

**Texas Silvicultural BMP Implementation and Water Resource Protection  
Project  
FY 18 EPA 319(h) Grant**

**Final Report  
Contract No. 18-03**

Between October 2018 and November 2022, \$421,528 of EPA 319(h) funds and \$342,294 of Texas A&M Forest Service (TAMFS) matching funds were used in this BMP Implementation project. Despite the temporary restrictions of COVID-19 protocols during a large portion of this time period, the TAMFS Water Resources program was able to:

- Prevent 9,685 tons of sediment per year from entering East Texas streams
- Prevent 75,866 tons of erosion per year from occurring on East Texas forestlands
- Monitor 129 tracts for BMP implementation, storing and compiling data in an Access database, and mapping data in ArcView GIS format
- Conduct 22 BMP workshops and training sessions (in person and virtual) across East Texas for loggers, foresters, and TAMFS field personnel reaching 606 people
- Coordinate 4 SFI-sponsored landowner workshops reaching over 350 people
- Begin development of an interactive, online application to view forestry BMP implementation monitoring data
- Conduct 3 new post-wildfire workshops for Central Texas
- Set up the informative BMP display with literature at various locations reaching thousands of individuals
- Publish and mail 12 issues of *The Texas Water Source* newsletter to 5,300 landowners in the Lake O' the Pines, Adams and Cow Bayous, and Double Bayou watersheds.
- Publish and mail 12 issues of the *Forest Stewardship Briefings* newsletter to 1,200 natural resources-related professionals throughout Texas
- Publish numerous BMP and water related articles in county forest landowner newsletters, the Texas Forestry Association newspaper, the Texas Logging Council magazine, newspapers, and on social media
- Effectively coordinate project efforts with numerous partners, cooperators, and stakeholders.

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## **TASK 1: Project Administration**

**Objective:** To effectively administer, coordinate and monitor all work performed under this project including technical and financial supervision and preparation of status reports.

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 1st of January, April, July, and October. QPRs shall be distributed to all Project Partners.

- **TAMFS submitted electronic quarterly reports to TSSWCB throughout the project.**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly.

- **TFS submitted quarterly invoices to TSSWCB throughout the project.**

**Subtask 1.3** TAMFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. Texas A&M Forest Service will develop lists of action items needed following each project coordination meeting and distribute to project personnel.

- **Project leader regularly contacted TSSWCB to discuss project activities.**
- **Conducted periodic staff meetings to discuss project tasks, deliverables, and timeline.**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved.

- **TFS developed an electronic copy FY 18 Final Report.**

**Deliverables:**

- Quarterly progress reports in electronic format

**Electronic quarterly reports were submitted throughout the project. See Appendix A.**

- Reimbursement Forms and necessary documentation in hard copy format

**Appropriate reimbursement forms were submitted throughout the project.**

- Final Report in electronic and hard copy format

**An electronic Final Report was submitted to TSSWCB.**

## TASK 2: Education, Training, and Outreach

**Objective:** To increase water resource / NPS pollution / BMP / and riparian forest awareness to landowners, natural resource professionals, and the general public in Texas. TAMFS will focus on the following priority watersheds: Lake O' the Pines, Adam's and Cow Bayou, Attoyac Bayou, Middle Trinity River Basin, Cedar Bayou, Lampasas River, Plum Creek, Geronimo Creek, Upper Llano River, and Leon River.

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 3 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation and water resource protection.

- **A total of 17 BMP training workshops were conducted, reaching 464 people, including:**
  - **Core BMP workshop (7)**
  - **Roads and Stream Crossings workshops (3)**
  - **TFS Emergency Response Academy / New Hire Academy / Central & West Texas Operations (7). Two were virtual.**
- **The online BMP refresher course was completed by 572 individuals, with an average test score of 95.3%.**



*Core Logger BMP Workshop – in classroom and field, Fall 2019*

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state, providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution.

- **Twelve quarterly issues of *The Texas Water Source* were published and mailed to landowners in the Lake O' the Pines, Adams and Cow Bayous, and Double Bayou watersheds.**

- **Twelve quarterly issues of the *Forest Stewardship Briefings* newsletter were published and mailed to approximately 1,250 natural resource professionals, state representative and senators, county commissioners and judges, and others statewide.**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management.

- **Project foresters coordinated and presented at numerous forest landowner workshops. These meetings focus on the importance of using BMPs and practicing sustainable forestry.**

**Sustainable Forestry Initiative Implementation Committee sponsored:**

- **2019 East Texas Timber Owners Association (Linden; 90 attendees)**
- **2019 Jasper/Newton Co. Forest Landowners Assoc. (Jasper; 86 attendees)**
- **2021 Tyler County Forest Landowners Assoc. (Woodville; 122 attendees)**
- **2021 Angelina/Nacogdoches Co. Forest Landowner Assoc. (Nacogdoches; 60 attendees)**

**TAMFS/Texas Wildlife Association sponsored:**

- **2020 Texas Women in the Woods (Virtual; 58 attendees)**
- **2021 Texas Women in the Woods (Virtual; 20 attendees)**
- **2021 Texas Women in the Woods (Virtual; 25 attendees)**



*SFI-sponsored landowner workshop for Tyler County Forest Landowners Association*

- **Participated in the TSSWCB-funded *Texas Riparian and Stream Ecosystem Education Program* project administered by Texas Water Resources Institute. Gave presentations at:**
  - **2018 TWRI Riparian & Stream Ecosystem Training - Lampasas River Watershed**

- **2018 TWRI Riparian & Stream Ecosystem Training - Medina River Watershed**
- **2019 TWRI Riparian & Stream Ecosystem Training - Bandera County Watershed**
- **2019 TWRI Riparian & Stream Ecosystem Training - Baffin Bay Watershed**
- **2019 TWRI Riparian & Stream Ecosystem Training - Double Bayou/Cedar Bayou Watersheds**
- **2019 TWRI Riparian & Stream Ecosystem Training - Plum Creek Watershed**
- **2019 TWRI Riparian & Stream Ecosystem Training - Upper Colorado/Llano River Watersheds**
- **2019 TWRI Riparian & Stream Ecosystem Training - Big Elm Creek Watershed**
- **2020 TWRI Riparian & Stream Ecosystem Training - Lavaca River Watershed**
- **2020 TWRI Riparian & Stream Ecosystem Training - Attoyac Bayou Watershed**
- **2020 TWRI - Panel Discussion - San Antonio Area Watersheds**
- **2021 TWRI Riparian & Stream Ecosystem Training - Joe Pool Lake**
- **2021 TWRI Riparian & Stream Ecosystem Training - Leon River Watershed**
- **2021 TWRI Riparian & Stream Ecosystem Training - Angelina River Watershed**
- **2021 TWRI Riparian & Stream Ecosystem Training - Mill Creek Watershed**
- **2021 TWRI - Lampasas Watershed PP**
- **2021 TWRI - Comal River Watershed PP**
- **2022 TWRI Riparian & Stream Ecosystem Training - Bastrop, Dickinson, Highland, and Jarbo Bayou Watersheds**
- **2022 TWRI - Alligator-Geronimo Creek WPP**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events, and help provide registration costs for Texas Tree Conference.

- **The BMP display and/or SMZ model were exhibited at numerous events, including:**
  - **2019 Texas Wildlife and Woodlands Expo; set up SMZ model and fish/benthic interactive game**
  - **2019 Texas Master Gardeners Environmental School at Fort Parker; Floodplain Ecosystems and Management**
  - **2019 I-Train Texas 4H program in Killeen; Texas Water, Woodlands, and Management**
  - **2019 Smokey Bear's 75th Birthday Bash in College Station; set up SMZ model and fish and items from the woods interactive games**
  - **2019 Annual Mtg TSSWCB District Managers in San Antonio; set up TAMFS Water Resources booth on both days**

- **2021 Earth Day event at Ellen Trout Zoo, Lufkin; set up newly refurbished SMZ model; handouts about forests and water, water cycle posters (English and Spanish); TCEQ Take Care of Texas bookmarks (English/Spanish)**
- **2021 Big Thicket Day in Beaumont; set up newly refurbished SMZ model; handouts about forests and water, water cycle posters (English and Spanish); TCEQ Take Care of Texas bookmarks (English/Spanish)**



*Big Thicket Day, 2021*



*Texas Wildlife and Woodlands Expo, 2019*



*“Name that Fish” game, Texas Wildlife and Woodlands Expo, 2019*

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners and general public on sustainable forestry, water resource protection, and riparian management. Activities may include, but are not limited to, out of state absentee landowner newsletter, presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution.

- **Published three editions of the annual *Forest Landowner Briefings* newsletter to 1,935 out of state absentee landowners to raise BMP and sustainable forestry awareness.**
- **Presented BMP topics to several landowner organizations and service organizations.**

### **Deliverables**

- Conduct four BMP training workshops per year

**See Appendix B**

- Publish Quarterly newsletters

**See Appendix B**

- Conduct three landowner workshops per year

**See Appendix B**

- Educational materials for absentee landowners

**See Appendix B**

- List of events where TAMFS exhibit was displayed

**See Appendix B**



### **TASK 3: Technical Assistance and Demonstration**

**Objective:** To provide technical assistance to foresters, natural resource professionals, landowners, contractors, and other interested groups on BMPs and water resource protection programs.

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts such as federal Farm Bill programs and initiatives.

- **Project foresters provided valuable and timely technical assistance to numerous landowners – family forest owners, corporate owners, city entities, TAMFS staff, forestry consultants, other public and private entities – through phone conversations, emails, site visits, and monitoring evaluations.**
- **Smartphone application for the Texas Forestry BMPs Handbook ([Texas Forestry BMPs](#)) on Apple and Android platforms was downloaded 885 times.**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and enhanced functionality.

- **Continued updates to Plan My Land Operation and Texas Forestry BMPs to keep current with updated IOS and increase functionality.**
- **In cooperation with the Visualization Lab at Texas A&M University, the Water Resources and Geospatial Programs began development of a watershed/canopy module for deployment on Plan My Land Operation.**

**Subtask 3.3** TFS will work with partners to develop and promote BMP guidance for land management operations.

- **Developed a site plan to install Best Management Practices demonstrations on the Schulze tract and completed BMP installation of road culvert and water bars.**

**Subtask 3.4** TFS will work with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff volume, sediment, and nutrient concentrations.

- **To assist in planning efforts, Water Resource Foresters have performed i-Tree Hydro assessments on Clear Creek, Apache Creek, and Alazan Creek watersheds. We are in the process of using the model to assess 42 Bexar County area HUC12 watersheds and evaluating the effects of varying increased tree canopy on reducing water runoff and mitigating flooding.**
- **Led the installation of 1,200 trees in Tickey Creek and modeled future impacts.**



**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection.

- **After review and discussion with Simtable developers, TAMFS has opted to develop a simulation module for Plan My Land Operation (see Subtask 3.2).**

### **Deliverables**

- Summary of updates made to online and smartphone BMP applications  
**Updated user interface of Plan My Land Operation and converted to latest API**  
**Added a plot layout tool to Plan My Land Operation**  
**Added Regeneration considerations from SSURGO Soil Survey to Plan My Land Operation**  
**Updated the Texas Forestry BMP application to include a BMP pictorial dictionary**
- Technical BMP guidance for land management operations  
**Schultze Tract demonstration activities include painting of SMZ and road BMPs (culvert, water bars and turnouts)**  
**Post-wildfire BMP checklist; see Appendix C**
- List of watersheds and results of iTree Hydro model simulations  
**See Appendix C – PepsiCo iTree Hydro simulation for tree planting project in Tickey Creek, Collin County, TX.**
- Simtable watershed module summary report  
**Rolling this functionality into Plan My Land Operation**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Objective:** To assess the voluntary adoption of Texas' recommended BMPs by forest landowners, managers, and contractors and quantify resulting load reductions.

**Subtask 4.1** TFS will identify silvicultural operations in East Texas using to randomly select for BMP implementation monitoring.

- **TFS utilized GIS and satellite imagery to identify over 900 silvicultural operations for possible monitoring.**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria.

- **129 silvicultural operations were randomly sampled from the selection pool and evaluated for BMP implementation.**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Monitoring Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com.

- **The Round 11 BMP Implementation Monitoring Report was composed and posted to the TFS website - <https://tfsweb.tamu.edu/BMPMonitoring/> .**

**Subtask 4.4.** TFS will quantify sediment and nutrient load reductions resulting from BMP implementation.

- **Load reductions were quantified using the Forest Land Erosion Evaluation for East Texas method - 75,866 tons of erosion per year were prevented from occurring on East Texas forestlands.**

### **Deliverables**

- Identify a minimum of 600 forest operations to select from for potential monitoring

**Identified over 900 forest operations to select for potential monitoring.**

- Conduct 150 BMP implementation evaluations

**129 site evaluations were conducted.**

- BMP Implementation Monitoring Report and online results summary

**TexasForestInfo.com interactive summary of monitoring results:**

**<http://tfsfrd.tamu.edu/storymaps/BMP/> . See Appendix D for results table.**

- Load reductions resulting from BMP implementation

**See Appendix D.**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Objective:** To effectively coordinate project efforts with natural resource agencies and project participants.

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings.

- **TAMFS hosted 2 Wetland / BMP Coordinating Committee meetings.**
  - **(2018) College Station**
  - **(2020) Virtual**

**Subtask 5.2** TFS will work with local media which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities.

- **Published 12 BMP Q&A quarterly articles in the magazine *Texas Logger*, the quarterly publication of the Texas Logging Council.**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas.

- **The Four State Forestry BMP Conference was postponed due to staff vacancies in Oklahoma and Arkansas. These positions have been filled and planning is currently underway.**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resource Committee.

- **Participated in SGSF Water Resource Committee meetings and conference calls:**
  - **(2019) Webinar on erosion and sedimentation**
  - **(2019) Winter Meeting; Biloxi, MS**
  - **(2022) Summer Meeting; Greenville, SC**

**Subtask 5.5** TFS will attend and participate in meetings to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and Watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups.

- **Attended watershed coordination, planning, and TMDL implementation meetings**
  - **Adams and Cow Bayou TMDL**
  - **Attoyac Bayou Watershed Protection Plan**
  - **Lake O' the Pines TMDL Implementation Plan**

- **Blanco River Reforestation Project**
- **Bell County Water Symposium**
- **El Paso Water Utilities**
- **Blanco River Restoration Forum planning meeting**
- **Southwest Streams Conference planning meeting**
- **Lampasas River Watershed Protection Plan**
- **Lower Trinity River Stakeholders**
- **Middle and Lower Cibolo Creek Watershed Protection Plan**
- **Nolan Creek Watershed Protection Plan**
- **Orange County TMDL Implementation Plan**
- **Plum Creek Watershed Partnership Stakeholders**
- **Upper Llano River Watershed Protection Plan**
- **Soil for Water Forum**
- **Watershed Coordinators Roundtable meeting**
- **Hill Country SWCD meeting**
- **Attoyac Stakeholders Riparian meeting**
- **Llano River WPP Stakeholders meeting**
- **Bell County Natural Resources Collaboration**
- **West Fork San Jacinto Watershed Partnership**
- **Southeast and South-Central Texas Regional Watershed Steering Committee**
- **Texas Watershed Planning Short Course**
- **Middle and Lower Cibolo Creek WPP establishment meeting**
- **Blanco River Riparian Support Network**
- **Bell County natural Resources Committee**
- **Big Elm WPP meeting**
- **San Antonio River Authority meetings for Alazan and Apache Creek**
  
- **Attended water development, regulatory, and restoration meetings.**
  - **TWDB SWIFT meeting in Conroe**
  - **Urban Riparian Symposium**
  - **Water Supply Enhancement Project**
  - **Texas Riparian Association Annual Meeting**
  - **Trinity Land and Water Summit**
  - **Texas Riparian Association**
  - **Urban Water and Drainage Seminar**
  - **Regional Water Planning Group meetings**
  
- **Attended sustainable forestry/BMP/and water meetings**
  - **TFA Annual Meetings in Galveston (2018), Nacogdoches (2019, 2021), and virtually in 2020**
  - **TFA SFI and Environmental / Regulatory Affairs committees**
  - **Texas Logging Council State Meeting in Nacogdoches**
  - **TSAF Annual Meetings**
  - **2022 SAF National Convention in Baltimore, Maryland**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate related outreach efforts.

- **Attended watershed coordination, planning, and TMDL implementation meetings and the 2022 Texas Tree Conference.**

### **Deliverables**

- Host two Wetland/BMP Coordinating Committee meetings

**See Appendix E**

- Publish and distribute at least four articles per year to various local media sources

**See Appendix E**

- Assist in the coordination and attend one Four State Forestry BMP Conference

**Postponed; planning has resumed after filling position vacancies in Oklahoma and Arkansas.**

- Participate in two SGSF WRC meetings

**See Appendix E**

- Attend at least three watershed protection or TMDL stakeholder meetings per year

**See Appendix E**

- Attend at least three watershed protection or TMDL stakeholder meetings per year

**See Appendix E**

# APPENDIX A

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 1**

Covering work accomplishments during October – December 2018

January 3, 2019

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The first quarterly progress report will be submitted in January 2019.

**8% Complete – On-going**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The first invoice and appropriate reimbursement forms will be submitted in January 2019.

**8% Complete – On-going**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**8% Complete – On-going**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)



- Continued archiving project deliverables to produce the final report.

**8% Complete – On-going**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 4 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Conducted a continuing education logger BMP Stream Crossing session in Lufkin.
- Conducted a continuing education logger BMP Stream Crossing session in Cleveland.

**22% Complete – On-going**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com,

GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, and site visits.
- *Texas Forestry BMPs* has been downloaded 28 times by Android users and 25 times by Apple users this quarter.

**8% Complete – On-going**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- No new activity.

**0% Complete – On-going**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- No new activity.

**0% Complete – On-going**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- No activity this quarter. To be done at completion of monitoring.

**0% Complete – On-going**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- No activity this quarter.

**0% Complete – On-going**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- Published a BMP Q & A format article in the magazine *Texas Logger*, the quarterly publication of the Texas Logging Council.

**8% Complete – On-going**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- Continued planning the Four State Forestry BMP Conference. Staff vacancies in Arkansas and Oklahoma have delayed the scheduling of this conference.

**20% Complete – On-going**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**0% Complete – On-going**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several conference calls to plan the next meeting of the Texas Forests and Drinking Water Partnership.
- Presented “Role of Forests and Trees in Watershed Protection” at Lampasas River Riparian and Stream Ecosystems Workshop in Marion.
- Presented “Role of Forests and Trees in Watershed Protection” at Medina River Riparian and Stream Ecosystems Workshop in San Antonio.

**8% Complete – On-going**

### **Activities Planned for Next Quarter**

- Publish the *Texas Water Source* and *Forest Stewardship Briefings* newsletters.
- Continue planning the Four State Forestry BMP Conference.
- Start planning SFI-sponsored landowner workshops.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
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#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 2**  
Covering work accomplishments during January – March 2019

April 1, 2019

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The first quarterly progress report was submitted in January 2019.

**16% Complete – On-going**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The first invoice and appropriate reimbursement forms was submitted in January 2019.

**16% Complete – On-going**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**16% Complete – On-going**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**16% Complete – On-going**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 4 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Conducted a BMP Core Workshop in Lufkin.

**33% Complete – On-going**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- Set up BMP display with SMZ model and fish/benthics matching games at the Texas Wildlife and Woodlands Expo in The Woodlands.

**16% Complete – On-going**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, and site visits.
- TFS provided technical assistance on BMPs to new agency employees at the Spring 2019 TFS 101 session.
- *Texas Forestry BMPs* has been downloaded 33 times by Android users and 42 times by Apple users this quarter.

**16% Complete – On-going**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**



**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

#### **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- No new activity.

**0% Complete – On-going**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- No new activity.

**0% Complete – On-going**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- No activity this quarter.

**0% Complete – On-going**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- TFS participated in a SGSF WRC webinar on erosion and sedimentation models. .

**10% Complete – On-going**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

### **0% Complete – On-going**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- Published a BMP Q&A article in the Spring 2019 edition of the Texas Logger.

### **16% Complete – On-going**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

### **20% Complete – On-going**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- Attended the 2019 winter meeting in Biloxi.

### **15% Complete – On-going**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Attended Big Elm Creek Watershed Stakeholders meeting.
- Attended Urban Riparian Symposium in Grapevine, Texas.
- Presented at the January meeting of the Watershed Coordinator Roundtable in Waco.
- Submitted abstracts for the Southern Region Water Management Conference in College Station.
- Attended TFA SFI Committee Meeting.

### **16% Complete – On-going**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban

forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Conducted a field tour and meeting of the Texas Forests and Drinking Water Partnership at McKinney Roughs.

**16% Complete – On-going**

### **Activities Planned for Next Quarter**

- Publish the *Texas Water Source* and *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning the Four State Forestry BMP Conference.
- Start planning SFI-sponsored landowner workshops.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 3**  
Covering work accomplishments during April – June 2019

July 1, 2019

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The second quarterly progress report was submitted in April 2019.

**25% Complete – On-going**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The second invoice and appropriate reimbursement forms was submitted in April 2019.

**25% Complete – On-going**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**25% Complete – On-going**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**25% Complete – On-going**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 4 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Presented at TFS New Hire/Emergency Response Academy in Nacogdoches.

**42% Complete – On-going**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- Conducted an SFI-sponsored East Texas Timberland Owners Association workshop in Linden, Cass County.
- Conducted Riparian Management & Tree ID (Invasive Species) Assistance (5T Ranch Tour) in Fredericksburg.

**11% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- Set up and interpreted SMZ model for educators at a workshop in Conroe.

**25% Complete – On-going**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Gave presentation on BMPs at East Texas Timberland Owners Association SFI-sponsored workshop in Linden, Cass County.
- Gave presentation on Riparian Ecology and Management to Texas Master Naturalist group in Salado.

