



Texas Riparian and Stream Ecosystem Education Program

Nikki Dictson

Texas Water Resources Institute

<http://texasriparian.org> and
<http://www.facebook.com/TexasRiparianAssociation>

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

History of Riparian Workshops

- Workshops have been offered in the past by Texas A&M AgriLife Extension Service and Research, Texas Riparian Association, Universities, Stream Teams in North Central and Central Texas, Nueces River Authority, NRCS and Texas Parks and Wildlife Dept.
- Watershed Protection Plans are including Riparian protection and restoration issues and education.
- These workshops have been very successful in the Nueces River Basin, Plum Creek and Lampasas River Watersheds attracting 30-120 participants.



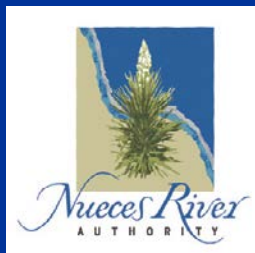
Texas Riparian and Stream Ecosystem Education Program

- Texas Water Resources Institute collaborated with many partners to develop a grant proposal to the Texas State Soil and Water Conservation Board for a statewide Program.
- This program was intended to provide funding to build on, support and continue workshop efforts across Texas.
- Connect and provide collaboration of entities providing riparian education.

Partnerships and Collaborations

- Partnered with Texas Riparian Association, Texas A&M Forest Service, Nueces River Authority, and Dixon Water Foundation on proposal for funding and match.
- Contacted entities working on riparian education across the state and asked them to participate on our Riparian Team for the project.
- Coordinated with TPWD, NRCS, AgriLife Extension, Texas A&M Forest Service, on instructors for trainings that began June 2013.

Major Collaborators



Texas Riparian & Stream Ecosystem Education Goals

- Promote healthy watersheds and improve water quality through riparian and stream ecosystem education
- Increase citizen awareness and understanding of the nature and function of riparian zones, their benefits and management practices to protect them and minimize NPS pollution
- Enhance interactive learning opportunities for riparian education through online tools on TexasRiparian.org and RemarkableRiparian.org Website
- Connect landowners with local technical and financial resources to improve management and promote healthy watersheds and riparian areas



