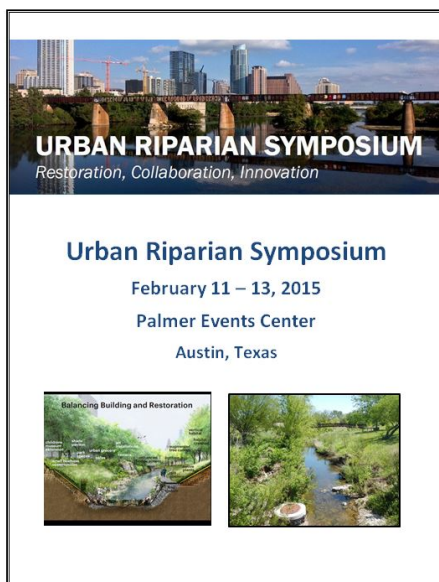
The New Ecology: Managing for Resilience in a Changing World  
This Joint Annual Conference was held in Junction at the Texas Tech University Llano River Field Station on November 1-2, 2013. TWRI/TRA conducted a Riparian workshop as the pre-conference workshop, there were 2 other field trips, a keynote speaker, 2 plenary speakers, 42 concurrent session presentations and 11 posters.

### 2013 Southwest Stream Restoration Conference

TWRI coordinated a pre-conference workshop with Oklahoma on Riparian Vegetation: Putting the 'Green' into Streambank Stabilization. The conference had a total of three workshops on May 28, two receptions, and two plenaries and 62 concurrent sessions. The opening plenary consisted of 7 speakers and the closing plenary had 3 speakers.



**2014 Southwest Stream Restoration Conference** TWRI and TRA coordinated a pre-conference workshop at the Southwest Stream Restoration Conference in San Antonio on May 28<sup>th</sup> titled Riparian Restoration in Growing Municipalities. The conference included three workshops on May 28, two receptions, two plenaries and 47 concurrent sessions. The opening and closing plenaries both consisted of six speakers.



### Urban Riparian Symposium

TWRI coordinated calls and emails for the Urban Riparian Symposium being planned in Austin February 12-13, 2014. TWRI has contacted members of the Austin Watershed Program to discuss co-hosting an Urban Riparian Workshop on riparian restoration to include in all stream and riparian workshops and to discuss education for cities. The Symposium included 3 workshops on Feb. 11, two receptions, a Keynote and 2 plenary speakers, 47 concurrent sessions on a variety of topics dealing with stream and riparian issues. There were 213 attendees over the three days.

## DEVELOP WEB-BASED RIPARIAN EDUCATION AND RESOURCES

**Goal: To expand the reach and participation in the Riparian Education Program via web-based resources.**

In cooperation with this project, web-based resources will be developed by the Nueces River Authority with non-federal funding from several private foundations to deliver comprehensive riparian information. These will include voice-over PowerPoint presentations from the riparian landowner trainings, videos, and other resources designed to help K-12, nature groups, and landowners better understand the many functional benefits of our Texas riparian landscapes. Citizens unable to attend face-to-face events will be encouraged to utilize the web-based voice over PowerPoint presentation versions of the training. The NRA “Remarkable Riparian” website will be linked to the TWRI Water Resources Training Program website to increase program availability and accessibility.

NRA has updated materials and links on the website: <http://remarkableriparian.org> . NRA has recorded voice over powerpoint videos of the workshop presentations and mini module videos. At the Corpus Christi Training for the three watersheds Nueces River Authority re-recorded 2 of the presentations for the voice over powerpoints and recorded the video of Steve Nelle explaining lanes balance. They are on both the <http://texasriparian.org/> and <http://www.remarkableriparian.org/> as YouTube educational materials for the website and developed short modules on riparian issues for the website. NRA has tracked usage of Remarkable Riparian website and reported it. The visitation counter installed on [remarkableriparian.org](http://remarkableriparian.org): had a total of 2,898 visits recorded this quarter and 29,944 hits. NRA has provided the Remarkable Riparian Field Guide Publication for attendees at the Workshops.