**25% Complete – On-going**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, and site visits.
- TFS provided technical assistance on BMPs to new agency employees at the Summer 2019 TFS 101 session.
- *Texas Forestry BMPs* has been downloaded 41 times by Android users and 49 times by Apple users this quarter.

**25% Complete – On-going**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on updating Texas Forestry BMPs application.

**25% Complete – On-going**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- No new activity.

**0% Complete – On-going**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- No new activity.

**0% Complete – On-going**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- No activity this quarter.

**0% Complete – On-going**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- No activity this quarter.

**10% Complete – On-going**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- BMP Q&A article written; not yet published.

**25% Complete – On-going**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**20% Complete – On-going**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- No activity this quarter.

**15% Complete – On-going**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Attended 2 Big Elm Creek Watershed Stakeholders meetings.
- Attended Nolan Creek Watershed Protection Plan meeting in Killeen.
- Presented at the January meeting of the Watershed Coordinator Roundtable in Waco.
- Presented on TS Partnership and Statewide Collaboration Opportunities at NRCS Principle Staff Meeting in Austin.
- Attended TFA SFI Committee Meeting.

**25% Complete – On-going**



**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Presented at Bandera Co. Ag Ext/Medina River watershed workshop in Bandera.
- Presented at Kleberg Co Ag Ext/Baffin Bay watershed workshop in Kingsville.

**25% Complete – On-going**

### **Activities Planned for Next Quarter**

- Publish the *Texas Water Source* and *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning the Four State Forestry BMP Conference.
- Continue planning SFI-sponsored landowner workshops.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 4**

Covering work accomplishments during July – September 2019

October 1, 2019

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The third quarterly progress report was submitted in July 2019.

**33% Complete – On-going**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The third invoice and appropriate reimbursement forms was submitted in July 2019.

**33% Complete – On-going**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**33% Complete – On-going**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**33% Complete – On-going**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 4 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Presented at TFS New Hire/Emergency Response Academy in Junction.
- Conducted one BMP Core Workshop in Lufkin.
- Conducted a BMP refresher training for Domtar in Linden.

**50% Complete – On-going**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**22% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- Set up and interpreted SMZ model for Texas Master Gardeners at their Environmental School at Fort Parker.
- Set up and interpreted SMZ model at I-Train Texas 4-H program in Killeen.

**33% Complete – On-going**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Gave presentation on Floodplain Ecosystems and Management to Texas Master Gardeners in Fort Parker.
- Gave “BMPs for Firelines and Forest Roads” presentation at a Trinity County Forest Landowners Association meeting in Trinity.

**33% Complete – On-going**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, and site visits.
- *Texas Forestry BMPs* has been downloaded 31 times by Android users and 23 times by Apple users this quarter.

**33% Complete – On-going**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on updating Texas Forestry BMPs application.

**33% Complete – On-going**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- Initial draft on Central Texas BMP Guidebook.

**33% Complete – On-going**

**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- Project forester is developing a strategy on how to use iTree Hydro for Watershed Protection Plans being developed in the greater Houston area.

**15% Complete – On-going**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

#### **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- No new activity.

**0% Complete – On-going**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- No new activity.

**0% Complete – On-going**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- No activity this quarter.

**0% Complete – On-going**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- Calculated a reduction of 11,500 tons of sediment entering streams due to forestry BMP implementation in the past year.

**33% Complete – On-going**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**0% Complete – On-going**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- BMP Q&A article written and submitted; not yet published.

**33% Complete – On-going**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**33% Complete – On-going**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- No activity this quarter.

**31% Complete – On-going**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Presented Texas BMP Compliance Update at the Southern Region Water Conference/TAMU Agrilife in College Station.
- Attended Watershed Coordinators Roundtable Meeting in Dallas.
- Attended TWDB Flood Implementation Stakeholder Workshops in Tyler and Kerrville.
- Attended TFA SFI Committee Meeting.

**33% Complete – On-going**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Presented on the topic “Land Stewardship Training Program - Designed to Improve Water Quality” at the Southern Region Water Conference in College Station.
- Presented “Practical Silviculture for Non-Foresters” and “Field Application of BMPs” at NRCS Ecological Science Training sessions in Kerrville.
- Presented “Practical Silviculture for Non-Foresters” and “Field Application of BMPs” at NRCS Ecological Science Training sessions in Stephenville.

**33% Complete – On-going**

### **Activities Planned for Next Quarter**

- Publish the *Forest Landowners Briefings*, *Texas Water Source*, and *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning the Four State Forestry BMP Conference.
- Conducting an SFI-sponsored landowner workshop for Jasper and Nacogdoches county landowners.
- Continue planning SFI-sponsored landowner workshops.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 5**

Covering work accomplishments during October – December 2019

January 1, 2020

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The fourth quarterly progress report was submitted in October 2019.

**42% Complete – On-going**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The fourth invoice and appropriate reimbursement forms was submitted in October 2019.

**42% Complete – On-going**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**42% Complete – On-going**



**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**42% Complete – On-going**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 4 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Presented at TFS New Hire/Emergency Response Academy in Nacogdoches.
- Presented at one Pro Logger CEU Workshop in Lufkin; topic was Stream Crossings.
- Lead two Ecology and two Hydrology BMP field labs for Stephen F. Austin State University students.
- Gave presentation on rain gardens, green roofs, and channelization to Stephen F. Austin State University Arboriculture students.
- Gave presentation on BMPs at Texas A&M AgriLife's Marion-Cass Forestry Forum.

**67% Complete – On-going**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published one *The Texas Water Source* newsletter to Lake O' the Pines watershed landowners.
- Published one *Forest Stewardship Briefings* newsletter to natural resource professionals and county officials.

**8% Complete – On-going**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- Coordinated an SFI-sponsored workshop for Jasper and Newton County forest landowners in Jasper.

**33% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- Set up and interpreted SMZ model for the general public at Smokey Bear's 75<sup>th</sup> Birthday Bash at College Station.
- Annual Meeting, TSSWCB District Managers; San Antonio - set up informational booth for 8 hours on both days.

**42% Complete – On-going**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published one *Forest Landowner Briefings* newsletter.

**42% Complete – On-going**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, and site visits.
- *Texas Forestry BMPs* has been downloaded 35 times by Android users and 37 times by Apple users this quarter.

**42% Complete – On-going**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on updating Texas Forestry BMPs application; new version coming up.

**42% Complete – On-going**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- Initial draft on Guidebook for Landowners, Resource Managers, and Brush Control Contractors – Woody Vegetation BMPs.

**42% Complete – On-going**

**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- Project forester is developing a strategy on how to use iTree Hydro for Watershed Protection Plans being developed in the greater Houston area.
- Participated in i-Tree / i-Hydro webinar by USFS.

**42% Complete – On-going**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- Evaluating options for these modules; planning for demonstration possibilities.

**10% Complete – On-going**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- No new activity.

**0% Complete – Up-coming**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- No new activity.

**0% Complete – Up-coming**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- No activity this quarter.

**0% Complete – Up-coming**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**33% Complete – On-going**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- Planning underway for February 2020.

**42% Complete – On-going**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- BMP Q&A article written and submitted; not yet published.

**42% Complete – On-going**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- Planning underway for spring (March or April) 2020 in Northeast Texas.

**42% Complete – On-going**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- Planning to attend January 2020 meeting.

**33% Complete – On-going**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Attended Big Elm Creek WPP meeting in Rogers, Texas.
- Set up informational booth at the annual TSSWCB District Managers meeting in San Antonio, both days.
- Attended the Middle Neches Water Quality meeting in Lufkin.
- Attended the River Road Riparian Restoration event in San Antonio.
- Attended the Attoyac Bayou WPP Stakeholders meeting in Nacogdoches; presented on forest BMPs and wildlife benefits.

**42% Complete – On-going**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Presented “Roles of Forests and Trees in Watershed Protection” at the Riparian and Streams Ecosystem Training in Lockhart.
- Presented “Roles of Forests and Trees in Watershed Protection” at the Riparian and Streams Ecosystem Training in Junction.
- Presented “Roles of Forests and Trees in Watershed Protection” at the Riparian and Streams Ecosystem Training in Temple.

**42% Complete – On-going**

#### **Activities Planned for Next Quarter**

- Publish the *The Texas Water Source* and *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning and conduct the Wetland / BMP Coordinating Committee meetings.
- Continue planning the Four State Forestry BMP Conference.
- Conducting an SFI-sponsored landowner workshop for Tyler County landowners.
- Continue planning SFI-sponsored landowner workshops.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 6**  
Covering work accomplishments during January – March 2020

April 1, 2020

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The fifth quarterly progress report was submitted in January 2020.

**50% Complete – On-going**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The fifth invoice and appropriate reimbursement forms was submitted in January 2020.

**50% Complete – On-going**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**50% Complete – On-going**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**50% Complete – On-going**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 4 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Presented at TFS New Hire/Emergency Response Academy in Junction.
- Presented 6-hour Pro Logger Forest Roads and Stream Crossings Workshop in Lufkin.

**83% Complete – On-going**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published two *The Texas Water Source* newsletter to Lake O' the Pines watershed landowners.
- Published one *Forest Stewardship Briefings* newsletter to natural resource professionals and county officials.

**21% Complete – On-going**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- Had one SFI-sponsored workshop planned and ready to go for Tyler County forest landowners, but had to postpone due to COVID-19 restrictions.

**33% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- No new activity this quarter due to cancellation of events.

**50% Complete – On-going**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Gave presentation at National Garden Club's Texas Environmental Studies School on Riparian Function and Health for Restoration and Management – Old Fort Parker.
- Gave presentation at Piney Wood Lakes Texas Master Naturalists training session on Forest Ecology and Management – focus on protecting water quality – Livingston.

**50% Complete – On-going**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, and site visits.
- *Texas Forestry BMPs* has been downloaded 47 times by Android users and 22 times by Apple users this quarter.

**50% Complete – On-going**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on updating Texas Forestry BMPs application; new version coming up.

**50% Complete – On-going**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on Guidebook for Landowners, Resource Managers, and Brush Control Contractors – Woody Vegetation BMPs.

**50% Complete – On-going**



**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- Project forester is developing a strategy on how to use iTree Hydro for Watershed Protection Plans being developed in the greater Houston area.

**50% Complete – On-going**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- Evaluating options for these modules; planning for demonstration possibilities.

**18% Complete – On-going**

#### **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- Site identification on-going.

**50% Complete – On-coming**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- No new activity.

**0% Complete – Up-coming**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- No activity this quarter.

**0% Complete – Up-coming**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**33% Complete – On-going**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- Plans on hold until further notice for 2020.

**50% Complete – On-going**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- BMP Q&A article written and submitted; not yet published.

**50% Complete – On-going**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- Planning on hold until further notice for 2020 in Northeast Texas.

**50% Complete – On-going**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- Attended the January 2020 meeting in Auburn, Alabama.

**50% Complete – On-going**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Conference call with TRA Board and TWRI Education Team.

**50% Complete – On-going**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Presented “Roles of Forests and Trees in Watershed Protection” at the Riparian and Streams Ecosystem Training in Edna.

**50% Complete – On-going**

#### **Activities Planned for Next Quarter**

- Publish the *The Texas Water Source* and *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning and conduct the Wetland / BMP Coordinating Committee meetings.
- Continue planning the Four State Forestry BMP Conference.
- Conducting an SFI-sponsored landowner workshop for Tyler County landowners – rescheduling for the fall.
- Continue planning an SFI-sponsored landowner workshops for Angelina/Nacogdoches county landowners – rescheduling for the fall.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 7**  
Covering work accomplishments during April – June 2020

July 1, 2020

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The sixth quarterly progress report was submitted in April 2020.

**58% Complete – Ongoing**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The sixth invoice and appropriate reimbursement forms was submitted in April 2020.

**58% Complete – Ongoing**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**58% Complete – Ongoing**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**58% Complete – Ongoing**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 4 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Due to COVID-19 restrictions and precautions, scheduled trainings in this category were postponed. Currently working on virtual versions to implement in the coming months.

**83% Complete**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published one *The Texas Water Source* newsletter to Lake O' the Pines watershed forest landowners.
- Published one *Forest Stewardship Briefings* newsletter to natural resource professionals and county officials.

**29% Complete**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- Due to COVID-19 restrictions, have postponed planned landowner workshops until fall, if possible.

**33% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- No new activity this quarter due to cancellation of events.

**58% Complete**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Using WebEx, gave presentation in the TFS “All About Trees” series on Forests, Water, and People to Texas Master Naturalists and the public.
- Spoke on Forest Ecosystems and Ecology - with focus on water and forests - to Texas Master Naturalists using WebEx.
- Gave WebEx presentation to Texas Master Naturalists on Riparian Ecology and Management.

**58% Complete – Ongoing**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, site visits, and online video/audio conferencing platforms.
- *Texas Forestry BMPs* has been downloaded 46 times by Android users and 18 times by Apple users this quarter.

**58% Complete – Ongoing**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- The *Texas Forestry BMPs* smartphone application was updated to include a culvert sizing tool, BMP Pictorial Directory, and nationwide soil survey data.
- The *Plan My Land Operation* web application is currently being rebuilt in an updated computer coding language to be responsive and mobile accessible. An online survey was created to determine user needs and interests for this tool.

**58% Complete – Ongoing**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on Guidebook for Landowners, Resource Managers, and Brush Control Contractors – Woody Vegetation BMPs.

**58% Complete – Ongoing**

**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- TFS conducted iTree Hydro model simulations for the Cypress Creek Watershed Protection Plan in Harris and Waller Counties.

**58% Complete – Ongoing**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- Evaluating options for these modules; planning for demonstration possibilities.

**25% Complete – Ongoing**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- Site identification on-going.

**58% Complete – Ongoing**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- No new activity; training for new Water Resources forester upcoming.

**0% Complete – Upcoming**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- No activity.

**0% Complete – Upcoming**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- No new activity on this annual measure.

**33% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- TFS is investigating the potential for a virtual meeting due to COVID-19 meeting restrictions.

**58% Complete – Ongoing**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- BMP Q&A article submitted and published.

**58% Complete – Ongoing**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- Planning on hold until further notice for 2020 in Northeast Texas.

**58% Complete – Ongoing**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- We developed a New Member Orientation Guidebook for the SGSF Water Resources Committee.

**58% Complete – Ongoing**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Water Resources staff attended several online and conference call meetings this quarter:
  - Galveston Bay Estuary Program Water Quality and Sedimentation Committee - Multiple Agencies & NGOs
  - Cypress Creek WPP I-Tree Hyrdo Trends Meeting - TFS, HGAC
  - Intro to Watershed Modeling class - TWRI
  - Bacteria Implementation Group Stakeholder Session - TFS, HGACTeams
  - Watershed Coordinators Meeting - TWRI
  - Texas Flooding Challenges Webinar - Texas Water Journal
  - NRCS Water Resources Meeting - Multiple Agencies & NGOs
  - Joint Regulatory Plan Stakeholder Review - Harris-Galveston Subsidence District



- Annual Membership & Board Meeting - TRA
- Cypress Creek WPP Public Stakeholder Meeting - HGAC, TCEQ
- Bacteria Implementation Group Meeting - HGAC, Multiple Agencies
- Spring Creek Watershed Protection Plan - TFS, HGAC
- Bacteria Implementation Group Public Meeting - Multiple Agencies & NGOs
- Principles of Riverscape Restoration - SER
- NRCS Source Water Protection and Farm Bill Funds - NRCS
- Source Water Protection Committee Meeting - Multiple Agencies & NGOs
- Galveston Bay Estuary Program Water Quality and Sedimentation Committee - Multiple Agencies & NGOs

**58% Complete – Ongoing**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Gave the “Role of Forests and Trees in Urban Watershed Management” presentation to the North Texas Council of Governments via WebEx.
- Worked with USDA Forest Service – Southern Research Station to produce a [story map](#) quantifying the role of state and private forest land to surface drinking water in Texas
- Hosted a *virtual meeting of the Texas Forest and Drinking Water Partnership*.

**58% Complete – Ongoing**

**Activities Planned for Next Quarter**

- Publish the *The Texas Water Source*, *Forest Stewardship Briefings*, and *Forest Landowners Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning and conduct the Wetland / BMP Coordinating Committee meetings.
- Continue planning the Four State Forestry BMP Conference.
- Plan an SFI-sponsored landowner workshop for Tyler County landowners – rescheduling for the fall.
- Continue planning an SFI-sponsored landowner workshops for Angelina/Nacogdoches county landowners – rescheduling for the fall.
- Work on virtual logger training session with Texas Forestry Association / Texas Logging Council.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 8**  
Covering work accomplishments during July – September 2020

October 1, 2020

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The seventh quarterly progress report was submitted in July 2020.

**67% Complete – Ongoing**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The seventh invoice and appropriate reimbursement forms was submitted in July 2020.

**67% Complete – Ongoing**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**67% Complete – Ongoing**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**67% Complete – Ongoing**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 4 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- A virtual presentation on BMPs was given at the TFS Academy.

**92% Complete**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published one *The Texas Water Source* newsletter to forest landowners in the Adams and Cow Bayous watersheds.

**33% Complete**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- Due to COVID-19 restrictions, have postponed planned landowner workshops until 2021.

**33% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- No new activity this quarter due to cancellation of events.

**67% Complete**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published *Forest Landowners Briefings* newsletter to out-of-state forest landowners.
- Gave Zoom presentation to the Ranch Owners Association on Brush Control and Prescribed Fire in Riparian Areas.

**67% Complete – Ongoing**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, site visits, and online video/audio conferencing platforms.
- *Texas Forestry BMPs* has been downloaded 28 times by Android users and 13 times by Apple users this quarter.

**67% Complete – Ongoing**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- The *Plan My Land Operation* web application is currently being rebuilt in an updated computer coding language to be responsive and mobile accessible. An online survey was created to determine user needs and interests for this tool.

**67% Complete – Ongoing**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on Guidebook for Landowners, Resource Managers, and Brush Control Contractors – Woody Vegetation BMPs.

**67% Complete – Ongoing**

**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- TFS gave virtual presentation on the Role of i-Tree Hydro in Watershed Planning for Future WPPs to TWRI and AgriLife Extension staff.

**67% Complete – Ongoing**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- Evaluating options for these modules; planning for demonstration possibilities.

**50% Complete – Ongoing**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- Site identification and training of new BMP Forester is ongoing.

**67% Complete – Ongoing**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- No new activity; training for new Water Resources forester upcoming.

**0% Complete – Upcoming**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- No activity.

**0% Complete – Upcoming**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- Calculated a reduction of 11,500 tons of sediment entering streams due to forestry BMP implementation in the past year.

**67% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- TFS conducted the Wetland/BMP Coordinating Committee meeting virtually.

**67% Complete – Ongoing**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- BMP Q&A article submitted and published.

**67% Complete – Ongoing**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- Due to COVID restrictions TFS will host a virtual meeting next quarter. Possible live meeting in 2021.

**67% Complete – Ongoing**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- We attended the SGSF WR winter meeting last January in Auburn, AL, the summer meeting was postponed due to COVID. Our next winter meeting in Jan. 21 will be virtual due to COVID.

**67% Complete – Ongoing**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Water Resources staff attended several online and conference call meetings this quarter:
  - Source Water Protection Sub-Committee Meeting
  - Geospatial Watershed Assessment
  - Source Water Protection Sub-Committee Meetings
  - F2D-Source Water Protection
  - Bacteria Implementation Group Agriculture Workgroup
  - Spring Creek Watershed Partnership Meeting
  - How to Engage in Houston-area Flood Mitigation Webinar

- Cypress Creek Watershed Protection Plan Meeting
- Joint Meeting to discuss GLO Green Infrastructure grant proposal
- Texas Riparian Association Workday
- Urban Riparian Symposium Planning Meeting
- Tree Planting and Watershed Partnership Study
- Chocolate Bay TMDL Stakeholder Meeting
- San Jacinto Regional Watershed Master Drainage Plan
- Neches Tidal and Hillebrandt TMDL
- GLO Green Infrastructure Grant Conference Call
- Cotton Bayou Watershed TMDL
- Oyster Creek TMDL Meeting
- GLO Grant Stormwater Wetlands Site Visit
- Internal Cross-Training Planning Meeting
- Stream Corridor Restoration Committee Meeting
- Galveston Bay Estuary Program (GBEP) Water Quality and Sedimentation Subcommittee
- GLO Grant Stormwater Wetlands Budget Discussion
- Urban Forestry and Green Infrastructure in Schools
- Texas Riparian Association Board Workday
- Urban Riparian Symposium Planning Meeting - Virt Team
- Post Fire Treatments Efficacy & Stream Sedimentation
- Assessing Watersheds/Firesheds for pre & post fire treatments
- Houston Galveston Subsidence District Joint Regulatory Plan Review Stakeholder Meeting
- 

**67% Complete – Ongoing**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Participated virtually in the Texas Forest and Drinking Water and Harris Galveston Subsidence District Introductory Meeting.
- Hosted a virtual meeting of the Texas Forest and Drinking Water Partnership.

**67% Complete – Ongoing**

#### **Activities Planned for Next Quarter**

- Publish *The Texas Water Source* and *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning the Four State Forestry BMP Conference.
- Work on virtual logger training session with Texas Forestry Association / Texas Logging Council.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 9**

Covering work accomplishments during October – December 2020

January 1, 2021

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The eighth quarterly progress report was submitted in October 2020.

**75% Complete – Ongoing**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The eighth invoice and appropriate reimbursement forms was submitted in October 2020.