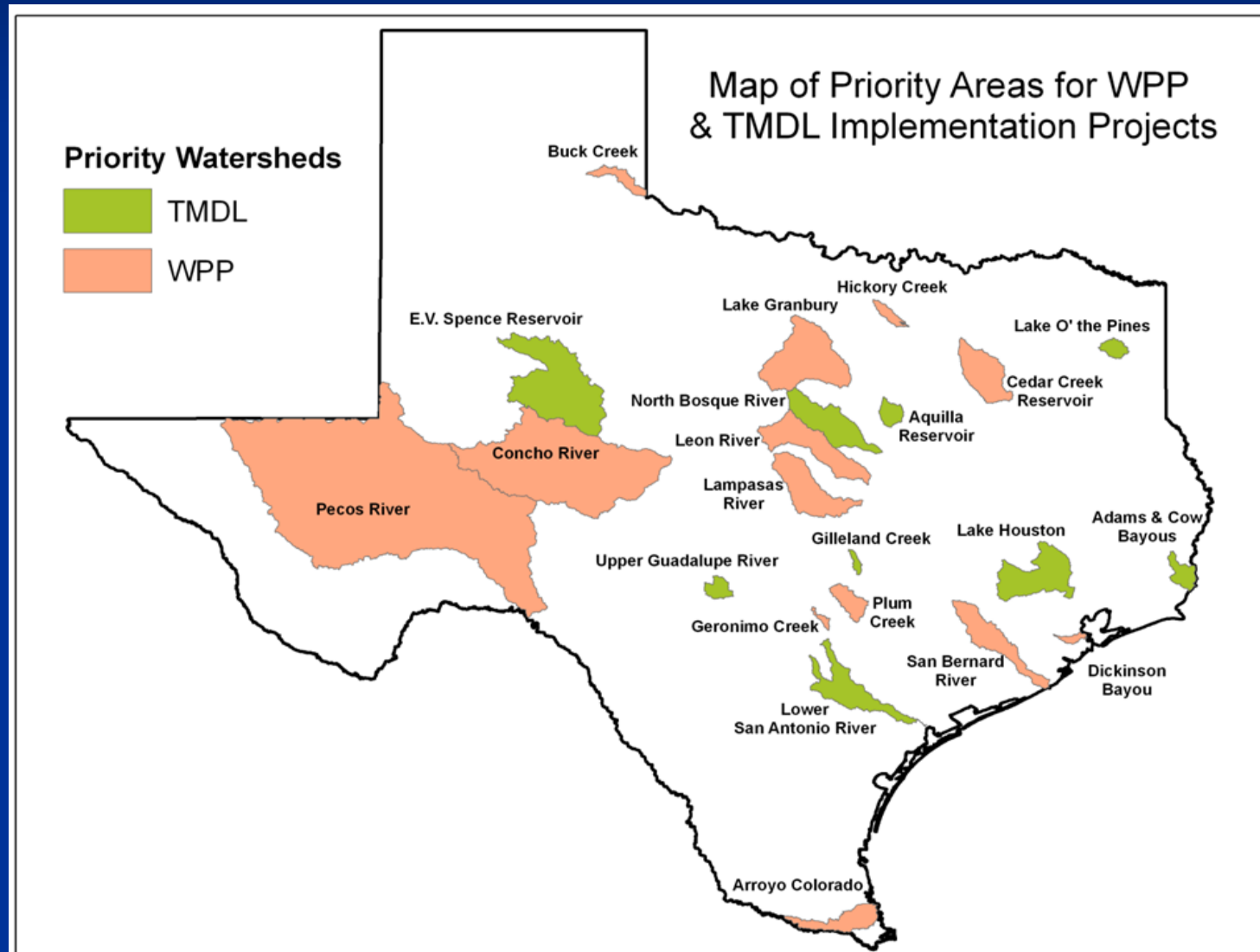
Education

- Deliver riparian education programs to participants in prioritized watersheds, typically watersheds with watershed planning or total maximum daily load efforts due to impaired water quality
- Coordinate 2 Riparian Proper Functioning Condition trainings for agency personnel and water professionals planning this June
- Coordinate 2 statewide conferences: 2013 & 2014 SW Stream Restoration Conferences, TRA/SER Joint Meeting & Urban Riparian Symposium

Creeks and Riparian Areas are Important for Watershed Planning in Texas

- Texas has more than 191,000 miles of rivers and streams that comprise corridors of great economic, social, cultural, and ecological values.
- The 2012 303d List has **568** impaired water bodies on it.
- Many WPP and TMDL Implementation projects are ongoing across the state to improve water quality in watersheds.
- These programs include stream and riparian protection, restoration, management practices, and education.
- The workshops are scheduled to go to these priority watersheds as coordinated by the Texas State Soil and Water Conservation Board and Texas Commission on Environmental Quality.

Map of Watershed Protection Plans and Total Maximum Daily Loads Implementation Projects



Completed Workshops

- Lockhart – Plum Creek Watershed, June 2013
- Temple/Moody – Leon River Watershed, September 2013
- Seguin – Geronimo and Alligator Creek , September 2013
- Junction – Upper Llano River Watershed, October 2013
- College Station – Graduate Course, October 2013
- Junction Pre-conference Workshop – November 2013
- College Station – Carters Creek Watershed – Nov. 21, 2013
- Hallettsville – Lavaca River Basin – February 25, 2014
- Wharton – San Bernard River – March 18, 2014
- Weslaco – Arroyo Colorado River – April 24, 2014
- Mont Belvieu – Cedar Bayou Watershed – May 8, 2014
- Kerrville – Upper Guadalupe River Basin – May 13, 2014
- Hankamer – Double Bayou Watershed – September 24, 2014
- Corpus Christi – Lower Nueces, Petronila Creek, & Oso Creek – Oct. 8, 2014
- Azle – Eagle Mountain Lake Watershed – October 14, 2014
- Stonewall – Pedernales River – December 5, 2014

Marketing



texasriparian.org



Texas Riparian & Stream Ecosystem Workshop
Upper Llano River Watershed

October 16, 2013
8:00 a.m. - 4:00 p.m.