### Voice over PowerPoint of Workshop Presentations

1. [Riparian and Watershed Management](#): Steve Nelle, Retired USDA Natural Resources Conservation Service
2. [Stream Processes and Hydrology](#): Ryan McGillicuddy, Texas Parks and Wildlife Department
3. [Riparian Vegetation and hindrances to Healthy Riparian Areas](#): Steve Nelle, USDA NRCS
4. [Management Practices and Local Resources](#): Nikki Dictson, Texas Water Resources Institute
5. [Riparian Considerations for Land Operators](#): Lori Hazel, Texas A&M Forest Service

### Riparian Mini-Modules

[Lesson 1: Debunking the Myths](#) Nueces River Authority

Commonly held beliefs about riparian areas that are only partially true

[Lesson 2: Defining Riparian](#) Nueces River Authority

Riparian Area Defined, Where is it? What does it do?

[Lesson 3: Function Produces Values](#) Nueces River Authority

What area some of the values people expect from Riparian areas and what are the components of function that produce them.

[Lesson 4: How A River Works](#) Nueces River Authority

Concepts and Definitions; Base Flow/Bank Full, Flood Flow, Floodplain. How water moves in a channel and erosion and deposition processes

[Lesson 5: The Impacts of Channel Degradation](#) Nueces River Authority

Too Much Energy and Not enough energy dissipation can cause degradation and it can be predicted or interpreted using Lane’s Balance

[Lesson 6: The Importance of Riparian Vegetation](#)

Nueces River Authority

Role of vegetation in riparian function and photographic evidence of recovery

[Lesson 7: What Hinders Function and Recovery](#)

Nueces River Authority

Photographic evidence of recovery and hindrances to recovery

[Lesson 8: Riparian Degradation and Recovery](#)

Nueces River Authority

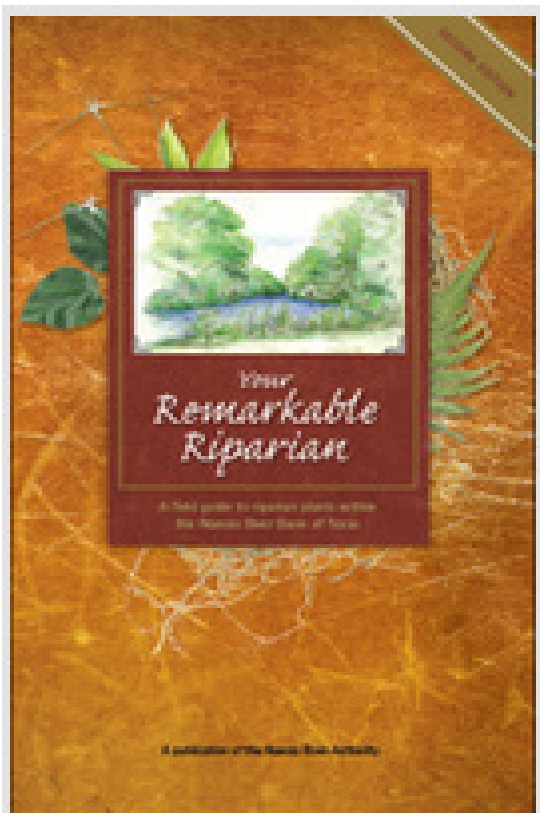
Visual examples of how rivers degrade and recover

[Understanding Lane's Balance for streams](#) – A

You Tube video with Steve Nelle explaining Lane's Balance.

[Understanding Your Remarkable Riparian Area](#) –

A webinar on You Tube featuring Sky Jones-Lewey of the Nueces River Authority that was sponsored by Texas Wildlife Association and AgriLife Extension Service in 2012.