**75% Complete – Ongoing**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**75% Complete – Ongoing**



**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**75% Complete – Ongoing**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 3 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Led two BMP field labs for Stephen F. Austin State University Forest Ecology students.
- A virtual presentation on BMPs was given at 2 Pro Logger CEU classes.
- An in-person presentation on BMPs was given at 2 Pro Logger CEU classes at Texas Forestry Association.
- Conducted an in-person BMP Core Workshop at Texas Forestry Association.
- A virtual presentation on BMPs was given at the TFS Academy.

**100% Complete, but ongoing**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published one *The Texas Water Source* newsletter to forest landowners in the Adams and Cow Bayous watersheds.  
*Note: Previous COVID-19 in-office work restrictions slowed down the process of putting together these newsletters. Publication quotas will be met before end of project.*

**38% Complete**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- TFS sponsored “Texas Women in the Woods” virtual workshop for women landowners statewide.

**33% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- Due to COVID-19 restrictions, events have been postponed or cancelled, so no opportunities to display educational exhibits at live events.

**67% Complete**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published *Forest Landowners Briefings* newsletter to out-of-state forest landowners.
- Gave presentation – “Developing a Sustainable Forestry Operation” – on the Forestry Production and Management Virtual Workshop sponsored by Prairie View A&M University.
- Gave presentation – “BMPs and Wildlife Benefits” at Attoyac Bayou Stakeholder Meeting.
- Continuing Fire Training - Water Quality and BMPs presentation for Prescribed Fire; TFS, Partners, Landowners

**75% Complete – Ongoing**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, site visits, and online video/audio conferencing platforms.
- *Texas Forestry BMPs* has 22 new installations by Android users, with an average of 88 active users this quarter.
- *Texas Forestry BMPs* has 14 new installations by Apple users, and an average of 11 active users this quarter.
- Under EQIP:
  - 84 Forest Stewardship Plans written, covering 12,252 acres
  - 69 landowner assists accomplished
  - 36 Management Plans (non-FSP) written, covering 3,569 acres
  - 6 rural forestry incidental assists accomplished

**75% Complete – Ongoing**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- The *Plan My Land Operation* web application has been rebuilt in an updated computer coding language to be responsive and mobile accessible; ready for upload in January.

**75% Complete – Ongoing**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on Guidebook for Landowners, Resource Managers, and Brush Control Contractors – Woody Vegetation BMPs. Draft coming next quarter.

**75% Complete – Ongoing**

**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- Continuing to use iTree Hydro to model tree canopy and benefits for Spring Creek and Cotton Bayou Watershed Protection Plans. Cypress Creek modeling has been completed.
- The TSIG will be using iTree Hydro models of HUC12 watersheds and a study by HARC on heat island mapping as the only priority mapping for where to plant the 4.6 million trees across Harris, Fort Bend and Montgomery County by 2030. Also using iTree Hydro to establish canopy goals in the watersheds.

**75% Complete – Ongoing**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- Evaluating options for these modules; planning for demonstration possibilities.

**69% Complete – Ongoing**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- Site identifications continuing; site inspections have started.

**75% Complete – Ongoing**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- Inspections have been completed on 27 sites.

**18% Complete**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- Coming after inspections have been completed.

**0% Complete – Upcoming**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- Calculated a reduction of 11,500 tons of sediment entering streams due to forestry BMP implementation in the past year.

**67% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- Planning next meeting for the spring.

**75% Complete – Ongoing**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**67% Complete – Ongoing**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- Due to COVID restrictions TFS will host a virtual meeting next quarter. Possible live meeting later in 2021.

**75% Complete – Ongoing**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- Next winter meeting scheduled for January 2021 will be virtual due to COVID.

**75% Complete – Ongoing**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Water Resources staff attended several online and conference call meetings this quarter:
  - Restoring the West - Dryland Watersheds and Soil Erosion; multiple agencies & NGOs
  - Rainscape Project Meeting; SMCS officials and other partners
  - TWRI & Partners Attoyac Bayou Watershed - Riparian & Streams Ecosystems Workshop
  - Watershed Coordinator Roundtable meeting with Watershed Coordinators
  - Rainscape Project meeting; SMCS Officials and other partners
  - Urban Riparian Symposium Planning Meeting - Virtual Team; TRA Planning Committee
  - NRCS Water Resources Subcommittee Meeting; multiple agencies and NGOs
  - Tributaries of the Neches Below Lake Palestine online presentation by Texas Water Resources Institute
  - Post Fire Water Impacts; Multiple Agencies and NGOs
  - San Antonio Area Watersheds - Riparian and Streams Ecosystems Workshop; TWRI and partners

**75% Complete – Ongoing**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Provided a day of cross-training with City of Houston's Source Water Protection Team on how to properly manage forests and implement Best Management Practices for watershed protection.
- Hosted a virtual meeting of the Texas Forests and Drinking Water Partnership
- Created a Rise360 course on coastal forest restoration and management (<https://rise.articulate.com/share/kXGAWJfktMQuyeHkKP6xgrNUNJHpIQXU#/>).

**75% Complete – Ongoing**

### **Activities Planned for Next Quarter**

- Publish *The Texas Water Source* and *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning the Four State Forestry BMP Conference.
- Continue using I-Tree Hydro to model tree canopy and benefits in Spring Creek and Cotton Bayou watersheds. Start the same type of modeling for the Clear Creek and the San Jacinto East Fork watersheds.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 10**  
Covering work accomplishments during January – March 2021

April 1, 2021

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The ninth quarterly progress report was submitted in January 2021.

**83% Complete – Ongoing**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The ninth invoice and appropriate reimbursement forms was submitted in January 2021.

**83% Complete – Ongoing**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**83% Complete – Ongoing**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**83% Complete – Ongoing**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 3 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Led two BMP field labs for Stephen F. Austin State University Forest Hydrology students.

**100% Complete, but ongoing**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published two *The Texas Water Source* newsletters to forest landowners in the Adams and Cow Bayous watersheds.
- Published two *Forest Stewardship Briefings* newsletters to natural resource professionals, county officials, State Representatives and Senators, and others.

**62% Complete**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- Planning a second “Texas Women in the Woods” virtual workshop for women landowners statewide.

**44% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- Due to COVID-19 restrictions, events have been postponed or cancelled, so no opportunities to display educational exhibits at live events.

**67% Complete**



**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Gave virtual presentation to Piney Wood Lakes Chapter of Texas Master Naturalists training class. Topic was “Forest Ecology and Management,” with an emphasis on water quality protection.

**83% Complete – Ongoing**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, site visits, and online video/audio conferencing platforms.
- *Texas Forestry BMPs* has 28 new installations by Android users, with an average of 91 active users this quarter.
- *Texas Forestry BMPs* has 21 new installations by Apple users, and an average of 11 active users this quarter. [Note: iOS numbers are from data from users who have agreed to share their diagnostics and usage information with app developers (36% of the users).]
- Under EQIP:
  - 130 Forest Stewardship Plans written, covering 13,995 acres
  - 85 landowner assists accomplished
  - 25 Management Plans (non-FSP) written, covering 1,809 acres
  - 19 rural forestry incidental assists accomplished

**83% Complete – Ongoing**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- The *Plan My Land Operation* web application has been rebuilt in an updated computer coding language and includes increased functionality and mobile accessibility. The application utilizes many national data web service, allowing it to be utilized anywhere in the continental U.S.

**100% Complete – Ongoing**

**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on Guidebook for Landowners, Resource Managers, and Brush Control Contractors – Woody Vegetation BMPs.

**83% Complete – Ongoing**

**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- Continuing to use iTree Hydro to model tree canopy and benefits for Spring Creek and Cotton Bayou Watershed Protection Plans.
- The TSIG using iTree Hydro models of HUC12 watersheds and a study by HARC on heat island mapping as the only priority mapping for where to plant the 4.6 million trees across Harris, Fort Bend and Montgomery County by 2030. Also using iTree Hydro to establish canopy goals in the watersheds.

**83% Complete – Ongoing**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- TFS has conducted several planning meetings with Simtable to discuss a web version of the watershed hydrology module.

**75% Complete – Ongoing**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- Site identifications continuing.

**83% Complete – Ongoing**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- Inspections have been completed on 32 sites.

**39% Complete**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- Coming after inspections have been completed.

**0% Complete – Upcoming**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- No new activity this quarter.

**67% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- Continuing to plan for next meeting.

**83% Complete – Ongoing**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- Provided “BMP Q&A” article for *Texas Logger* magazine.

**83% Complete – Ongoing**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- Due to COVID restrictions TFS will host a virtual meeting; possible live meeting later in 2021.

**75% Complete – Ongoing**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- Attended SGSF Water Resources Committee meeting virtually in February.

**83% Complete – Ongoing**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Water Resources staff attended several online and conference call meetings this quarter:
  - TWDB State Water Implementation Fund Presentation
  - Urban Riparian Symposium Abstract Reviews with TWRI, TPWD, and others
  - Lavon Lake Watershed Meeting with NTMWD, BEF
  - Texas Forest and Drinking Water Partnership Meeting with TFS, Southeastern Partnership for Forests and Water, and other agencies
  - 3-day Advanced Urban Stream Restoration with TWRI
  - Several Riparian Restoration Partnership Meetings with NTMWD, BEF, City of McKinney, Heard Nature Museum, Blackland Master Naturalists
  - Clean Coast Texas with The Meadows Center for Water and the Environment
  - Clean Rivers Program Basin Steering Committee with H-GAC
  - Meeting about Sandy Creek with TWRI/TCEQ
  - Spring Creek Watershed Protection Plan Human Sources Workgroup with H-GAC, TSSWCB, and other agencies
  - Spring Creek WPP Forestry and Ag Workgroup meetings with H-GAC, TSSWCB, and other agencies
  - Urban Riparian Symposium with TWRI and other partners
  - Houston Corporate Sustainability Meeting with BLC, COH DWO
  - Texas Forest and Drinking Water Partnership Brainstorm Meetings with Southeastern Partnership for Forests and Water and other agencies
  - Benefits of Forests and Drinking Water Webinar by the Association of State Drinking Water Administrators
  - McKinney Sourcewater Protection Project Site Visit with NTMWD, MPF, Heard Nature Museum, City of McKinney
  - Using Vegetation to Manage Stormwater and Protect Water Quality webinar by Stormwater Journal
  - Stakeholder Meeting, Upper San Marcos River PP
  - Spring Creek WPP Forestry Review Meeting with HGAC
  - Tributaries of the Neches River below Lake Palestine (Middle Neches) I-Plan Meeting with TWRI/TCEQ and others
  - Healthy Creeks and Waterways: Vegetation and the Flow of Healthy Waterways webinar by Upper Trinity Water District/NTCCOG

**83% Complete – Ongoing**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Presented “Roles of Forests and Trees in Watershed Protection” at Lavaca River Watershed Texas Riparian and Stream Ecosystem Training Workshop in Edna, Texas.
- TFS presented a webinar on the “[Benefits of Forests for Drinking Water](#)” on the Source Water Collaborative’s Forestry Learning Exchange. Approximately 135 people were in attendance.
- TFS facilitated a corporate sustainability project between Coors Corporation and the City of McKinney to restore riparian forests.

**83% Complete – Ongoing**

### **Activities Planned for Next Quarter**

- Starting a new series of *The Texas Water Source* newsletter for landowners in the Double Bayou watershed (Chambers and Liberty counties).
- Publish *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning the Four State Forestry BMP Conference.
- Continue using I-Tree Hydro to model tree canopy and benefits in Spring Creek and Cotton Bayou watersheds. Start the same type of modeling for the Clear Creek and the San Jacinto East Fork watersheds.
- Use BMP model at live Earth Day event at Ellen Trout Zoo in Lufkin.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 11**  
Covering work accomplishments during April – June 2021

July 1, 2021

**TASK 1: Project Administration**

**Subtask 1.1** TFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The tenth quarterly progress report was submitted in April 2021.

**92% Complete – Ongoing**

**Subtask 1.2** TFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The tenth invoice and appropriate reimbursement forms was submitted in April 2021.

**92% Complete – Ongoing**

**Subtask 1.3** TFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**92% Complete – Ongoing**

**Subtask 1.4** TFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**92% Complete – Ongoing**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TFS, in cooperation with project partners, will conduct 3 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Led one BMP Core Workshop for loggers.
- Presented on Roads and Stream Crossings as a refresher to loggers in a Pro-Logger CEU class.
- Led two BMP field labs for Stephen F. Austin State University Ecology students.

**100% Complete, but ongoing**

**Subtask 2.2** TFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published one *The Texas Water Source* newsletter to forest landowners in the Adams and Cow Bayous watersheds.
- Published two *The Texas Water Source* newsletters to forest landowners in the Double Bayou watershed.
- Published one *Forest Stewardship Briefings* newsletter to natural resource professionals, county officials, State Representatives and Senators, and others.

**75% Complete**

**Subtask 2.3** TFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- Working with Texas Wildlife Association, TFS held a second “Texas Women in the Woods” virtual workshop for women landowners statewide.
- Met with leaders of Tyler County Forest Landowner Association on planning SFI-sponsored forest landowner workshop scheduled for September 2021.
- Met with officers of Angelina/Nacogdoches Counties Forest Landowners Association for planning SFI-sponsored forest landowner workshop scheduled for November 2021

**67% Complete**

**Subtask 2.4** TFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- Displayed SMZ model at Earth Day event at Ellen Trout Zoo in Lufkin, Texas. Provided handouts about forests and water, water cycle posters (English and Spanish), and bookmarks.

**92% Complete**

**Subtask 2.5** TFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- No new activity this quarter?

**83% Complete – Ongoing**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, site visits, and online video/audio conferencing platforms.
- *Texas Forestry BMPs* has 73 new installations by Android users, with an average of 106 active users this quarter.
- *Texas Forestry BMPs* has 28 new installations by Apple users, and an average of 66 active users this quarter. [Note: iOS numbers are from data from users who have agreed to share their diagnostics and usage information with app developers (42% of the users).]
- Under EQIP:
  - 138 Forest Stewardship Plans written, covering 104,808 acres
  - 2 landowner assists accomplished
  - 27 Management Plans (non-FSP) written, covering 3,359 acres
  - 13 rural forestry incidental assists accomplished

**92% Complete – Ongoing**

**Subtask 3.2** TFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**100% Complete – Ongoing**



**Subtask 3.3** TFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on Guidebook for Landowners, Resource Managers, and Brush Control Contractors – Woody Vegetation BMPs.

**92% Complete – Ongoing**

**Subtask 3.4** TFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- Continuing to use iTree Hydro to model tree canopy and benefits for Spring Creek and Cotton Bayou Watershed Protection Plans.
- The TSIG using iTree Hydro models of HUC12 watersheds and a study by HARC on heat island mapping as the only priority mapping for where to plant the 4.6 million trees across Harris, Fort Bend and Montgomery County by 2030. Also using iTree Hydro to establish canopy goals in the watersheds.

**92% Complete – Ongoing**

**Subtask 3.5** TFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- TFS has conducted several planning meetings with Simtable to discuss a web version of the watershed hydrology module.

**92% Complete – Ongoing**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- Site identifications continuing.

**92% Complete – Ongoing**

**Subtask 4.2** TFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- Inspections have been completed on 12 sites.

**50% Complete**

**Subtask 4.3** TFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- Coming after inspections have been completed.

**0% Complete – Upcoming**

**Subtask 4.4** TFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- No new activity this quarter.

**67% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- Continuing to plan for next meeting.

**92% Complete – Ongoing**

**Subtask 5.2** TFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- Provided “BMP Q&A” article for *Texas Logger* magazine.

**92% Complete – Ongoing**

**Subtask 5.3** TFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- Due to COVID restrictions TFS will host a virtual meeting; possible live meeting later in 2021.

**83% Complete – Ongoing**

**Subtask 5.4** TFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**83% Complete – Ongoing**

**Subtask 5.5** TFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Water Resources staff attended several online, conference call, and in-person meetings this quarter:
  - NRCS Water Resources STAC; virtual
  - San Jacinto Regional Flood Planning Group; virtual
  - Corporate Sustainability Partnership (CSP) Site Meeting with HCFCD, virtual
  - Houston CSP Partnership Meeting; Virtual
  - Understanding 319 Grants Webinar; virtual
  - Bonneville Environmental Foundation McKinney Meeting; virtual
  - Catawamba-Waree Initiative - A Case Study for Forests and Drinking Water Collaboration; Southeastern Partnership for Forests and Water; virtual
  - Texas Forests and Drinking Water Partners Meeting; virtual
  - Integrated Stormwater Management; virtual
  - 2021 Central Texas Water Conservation Symposium; Central Texas Water Efficiency Network; virtual
  - Texas Watershed Coordinator Roundtable; virtual
  - Cypress Creek Site Evaluation; virtual
  - CSP Harris County Precinct 4 Discussion; virtual
  - McKinney Parks Foundation Agreement; virtual
  - Houston CSP Financial and Logistics Meeting; virtual
  - Investigating the Stormwater: Quantity and Quality Impacts of Urban Trees; virtual
  - McKinney CSP Restoration Meeting; virtual
  - Detention Basin Study Watershed Modeling Meeting; virtual
  - Alief ISD Early Childhood Center- Resilience Restoration; virtual
  - Houston CSP Site Visits
  - TMDL Wastewater Technical Subcommittee; virtual
  - Utilities in Action Webinar; Source Water Collaborative Forestry; virtual
  - Houston CSP Site Visits; Houston
  - Multi-Use Detention Basins; virtual
  - Chocolate Bay TMDL Stakeholder Committee; virtual
  - Texas Tree Foundation Meeting for McKinney CSP; virtual
  - Regional Stormwater Management Coordinating Council; virtual
  - Urban Prairie Resilience Project Convening; virtual
  - Texas Watershed Quarterly Team Meeting; NRCS; virtual
  - Rowlett Creek Watershed Characterization Meeting; virtual
  - Stream Corridor Restoration Committee Meeting; virtual
  - Bacteria Implementation Group Coordination and Policy Workgroup Meeting; virtual
  - CSP Houston Site Discussion with TFH; virtual
  - Bacteria Implementation Group Spring Meeting; virtual
  - Kickoff Meeting for CSP McKinney; virtual
  - West Houston Association Meeting; virtual
  - Houston CSP Meeting; virtual
  - Houston CSP HCFCD Meeting; virtual
  - EPA Cypress Creek Canopy Estimation and Modeling discussion; virtual
  - Clean Rivers Basin Steering Committee; virtual
  - SFI Implementation Committee meeting; virtual
  - NRCS Water Resources STAC; virtual
  - Middle Neches I-Plan Coordination Committee Meeting; virtual
  - GBEP Water and Sedimentation Quality Subcommittee; virtual
  - Texas Forests and Drinking Water Partners Meeting; virtual
  - Opportunities for Engagement with NRCS New NWQI Watersheds; virtual

- Houston CSP Funding Meeting; virtual
- Flood Management Task Force; virtual
- McKinney CSP Restoration Meeting; virtual
- West Houston MUD Drainage Basin Discussion; virtual
- Tree Planting Small Funding App Discussion; virtual
- Houston CSP Reforestation Workgroup Meeting; virtual
- Alief ISD Early Childhood Center- Resilience Restoration Site Visit; Alief, TX
- Houston CSP Site Prep and Logistics Meeting; virtual
- NRCS Sourcewater Protection Taskforce Meeting; virtual
- TFS-Repsol Introductory Funding Meeting for CSP; virtual
- Wastewater Permitting Discussion; virtual
- Zube Park Detention Basin GSI Site Visit; Houston
- Stream Corridor Restoration Committee Meeting; virtual

**92% Complete – Ongoing**

**Subtask 5.6** TFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Presented “Roles of Forests and Trees in Watershed Protection” at Joe Pool Lake Watershed Texas Riparian and Stream Ecosystem Training Workshop; virtual

**92% Complete – Ongoing**

**Activities Planned for Next Quarter**

- Publish more issues *The Texas Water Source* newsletter for landowners in the Double Bayou watershed (Chambers and Liberty counties).
- Publish *Forest Stewardship Briefings* newsletters.
- Publish *Forest Landowner Briefings* for out-of-state forest landowners.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue planning the Four State Forestry BMP Conference.
- Continue using I-Tree Hydro to model tree canopy and benefits in Spring Creek and Cotton Bayou watersheds. Start the same type of modeling for the Clear Creek and the San Jacinto East Fork watersheds.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 12**  
Covering work accomplishments during July – September 2021

October 1, 2021

**TASK 1: Project Administration**

**Subtask 1.1** TAMFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 36)

- The eleventh quarterly progress report was submitted in July 2021.

**92% Complete – Ongoing due to extension**

**Subtask 1.2** TAMFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 36)

- The eleventh invoice and appropriate reimbursement forms was submitted in July 2021.

**92% Complete – Ongoing due to extension**

**Subtask 1.3** TAMFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TAMFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 36)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**92% Complete – Ongoing due to extension**

**Subtask 1.4** TAMFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 36)

- Continued archiving project deliverables to produce the final report.

**92% Complete – Ongoing**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TAMFS, in cooperation with project partners, will conduct 3 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TAMFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 36)

- Led one BMP Core Workshop for loggers.
- Presented on Roads and Stream Crossings as a refresher to loggers in a Pro-Logger CEU class.

**100% Complete, but ongoing**

**Subtask 2.2** TAMFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published two *The Texas Water Source* newsletters to forest landowners in the Double Bayou watershed.
- Published two *Forest Stewardship Briefings* newsletters to natural resource professionals, county officials, State Representatives and Senators, and others.

**88% Complete**

**Subtask 2.3** TAMFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 36)

- Working with Texas Wildlife Association, held a third “Texas Women in the Woods” virtual workshop for women landowners statewide.
- Conducted an SFI-sponsored forest landowner workshop for Tyler County forest landowners.
- Met with officers of Angelina/Nacogdoches Counties Forest Landowners Association Board Members for planning SFI-sponsored forest landowner workshop scheduled for November 2021

**89% Complete**

**Subtask 2.4** TAMFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 36)

- No new activity this quarter.