Texas Tech Univ. Junction Llano River Field Station
254 Red Raider Ln.
Junction, Texas 76849

Online RSVP and Agenda: naturalresourcestraining.tamu.edu/schedule

For more information and to register please contact Nikki Dictson at 979-458-5915 or n-dictson@tamu.edu.

Continuing Education Units available: Texas Department of Agriculture Pesticide Applicators License – 3 CEUs; Texas Water Resources Institute – 1 CEU; Texas Forestry Association – 6 hours; Society of American Foresters – 4.5 hours; Texas Nutrient Management Planning Specialists – 6 hours; Texas Board of Architectural Examiners "Acceptable for HSW credit"; and may also be used for CEUs for Professional Engineers.

The workshop will include both indoor classroom presentations and an outdoor field portion at the river to discover how they function and the role of riparian vegetation in properly functioning stream systems by viewing the river in action. RSVPs will be required by October 11, 2013 and please remember to select if you would like the catered lunch (cost of \$10 cash at the door) or if you will bring your own lunch and drink. To RSVP by mail, please complete the form below and send to 1500 Research Pkwy, Ste 110, College Station, TX 77843-2260.

First name: _____ Last name: _____

Email address: _____ Phone: _____

Org./Employer: _____ Lunch Options: ☐ I would like the catered lunch
☐ I would like to bring my own



- News Releases through AgriLife Today
- Listserv - TEXASRIPARIAN@LISTSERV.TAMU.EDU
- Website - <http://texasriparian.org>
- Facebook - <http://www.facebook.com/TexasRiparianAssociation>
- Online Registration – <http://naturalresourcestraining.tamu.edu/schedule/>

Texas Riparian & Stream Ecosystem Education



Plum Creek Watershed Agenda

- 8:00 Meeting Registration
- 8:30 Workshop Introductions
- 8:35 Program Overview, Watershed Management and Water Quality
- Nikki Dictson, Texas Water Resources Institute
- 9:00 Riparian and Watershed Management Principles
- Steve Nelle, Retired USDA Natural Resources Conservation Service
- 9:45 Stream Processes and Hydrology
- Ryan McGillicuddy, Texas Parks and Wildlife Department
- 10:30 Break
- 10:45 Riparian Vegetation and Hindrances to Healthy Riparian Areas
- Steve Nelle, Retired USDA Natural Resources Conservation Service
- 11:30 Management Practices and Local Resources
- Nikki Dictson, Texas Water Resources Institute
- 12:00 Lunch Sponsored by **Guadalupe Blanco River Land Trust**
- 12:15 Lunch time Presentation - Riparian Forestry BMPs:
- Hughes Simpson, Texas A&M Forest Service
- 1:15 Questions and Complete Post Survey
- 1:30 Trip to the River for Stream Walk (Split into 2 or more groups)
- Lane's Balance Demonstration Activity
 - Agricultural Nonpoint Source Incentive Programs
 - Feral Hog Education: Jared Timmons, Texas A&M AgriLife Extension
 - Photo Monitoring of stream locations: Dictson, TWRI
- 4:00 Wrap up and Head for Home!