## EVALUATE THE EFFECTIVENESS OF THE RIPARIAN EDUCATION TRAININGS

The face-to-face training and presentations will include an evaluation component to assess program effectiveness and to modify and enhance curriculum content to achieve project goals. A two-stage evaluation approach will be used to measure both knowledge and behavior changes of individuals participating in the program.

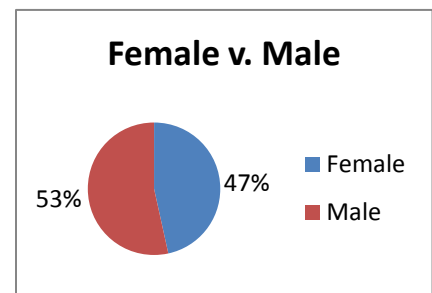
Stage 1. A pre-/post-test evaluation strategy will be implemented at the beginning and end of the face-to-face educational program. The pre-test will ask knowledge-based questions and post-test will measure the same knowledge-based questions to determine the knowledge increase of participants. In addition, the post-test will include 'satisfaction' questions and 'intentions to change or adopt' questions.

Stage 2. A post six-month follow-up assessment instrument will also be sent to participants via email to complete the assessment and ascertain what practices were actually adopted six months after participating in the program.

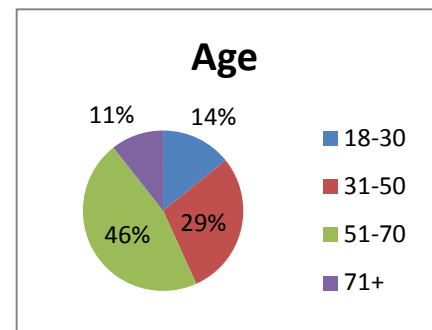
To measure both knowledge and behavior changes of individuals participating in the program. TWRI conducted pre- and post-training evaluations to assess increased knowledge of participants; to evaluate participant satisfaction with the program; and to evaluate participant's intentions to change their behavior as a result of the program. Additionally, TWRI will deliver a follow-up assessment via email (6-month follow-up for both watershed-based and computer-based trainings) to ascertain behavior changes actually adopted by participants.

In order to test the value of all the Riparian and Stream Ecosystem Workshops, pre- and post-tests were developed to evaluate the knowledge gained during the program. TWRI has developed a set of questions based on the materials, a set of demographic questions and a survey of the program for the pre and post-surveys.

The evaluations also asked demographic data, program satisfaction, and willingness to adopt conservation practices. We had a 73.2% response rate (754/1030). Of the participants who participated in the workshops and evaluations, 47% were female and 53% were male (n=653).

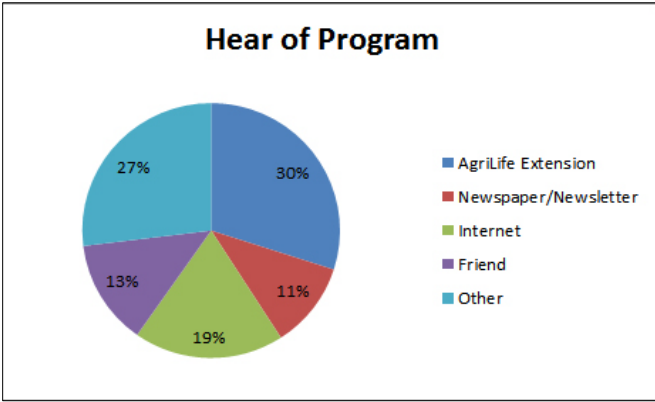
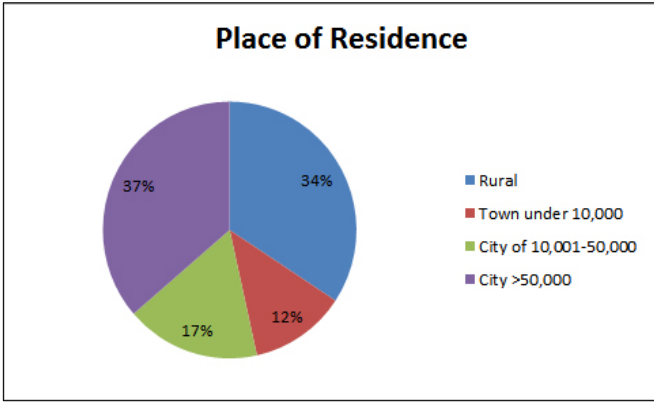