**92% Complete**

**Subtask 2.5** TAMFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- Published one *Forest Landowner Briefings* newsletter to out-of-state forest landowners.

**100% Complete – Ongoing**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TAMFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 36)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, site visits, and online video/audio conferencing platforms.
- *Texas Forestry BMPs* has 17 new installations by Android users, with an average of 92 active users this quarter.
- *Texas Forestry BMPs* has 25 new installations by Apple users, and an average of 14 active users this quarter. [Note: iOS numbers are from data from users who have agreed to share their diagnostics and usage information with app developers (36% of the users).]
- Under EQIP:
  - 110 Forest Stewardship Plans written, covering 16,713 acres
  - 4 landowner assists accomplished
  - 8 Management Plans (non-FSP) written, covering 720 acres
  - 4 landowner reforestation assists accomplished on 350 acres

**100% Complete – Ongoing**

**Subtask 3.2** TAMFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**100% Complete – Ongoing**

**Subtask 3.3** TAMFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 36)

- Continued work on Guidebook for Landowners, Resource Managers, and Brush Control Contractors – Woody Vegetation BMPs.

**92% Complete – Ongoing**

**Subtask 3.4** TAMFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 36)

- The Spring Creek data is finished, and the draft report is completed by H-GAC on this website - <https://springcreekpartnership.weebly.com/documents.html> - and pending approval from TCEQ. This data is to be used in iTree Hydro to model tree canopy and benefits for Spring Creek and Cotton Bayou Watershed Protection Plans. [Unfortunately, Cotton Bayou is so small it does not have an active stream gage on it so cannot use iTree Hydro for that TMDL plan.]
- Continuing work on iTree Hydro data for the TSIG; 18 HUC 12 watershed run so far.
- Ran iTree Hydro for a Harris County Precinct 1 study to show flow accumulation in HUC12s to prioritize detention basins for renovation. Precinct 1 has all the data and maps.

**96% Complete – Ongoing**

**Subtask 3.5** TAMFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**92% Complete – Ongoing**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TAMFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 33)

- Site identifications continuing.

**92% Complete – Ongoing**

**Subtask 4.2** TAMFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 35)

- Inspections have been completed on 2 sites.

**51% Complete**



**Subtask 4.3** TAMFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 30; Completion Date: Month 36)

- Coming after inspections have been completed.

**0% Complete – Upcoming**

**Subtask 4.4** TAMFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- Calculated a reduction of 11,500 tons of sediment entering streams due to forestry BMP implementation in the past year.

**100% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TAMFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**92% Complete – Ongoing**

**Subtask 5.2** TAMFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 36)

- Provided “BMP Q&A” article for *Texas Logger* magazine.

**100% Complete – Ongoing**

**Subtask 5.3** TAMFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 36)

- No new activity

**83% Complete – Ongoing**

**Subtask 5.4** TAMFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**83% Complete – Ongoing**

**Subtask 5.5** TAMFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 36)

- Water Resources staff attended several online, conference call, and in-person meetings this quarter:
  - TMDL Coordination Committee; virtual
  - Pillot Gulley Planting Planning Meeting; virtual
  - Buffalo Bend Tree Planting Site Inspection; Houston
  - Wilson Creek Planning Committee Meeting; virtual
  - Microforest Basin Planting Discussion; virtual
  - Houston Corporate Sustainability Project Expansion into MUD 468 Large Basin; virtual
  - Texas Riparian Association Workday; virtual
  - Texas Forest and Drinking Water Partnership Houston Meeting; virtual
  - Repsol Funding Meeting for future CSP Planting; virtual
  - Wastewater Treatment Education Roundtable; virtual
  - Cotton Bayou Watershed TMDL; virtual
  - Assessing State of Knowledge and Research Needs for Stormwater Harvesting; virtual
  - Future Funding as Strategy Meeting for CSP; virtual
  - Trees as Wastewater Treatment Introductory Meeting; virtual
  - CSP July Partnership Meeting; virtual
  - Texas Forest and Drinking Water State Meeting; virtual
  - Spring Creek Steering Committee Target Reduction Meeting; virtual
  - Regional Flood Management Committee Meeting; virtual
  - Wilson Creek Site Planning Call; virtual
  - Zube Park Detention Basin Tree Evaluation and Planning; Houston
  - Upper Oyster Creek TMDL Meeting; virtual
  - Intermediate/Advanced Dry Weather Workshop; virtual
  - Big Creek TMDL Stakeholder Meeting; virtual
  - Wastewater Tree Planting Pilot Project Design; virtual
  - Wilson Creek Day of Planting Committee Meeting; virtual
  - Annual Elected Official and CRS Users Floodplain Seminar; virtual
  - Southeastern Partnership for Forests and Water Leadership meeting
  - Spring Creek Watershed Protection Plan Stakeholder Meeting; virtual
  - Wilson Creek Site Prep Committee Meeting; virtual
  - Wilson Creek Site Visit Prep Meeting; McKinney Greens
  - Wilson Creek Site Evaluation; McKinney Greens
  - Pepsi-Frito Lay CSP Future Funding Meeting; virtual
  - TCEQ Online Public Drinking Water Conference; virtual
  - Stream Corridor Restoration Committee Meeting; virtual
  - Region 6 San Jacinto RFPG Meeting; virtual
  - Pillot Gulley Planting Planning Meeting; virtual
  - Flood Management Task Force; virtual
  - Texan by Nature Introductory Meeting to Join TxWAC; virtual
  - Houston CSP Funder Connector Meeting; virtual
  - Upper Trinity River Basin Coordinating Committee; virtual
  - Regional Stormwater Management Coordinating Council; virtual
  - CSP Site Prep, Logistics and Outreach Committee Meeting; virtual
  - NRCS Sourcewater Protection Taskforce Meeting; virtual
  - Pepsi-Frito Lay CSP Future Funding Meeting; virtual
  - Region 6 San Jacinto RFPG Technical Committee Meeting; virtual
  - Wilson Creek Tree Planting Outreach Committee; virtual
  - Clean Waters Initiative Workshop; virtual
  - Wilson Creek Day of Planting Committee Meeting; virtual

**100% Complete – Ongoing**

**Subtask 5.6** TAMFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 36)

- Presented “Roles of Forests and Trees in Watershed Protection” at Leon River Watershed Texas Riparian and Stream Ecosystem Training Workshop in Gatesville.
- Presented “Roles of Forests and Trees in Watershed Protection” at Angelina River Watershed Texas Riparian and Stream Ecosystem Training Workshop in Tyler.
- Assisted TPWD and others in lake shore restoration project planting aquatic plants at Lake Conroe. Others involved include San Jacinto River Authority, local bass club, Texas Master Naturalists, Sam Houston State University student, and TAMFS Conroe Education Coordinator and interns.

**100% Complete – Ongoing**

#### **Activities Planned for Next Quarter**

- Conduct SFI-sponsored landowner workshop for Angelina/Nacogdoches counties forest landowners.
- Lead SFASU Ecology and Hydrology labs in the field.
- Publish one more issue of *The Texas Water Source* newsletter for landowners in the Double Bayou watershed (Chambers and Liberty counties).
- Publish two more issues of *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Attend the TSSWCB Annual Meeting in Austin; providing an informational exhibit.
- Continue planning the Four State Forestry BMP Conference.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 13**

Covering work accomplishments during October – December 2021

January 1, 2022

**TASK 1: Project Administration**

**Subtask 1.1** TAMFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 39)

- The twelfth quarterly progress report was submitted in October 2021.

**94% Complete – Ongoing due to extension**

**Subtask 1.2** TAMFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 39)

- The twelfth invoice and appropriate reimbursement forms was submitted in October 2021.

**94% Complete – Ongoing due to extension**

**Subtask 1.3** TAMFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TAMFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 39)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**94% Complete – Ongoing due to extension**

**Subtask 1.4** TAMFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 39)

- Continued archiving project deliverables to produce the final report.

**94% Complete – Ongoing**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TAMFS, in cooperation with project partners, will conduct 3 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TAMFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- Led two BMP field labs for Stephen F. Austin State University Forest Ecology students.
- Led two BMP field labs for Stephen F. Austin State University Forest Hydrology students.

**100% Complete, but ongoing**

**Subtask 2.2** TAMFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**88% Complete**

**Subtask 2.3** TAMFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 39)

- Conducted an SFI-sponsored forest landowner workshop for Angelina and Nacogdoches County forest landowners.

**100% Complete**

**Subtask 2.4** TAMFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 39)

- Displayed SMZ model at Big Thicket Day event at Collier's Ferry Park in Beaumont, Texas. Provided handouts about forests and water, water cycle posters (English and Spanish), and bookmarks.

**100% Complete**

**Subtask 2.5** TAMFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**100% Complete**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TAMFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 39)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, site visits, and online video/audio conferencing platforms.
- *Texas Forestry BMPs* has 13 new installations by Android users, with an average of 106 active users this quarter.
- *Texas Forestry BMPs* has 21 new installations by Apple users, and an average of 16 active users this quarter. [Note: iOS numbers are from data from users who have agreed to share their diagnostics and usage information with app developers (36% of the users).]
- Under EQIP:
  - 122 Forest Stewardship Plans written, covering 22,825 acres
  - 200 landowner assists accomplished
  - 21 Management Plans (non-FSP) written, covering 1,626 acres
  - 35 landowner reforestation assists accomplished on 3,893 acres

**100% Complete – Ongoing**

**Subtask 3.2** TAMFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**100% Complete – Ongoing**

**Subtask 3.3** TAMFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**92% Complete – Ongoing**

**Subtask 3.4** TAMFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**96% Complete – Ongoing**

**Subtask 3.5** TAMFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**92% Complete – Ongoing**

#### **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TAMFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 39)

- Site identifications continuing.

**96% Complete – Ongoing**

**Subtask 4.2** TAMFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**51% Complete**

**Subtask 4.3** TAMFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 40; Completion Date: Month 42)

- Coming after inspections have been completed.

**0% Complete – Upcoming**

**Subtask 4.4** TAMFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**100% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TAMFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**92% Complete – Ongoing**

**Subtask 5.2** TAMFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 39)

- Provided “BMP Q&A” article for *Texas Logger* magazine.

**100% Complete – Ongoing**

**Subtask 5.3** TAMFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 39)

- No new activity

**83% Complete – Ongoing**

**Subtask 5.4** TAMFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**83% Complete – Ongoing**

**Subtask 5.5** TAMFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**100% Complete – Ongoing**

**Subtask 5.6** TAMFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 39)



- Presented “Roles of Forests and Trees in Watershed Protection” at Lampasas River Watershed Texas Riparian and Stream Ecosystem Training Workshop in Lampasas.
- Presented “Roles of Forests and Trees in Watershed Protection” at Comal River Watershed Texas Riparian and Stream Ecosystem Training Workshop in New Braunfels.

**100% Complete – Ongoing**

**Activities Planned for Next Quarter**

- Publish one more issue of *The Texas Water Source* newsletter for landowners in the Double Bayou watershed (Chambers and Liberty counties).
- Publish two more issues of *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue BMP Implementation Monitoring and locating more sites.
- Continue planning the Four State Forestry BMP Conference.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 14**  
Covering work accomplishments during April – June 2022

July 1, 2022

**TASK 1: Project Administration**

**Subtask 1.1** TAMFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 39)

- The thirteenth quarterly progress report was submitted in January 2022.

**96% Complete – Ongoing due to extension**

**Subtask 1.2** TAMFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 39)

- The thirteenth invoice and appropriate reimbursement forms was submitted in January 2022.

**96% Complete – Ongoing due to extension**

**Subtask 1.3** TAMFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TAMFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 39)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**96% Complete – Ongoing due to extension**

**Subtask 1.4** TAMFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 39)

- Continued archiving project deliverables to produce the final report.

**96% Complete – Ongoing**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TAMFS, in cooperation with project partners, will conduct 3 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TAMFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- Led one Pro Logger Core BMP training class with classroom and field sessions.
- Led two Pro Logger Enhanced classes (Roads and Stream Crossings emphasis) with classroom and field sessions.

**100% Complete, but ongoing**

**Subtask 2.2** TAMFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 39)

- Published one *The Texas Water Source* newsletter.
- Published one *Forest Stewardship Briefings* newsletter.

**96% Complete**

**Subtask 2.3** TAMFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**100% Complete**

**Subtask 2.4** TAMFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**100% Complete**

**Subtask 2.5** TAMFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 36)

- No new activity.

**100% Complete**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TAMFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 39)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, site visits, and online video/audio conferencing platforms.
- *Texas Forestry BMPs* has 39 new installations by Android users, with an average of 108 active users this quarter.
- *Texas Forestry BMPs* has 39 new installations by Apple users, and an average of 19 active users this quarter. [Note: iOS numbers are from data from users who have agreed to share their diagnostics and usage information with app developers (35% of the users).]

**100% Complete – Ongoing**

**Subtask 3.2** TAMFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**100% Complete – Ongoing**

**Subtask 3.3** TAMFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**92% Complete – Ongoing**

**Subtask 3.4** TAMFS will with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**96% Complete – Ongoing**

**Subtask 3.5** TAMFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**92% Complete – Ongoing**

#### **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TAMFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 39)

- Site identifications continuing.

**98% Complete – Ongoing**

**Subtask 4.2** TAMFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**51% Complete**

**Subtask 4.3** TAMFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 40; Completion Date: Month 42)

- Coming after inspections have been completed.

**0% Complete – Upcoming**

**Subtask 4.4** TAMFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**100% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TAMFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**92% Complete – Ongoing**

**Subtask 5.2** TAMFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 39)

- Provided “BMP Q&A” article for *Texas Logger* magazine.

**100% Complete – Ongoing**

**Subtask 5.3** TAMFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 39)

- No new activity

**83% Complete – Ongoing**

**Subtask 5.4** TAMFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 39)

- No new activity.

**83% Complete – Ongoing**

**Subtask 5.5** TAMFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 39)

- Lanana Bayou Watershed Protection Plan Meeting – Nacogdoches
- Texas Forest and Drinking Water Partnership – virtual
- Clear Creek Watershed Partnership – virtual
- Urban Riparian and Stream Restoration Training – The Woodlands
- HGAC Celebration of Conservation – Houston

**100% Complete – Ongoing**

**Subtask 5.6** TAMFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 39)

- Presented “Roles of Forests and Trees in Watershed Protection” at Bastrop, Dickinson, Highland, and Jarbo Bayou Watersheds Texas Riparian and Stream Ecosystem Training Workshop in LaMarque.

**100% Complete – Ongoing**

#### **Activities Planned for Next Quarter**

- Publish one more issue of *Forest Stewardship Briefings* newsletters.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue BMP Implementation Monitoring and locating more sites.
- Continue planning the Four State Forestry BMP Conference.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 15**  
Covering work accomplishments during April – June 2022

July 1, 2022

**TASK 1: Project Administration**

**Subtask 1.1** TAMFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 1<sup>st</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 48)

- The fourteenth quarterly progress report was submitted in April 2022.

**98% Complete – Ongoing due to extension**

**Subtask 1.2** TAMFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 48)

- The fourteenth invoice and appropriate reimbursement forms was submitted in April 2022.

**98% Complete – Ongoing due to extension**

**Subtask 1.3** TAMFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TAMFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 48)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**98% Complete – Ongoing due to extension**



**Subtask 1.4** TAMFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 48)

- Continued archiving project deliverables to produce the final report.

**98% Complete – Ongoing**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TAMFS, in cooperation with project partners, will conduct 3 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TAMFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 48)

- Led one Pro Logger Core BMP training class with classroom and field sessions.
- Led three Pro Logger Enhanced classes (Roads and Stream Crossings emphasis) with classroom and field sessions.

**100% Complete, but ongoing**

**Subtask 2.2** TAMFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 48)

- Published one *Forest Stewardship Briefings* newsletter.

**100% Complete**

**Subtask 2.3** TAMFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 48)

- Hosted two post-fire recovery landowner workshops, presenting on techniques to prevent soil erosion and other Best Management Practices to ensure water resource protection.

**100% Complete**

**Subtask 2.4** TAMFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 48)

- Set up SMZ model, handouts about forests and water (urban version), and fish I.D. game at Houston Water Works Day in Houston.

**100% Complete**

**Subtask 2.5** TAMFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TAMFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 48)

- Project foresters constantly provide valuable and timely technical assistance to numerous landowners through phone conversations, emails, site visits, and online video/audio conferencing platforms.
- *Texas Forestry BMPs* has 24 new installations by Android users, with an average of 117 active users this quarter.
- *Texas Forestry BMPs* has 41 new installations by Apple users, and an average of 24 active users this quarter. [Note: iOS numbers are from data from users who have agreed to share their diagnostics and usage information with app developers (35% of the users).]

**100% Complete – Ongoing**

**Subtask 3.2** TAMFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete – Ongoing**

**Subtask 3.3** TAMFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**92% Complete – Ongoing**

**Subtask 3.4** TAMFS will work with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 48)

- Participated in talks with local Dallas/Fort Worth groups to run models for levy areas of the Trinity River. Still in preliminary talks, so no models have been run; possibly in the fall.
- Working on an iTree Hydro model for the Clear Creek Watershed in Houston; possibly running one for Big Creek watershed in SE Houston as well.

**98% Complete – Ongoing**

**Subtask 3.5** TAMFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 48)

- Working with the TAMU Visualization Lab to develop an interactive simulation to demonstrate the forest – water connection.

**98% Complete – Ongoing**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TAMFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 48)

- Site identifications continuing.

**99% Complete – Ongoing**

**Subtask 4.2** TAMFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 48)

- Five site evaluations completed this quarter.

**53% Complete**

**Subtask 4.3** TAMFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 40; Completion Date: Month 48)

- Coming after inspections have been completed.

**0% Complete – Upcoming**

**Subtask 4.4** TAMFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TAMFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**92% Complete – Ongoing**

**Subtask 5.2** TAMFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 48)

- Provided “BMP Q&A” article for *Texas Logger* magazine.

**100% Complete – Ongoing**

**Subtask 5.3** TAMFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 48)

- No new activity

**83% Complete – Ongoing**

**Subtask 5.4** TAMFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 48)

- Attended and participated in the SGSF annual meeting in Greenville, SC; co-led the Water Resources Committee meetings.

**92% Complete – Ongoing**

**Subtask 5.5** TAMFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 48)

- Bacteria Implementation Group – gave presentation on TAMFS and our Water Resources Program – virtual
- Texas Watershed Steward Training with HGAC – Pearland
- Clear Creek Watershed Partnership with HGAC – virtual
- La Nana Bayou Watershed Protection Plan meeting with TWRI – Nacogdoches
- Geronimo and Alligator Creek Cleanup Event; Geronimo and Alligator Creek WPP group – New Braunfels
- Bacteria Implementation Group with HGAC – virtual
- Texas Riparian Association Annual Meeting – McKinney Roughs
- Watershed Coordinator's Roundtable with TWRI – College Station
- TDML Big Creek Watershed Meeting with HGAC – Fort Bend County

**100% Complete – Ongoing**

**Subtask 5.6** TAMFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 48)

- Presented “Roles of Forests and Trees in Watershed Protection” at Upper San Antonio River Watershed Texas Riparian and Stream Ecosystem Training Workshop in San Antonio.
- Presented “Roles of Forests and Trees in Watershed Protection” at Plum Creek Watershed Texas Riparian and Stream Ecosystem Training Workshop in Lockhart.

**100% Complete – Ongoing**

#### **Activities Planned for Next Quarter**

- Publish 2022 issue of *Forest Landowner Briefings* newsletter for out-of-state forest landowners.
- Provide BMP Q&A article/quiz to Texas Logging Council newsletter.
- Continue BMP Implementation Monitoring and locating more sites.
- Conduct Northeast Texas Forest Landowner SFI-sponsored meeting in Mount Pleasant.
- Plan another SFI-sponsored meeting.
- Present at various meetings and workshops.

**Texas Silvicultural BMP Implementation and Water Resource Protection Project**  
Texas A&M Forest Service  
FY18 CWA Section 319(h)  
#18-03

**EPA State Categorical Program Grants – Workplan Essential Elements**  
**FY 2018-2022 EPA Strategic Plan Reference**  
**Strategic Plan Goal – Goal 1 Core Mission**  
**Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water**

**Quarterly Report Number 16**  
Covering work accomplishments during July – September 2022

October 1, 2022

**TASK 1: Project Administration**

**Subtask 1.1** TAMFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 1<sup>st</sup> of January, April, July and October. QPRs shall be distributed to all Project Partners. (Start Date: Month 1; Completion Date: Month 48)

- The fifteenth quarterly progress report was submitted in July 2022.

**100% Complete**

**Subtask 1.2** TAMFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly. (Start Date: Month 1; Completion Date: Month 48)

- The fifteenth invoice and appropriate reimbursement forms was submitted in July 2022.

**100% Complete**

**Subtask 1.3** TAMFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TAMFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel. (Start Date: Month 1; Completion Date: Month 48)

- Participated in several calls with the TSSWCB project manager to coordinate project activities.

**100% Complete**

**Subtask 1.4** TAMFS will develop a Final Report that summarizes activities completed and conclusions reached during the project. The report will also include the extent to which project goals and measures of success have been achieved. (Start Date: Month 1; Completion Date: Month 48)

- Continued archiving project deliverables to produce the final report.

**100% Complete**

## **TASK 2: Education, Training, and Outreach**

**Subtask 2.1** TAMFS, in cooperation with project partners, will conduct 3 BMP/water resource/stewardship training workshops per year. Trainings may include, but are not limited to, Texas Pro Logger Training Program, TAMFS Emergency Responder Academy, Farm and Ranch Contractor Stewardship, Drainage District, and other appropriate workshops that promote BMP implementation. (Start Date: Month 1; Completion Date: Month 48)

- Reported on FY21 Quarterly Report.