<http://texasriparian.org/> and
<https://www.facebook.com/TexasRiparianAssociation>



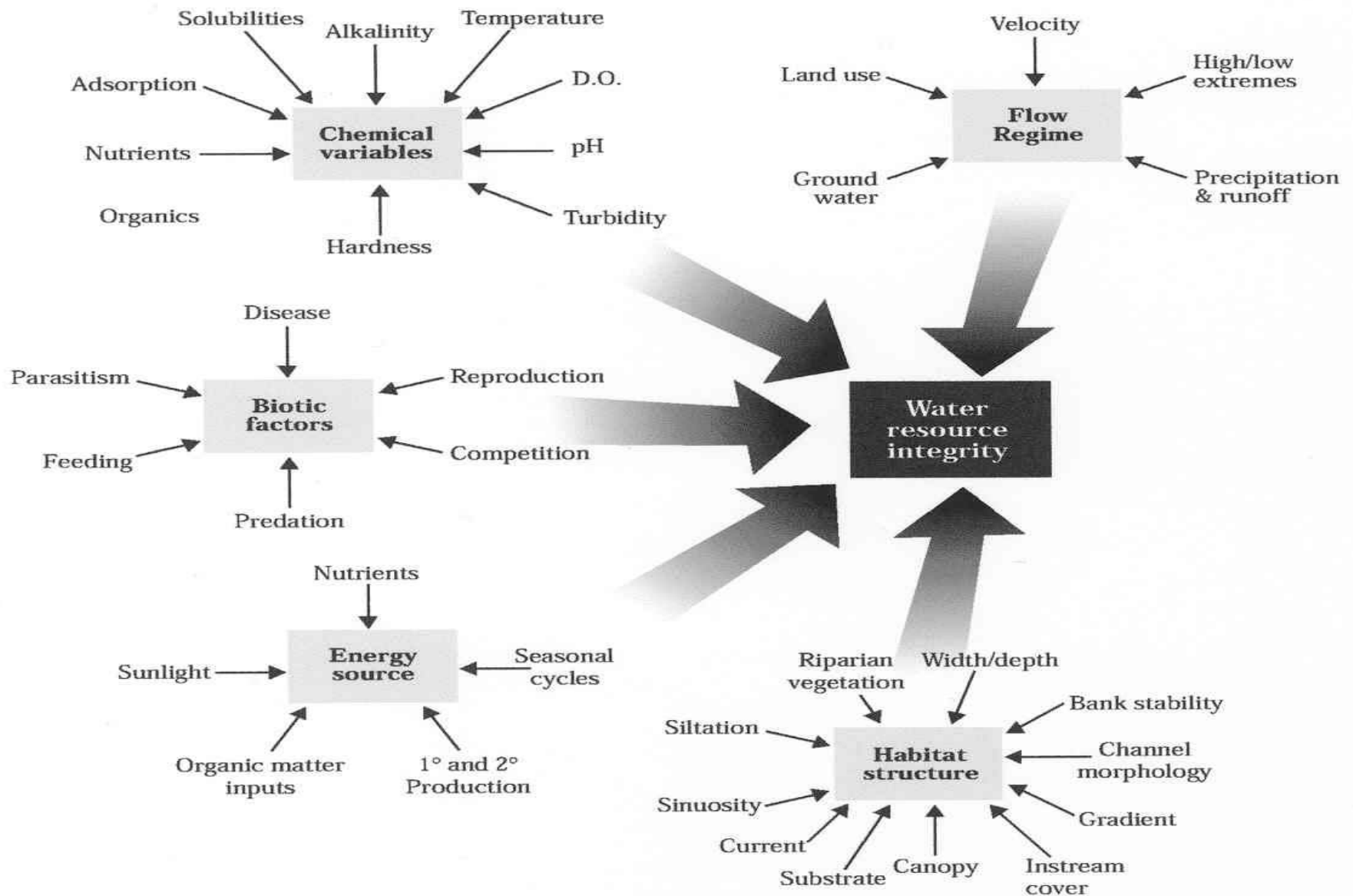
Local Contacts: Technical and Financial Resources

- County Extension Agent/County
- Watershed Coordinator
- Soil and Water Conservation District
- NRCS
- TPWD
- Texas A&M Forest Service
- Texas stream Team
- Wildlife Management Association
- Groundwater and Flood Control Districts
- CEU Partners
- Web links to resources and BMP guides

Continuing Education Units

- Texas Department of Agriculture Pesticide Applicators License - 3 CEUs
- Texas Water Resources Institute - 1 CEU
- Texas Nutrient Management Planning Specialists - 6 hours
- Texas Forestry Association - 6 hours
- Society of American Foresters - 5.5 hours
- Texas Board of Architectural Examiners “Acceptable for HSW credit”
- The program may also be used for CEUs for Professional Engineers.
- Advanced Hours for Texas Master Naturalist and Master Gardeners (Chapter Approval)

Watersheds are Complex Systems



Cedar Bayou



Upper



Middle



Lower

Role of Vegetation





Workshops typically have around 40 attendees but have ranged from 30-70.