The largest age group represented was 51-70 years old with 46% of participants falling in that range. Then the age group of 31-50 was second largest with 29%. Participants ages 18-30 made up 14% of the participants present. Participants with the age of 71+ were the least represented age group at the workshops. The participants 71+ made up 11% of all the participants) (n=642).



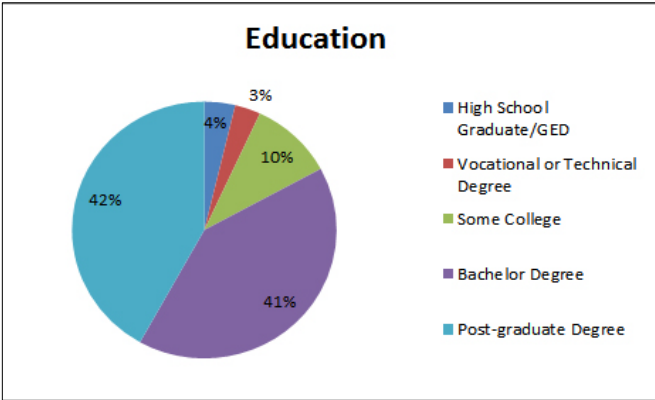
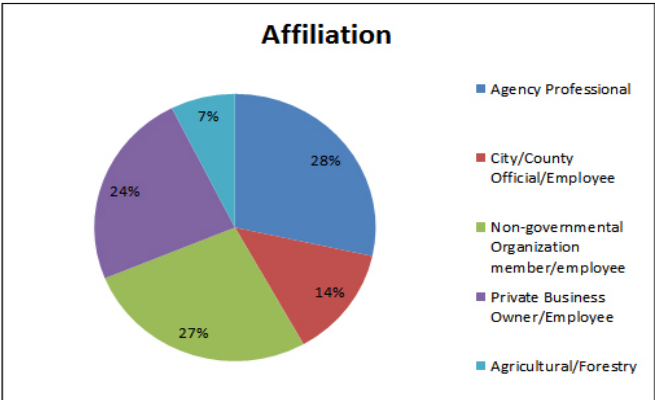
Most participants (36%) stated that they resided in a city with a population greater than 50,000. A close second with 34%, were participants who live in rural areas. Cities with populations between 10,001 and 50,000 and towns under 10,000 people were the two areas where we had the least amount of participants residing in with 17% and 12%, respectively (n=636).

When asked how they heard of the program, the majority of respondents, 57%, stated that they heard through AgriLife extension or other. 19% of respondents heard about the program through the internet and 13% and 11% heard from Newspapers/newsletters or a friend respectively (n=631).



On all evaluations we asked how much land did the participant own or manage. 27% of participants stated that they did not own or manage any land and around 9% stated that they worked with less than one acre of land. Around 22% of participants stated that they owned or managed between 1 – 10 acres of land, while 13% stated that they managed between 11 and 50 acres. There were 6% of participants who stated that they owned or managed 51-100 acres of land. 15% of participants owned 101 – 500 acres. 3% of workshop attendees stated that they owned 500-1,000 acres of land and another 4% of participants own or manage 1,000 -10,000 acres, with the top 1% stating that they own or manage 10,000 acres of land or more (maximum acreage = 44,800). The total combined acreage for all workshop participants is more than 184,949 acres.

From our evaluations we also learned more about each attendee’s demographic information. Most participants identified as being an agency professional, but there was a fairly even showing of all affiliations overall. The evaluations also show that a majority of participants, 83% had a bachelor’s degree or higher.