**100% Complete**

**Subtask 2.2** TAMFS will publish quarterly newsletters (4/year) to forest landowners (*Texas Water Source*) in select priority watersheds and natural resource professionals (*Forest Stewardship Briefings*) across the state providing information on sustainable forestry and water resource protection. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete**

**Subtask 2.3** TAMFS, in cooperation with project partners, will coordinate a minimum of 3 landowner workshops per year to promote sustainable forestry, water resource protection, and riparian management. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete**

**Subtask 2.4** TAMFS will participate and display educational exhibits at relevant meetings, conferences, and educational events. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete**

**Subtask 2.5** TAMFS will develop and provide educational information to absentee forest landowners on sustainable forestry, water resource protection, and riparian management through activities that may include, but are not limited to, out of state, absentee landowner newsletter (*Forest Landowner Briefings*), presentations at landowner association and civic group meetings, TexasForestInfo.com, GIS based story maps, and appropriate use of social media. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete**

### **TASK 3: Technical Assistance and Demonstration**

**Subtask 3.1** TAMFS will deliver technical assistance on forestry BMPs and water resource protection efforts, such as federal Farm Bill programs and initiatives. (Start Date: Month 1; Completion Date: Month 48)

- Reported on FY21 Quarterly Report.

**100% Complete**

**Subtask 3.2** TAMFS will update online (Plan My Land Operation) and/or smartphone forestry BMP (Texas Forestry BMPs) applications created in the FY 15 project with additional information and functionality. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete**

**Subtask 3.3** TAMFS will work with project partners to develop and promote BMP guidance for land management operations. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete – Ongoing**

**Subtask 3.4** TAMFS will work with watershed coordinators to incorporate the iTree Hydro model in appropriate watershed protection plans. This model simulates the impact of varying canopy levels on stormwater runoff, sediment, and nutrient concentrations. (Start Date: Month 1; Completion Date: Month 48)

- Continued discussion with Dallas/Fort Worth groups to run models for levy areas of the Trinity River.
- Working on an iTree Hydro model for the Clear Creek Watershed in Houston; Big Creek watershed in SE Houston in discussion.

**100% Complete**



**Subtask 3.5** TAMFS will test, evaluate, and implement Simtable watershed modules for demonstrating NPS mitigation and watershed protection. (Start Date: Month 1; Completion Date: Month 48)

- No new activity

**100% Complete**

## **TASK 4: Evaluating Forest Operations for BMP Implementation**

**Subtask 4.1** TAMFS will identify silvicultural operations in East Texas to randomly select for BMP implementation monitoring. (Start Date: Month 1; Completion Date: Month 48)

- Site identifications continuing.

**99% Complete – Ongoing**

**Subtask 4.2** TAMFS will conduct 150 BMP implementation evaluations on tracts in East Texas that meet suitability criteria. (Start Date: Month 1; Completion Date: Month 48)

- Nineteen site evaluations completed this quarter; 98 total sites completed.

**65% Complete - Ongoing**

**Subtask 4.3** TAMFS will prepare and distribute a BMP Implementation Report to landowners and other interested entities. Results will also be available on TexasForestInfo.com. (Start Date: Month 40; Completion Date: Month 48)

- Coming after inspections have been completed.

**0% Complete – Upcoming**

**Subtask 4.4** TAMFS will quantify sediment and nutrient load reductions from BMP implementation. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete**

## **TASK 5: Collaboration with Local, State, and Regional Partners**

**Subtask 5.1** TAMFS will host annual Wetland / BMP coordinating committee meetings. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**92% Complete**

**Subtask 5.2** TAMFS will work with local media, which may include, but not limited to, cooperating agency publications, trade magazines, newspaper, and other appropriate means to promote project activities. (Start Date: Month 1; Completion Date: Month 48)

- Listed on FY21 Quarterly Report.

**100% Complete**

**Subtask 5.3** TAMFS will participate and assist in the coordination of the Four State Forestry BMP conference. This meeting is conducted biennially and brings together a broad group of stakeholders from Arkansas, Louisiana, Oklahoma, and Texas. (Start Date: Month 1; Completion Date: Month 48)

- No new activity

**83% Complete – Ongoing**

**Subtask 5.4** TAMFS will actively participate in the Southern Group of State Foresters Water Resources Committee. (Start Date: Month 1; Completion Date: Month 48)

- No new activity.

**100% Complete**

**Subtask 5.5** TAMFS will attend and participate in meetings in order to communicate and coordinate project goals, activities, and accomplishments to interested parties. Such meetings may include, but not limited to, Clean Rivers Program Basin steering committees, TMDL and watershed Protection Plan stakeholder meetings, NPS management, SWCD meetings, professional and trade associations, and other appropriate meetings of critical watershed stakeholders groups. (Start Date: Month 1; Completion Date: Month 48)

- Reported on FY21 Quarterly Report

**100% Complete**

**Subtask 5.6** TAMFS will promote the link between forests and water resources. Activities may include, but are not limited to, forest-water utility partnership meetings, coastal forest management, urban forest watershed management, ecosystem services, and other appropriate outreach efforts. (Start Date: Month 1; Completion Date: Month 48)

- Reported on FY21 Quarterly Report

**100% Complete**

#### **Activities Planned for Next Quarter**

- Activities in progress at close of this quarter will continue in next Implementation Project.

# APPENDIX B

Date	Association or Group or Event / Audience	Topic
<b><u>BMP Model and/or Display was exhibited</u></b>		
3/2/2019	Texas Wildlife and Woodlands Expo; for the public	Set up SMZ model and fish/benthic interactive game
7/13/2019	Texas Master Gardeners Environmental School	Floodplain Ecosystems and Management
7/18/2019	I-Train Texas 4H program	Texas Water, Woodlands and Management
10/19/2019	Smokey Bear's 75th Birthday Bash	Set up SMZ model + fish and items from the woods interactive games
10/29-10/30/2019	Annual Mtg TSSWCB District Managers (set up boot	TAMFS Water Resources
4/24/2021	Earth Day event	Set up newly-refurbished SMZ model; handouts about forests and water,
10/9/2021	Big Thicket Day	Set up newly-refurbished SMZ model; handouts about forests and water,

Location	Number of Visitors	Length of Session/ Presentation/Event	Presenter(s)
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The Woodlands	~ 2000	6 hrs.	Donna
Ft. Parker	43	2 hrs.	Hazel
Killeen	15	3 hrs.	Hazel
College Station	~ 3000	4 hrs.	Donna, Thomas
San Antonio	510	8 hours each day	Jeff
Ellen Trout Zoo - Lufkin		4 hrs.	Donna
Beaumont - Collier's Ferry Park @ Nec		6 hrs.	Donna

**October 2018 - September 2021 - extension into 2022**

# Water Works Festival Exhibitor Information

**Saturday, May 7<sup>th</sup>, 2022**

## Set-up Time

Exhibitors set up is between **7:30am and 9:30am**. All Exhibitors must be fully set-up by 9:30am.

## Location/Loading

**8236 N Bayou Dr, 77017.**

**NOTE: this is not the main entrance to the Botanic Garden. It is important to input the specific address: 8236 N Bayou Dr, 77017. This address will navigate you to the Exhibitor entrance (South Entrance).**

Exhibitors should pull up to the South Entrance (starred in the picture below) and follow staff instructions for where to park while unloading. After unloading all vehicles must be moved to the Exhibitor parking area.

Volunteers will be available to assist with unloading materials and transporting to your booth location. We will have a few dollies available, but Exhibitors are encouraged to bring their own carts or dollies for transporting materials if possible.



For reference below is a photo of the South Entrance/Exhibitor Entrance (the gate will be open).



## **Parking**

Exhibitors should park at Glenbrook Park located at **8201 N Bayou Dr, 77017**. See the map photo on page one.

## **Check-in**

Upon arrival Exhibitors should check-in at one of the check-in booths and ensure to sign the Event Waiver. Check-in booths will be clearly labeled. At the check-in booth you will be provided your t-shirt and a festival map.

## **Exhibitor Area**

Each Exhibitor will have a 10'X10' covered booth area, 6' table, and 2 chairs provided. There will be a sign on each booth indicating the Exhibitor name. A tablecloth will not be provided so if you would like to bring a branded tablecloth you may.

Note: Exhibitors should not bring their own tent as a tent will be provided and already set up at their location.

## **Contacts on Event Day**

- Lacie Ulrich- 281-413-7364
- Gail Kaufman- 713-205-4694
- Ryan Prillman- 225-620-5735

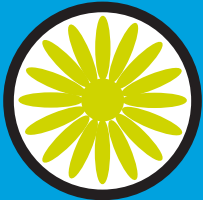
**WATER**  
**WORKS**  
**FESTIVAL**

**HOUSTON**  
**PUBLIC WORKS**



save  
the  
date  
03.02.19

Texas Wildlife & Woodland  
**expo**  
&  
spring fling  
**2019**



wildflowers



WOODS



wildlife



water



WILDFIRE



**Happy 75th Birthday  
Smokey Bear!**

FREE EVENT

**SATURDAY, MARCH 2**

**10 a.m. – 4 p.m.**

**Lone Star College-Montgomery**

3200 College Park Drive, Conroe, Texas

- Over 5,000 families, individuals and youth attend annually
- Interactive booths and hands-on learning stations for all ages throughout the event
- Opportunities for youth organizations to work toward badges and patches
- Outdoor recreation activities, hunter safety, fishing, archery, and many other skills & fitness challenges in the Kid Adventure Zone
- Urban and rural home and landowners mini-lecture and “how to” sessions covering ecosystem services
- ASK the EXPERTS on a variety of topics

**FOR MORE INFORMATION:**

[LoneStar.edu/WildlifeExpo](http://LoneStar.edu/WildlifeExpo)

936.295.5688



Type	Audience	Date	Location	Number of Attendees
<b>BMP Core Workshop</b>	Logging Contractors/Crew	3/1/2019	Lufkin	38
	Logging Contractors/Crew, Foresters	9/13/2019	Lufkin	45
	Logging Contractors/Crew	2/21/2020	Lufkin	35
	TFA Loggers	11/20/2020	TFA Lufkin	20
	TFA Loggers	4/23/2021	Winston 8 Tree Farr	30
	Logging Contractors/Crew, Foresters	9/16/2021	Winston 8 Tree Farr	33
	Logging Contractors/Crew, Foresters	2/25/2022	TFA Lufkin	27
<b>Roads and Stream Crossings</b>	Logging Contractors/Crew, Foresters	2/21/2020	TFA Lufkin	30
	Logging Contractors/Crew, Foresters	3/10/2022	TFA Lufkin	36
	Logging Contractors/Crew, Foresters	3/11/2022	TFA Lufkin	33
<b>Pro-Logger CEU Courses</b>				
<i>Pro Logger CEU - Stream Crossings</i>	Loggers	11/8/2018	Cleveland	18
<i>Pro Logger CEU- BMPs</i>	Loggers	11/29/2018	Domino	22
<i>Pro Logger CEU - Stream Crossings</i>	Loggers	12/6/2018	Lufkin	15
<i>Pro Logger CEU</i>	Loggers	5/16/2019	Lufkin	30
<i>Pro Logger CEU</i>	Logging Contractors/Crew	11/14/2019	Lufkin	40
<i>Pro Logger CEU</i>	TFA Loggers/Foresters	10/1/2020	Virtual	20
<i>Pro Logger CEU</i>	TFA Loggers/Foresters	10/15/2020	Virtual	18
<i>Pro Logger CEU</i>	TFA Loggers/Foresters	11/5/2020	TFA Lufkin	20
<i>Pro Logger CEU</i>	TFA Loggers/Foresters	12/3/2020	TFA Lufkin	30
<i>Pro Logger CEU</i>	TFA Loggers/Foresters	6/25/2021	TFA Lufkin	30
<i>Pro Logger CEU</i>	TFA Loggers/Foresters	8/5/2021	Silsbee	25
<b>BMP Refresher Course</b>	Domtar Logging Contractors	9/10/2019	Linden	21

Length of Session/ Presentation	Presenter(s)
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**October 2018 - September 2021 - extension into 2022**

6 hrs.	Todd Thomas, Donna Work (field only)
6 hrs.	Thomas Dimmitt
6 hrs.	Thomas Dimmitt, Mac Martin
4 rs	Sarah Bailey
6 hrs.	Sarah Bailey
6 hrs.	Donna Work
6 hrs.	Donna Work, Tyler Jones
6 hrs.	Thomas Dimmitt
6 hrs.	Donna Work, Tyler Jones
6 hrs.	Donna Work, Tyler Jones
1 hr.	Todd Thomas
1 hr.	Todd Thomas
1 hr.	Todd Thomas
1 hr.	Donna Work
2 hrs.	Thomas Dimmitt
30 minutes	Sarah Bailey
30 minutes	Sarah Bailey
1 hour	Sarah Bailey
1 hour	Sarah Bailey
1 hour	Donna Work Roads and Stream Crossings Refresher
30 minutes	Donna Work Roads and Stream Crossings Refresher
3 hrs.	Thomas

Type	Audience	Date	Location	Number of Attendees	
<i>SFA Ecology Lab</i>	Forestry Students	5/2/2019	Nacogdoches Co.	20	
		11/13/2019	Nacogdoches Co.	12	
		11/14/2019	2.5 hrs.	20	
		<i>- No Spring 2020 field session due to COVID restri</i>			
		11/11/2020	Nacogdoches Co. (	18	
		11/12/2020	Nacogdoches Co. (	21	
		4/12/2021	Etoile	21	
		4/15/2021	Etoile	27	
		10/27/2021	Nacogdoches Co.	20	
		10/28/2021	Nacogdoches Co.	23	
<i>SFA Hydrology Lab</i>	Forestry Students	11/11/2019	Nacogdoches Co.	14	
		11/13/2019	Nacogdoches Co.	16	
		Spring semester 20: put together virtual tour; used l			
		9/14/2020	Nacogdoches Co. (	16	
		9/16/2020	Nacogdoches Co. (	21	
		3/2/2021	Nacogdoches Co.	16	
		3/3/2021	Nacogdoches Co.	19	
		10/25/2021	Nacogdoches Co.	22	
10/27/2021	Nacogdoches Co.	18			
<i>SFA Arboriculture</i>	Forestry Students	10/25/2019	Nacogdoches, SFA	14	

Length of Session/ Presentation	Presenter(s)
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**October 2018 - September 2021 - extension into 2022**

2.5 hrs.	Donna
2.5 hrs.	Donna
2.5 hrs.	Donna
<i>ctions -</i>	
2 hrs.	Work, Bailey
2 hrs.	Work, Bailey
2 hours	Sarah Bailey, Donna Work
2 hours	Sarah Bailey, Donna Work
2 hours	Work
2 hours	Work

2.5 hrs.	Thomas
2.5 hrs.	Thomas
by professor	Work
2 hrs.	Bailey, Work
2 hrs.	Bailey
2 hrs.	Bailey, Work
2 hrs.	Work
2 hrs.	Work, Martin
2 hrs.	Martin

2.5 hrs.	Thomas	Topics: Rain Gardens, Green Roofs, Channelization
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## EVENT – Forests, Water & People – VIRTUAL CLASS

*Healthy forests are critically important for protecting water supplies. More than 50 percent of the nation's freshwater resources originate from forests that cover about one-third of the United States. In addition to providing clean water, forests also absorb rainfall, refill groundwater aquifers, slow and filter stormwater runoff, reduce floods and maintain watershed stability and resilience.*

Texas A&M Forest Service's **ALL ABOUT TREES** has moved our live presentations to a web-based platform. This is in response to the important stay-at-home ordinances related to the outbreak of COVID-19.

Join us for this unique presentation created to bring together a panel of experts in forestry, hydrology, conservation, and arboriculture to answer your questions interactively through a dynamic CHAT feature.

Check with your local Texas Master Naturalist or Texas Master Gardener chapters for Advance Training AT credits. For CEUs from ISA, SAF, TNLA, and other professional providers, a certificate of participation will be sent upon request for verification of attendance.

**COST: FREE**

**Thursday, May 21, 2020**

**2:00 p.m. – 3:00 p.m.**

CLICK: [Register](#)

Or copy and paste the link below in your web browser:

<https://tfs.webex.com/tfs/onstage/g.php?MTID=e2b809db1e53296189759595ec886e545>

Program information is available: John Warner, [jwarner@tfs.tamu.edu](mailto:jwarner@tfs.tamu.edu) or 936/546-3169.

Type	Audience	Date	Location	Number of Attendees
<b>TFS Internal Training</b>				
<i>New Hire Academy / Emergency Response Academy</i>		4/6/2019	Nacogdoches	23
		7/28/2019	Junction	15
		10/10/2019	Nacogdoches	15
		1/31/2020	Junction	18
		9/3/2021	Junction	28
<i>TFS Academy 2020-1 - BMPs for Acad. Students</i>		7/23/2020	WebEx	18
BMPs General	Central & West Texas Ops	10/20/2020	WebEx	20

Length of Session/ Presentation	Presenter(s)
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**October 2018 - September 2021 - extension into 2022**

4 hrs	Hazel
4 hrs	Hazel
4 hrs	Hazel, Dimmit, Martin
4 hrs	Hazel
4 hours	Jeff McFall
2 hrs	Hazel
90 min	Hazel



## Forestry Production & Management Virtual Workshop

October 27, 2020

10:00am-12:00pm

### Agenda

<b>Welcome and Introduction</b> Dr. Kesha Henry, CEP AGNR Extension Program Specialist	10:00am
<b>Developing a Sustainable Forestry Operation How to Get Started</b> Mr. Hughes Simpson, Department Head Texas A&M Forestry Service	10:05am
<b>NRCS Forestry Programs and Services</b> Mr. Jason Villwock, Forester Natural Resources Conservation Service	10:50am
<b>Texas AgriForestry Small Farmers and Ranchers (TASFR)</b> Mr. Roy Mills, President Mr. Jimmy Scott, VP & 2016 Pete Smith Agriculture Pioneer of the Year Mr. Ike Mills, Executive Director	11:30am
<b>Evaluation and Closing Remarks</b> Dr. Kesha Henry	11:55am







PRAIRIE VIEW  
A&M UNIVERSITY  
COLLEGE OF AGRICULTURE  
AND HUMAN SCIENCES



Cooperative Extension Program

Agriculture and Natural  
Resources



# Sustainable Agriculture Program Forestry Production & Management Virtual Workshop



## TOPICS

- How to Develop & Manage a Sustainable & Viable Forestry Operation
- Generational Wealth and Land Management
- USDA/ NRCS Forestry Management Programs and Resources
- Texas Agriforestry Small Farmers And Ranchers

FOR ADDITIONAL INFORMATION CONTACT: Dr. Keshia Henry, Extension Specialist. Email: kahenry@pvamu.edu or Phone: (936) 261-5030

**Date:**

10.27.20  
Tuesday

**Location:**

Virtual Via Zoom  
Click [HERE](#) To Join

**Time:**

10:00am-12:00pm



Natural Resources Conservation Service



The Cooperative Extension Program does not discriminate against anyone regardless of their race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, reprisal or retaliation for prior civil rights activity, in any program or activity. Persons who require communication in a language other than English or with a disability who require alternative means of communication of program information (braille, large print, audiotape, etc.) should contact Ms. Belinda Lewis at 936-261-3585 in advance.