Value of the Program

- We developed evaluation tools with a pre/post-test component to try to evaluate knowledge gained during the program.
- The evaluation asks them demographic data on the pre-course evaluation.
- They are asked program satisfaction and willingness to adopt conservation practices on the post-course.

Preliminary Evaluation Results

We assessed the first 13 workshops

- We had a 72% response rate (402/559)
- Attendees that responded were 45.8% males and 47% female (7.2% no answer)
- Ages:
 - 13.7% were 18-30
 - 24.1% were 31-50
 - 43.3% were 51-70
 - 8.5% were 71+ years old
 - (10.4% no answer)

Landowners

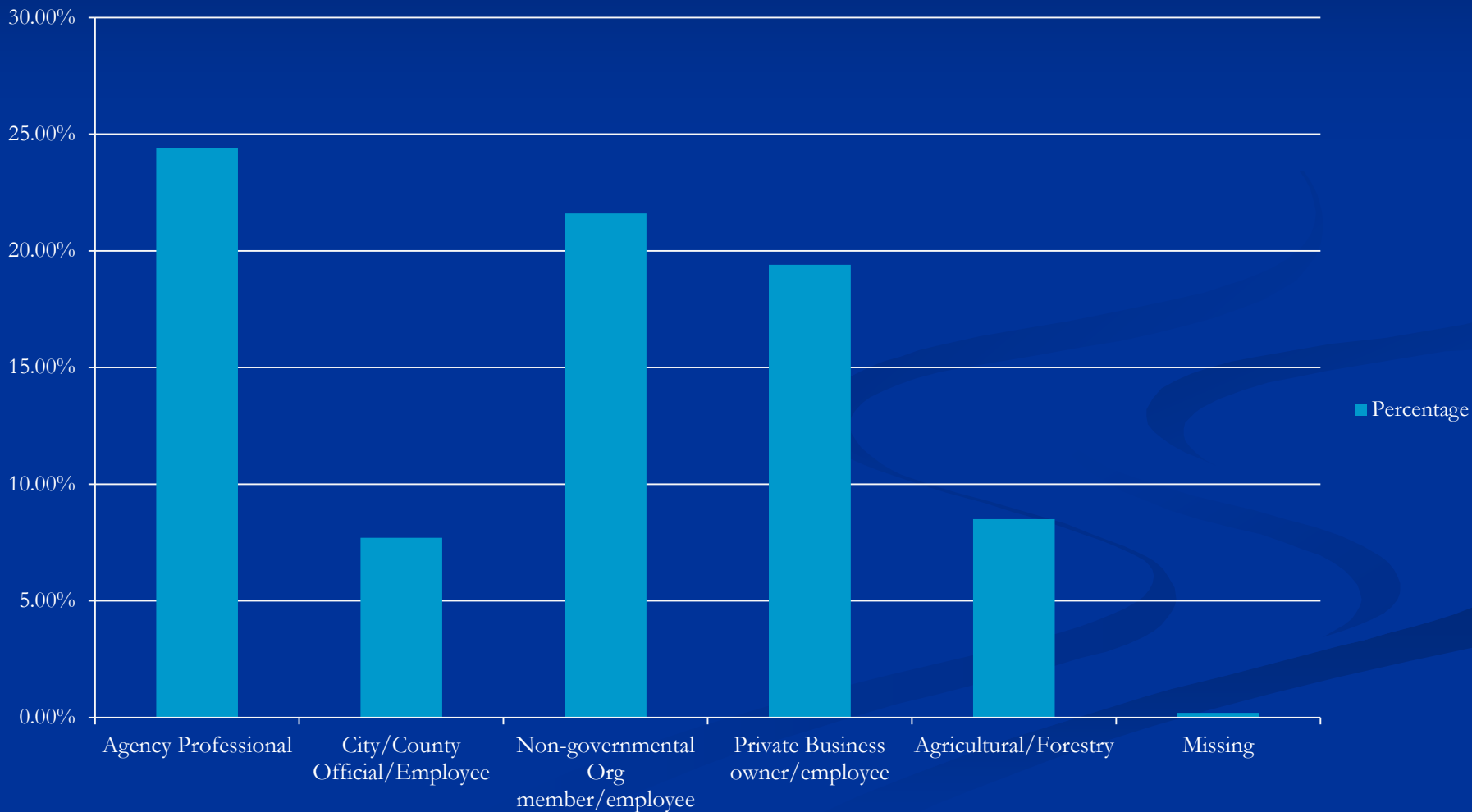
- 241 responded to how much land they own or manage.
- Another 89 responded - 0 acres or NA
- 160 landowners had 10 acres up to 10,000 acres
- Respondents said they own or manage