The score of each participant’s pre- and post- test were statistically analyzed and show that we have a statistically significant difference within the 572 pairs. The mean score of the pre-tests were 77.20 with a standard deviation of 16.03. The post tests had a mean score of 91.70 with a standard deviation of 9.82. This showed a 19% increase between pre and post- test scores and knowledge gained overall. Our p-value was 0.001 given that our  $F(1,571)=535.0$  with  $\alpha = 0.05$ , which lets us know that there was a statistically significant change from the pre- and post- tests and that post- tests typically resulted in higher scores than pre-tests.

Overall we had 99.5% of respondents mostly or completely satisfied with the program (80.1% completely satisfied). As well as, 99.3% of respondents were mostly or completely satisfied with the course materials (83.3% completely satisfied). The majority of respondents, 99.2%, stated that they were mostly or completely satisfied with the ease of understanding the course (85.0% completely satisfied) (n=628). Almost all respondents (99.7%) would recommend this course to others (n=626). Close to half of all respondents, 43.1%, believed they would benefit economically from this course in the future (n=605).

The last section of the evaluation went through the conservation practices covered during the workshop. All participants were asked to respond whether they were or were not planning to adopt the practices discussed at the workshop. Most respondents, 94.3%, said they would adopt the best management practices discussed at this workshop (n=612). Most participants stated that they were planning to adopt each of these conservation practices (Range of 71% – 93% adoption rates; Table 4; n=572).

We evaluated land area and if the respondent thought they would benefit economically due to this course with cross-tabulations that showed landowners of 50 acres or more were likely to respond that they would benefit economically with ranges of 50%-84% of yes (Table 5).

**Table 4. Percent of Participants that plan to adopt each of the Conservation Practices**

	<b>% Plan to Adopt</b>	<b>% Undecided</b>	<b>% Will not Adopt</b>
<b>Riparian Herbaceous Buffers</b>	85%	14%	0.7%
<b>Riparian Forest Buffers</b>	78%	19%	3%
<b>Prescribed Grazing</b>	72%	20%	8%
<b>Rotational Grazing</b>	76%	17%	7%
<b>Manage Feral Hogs</b>	82%	16%	3%
<b>Rangeland Planting of Vegetative Cover</b>	76%	21%	4%
<b>Manage to Reduce Bare Ground</b>	93%	7%	0.3%
<b>Monitor Stream Sites through Photos</b>	71%	24%	5%

**Table 5. Land Owned or Managed by Acre Range vs. Benefit Economically Cross-tabulation**

		Benefit Economically				
		no	%	yes	%	Total
Acre Range	0	80	64%	45	36%	125
	less than 1 acre	32	69.57%	14	30.43%	46
	1 - 10 acres	71	68.27%	33	31.73%	104
	11 - 50 acres	42	63.64%	24	36.36%	66
	51 - 100 acres	10	31.25%	22	68.75%	32
	100 - 500 acres	25	39.68%	38	60.32%	63
	5001 - 1,000 acres	2	15.38%	11	84.62%	13
	1001 - 10,000 acres	6	33.33%	12	66.66%	18
	10,000 + acres	1	50	1	50	2
Total		269		200		469

**Table 6. Acre Range vs. Participated in Conservation Programs Prior Cross-tabulation**

		Participated in Conservation Prior				
		no	%	yes	%	Total
Acre Range	0	68	53%	61	47%	129
	less than 1 acre	30	65%	16	35%	46
	1 - 10 acres	62	59%	43	41%	105
	11 - 50 acres	32	48%	35	52%	67
	51 - 100 acres	15	47%	17	53%	32
	100 - 500 acres	20	30%	47	70%	67
	5001 - 1,000 acres	3	23%	10	77%	13
	1001 - 10,000 acres	4	22%	14	78%	18
	10,000 + acres	0	0	2	100%	2
Total		234		245		479