Date	Association or Group
10/23/2018	TAMU Agrilife/TWRI/Lampasas River Watershed
11/6/2018	TAMU Agrilife/TWRI/Medina River Watershed
3/6/2019	TAMU Agrilife/TWRI/Bandera County Watershed
4/16/2019	TAMU Agrilife/TWRI/Baffin Bay Watershed
5/1/2019	TAMU Agrilife/TWRI/Double Bayou/Cedar Bayou Watersheds
10/15/2019	TAMU Agrilife/TWRI/Plum Creek Watershed
10/23/2019	TAMU Agrilife/TWRI/Upper Colorado/Llano River Watersheds
11/13/2019	TAMU Agrilife/TWRI/Big Elm Creek Watershed
2/27/2020	TAMU Agrilife/TWRI/Lavaca River Watershed
10/19/2020	TAMU Agrilife/TWRI/ Attoyac Bayou Watershed
12/8/2020	TAMU Agrilife/TWRI/San Antonio Area Watersheds
4/20/2021	TWRI Stream and Riparian Ecosystem Workshop for Joe Pool Lake
9/7/2021	TWRI Stream and Riparian Ecosystem Workshop for Leon River Watershed
9/22/2021	TWRI Stream and Riparian Ecosystem Workshop for Angelina River Watershed
10/1/2021	TWRI Stream and Riparian Ecosystem Workshop for Mill Creek Watershed
10/13/2021	TWRI - Lampasas Watershed PP
11/2/2021	TWRI - Comal River Watershed PP
2/22/2022	TWRI Stream and Riparian Ecosystem Workshop for Bastrop, Dickinson, Highland, and Jarbo Bayou
3/8/2022	TWRI/Alligator-Geronimo Creek WPP

**TOTALS:**

► **Note: These are meetings you gave a presentation; TWRI Riparian Workshops only.**

Topic	Location	Number of Attendees	Length of Session/ Presentation	Presenter(s)	
Roles of Forests and Trees in Watershed Protection	Marion	42	1 hr	Jeff	
Roles of Forests and Trees in Watershed Protection	San Antonio	33	1 hr	Jeff	
Roles of Forests and Trees in Watershed Protection	Bandera	47	1 hr	Jeff	
Roles of Forests and Trees in Watershed Protection	Kingsville	32	1 hr	Jeff	
Roles of Forests and Trees in Watershed Protection	Baytown	26	1 hr	Donna	
Roles of Forests and Trees in Watershed Protection	Lockhart	39	40 min	Hazel	
Roles of Forests and Trees in Watershed Protection	Junction	19	40 min	Hazel	
Roles of Forests and Trees in Watershed Protection	Temple	44	40 min	Hazel	
Roles of Forests and Trees in Watershed Protection	Edna	29	30 min	Mac Martin presented, with Lori	
Roles of Forests and Trees in Watershed Protection	Virtual	26	2 Hours	Mac Martin, Lori Hazel	
Panel Discussion	Virtual	40	90 min	TFS (Mac Martin, Jeff McFall), TWRI,	
Role of Forests and Trees in Watershed Protection	Virtual	21	2 Hours	Mac Martin, Lori Hazel	
Role of Forests and Trees in Watershed Protection	Gatesville	22	1 hr	Lori	
Role of Forests and Trees in Watershed Protection	Tyler	13	30 min.	Donna	7 LOs + 6 agency pers
Role of Forests and Trees in Watershed Protection	Sealy	33	45 minutes	Shane	
Role of Trees and Forests in Watershed Protection	Lampasas	30	1 hr	Jeff McFall	
Role of Trees and Forests in Watershed Protection	New Braunfels	35	1 hr	Jeff McFall	
Role of Trees and Forests in Watershed Protection	LaMarque	25	40 min.	Donna	
Role of Forest & Trees in Watershed Protection	Seguin, TX	35	45 minutes	Jeff McFall	

October 20

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Date	Association or Group or Event / Audience	Topic	Location
10/23/18	State Technical Advisory Committee Meeting	Forestry Sub-committee Update and Bedding Practice Review	Austin
2/22/19	Frio River Stakeholder Meeting	Presentation of Final Results -Frio River Study	Leakey
1/5/2019	Texas Master Gardener's Environmental Studies Sch	Texas Forests and Rainforests	Ft Parker
1/31/2019	Watershed Coordinators Roundtable Meeting	TFS Water Resources Program & BMPs Updates	Waco
Winter 2019	Southern Region Water Management Conference	Submitted abstracts	College Station
Winter 2019	Texas Forests and Drinking Water Partnership	Conducted field tour and meeting	McKinney Rouge
4/4/2019	NRCS Principle Staff Meeting	TFS Partnership Agreement & Statewide Collaboration Opportunit	Austin
4/23/2019	Texas Master Naturalist	Riparian Ecology & Management	Salado
6/10/2019	Hill Country Chapter-SAF	Riparian Area assessments and healthy watersheds	Boerne
6/22/2019	TFA - Tree Farmer of the Year Tour	SMZs/BMPs	Smith Co.
6/25/2019	NRCS Ecological Science Technical Training	Practical Silviculture for Non-Foresters	Bryan
6/26/2019	NRCS Ecological Science Technical Training Field ses	Practical Silviculture for Non-Foresters & BMPs	Anderson
7/13/2019	Texas Master Gardeners Environmental School	Floodplain Ecosystems and Management	Ft. Parker
7/17/2019	Southern Region Water Conference/TAMU Agrilife	Texas BMP Compliance Update	College Station
7/18/2019	I-Train Texas 4H program	Texas Water, Woodlands and Management	Killeen
7/25/2019	Southern Region Water Conference	Land Stewardship Training Program-Designed to Improve Water C	College Station
7/30/2019	NRCS Ecological Science Training	Practical Silviculture for Non-Foresters	Kerrville
7/31/2019	NRCS Ecological Science Training	Field Application of BMPs	Kerrville
8/20/2019	NRCS Ecological Science Training	Practical Silviculture for Non-Foresters	Stephenville
8/21/2019	NRCS Ecological Science Training	Field Application of BMPs	Stephenville
9/7/2019	SA Zoo	Greeted Visitors & Explained Tree-ID Signs	San Antonio
11/1/2019	AgriLife: Marion -Cass Forestry Forum	Best Management Practices	Jefferson
1/14/2020	SA Zoo Staff/TFS Staff	Update on TFS Kiosk Content/ Usage Tutorial/Future Content	SA Zoo
1/14/2020	TFS Staff	Gave Leighton and Jaycee Tour of SA Zoo Trees	SA Zoo
1/25/2020	National Garden Club - Texas Environmental Studies	Historical Environmental Leaders - National & Texas	Old Fort Parker
1/25/2020	National Garden Club - Texas Environmental Studies	Riparian Function & Health Assessments for Restratement/Managem	Old Fort Parker
2/20/2020	Piney Wood Lakes Texas Master Naturalists training	Forest Ecology and Management - focussing on protecting water c	Livingston
3/4/2020	Texas Master Naturalists & Interested Lanowners	Tree ID and Riparian Functioning River Walk	Medina River Natu
5/21/2020	Public/Texas Master Naturalists		WebEx
6/11/2020	North Texas Coucil of Governements	Trees are the Answer: The Role of a Healthy Urban Canopy in an L	WebEx
6/16/2020	Texas Master Naturalists	Forest Ecosystems and Ecology - with focus on water and forests	WebEx
6/30/2020	Texas Master Naturalists	Riparian Ecology and Management	WebEx

8/19/20	TWRI and Agrilife Extension	Role of i-Tree Hydro in Watershed Planning for future WPPs	Virtual
10/6/2020	City of Houston Sourcewater Protection Team	TFS and COH-SWP Cross-Training	JSF
10/20/2020	NRCS State Technical Advisory Meeting	Forest Action Plan	Virtual
1st quarter 2021	Source Water Collaborative's Forestry Learning Exchange	Benefits of Water for Drinking Water	Virtual(?)
12/9/2020	Continuing Fire Training-Water Quality and BMPs for TFS & Partners + Landowners		Virtual
1/20/21	Spring Creek WPP Steering Committee	Spring Creek Watershed Protection Plan I-Tree Hydro Results	Virtual
2/12/21	Urban Riparian Association	The Role of Forests and Trees in Urban Watershed Protection in T	Virtual
3/4/2021	Piney Wood Lakes Texas Master Naturalists training	Forest Ecology and Management - focussing on protecting water c	Virtual
3/10/2021	Water and Sediment Quality Committee	The Role of Forests and Trees in Urban Watershed Protection in H	Virtual
4/8/2021	Spring Creek Watershed Protection Plan Meeting	I-tree Hydro modeling results and targeted watershed for increasi	Virtual
4/15/2021	Regional Flood Management Committee	The Role of Forests and Trees in Urban Watershed Management	Virtual
6/8/2021	West Houston Association Sustainable Infrastructure	Houston Corporate Sustainability Project Expansion into MUDS an	Houston
8/23/2021	Corporate Sustainability Tree Planting in Developm	Association of Water Board Directors, Bridgeland	Virtual
3/26/22	Pollinator Festival/Guests of Guadalupe River State	Trees/Forests/Pollinators/Water Resources/Fire Protection	Bulverde, TX

### **TFS 101**

3/26/2019	TFS New Employees - first TFS 101	BMP Program Overview and SMZs	ID Fairchild SF
6/19/2019	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
10/28/2019	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
11/20/2019	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
12/11/2019	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
2/19/2020	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
10/14/2020	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
12/8/2020	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
12/16/2020	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
1/27/2021	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
5/5/2021	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
7/14/2021	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
10/13/2021	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
2/2/2022	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF

► **Note: These are meetings, events, etc. (other than forest landowner meetings) where you gave a presentation.**

Number of Attendees	Length of Session/Presentation	Presenter(s)
80	15 min	Lori
30	25 min	Jeff
50	1 hr	Lori
60	45 min	Lori
70		Hughes
75		Hughes
12	45 min	Hazel
23	2 hrs.	Hazel
25	30 min	Hazel
60	15 min.	Donna
55	30 min	Hazel
56	30 min	Hazel
43	2 hrs	Hazel
30	30 min	Jeff
15	3 hrs	Hazel
160	20 min	Hazel
50	30 min	Hazel
50	30 min	Hazel
63	30 min	Hazel
63	30 min	Hazel
500	8 hrs	Jeff McFall
10	1 hr.	Thomas
12	1 hr	Jeff McFall
3	1 hr	Jeff McFall
48	50 min	Hazel
48	2 hrs	Hazel
13	1 hr	Donna
12	4 hrs	Jeff
300	1 hr	Donna, Mac
90	1 hr	Mac
35	1 hr	Sam Rhodes
32	90 min.	Hazel

October 2018 - September 2021 - extension into 2022



Type	Audience	Date	Location	Number of Attendees	
<i>SFA Ecology Lab</i>	Forestry Students	5/2/2019	Nacogdoches Co.	20	
		11/13/2019	Nacogdoches Co.	12	
		11/14/2019	2.5 hrs.	20	
		<i>- No Spring 2020 field session due to COVID restri</i>			
		11/11/2020	Nacogdoches Co. (	18	
		11/12/2020	Nacogdoches Co. (	21	
		4/12/2021	Etoile	21	
		4/15/2021	Etoile	27	
		10/27/2021	Nacogdoches Co.	20	
		10/28/2021	Nacogdoches Co.	23	
<i>SFA Hydrology Lab</i>	Forestry Students	11/11/2019	Nacogdoches Co.	14	
		11/13/2019	Nacogdoches Co.	16	
		Spring semester 20: put together virtual tour; used l			
		9/14/2020	Nacogdoches Co. (	16	
		9/16/2020	Nacogdoches Co. (	21	
		3/2/2021	Nacogdoches Co.	16	
		3/3/2021	Nacogdoches Co.	19	
		10/25/2021	Nacogdoches Co.	22	
10/27/2021	Nacogdoches Co.	18			
<i>SFA Arboriculture</i>	Forestry Students	10/25/2019	Nacogdoches, SFA	14	

Length of Session/ Presentation	Presenter(s)
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**October 2018 - September 2021 - extension into 2022**

2.5 hrs.	Donna
2.5 hrs.	Donna
2.5 hrs.	Donna
<i>ctions -</i>	
2 hrs.	Work, Bailey
2 hrs.	Work, Bailey
2 hours	Sarah Bailey, Donna Work
2 hours	Sarah Bailey, Donna Work
2 hours	Work
2 hours	Work

2.5 hrs.	Thomas
2.5 hrs.	Thomas
by professor	Work
2 hrs.	Bailey, Work
2 hrs.	Bailey
2 hrs.	Bailey, Work
2 hrs.	Work
2 hrs.	Work, Martin
2 hrs.	Martin

2.5 hrs.	Thomas	Topics: Rain Gardens, Green Roofs, Channelization
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Type	Audience	Date	Location	Number of Attendees
<b>TFS Internal Training</b>				
<i>New Hire Academy / Emergency Response Academy</i>		4/6/2019	Nacogdoches	23
		7/28/2019	Junction	15
		10/10/2019	Nacogdoches	15
		1/31/2020	Junction	18
		9/3/2021	Junction	28
<i>TFS Academy 2020-1 - BMPs for Acad. Students</i>		7/23/2020	WebEx	18
BMPs General	Central & West Texas Ops	10/20/2020	WebEx	20

Length of Session/ Presentation	Presenter(s)
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**October 2018 - September 2021 - extension into 2022**

4 hrs	Hazel
4 hrs	Hazel
4 hrs	Hazel, Dimmit, Martin
4 hrs	Hazel
4 hours	Jeff McFall
2 hrs	Hazel
90 min	Hazel



# The Dogwood Times

A Publication of the Tyler County Forest Landowner Association

<http://tcforest.org/>

Tyler County Forest  
Landowner  
Association  
(TCFLOA)

Volume 23 Issue 3  
Fall 2021

## Tyler County Forest Landowner Meeting—September 18

You are invited to attend an informative workshop on **Saturday, September 18**, covering topics of interest to landowners such as yourself. This is an opportunity to meet other Tyler County landowners. Information presented will include the Sustainable Forestry Initiative, TFA / Legislative Update, Loblolly Seedling Improvements, Angelina Forest Products Update, Land Values in East Texas, Water Quality, Healthy Trees / Healthy Lives, and Cost Share Programs.

There is no charge for attending this meeting. Lunch is provided free of charge thanks to the SFISM Implementation Committee (TFA).

To help us plan for space accommodations and food, we ask that you RSVP by calling the Texas A&M Forest Service office in Kountze: (409) 246-2484.

Registration begins at 8:30 a.m., with refreshments provided. Speakers will start at 9:00 AM and conclude at 2:30 PM. The location is Woodville United Methodist Church Wesley Center, 508 W. Bluff St., Woodville, TX.

CEUs will be offered for Pro Loggers and SAF Certified Foresters.

Sincerely,  
Texas A&M Forest Service  
Texas Forestry Association  
Tyler County Forest Landowner Association

### Inside this Issue:

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<i>Rainfall Totals</i>	4

### President's Corner

Our next "get together" will be a little non-standard in that our agenda is longer than usual (more presenters), will start earlier (0830), will include a gourmet catered lunch (*Paper Plate Catering*), and takes place at a new venue (for us) - the Woodville United Methodist Church. What is the reason? The Sustainable Forestry Initiative (SFI) Implementation Committee of the Texas Forestry Association is sponsoring a Tyler County forest landowner event and chose us (Tyler County) as co-hosts, with Texas A&M Forest Service planning and facilitating the meeting. Texas A&M Forest Service biologist, Mrs. Donna Work, has organized the "best of the best" in forestry topics. Historically this event is well attended, so please RSVP and join us.

*Col. Eddie Boxx, USAF (ret)*

## CALENDAR

**September 18, 2021, Saturday**—TCFLOA Fall General Meeting, 9:30 AM, Woodville United Methodist Church Wesley Center, 508 W. Bluff St., Woodville, TX. This will be a one-day Sustainable Forestry Initiative (SFI) program to protect your resources and advance your objectives, sponsored by Texas A&M Forest Service, Texas Forestry Association, and Tyler County Forest Landowner Association.

**September 24-October 17**—State Fair of Texas. TFA will have a booth in the GO TEXAN Pavilion.

**October 19-21, 2021**—Texas Forestry Association (TFA) Annual Meeting. The Fredonia Hotel in Nacogdoches, Texas. Online registration is available at [texasforestry.org](http://texasforestry.org).

**January 15, 2022, Saturday**—TCFLOA Board of Directors meeting, 9:00 AM, location to be announced later. This is a planning meeting. Association members are welcome to attend.

Visit the Tyler County Forest Landowner Association website at [tcforest.org](http://tcforest.org) for a summary of past presentations, interesting articles, upcoming events, contacts, and the latest news relating to effective forest and land management practices for Tyler County landowners.



## ***How the Surge in Lumber Prices is Affecting Landowners—Texas A&M Forest Service, (Editor's note: article was shortened to fit available space)***

Collage Station, Texas — Lockdowns from the pandemic have led to some unexpected economic consequences, one of which has been a surge in lumber prices. Sawmills shut down at the onset of the pandemic, while Americans across the country – forced to work from home – found the time and energy to remodel, renovate and, in many cases, relocate. The result has been a case study in forest economics. Demand for lumber went up, but supply went down: consequently, costs have skyrocketed over 300%.

In a simpler world, this would mean that everyday landowners who grow and harvest timber on their property have become the beneficiaries of an unexpected boon. But, as it turns out, timber prices (i.e. the price of felled trees sold to sawmills as logs) haven't changed at all.

"The struggles that landowners had in 2019 went into 2020, and are now going into 2021," said Jordan Herrin, an East Texas forester for Texas A&M Forest Service. "Really, life for your timber producer hasn't changed much. It's just been pretty steady.

"While steady might seem like a blessing in the wake of a global pandemic, timber prices in Texas have been the same for almost two decades. And that's without taking into account inflation and other adjusted costs. Sawtimber prices plummeted in 2008 from the housing market crash, and they've flatlined nationally at about \$25 a ton ever since. In Texas, that price has crept up to an average of almost \$30 a ton – approximately the same price for timber in 2011 according to a report by Texas A&M Forest Service. *(Editor's note: 2011 pine prices were less than half 1996 pine prices.)*

### **The Cause of the Disparity**

This divergence between the cost of timber and the cost of lumber is counter-intuitive, to say the least; but the reality is that both are part of incredibly complex, and surprisingly different, markets. Consumers set the price of lumber based on the demand for processed wood and single-family homes, while sawmills set the price of sawtimber based on what landowners are willing to get paid.

The problem for forest landowners is the abundance of ready-to-harvest timber. Mature trees being harvested in East Texas today are likely between 30 and 35 years old. Thirty-five years ago, the U.S. was in the middle of a government subsidized tree-planting initiative. . . .

The surplus of harvestable trees is just one of many factors contributing to the flatline in timber prices, according to Rob Hughes, the Executive Director of the Texas Forestry Association. "Landowners have been struggling to get their timber harvested for a while," said Hughes. "The mills are producing more wood than they have before, but it's still not to the capacity of how much timber is being grown in their areas.

"A part of this divergence began with the housing crisis of 2008. Sawmills across the south had already been consolidating into fewer, more efficient locations – but with the sudden pitfall in demand, the number of sawmills were practically cut in half. In 1997, Texas had a total of 168 active sawmills across the state. Today, Texas has about 50.

A simple solution to this disparity would be to increase production capacity at current sawmills, and to increase the number of sawmills across Texas and the south. However, the realization of that solution isn't so straightforward. Sawmills today are technical titans of industry that can take up to five years to build. One mill recently constructed in Lufkin, Texas, is estimated to have cost \$200 million. . . .

### **How It's Affecting Landowners**

The result is a buyer's market. Landowners are competing with each other not only to sell their timber for a reasonable price, but to have their timber harvested in the first place.

Investment and industrial properties control around 38% of working forestland in East Texas. But because they set a revenue target for the year, many of them will continue to harvest through lower timber prices in order to reach those targets. Since they have such large volumes of timber, smaller landowners are left merely to supplement what the industry giants put in.

"There are a lot of private landowners, especially on our western fringe and in Northeast Texas, that are struggling to find a market for their wood," said Hughes. Landowners without a market for their wood, or landowners who don't want to accept the low payments for their timber, are left with very few options – and most of those aren't promising.

*(continued on next page)*



*(Surge in Lumber Prices—continued from page 2)*

### **Options for Small Timberland Owners**

A simple and obvious alternative for landowners is to wait. Trees will continue to grow, and the larger the timber, the more it should theoretically be worth – which is exactly what many landowners are counting on. However, that's not quite how it works in modern timber industry.

"Sawmills are built for a certain size log, now," explained Hughes. "Once you grow it out of that size, there are fewer mills that will take those logs. So it kind of exacerbates your issues, because you actually limit your market the older and bigger your trees get."

Hughes isn't just speculating. This catch-22 has played out for small timberland owners before. After the housing market crash of 2008, timber prices plummeted, and many landowners who would've sold their timber delayed harvest. The result was a surplus of bigger trees on the market, which caused the price of *those* trees to drop, furthering the cycle of the stunted timber market.

Some landowners do have another option, though – to supplement their harvests by delaying them through carbon markets. Carbon credits are bought by companies or governments to offset greenhouse gas emissions. Typically, one carbon credit is issued for one metric ton of CO<sub>2</sub> – about the same amount of CO<sub>2</sub> that one tree will absorb in 40 years. The catch, however, is that those credits can only be issued to timberland owners if their trees wouldn't otherwise be there – i.e. if the forest is at risk of being harvested. Then there's the issue of carbon credit contracts, which can restrict landowners from harvesting their timber for decades. Contact a consulting forester or Texas A&M Forest Service about participating in carbon markets.

The third option is for landowners to try and harvest their timber now. For those with large tracts of land and staggered harvesting periods, this may be the best option. But for small landowners who might only harvest once in their lifetime, it's a hard decision to justify—especially when they're struggling to sell their timber at all.

### **Looking to the Future**

There is some hope, though. Sawmills across the south are expanding their capacity to match the rising demand, and there have been several announcements of new mills to be built. As these new mills become larger and more efficient, they might match the demand for lumber across the country – but it's going to take time.

Even then with these expansions, there still might not be enough production to correct the price of timber. The surplus of harvestable trees has existed for decades now, and demand isn't likely to climb high enough to match that surplus. Rob Hughes, however, is staying optimistic.

"I think there is a light at the end of the tunnel," said Hughes. "Its called 'Commercial Mass Timber.'"

Mass timber is the use of engineered wood products as the primary frame and structure for tall, commercial-style buildings. One category of mass timber, cross-laminated timber (CLT), is so promising that it is boasted to be as strong as steel, but lighter, more resistant to fire, easier to install, and carbon-neutral. Cement alone contributes up to 8% of total greenhouse gas emissions worldwide, according to think tank [Chatham House](#). Steel production, meanwhile, requires the burning of coal.

Several buildings in Texas have recently been constructed out of mass timber, including The Soto in San Antonio, Hotel Magdalena in Austin, and a classroom building at San Jacinto College – which will be the largest mass timber instructional building in the nation. The largest mass timber building in the world, Mjøstårnet in Norway, is 18 stories tall and built entirely out of cross-laminated timber.

"If just a small percentage of the commercial building market was mass timber, like CLT, then we would have to double the number of sawmills in the south just to keep up with that demand," said Hughes, referencing a report by the Environmental Protection Agency.

The spread of mass timber wouldn't just help the price of logs for landowners – it would also help the environment. A higher incentive to grow timber would lead more investors and entrepreneurs to forest land that might have otherwise been used for commercial or residential purposes. This would lead to more trees planted, which would contribute to overall carbon sequestration, water and air purification, and the countless other benefits that working forests provide.

Mass timber isn't a new concept, though. It's been around in one form or another for decades. Hughes is simply hoping that advancements in new technology, and the rise of CLT as an alternative to steel and concrete, might help give the timber industry the boost it's been waiting for since 1985.