127,826 acres

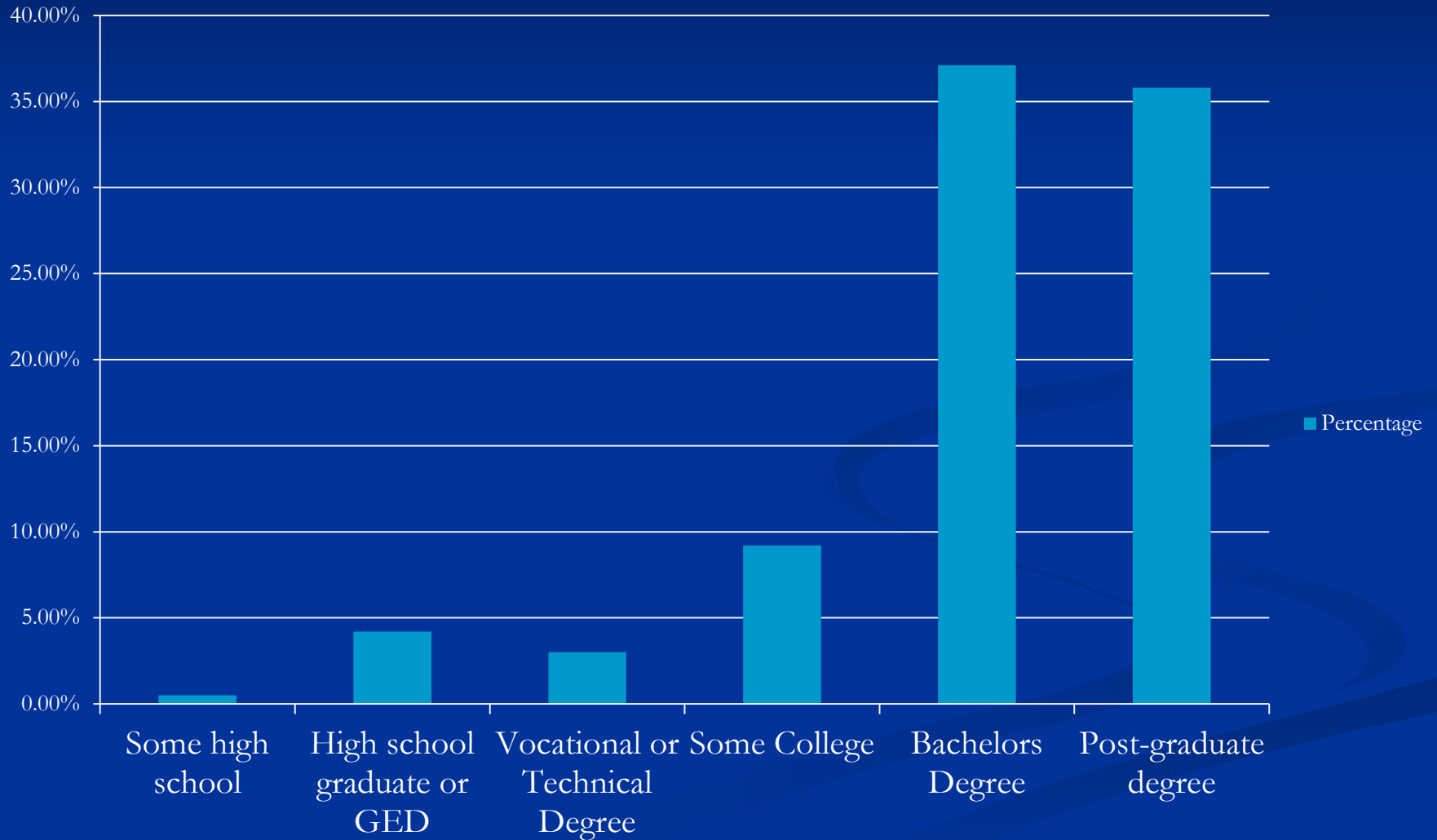
- Multiple responses that they worked with landowners or reviewed projects where they were implementing these BMPs and riparian protection measures