## Post Workshop Follow-up Evaluations

After each of the workshop we followed up with the participants who we had their email address and sent them an email with a link to a qualtrix survey to again determine adoption and willingness to adopt best management practices discussed at the training. This data includes all but the most recent training that occurred this month for 293 respondents out of the 938 or 31% rate of the total attendees and 293 out of 395 that owned or managed land. We reminded them that at the riparian training that was held about 6 months ago, they shared some opinions about adopting management practices and asked them to share some additional information regarding the same practices and their plans to adopt them. After the workshop an average of 78% of respondents stated that they had adopted the best management practices discussed at the workshop or still plan to adopt these practices (Responses ranged 63-94% depending on the practice, Table 7). We had 50 responses where they wrote an estimated value of benefit of the training and adopting BMPs. From the respondents about 30%, estimated they have benefited over \$1,000-\$10,000+ because of the training and another 30% estimated between \$100-\$500 of economic benefits (Table 8). An additional 29% of attendees or 72 individuals have participated in a conservation program since attending the riparian training (Table 9).

**Table 7. Participants Willingness to Adopt Practices Post Workshop Results.**

Question	I have adopted in the last 6 months		I plan on adopting in the future		I will not adopt the practice		I am undecided	
	Response	Percent	Response	Percent	Response	Percent	Response	Percent
<b>Riparian Herbaceous Buffers</b>	19	23.75%	42	52.5%	2	2.5%	17	21.25%
<b>Riparian Forest Buffers</b>	16	23.19%	40	57.97%	2	2.9%	11	15.94%
<b>Prescribed Grazing</b>	6	13.95%	21	48.84%	6	13.95%	10	23.26%
<b>Rotational Grazing</b>	8	20.51%	21	53.85%	4	10.26%	6	15.38%
<b>Manage Feral Hogs</b>	13	24.07%	30	55.56%	3	5.56%	8	14.81%
<b>Rangeland Planting of vegetative cover</b>	18	27.27%	37	56.06%	2	3.03%	9	13.63%
<b>Manage to reduce bare ground</b>	41	50.61%	35	43.20%	0	0%	5	6.17%
<b>Monitor stream sites through photos</b>	12	12%	61	61%	4	4%	23	23%
<b>Total</b>	133		287		23		89	

**Table 8. Responses to How Much Participants Benefitted Economically in Terms of Dollars.**

<b>Economic Benefit</b>	<b>Response</b>	<b>Percentage</b>
<b>\$100-500</b>	15	30%
<b>\$1,000-4,000</b>	7	14%
<b>\$5,000-10,000</b>	5	10%
<b>\$10,000+</b>	2	4%
<b>Difficult to Quantify</b>	16	32%
<b>Other Benefits*</b>	5	10%
<b>Total</b>	50	100

\*other benefits included job raise from improved understanding and performance, future career, reduced erosion on property, wildlife tax exemption, and improved land values.

**Table 9. Response to If They Had Participated in a Conservation Program Either Before or Since Attending the Riparian Training**

<b>Answer</b>	<b>Response</b>	<b>Percentage</b>
<b>Yes</b>	72	28.7%
<b>No</b>	98	39.0%
<b>I had already participated in a program prior to attending the training</b>	72	28.7%
<b>I do not plan to participate in a program at all</b>	9	3.6%
<b>Total</b>	251	100