**A Publication of the Tyler County Forest Landowner Association**

<http://tcforest.org/>

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***Rainfall Totals (inches)—Tyler Co. Emergency Management Weather Division***

	June	July	August
Chester	4.13	4.69	1.96
Colmesneil	8.06	4.92	1.10
Fred	5.80	8.92	0.93
Spurger	8.93	6.89	1.61
Warren	8.92	5.09	1.74
Woodville	7.87	7.53	3.65

**OFFICERS & DIRECTORS  
2021-2022**

- Pres: Col. Eddie Boxx
- VP: Steve Lauff
- Sect: Oliver Hensarling
- Treas: Charles Zimmerman
- Dir: Andy Niemann
- Dir: Elizabeth Parker
- Dir: Dr. Jay Fish
- Dir: Josh Lempert (past President)

**Tyler County Forest Landowner Association (TCFLOA)**

The Tyler County Forest Landowner Association is a non profit organization whose objectives include educating landowners about good forest management and harvesting practices, and keeping landowners up to date on matters affecting timberland operations, taxes and legislative actions.

**Membership 2021**

Check your memberships status for 2021. Look at the address label on the envelope for your status—if the **year number** after your name is not **21** (for 2021) or greater, then consider renewing your membership. You may also send in your 2022 dues at this time.

Note that we are asking for your e-mail address. This will allow us to communicate time sensitive information on programs, workshops, late cancellations or fire situations. We will **NOT** give your address to any other group, people, advertisers, etc. Membership information is for your board members and newsletter editor **only**.

**MEMBERSHIP FORM**

**Tyler County Forest Landowner Association (TCFLOA)**

**Regular Membership:** Private non-industrial owners of five (5) or more acres of land in Tyler Co.

**Dues:** \$15 per calendar year per couple. One (1) vote per membership.

**Associate Membership:** Any individual not qualifying as a Regular Member who supports the objectives of TCFLOA. **Dues:** \$15 per calendar year per individual or organization. Associate Members are non-voting.

**USE THIS FORM TO JOIN TCFLOA OR TO MAKE CORRECTIONS**

NAME

ADDRESS

CITY / STATE / ZIP

PHONE

APPROX # TIMBER ACRES IN TYLER CO.

E-Mail

Please make checks payable to TCFLOA, and mail to:

Charles Zimmerman, Treasurer, 298 County Road 2152, Woodville, TX 75979





# Timber Tellings

## Is There a Relationship Between Lumber and Timber Prices?

Nana Tian and Aaron Stottlemeyer

Texas A&M Forest Service

What do the record-high lumber prices in the first half of 2018 mean for the performance of timber prices? In a previous article, we discussed factor underlying record-high softwood lumber prices in June 2018<sup>1</sup>. Incidentally, after an all-time high of \$582 per MBF, lumber prices dropped sharply to a low of \$436 per MBF in the third quarter making 2018's lumber market one of the most volatile in history. Nonetheless, it seems reasonable for landowners to expect higher prices for standing timber when lumber prices are high. In reality, however, there is only a loose association between lumber and timber prices over relatively short time periods, which we explore in this article.

Theoretically, lumber and timber prices should track one another. For example, if lumber demand increases, then demand for timber to meet lumber production quotas should also increase, leading to an increase in timber prices. We plotted the average annual framing lumber composite price and pine sawtimber price between 1984 and 2018 (*Figure 1*). The plots show that lumber and timber prices tend to track each other over the long term. However, over shorter periods, such as a quarter or even a year or more, they might diverge and even move in totally opposite directions.

Continued on page 5.

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## Market Report– Sept/Oct 2018

Product	Statewide Ave. Price		Previous Ave. Price		Price/ Ton Difference	
	Weight	Volume	Weight	Volume		
Pine- Sawlogs	\$23.62/Ton	\$188.97/MBF	\$27.09/Ton	\$216.72/MBF	-13%	↓
Pine-Pulpwood	\$7.24/Ton	\$19.54/Cord	\$6.74/Ton	\$18.19/Cord	7%	↑
Pine-Chip-n-saw	\$13.81/Ton	\$37.27/Cord	\$12.25/Ton	\$33.08/Cord	13%	↑
Mixed Hardwood- Sawlogs	\$29.81/Ton	\$268.33/MBF	\$25.42/Ton	\$228.78/MBF	17%	↑
Hardwood- Pulpwood	\$8.71/Ton	\$24.30/Cord	\$9.96/Ton	\$27.89/Cord	-13%	↓

Texas Timber Price Trends is a bimonthly publication reporting average prices paid for standing timber in Texas. This report is intended only as a guide to general price levels. It should not be used to judge the fair market value of a specific timber sale, which may vary considerably due to many factors. It is recommended that you use the services of a professional consulting forester in managing any timber sale. Important factors affecting timber prices include the type, quality and volume of timber for sale, accessibility, distance to mills/markets, weather conditions, economy/ market conditions, who is handling the sale or is buying the timber, and contract requirements by the landowner. The complete Texas Timber Price Trends can be viewed at <http://tfsweb.tamu.edu/timberpricetrends>.

## 2019 Texas Timber Income and Property Tax Workshop

The annual Texas Timber Income and Property Tax Workshop is just around the corner. This one day event will take place on February 11, 2019 at the Lottie and Author Temple Civic Center in Diboll, TX from 8:00 am to 5:00 pm. The cost is \$75 per person.

Texas A&M Forest Service's tax workshops have trained hundreds of foresters, landowners, tax preparers, attorneys, tax appraisers, logging professionals, land trust managers and financial advisors in East Texas.

The Texas Timber Income and Property Tax Workshop will provide working knowledge of timber tax, including basics about timber taxation and the latest changes to tax laws for the 2018 tax return preparation. Topic will focus on federal timber income tax issues for private forest owners with a refresher on local timberland property tax incentives. Participants will gain a clear understanding of commonly misunderstood timber tax issues.

Participants of this workshop will receive a workbook loaded with information including the workshop presentation materials, standard examples, and supplemental readings. But wait! There's more!! This workshop also qualifies for Continuing Education Credits for Foresters, Loggers, CPA's, and Property Tax Professionals. No prerequisite needed!

To register for this event visit <http://tfsweb.tamu.edu/TaxWorkshop/> to get the registration form and to pay online. Contact Brittany Carpenter at (979) 458-6630 or [bcarpenter@tfs.tamu.edu](mailto:bcarpenter@tfs.tamu.edu) for more information .

## **Got Land? New Online Landowner App**

A new web-based application called “Got Land?” has been added to the Texas Forest Information Portal.

Whether you’re looking to purchase land for the first time or you just inherited property, this online application can help new landowners during the initial stages of acquiring property.

Based on the answers to a few short questions, management information and resources are provided to help you better care for your land and reach your property goals. Questions on property ownership goals, past land uses, desired tax valuations, property region, acreage, etc. help the app to generate a report that gives information applicable to your situation.

## **New Farm Bill: What’s in it for Forestry?**

By John Greene– Forest2Market

Full Story: <https://blog.forest2market.com/new-farm-bill-whats-in-it-for-forestry>

President Trump recently signed the new Farm Bill providing funding through 2023 and reauthorizing \$400 billion in agricultural subsidies, conservation programs and key safety programs for agricultural producers, including federal crop insurance and farm commodity programs that provide a floor price and income support for covered commodities and farmers.

What’s in the bill that will potentially impact forestry and the forest products industry?

### **Timber Innovation Act**

The new Farm Bill authorizes the Timber Innovation Act, which was introduced in 2017 by Sen. Debbie Stabenow, (D-MI). The bill will incentivize investment to conduct the research and development of cross-laminated timber (CLT) and other engineered timber products for use in the construction industry. Recently, the focus has been on developing products that can support multi-level structures taller than six stories.

### **Collaborative Forest Landscape Restoration**

The bill also includes an extension of legislation sponsored by Sens. Jeff Merkley (D-OR) and Mike Crapo (R-ID) for the 10-year reauthorization of the Collaborative Forest Landscape Restoration (CFLRP) program. CFLRP was enacted in 2009 to take a lead role in managing forests to increase forest health, mitigate wildfires and support rural economies and local voices. To date, 23 CFLRP projects in 14 states have sold more than 2.5 billion board feet of timber, created \$1.4 billion in local labor income and improved 760 miles of trails for outdoor and recreation enthusiasts. CFLRP has also helped to reduce the risk of wildfires on more than 2.9 million acres of land. The funding expansion—from \$40 million to \$80 million per year—is supported by a cross-section of the forest value chain, including the timber industry, rural economic development entities and environmental organizations.

### **Forest Management**

Advocates for legislation that encourages more active forest management, including the Trump administration, congressional Republicans and the forestry industry, had hoped for a final bill that would contain provisions to expand the pace and scale of certain forest management projects (including more thinnings and prescribed burns) to reduce fuel loads and the scale of resulting wildfires.

Democrats believe the bill’s forest management provisions are “unnecessary” because congress recently passed a bill making some of those projects easier to initiate. The spending bill the republican congress approved in March contained \$1.95 billion for 2018 fire suppression and prevention efforts across the US Forest Service (USFS) and Interior Department. The bill also allowed the USFS to complete more prescribed burns and thinnings with less environmental red tape.

Though not ideal, Rep. Greg Walden (R-OR) believes the bill includes enough provisions via reauthorization and modification to help improve the management of federal forests in Eastern Oregon that will reduce the threat of fire and smoke in the future. The legislation also allows for more local involvement in forest management projects and extended funding for collaborative forest projects.



# Compound in Soil Fights Chronic Wasting Disease

The Wildlife Society– wildlife.org



Chronic wasting disease has affected deer and other cervids across North America.

A compound in soil could play an important role in combating chronic wasting disease by degrading the protein particles called prions that are believed to cause the lethal disease in cervids (members of the deer family) researchers found.

CWD has infected and killed deer, elk, moose and caribou throughout North America and has even been detected in South Korea and northern Europe. But researchers have had no luck finding a cure and continue to manage for the disease by attempting to stop its spread. Efforts to combat the disease have been further challenged by the ability of the prions to bind to soil and remain in the environment for years.

But scientists may be one step closer to understanding how soil plays a role in fighting the disease. In a recent study published in the PLOS Pathogens Journal, researchers found that high levels of major compounds in soil organic matter — humic acids — degrade CWD prions. When prions in soil were exposed to high concentrations of humic acids, researchers found lower levels of them. They also noted lower levels of infectivity in mice that were exposed to soil with higher levels of humic acids.

CWD prions can be spread between cervids (mammals in the deer family) as well as through the environment including decaying carcasses, infected urine, feces and saliva.

Knowing about how different soil compounds can bind and degrade prions is important to understanding the disease, the researchers say.

“CWD is a significant emerging and fatal disease of deer, elk and moose,” University of Alberta professor Judd Aiken, the study’s lead author, said in a press release. “Given it is shed from infected animals into the environment where it can serve as a source of infection, it is essential that we understand the impact of soil and soil components on this unusual infectious agent.”



CWD prions that infect deer can be released into the environment. Researchers recently looked at how the prions interact with soil. ©Judd Aiken

## Is There a Relationship between Lumber and Timber Prices *cont'd*

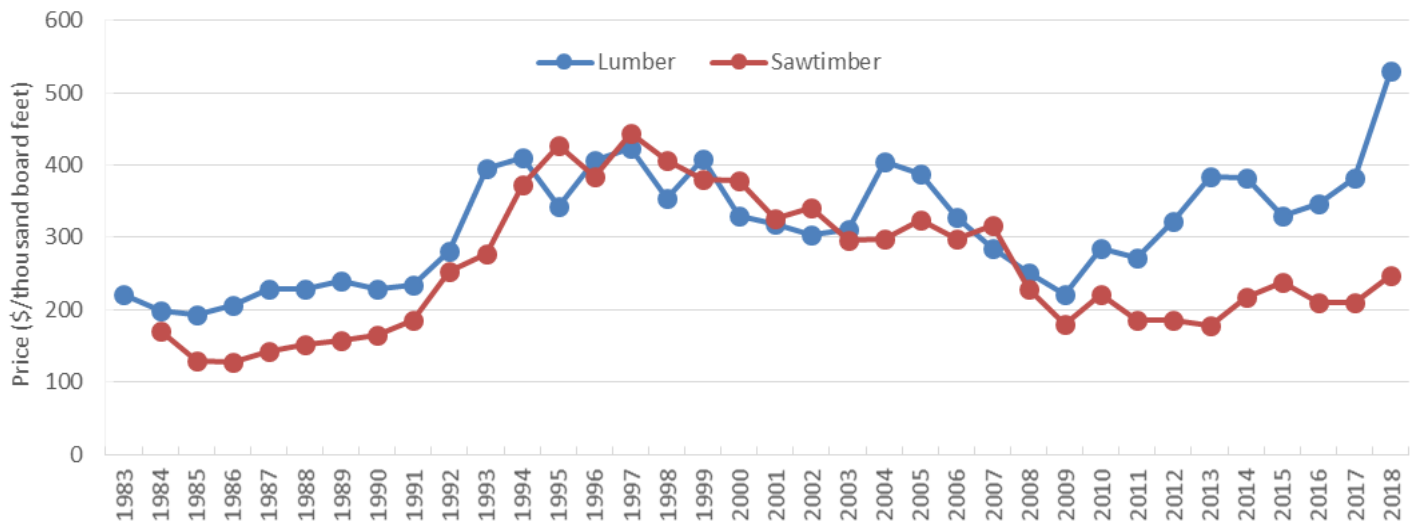


Figure 1. Average annual U.S. Framing lumber composite price<sup>2</sup> and pine sawtimber price<sup>3</sup>

Several factors contribute to the disconnect between lumber and timber prices. The price of lumber is primarily affected by the U.S. housing market, which continues to improve since the 2008 recession. Housing starts were estimated at 1.28 million units in August 2018<sup>4</sup>, 9.2% higher than in July, implying that lumber demand remains strong. In addition, lumber supply is currently tight due to reductions in Canadian imports and current U.S. lumber production capacity. The combination of high demand and tight supply led to the record-high lumber prices in early 2018. In contrast, there is an abundant supply of standing timber. Possible reasons are that some mills closed and many landowners pulled their timber off the market in the immediate aftermath of the 2008 recession, causing the total volume of logs in the U.S. South to rise unimpeded the last few years. For example, the total inventory in the South increased by 8.1% from 231.7 billion cubic feet (BCF) in 2008 to 250.4 BCF in 2014.<sup>5</sup>

Another factor which can weaken the correlation between lumber and timber prices is technological advancement in lumber production. For instance, optimized cutting and increased efficiency of downstream processing equipment results in less volume of timber needed to produce the same amount of lumber. Improved technology com-

bined with abundant timber supplies results in lower timber prices even during periods of high lumber demand.

In summary, the combination of housing markets, lumber demand and production capacity, sawmill technology, timber supplies, and local market conditions all contribute to short-term disconnections between lumber and timber prices. It takes time for timber markets to adjust to lumber markets. However, the establishment of new mills and expansions are planned for East Texas and across the South, which could be a positive sign for timber markets.

If you have any questions or purchase timber in the East Texas market and would consider being a bi-monthly price reporter, please contact Nana Tian (nana.tian@tfs.tamu.edu) at Texas A&M Forest Service.

References:

1. Link to article: <https://goo.gl/kZ375F>.
2. Prices reported by RandomLengths.
3. Prices reported by Texas A&M Forest Service.
4. Reported by U.S. Census Bureau, August 2018.
5. Reported by Forest2Market: United States Forest Inventory and Harvest Trends on Privately-Owned Timberlands.

## Upcoming Events

**Friday, February 6, 2019 from 8:30am-2:30pm -Spring Wildlife Habitat Workshop**– Location: Polk County AgriLife Extension Office, 602 E. Church St. Ste. 127, Livingston, TX 77351. Learn the skills needed to manage your property for wildlife in Polk County. Lunch will be provided. To find out more information or to register for this event , call 936-327-6828.

**Monday, February 11, 2019 from 8:00am-5:00pm– 2019 Texas Timber Income and Property Tax Workshop**– Location: Lottie & Author Temple Civic Center, 601 Dennis St., Diboll, TX. This event will provide a working knowledge of timber tax including the basics on timber taxation and the latest changes to tax laws for 2018 tax return preparation. Cost is \$75/person. Lunch is provided. For additional information, please contact Brittany Carpenter at (979)458-6630 or bcarpenter@tfs.tamu.edu.

**Friday, February 22, 2019 from 9:00am-2:00pm– Deep East Texas Forestry Symposium**– Location: First Baptist Church Family Life Center, 112 Timberland Hwy, Pineland, TX 75968. Learn more about forest stewardship, timber market outlook, cost assistance information, and tools that assist you in better managing your land. Cost is \$10. Lunch is provided. Please RSVP by February 18, 2019. For more information contact Michelle Moore at 936-639-8184 or michelle.moore@tfs.tamu.edu. Register online at [https://tfsweb.tamu.edu/healthyforests\\_workshops](https://tfsweb.tamu.edu/healthyforests_workshops)

**Monday, February 26, 2019 from 8:30am-3:00pm-Wildlife and Natural Resources Management Program**– Location: Law Enforcement Training Center in Linden Texas. Cost is \$20. Lunch is provided. For more information or to RSVP for this event please call 903-756-5391.

**Saturday, March 2, 2019 from 10:00am-4:00pm- Texas Wildlife &Woodland Expo and Spring Fling**– Location: Lonestar College-Montgomery, 3200 College Park Dr., Contro/The Woodlands, TX. Enter West Campus Dr. off Hwy 242. Enjoy a day with the family learning about wildlife, water, wildflowers, woods and wildfire from the experts. Cost is free. For more information visit [expo.tamu.edu](http://expo.tamu.edu).



# BMPs: What You Should Know as a Forest Landowner

**Donna Work**  
**Biologist IV**





- **A practice or combination of practices determined to be an effective and practicable means of preventing or reducing the amount of water pollution generated by nonpoint sources.**



**Good, sound forestry practices that prevent soil erosion and protect water quality.**

# What Are BMPs?

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## Federal Legislation

- **1972 Clean Water Act**
  - Focused on *Point Source* water pollution
- **Reauthorized in 1987**
  - Shifted focus to *Nonpoint source* (NPS) water pollution

# Why do we have BMPs?

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## **In Texas -**

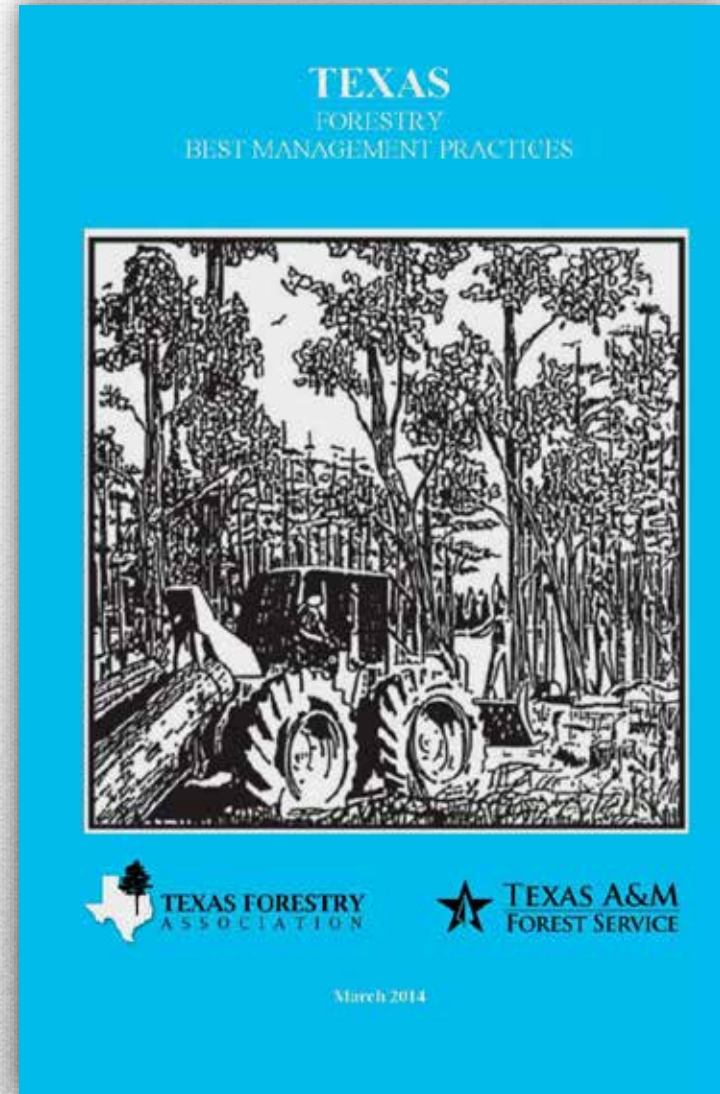
- **Non-Regulatory BMP Program**
- **Steady growth in compliance rates**
- **Proven methods**

# **Program Specifics**

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# The Blue Book

- **Introduction**
- **Guidelines**
- **Recommended Specs**
- **Glossary**
- **Wetlands**