Greater impact on management than is captured in survey.

Affiliation



Education



Test Results

- The pre-test and post-test scores were statistically analyzed and show we have a statistically significant difference with the 317 pairs.
- Pre-tests (mean of 77.85, standard deviation of 15.44) and post-tests (mean of 91.48, standard deviation of 10.67)
- Posts tests typically resulted in higher scores than pre-test.

$$F(1, 316)=275.35, p=.001$$

Degrees of freedom, f value, and significant with high practicality
and high statistical power

$$\eta_p^2 = 0.47, 1 - \beta = 1.0$$

Program Satisfaction

- Overall Program: 99.5% of the respondents were mostly or completely satisfied with 83.2% being completely satisfied.
- Course Material: 99.7% of the respondents were mostly or completely satisfied with 85.9% being completely satisfied with the course materials.
- Ease of Understanding: 99% of the respondents were mostly or completely satisfied with 86.5% being completely satisfied with ease of understanding the course materials.

Program Evaluation

- 100% of the respondents said they would recommend this program to others.
- 48.8% of the respondents said they felt like they might benefit economically from this program in the future.
- 94% of the respondents said they plan to adopt best management practices that were discussed during the workshop.

Adoption of Conservation Practices

	% Plan to Adopt	% Already Adopted	% Will not Adopt	% Undecided	% Not Applicable
Riparian Herbaceous Buffers	39.7	15.3	0.7	6.8	37.5
Riparian Forest Buffers	33.1	15.4	1.6	7.9	42.0
Prescribed Grazing	23.6	15.1	1.6	6.2	53.4
Rotational Grazing	25.7	15.6	1.3	5.2	52.1
Manage Feral Hogs	31.9	16.0	0.3	5.9	45.9
Rangeland Planting of Vegetative Cover	31.6	14.6	1.3	11.0	41.5
Manage to Reduce Bare Ground	49.0	21.8	0	4.2	25.0
Monitor Stream Sites through Photos	43.9	8.9	3.9	14.6	28.6

Online Resources and Tools

- Website: Texas Riparian Association
<http://texasriparian.org/> has had 24,798 views since began in January 2013
- Website has 2,621 subscribers to blog posts
- Facebook page has 293 likes
- Listserv has 142 subscribers since May 2014.
- Online modules, You tube videos – voice over powerpoints, videos, and links to resources.

Success

- Through these amazing partnerships and excellent team of instructors this multi-agency program has been a success for everyone involved.
- A momentum has been created with these partnerships in the watersheds across the state.
- Our online tools and videos are reaching more folks and those that are unable to attend a training.
- We have submitted another proposal to TSSWCB to fund the program for another three years.

Thanks!