### **Evaluations for Riparian Proper Functioning Condition Assessment Trainings**

The post survey has been developed and reviewed and approved. It has been conducted for the workshops during this quarter. Reminders for all of the past online trainings to complete the online evaluations were sent out so that the final numbers can be assessed for the final report. Post evaluations online were developed and conducted for the two PFC professional 2 day trainings. Between the two workshops we had 56 participants (31 in Belton and 25 in Waxahachie). We had a 52% response rate for the Waxahachie workshop and a 58% response rate for the workshop in Belton (Table 10). In both workshops the majority of respondents were mostly or completely satisfied with the program overall (100% in Waxahachie and 94% in Belton; Table 11). Participants were also asked how well the workshop met its two overall goals: (1) to provide an introduction to the PFC assessment method and (2) How to use the PFC thought process to better understand creek-river-riparian areas. All respondents from the Waxahachie PFC felt both goals were mostly or completely met (91% completely met). In the Belton PFC 100% of respondents felt the first goal was mostly or completely met (83.3% completely met) and 94.5% of respondents felt the second goal was mostly or completely met. Of the respondents in Waxahachie 60% stated they had 1-5 years of riparian experience. However in Belton, there was an even spread of years of riparian experience, each grouping: none, 1-5 years, 6-10 years, and 11-15 years each separately represented 22.2% of the total respondents (Table 13). Unfortunately due to rains in the area we had to change to a new creek location for the assessment portion that was a little harder to determine the categories for the reach we were able to access.

**Table 10. Response Rate of Online Evaluation of Riparian PFC Courses**

PFC Workshop	Evaluation responses	Total Num. of Attendees	Response Rate
Waxahachie	13	25	52%
Belton	18	31	58%

**Table 11. Overall Riparian PFC Course Satisfaction**

PFC Workshop	Completely	Mostly	Somewhat	Slightly	Not at all
Waxahachie	70%	30%	0%	0%	0%
Belton	72%	22%	6%	0%	0%

**Table 12. Responses on How Well the PFC Course Met its Two Goals**

PFC Workshop	Completely	Mostly	Somewhat	Slightly	Not at all
<i>Goal I. Provide intro to PFC assessment method</i>					
Waxahachie	91%	9%	0%	0%	0%
Belton	83.3%	16.7%	0%	0%	0%
<i>Goal II. Using the PFC thought process to better understand creek-river-riparian areas</i>					
Waxahachie	91%	9%	0%	0%	0%
Belton	66.7%	27.8%	5.6%	0%	0%

**Table 13. Responses of How Many Years of Riparian Experience Participants Had**

PFC Workshop	None	1-5 years	6-10 years	11-15 years	16-20 years
Waxahachie	13.3%	60%	13.3%	13.3%	0%
Belton	22.2%	22.2%	22.2%	22.2%	11.1%

**Administration**

The contract was set up on 10/1/2012 and ends 9/30/2015 for \$370,941. TWRI set up a subaccount with Nueces River Authority for its assistance with developing and delivering the online modules and tools. TWRI set up an internal subaccount for the Texas A&M Forest Service. TWRI has submitted QPRs and SRS has submitted invoices for this project quarterly (Table 14).

The Texas Riparian and Stream Ecosystem Education Program worked with a number of partners and local partners for each workshop. The following table shows the invoices that have been sent to TSSWCB to date. At this time, SRS is still working on the final invoice for the project covering the remaining expenses through 09/31/15.

Table 14. Riparian and Stream Ecosystem Program Invoices

<b>07-528130</b>			
<b>Invoice</b>	<b>Date</b>	<b>Beginning Balance</b>	
		370,941.00	
R021767	12/1/12-2/28/13	18,742.58	<b>352,198.42</b>
R022035	3/1-5/30/13	21,856.40	<b>330,342.02</b>
R022287	6/1-8/31/13	24,814.35	<b>305,527.67</b>
R022536	9/1-11/30/13	29,657.12	<b>275,870.55</b>
R022763	12/1/13-2/28/14	29,788.27	<b>246,082.28</b>
R022978	3/1-5/30/14	24,749.63	<b>221,332.65</b>
R023212	6/1-8/31/14	32,146.86	<b>189,185.79</b>
R023470	9/1-11/30/14	39,402.83	<b>149,782.96</b>
R023730	12/1/14-2/28/15	43,788.97	<b>105,993.99</b>
R023971	3/1-5/30/15	42,980.06	<b>63,013.93</b>
R024235	6/1-8/31/15	50,721.47	<b>12,292.46</b>