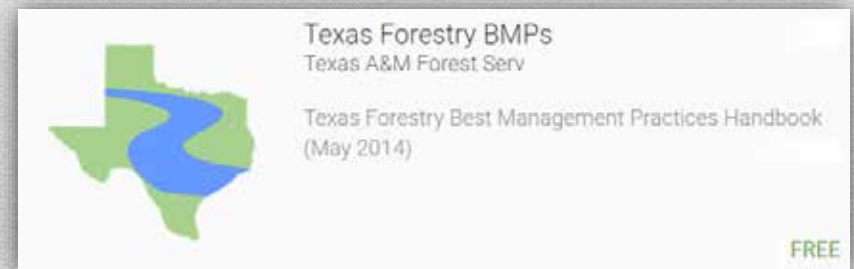
# The Blue Book

# There's an App for that!

- **Android version: Google Play → search for “Texas Forestry BMPs”**



- **Apple (iOS) version: iTunes → search for “Texas Forestry BMPs”**





# Reasonable Expectations

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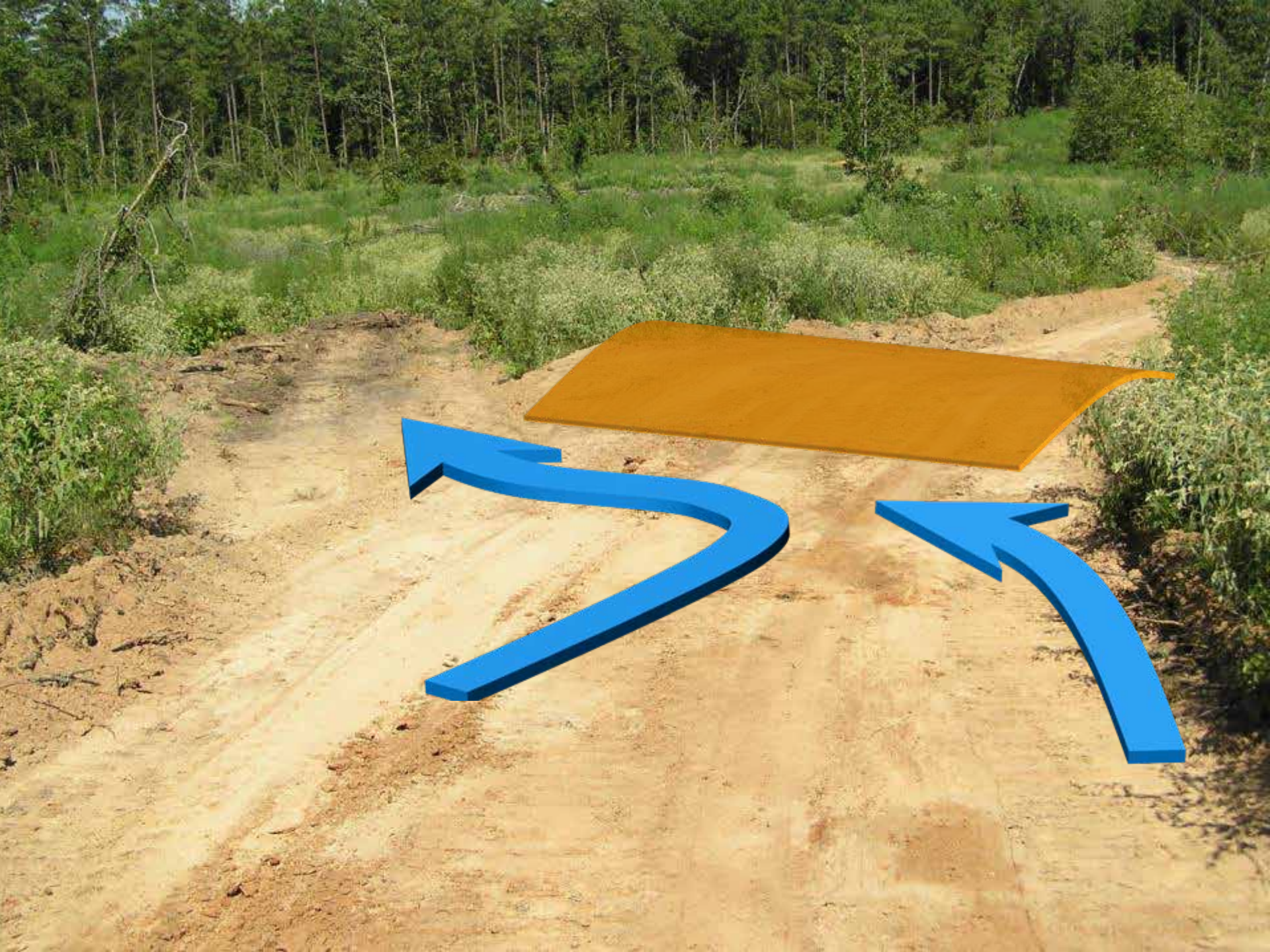
- **Should be left in good condition**
  - **Reshaped and/or stabilized**
  - **Water control structures that are properly installed**
    - § **Should not direct runoff to streams**
    - § **Types determined by future use**



# Roads

---













# Streamside Management Zones

- **Protect streams and other sensitive areas**
- **May be selectively logged**
- **Roads, landings, and firebreaks should be kept out**
- **Equipment and slash should be kept out of stream channel**
- **50 feet on both sides**

SMZs

---





- **Avoid when possible**
- **Streams should be crossed appropriately**



# Stream Crossings

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- **Avoid when possible**
- **Streams should be crossed appropriately**



# Stream Crossings

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- **Avoid when possible**
- **Streams should be crossed appropriately**



# Stream Crossings

---



- **Avoid when possible**
- **Streams should be crossed appropriately**



# Stream Crossings

---



- **Avoid when possible**
- **Streams should be crossed appropriately**



# Stream Crossings

---



**Dirt crossings are never acceptable**



Stream Crossings

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- **Should be remediated following operations**



# Stream Crossings

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- **Halt operations when the tract is too wet**
- **Rutting can alter hydrology and negatively affect site productivity**
- **Cease operations when significant rutting becomes evident**



When to operate





When to operate

---



- **All trash generated by an operation should be disposed of properly**
  - **Tires**
  - **Buckets**
  - **Batteries**
  - **Etc.**



Give a hoot

---



- **Conducting operations on the contour can significantly reduce the amount of erosion, especially during mechanical site preparation and machine planting.**



# Contours

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- **Keep chemicals out of waterways**
  - **No direct application**
  - **Be mindful of where equipment is serviced**



**No extra additives**

---



- **At least 50 feet from SMZs**
- **Well drained, but not directly draining into an SMZ**
- **Not in a sensitive area**
- **Residue piles outside of drains**
- **Stabilized upon completion of operation**

**Landings/Decks/Sets**





Landings/Decks/Sets

---



- Use a professional forester



What you can do specifically



- Use a logger that has received BMP training

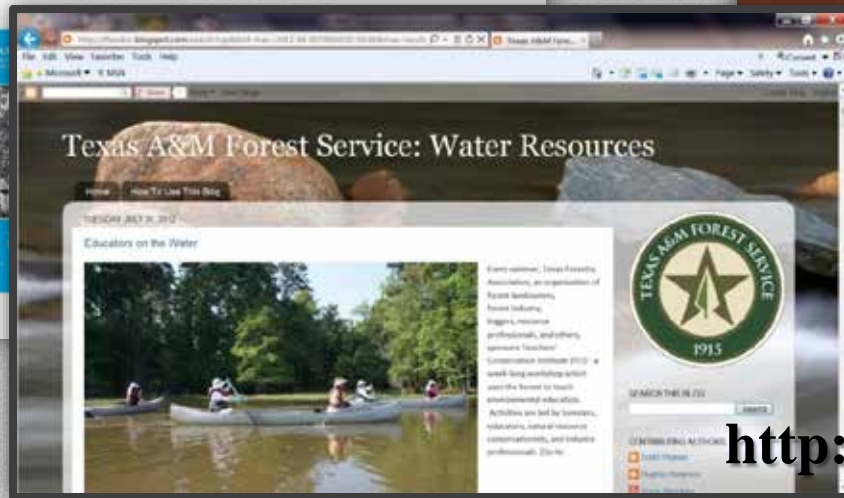
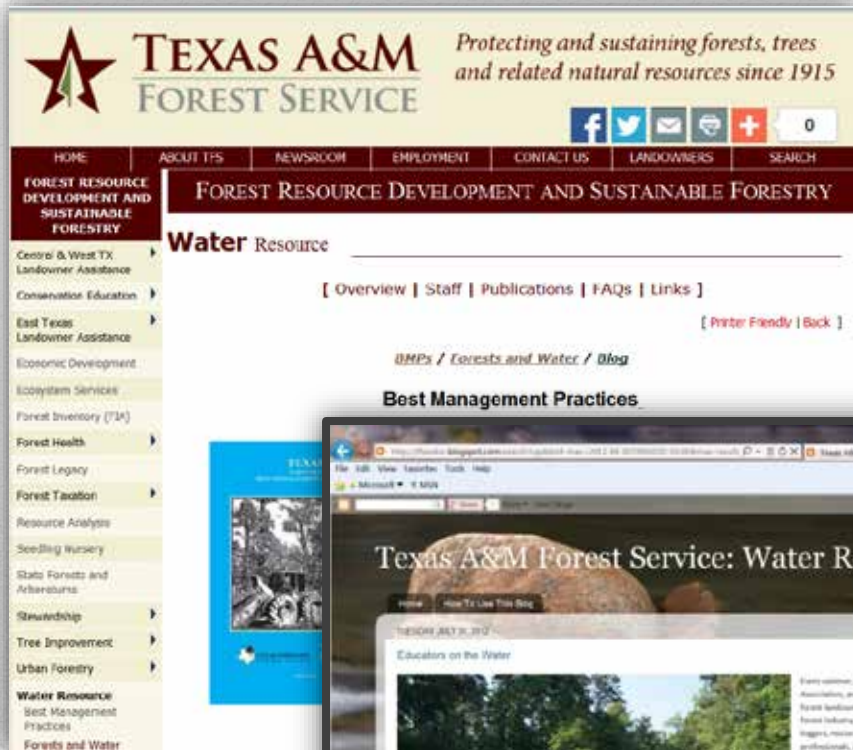


[www.texasforestry.org](http://www.texasforestry.org)

What you can do specifically



- Familiarize yourself with BMPs




<http://tfsweb.tamu.edu/water>



What you can do specifically

[http://tfsweb.tamu.edu/Water\\_Publications](http://tfsweb.tamu.edu/Water_Publications)



**W. GOODRICH JONES  
STATE FOREST**

**Best Management Practices  
Virtual Demonstration Tour**

**Demonstrations of Commonly  
Implemented Texas Forestry  
BMPs for Water Quality  
Protection**

Texas A&M Forest Service  
Water Resources  
21275 First St.  
Lufkin, TX 75901  
(936) 639-6180  
<http://tfsweb.tamu.edu/water>

Texas A&M Forest Service  
Conroe District Office  
1328 FM 3488  
Conroe, TX 77384  
(936) 273-2268  
[press@stateforest@tfs.tamu.edu](mailto:press@stateforest@tfs.tamu.edu)



**Best Management Practices  
Virtual Demonstration Tour**

**Step #1 - Road Stabilization - Rock**

**Purpose:**

- Crushed Concrete is Inexpensive
- Allows Road to be Used During Wet Conditions
- Supports Heavy Traffic

While more expensive than seeding, armorng a road surface with rock is an excellent method of preventing erosion and improving access, especially for roads that remain wet for extended periods of time, experience heavy traffic, or are prone to erosion.

This section of road runs through a low area that naturally remains wet even during drier periods. It was reshaped and armored with rock in 2005 to improve access and reduce erosion. The road base was first graded, and then a geotextile fabric was installed along the road corridor. This fabric allows water to drain through the road, prevents the rock from sinking into the ground, and dissipates tire pressure to provide a sturdy well-drained surface for vehicular traffic. Finally, 71 cubic yards of crushed concrete were spread and compacted to form the surface. The road surface was crowned to help shed water off the roadway and prevent pooling on the road. Crushed concrete is less expensive than limestone and granite and generally performs just as well.



What you can do specifically



- **Include BMPs in your timber sale contracts**



What you can do specifically



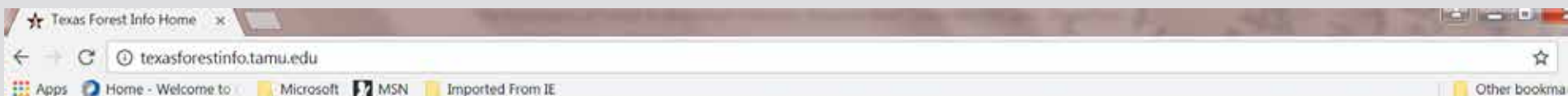
- **Join your local Landowner Association and Texas Forestry Association**



What you can do specifically

# Texas Forest Information Portal

<http://texasforestinfo.tamu.edu> or [texasforestinfo.com](http://texasforestinfo.com)




Texas Forest Information Portal


[Home](#) [Support](#) [Contact](#) [Sign Up](#)


*Discover & Explore an array of maps depicting forest conditions*

*Query & Download data and reports on a variety of forest interests*


## Applications


Timber Supply Analysis 


Forest Distribution 

Forest Ecosystem Values 

Economic Impact 


Map My Property 

Urban Tree Canopy 


Forest Products Directory 

Timber Decision Simulator 

Tree Trails 

Forest Drought 

Plan My Land Operation 

My City's Trees 

Forest Action Plan 

Mobile Apps 

Story Maps Gallery 

## About this Portal

Through Texas Forest Info, Texas A&M Forest Service provides landowners, managers, government officials, local community groups, and the public state-of-the-art access to information about trees and forest lands across the state. Click [here](#) to subscribe to notifications of updates.

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[Accessibility](#), [Policies & Public Notices](#) | [Disclaimer](#)



## For more information

Texas Forestry Best Management Practices: <http://tfsweb.tamu.edu/water>

Pro Logger Database: <http://www.texasforestry.org/programs/logger-listing>

### Consulting Foresters:

TFS - <http://texasforestsERVICE.tamu.edu/uploadedfiles/frd/referral.pdf>

SAF - <http://www.safnet.org/certifiedforester/findcertifiedforester.cfm>

ACF - <http://www.acf-foresters.org/>

# What you can do specifically

# Questions

The image shows a screenshot of the Texas A&M Forest Service website. The browser address bar displays [tfsweb.tamu.edu](http://tfsweb.tamu.edu). The website header includes the Texas A&M Forest Service logo, social media icons for Facebook, Twitter, YouTube, and LinkedIn, and a dropdown menu for user selection. A navigation menu below the header lists: [Contact Us](#) (circled in red), [Search](#), [About](#), [Newsroom](#), [Employment](#), and [CONNECT](#). Below this is a secondary menu with categories: [WILDFIRES & DISASTERS](#), [PREPARING FOR WILDFIRES](#), [MANAGE FORESTS & LAND](#), [COMMUNITY & URBAN FORESTRY](#), [DATA & ANALYSIS](#), and [LEARN & EXPLORE](#). The main content area features a large banner with the word "CONSERVE" overlaid on a photograph of a person in a field. A circular badge on the right side of the banner reads "TEXAS A&M FOREST SERVICE 1915". At the bottom of the banner are six circular icons: a question mark, a flame, a prohibition sign, a leaf, a fire hydrant, and an insect.



# CONNECT

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- [Organizational Unit](#)
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- [TFS Locations](#)
- [Questions & Feedback](#)
- [Contact a Professional +](#)
- [Report Timber Theft](#)
- [Newsroom +](#)
- [Events +](#)
- [Employment Opportunities](#)
- [East Texas Forestry Vendors](#)
- [Seedling Store and Nursery](#)
- [Questions and Feedback](#)
- [Social Media](#)
- [About +](#)
- [Search](#)

## CONTACT US: MAIN

Welcome to TFS Contact Us!

Report Arson or Timber Theft: 1-800-364-3470

Media Line: 979-458-6606

We offer many ways to search for TFS Contacts. Simply choose from the search options below:



Persons with hearing or speech disabilities are invited to contact Texas A&M Forest Service using the Dial 711 Telecommunications Relay Service through their local phone company provider.

## CONNECT

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Opportunities

East Texas Forestry  
Vendors

Seedling Store and  
Nursery

Questions and Feedback

Social Media

## CONTACT US: COUNTY SEARCH

County Map

**County Search**

Search for Your Texas County

Search

- or -

Select Your Texas County

\*\* Select a Texas county \*\*



Searching for TFS Programs by County is easy, just use the search fields above.  
You can search by county name or simply select a county from the drop down list.



## CONNECT

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Opportunities

East Texas Forestry  
Vendors

Seedling Store and  
Nursery

Questions and Feedback

Social Media

## CONTACT US: COUNTY SEARCH

County Map

County Search

Search for Your Texas County

Search

- or -

Select Your Texas County

\*\* Select a Texas county \*\*

We found the following county based on your search.  
(Click the county name for more.)

◦ Leon



# COUNTY SEARCH

---

[ [Print](#) | ]

Click below for TFS Program contact info for **Leon County, TX**.

- [Fire & Emergency Response](#)
- [Fire Prevention & Mitigation / Wildland Urban Interface](#)
- [Landowner Assistance](#)

“Persons with hearing or speech disabilities are invited to contact Texas A&M Forest Service using the Dial 711 Telecommunications Relay Service through their local phone company provider.”

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# COUNTY SEARCH

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[ [Print](#) | ]

Key / Office contacts for **Landowner Assistance** in **Leon County, TX.**

## Key Contacts

Name \*

Contact Info.

Location

**Easley, Michael**

(936) 544-7798

Crockett, TX

District Forester II

[measley@tfs.tamu.edu](mailto:measley@tfs.tamu.edu)

OFFICE CONTACT: Crockett

Office Information

## Mailing Address

1605 W. Loop 304  
Crockett, TX 75835-3409

## Phone Numbers

Phone: (936) 544-7798

Fax: (936) 544-4369

## Physical Address

1605 West Loop 304  
Crockett, TX 75835-3409

Office Employees (5)

Didn't find what you were looking for?

---

## Contact TFS Headquarters

By Phone: (979) 458-6650

By E-mail: [texasstateforester@tfs.tamu.edu](mailto:texasstateforester@tfs.tamu.edu)

[Search for TFS Contacts by Program.](#)

[Have Questions / Feedback?](#)

**“Persons with hearing or speech disabilities are invited to contact Texas A&M Forest Service using the Dial 711 Telecommunications Relay Service through their local phone company provider.”**



**The End!**

Continuing Education for Forestry Professionals  
Texas Forestry Best Management Practices (BMPs)  
Core Workshop Agenda

7:30-7:45.....Registration

7:45.....Welcome

8:00.....Why are we here?

About Our Program

What are BMPs?

Importance of BMPs and Maintaining a Voluntary Program

Forest Roads

**9:30-9:45.....Break**

9:45.....Stream Crossings

Stream Classification

Streamside Management Zones (SMZs)

Sets

Wetlands

Planning

**11:00.....Lunch**

11:30.....Field Trip

2:00.....Begin Next Session

## Online Resources

Texas A&M Forest Service (TFS)  
-tfsweb.tamu.edu

Texas Forest Info  
-texasforestinfo.tamu.edu

Texas Forestry Association  
-www.texasforestry.org

TFS Water Resources Blog  
-tfswater.blogspot.com

TFS Water Resources/BMP Webpage  
-tfsweb.tamu.edu/WaterResourcesandBMPs

Natural Resource Conservation Service (NRCS) Websoil Survey  
-websoilsurvey.nrcs.usda.gov

Trees of Texas  
-texastreeid.tamu.edu

The Sustainable Forestry Initiative  
-www.sfiprogram.org



# TLC CORE PRO LOGGER WORKSHOP

February 25, 2022, TFA, Lufkin

7:30-----8:00	Registration	
8:00-----8:15	Opening Remarks, TLC	D. Duren
8:15-----9:15	Best Management Practices (BMP)	Donna Work
9:15-----9:30	BREAK	
9:30-----10:30	BMP	Donna Work
10:30-----11:00	(Environmental Concerns)	Rob Hughes
11:00-----11:45	LUNCH	
11:45-----3:00	BMP-Field Tour & Issue BMP Certificates (certificates to be issued in the field)	
3:00	Adjourn the Workshop	

**TEXAS LOGGING COUNCIL**  
**SFI Pro Logger Workshop**  
**TFA/Lufkin, November 20, 2020**

7:30-8:00	Registration	
8:00-8:10	Welcome, anti-trust statement, & comments, TLC	Dave Duren
8:10-8:30	TFA/TLC and You, TFA	Susan Stutts
8:30-9:30	TFS, Best Management Practices (BMP)	Sarah Bailey
9:30-9:45	BREAK	
9:45-11:00	TFS, BMP	Sarah Bailey
11:00-12:00	LUNCH	
12:00-????	TFS, BMP Video, A Virtual Field Tour	Sarah Bailey

# TLC PRO LOGGER WORKSHOP

APRIL 23, 2021

## WINSTON LAND & CATTLE

7:30.....8:00	Registration	
8:00.....8:30	TFA, (SFI Environmental Concerns)	Rob Hughes
8:30.....9:30	TFS, Best Mgmt. Practices (BMP)	Donna Work
9:30.....9:45	BREAK	
9:45.....11:00	BMP	Donna Work
11:00...11:45	LUNCH	
11:45...3:00	BMP/Field Tour (TFS)	Donna Work
3 :00.....3:30	TLC, Working For Loggers	Dave Duren

**TLC PRO LOGGER WORKSHOP**

**March 1**

**TFA BOARD ROOM, LUFKIN**

**FRIDAY, 09/13/19**

7:30-----8:00      Registration

8:00-----8:10      Opening Remarks

8:10-----9:30      Todd Thomas, TFS, BMP Fundamentals

9:30-----9:45      BREAK

9:45-----11:00    Todd Thomas, TFS, BMP Fundamentals

11:00-----12:00    LUNCH

12:00-----2:30    Todd Thomas, Donna Work, TFS, Field Stops

2:30-----2:45      Thomas Dimmitt, TFS, Certificate Presentation

2:45-----3:00      BREAK

3:00-----3:45      Bubba Bonner, BITCO Insurance, Truck Safety Program & Insurance Rates

3:45-----4:30      Rob Hughes, TFA, Invasive Species, Aesthetics, & Special Sites

4:30                    Adjourn the Workshop

**TLC PRO LOGGER WORKSHOP**

**SEPTEMBER 13**

**TFA BOARD ROOM, LUFKIN**

**FRIDAY, 09/13/19**

7:30-----8:00	Registration
8:00-----8:10	Opening Remarks
8:10-----9:30	Thomas Dimmitt, TFS, BMP Fundamentals
9:30-----9:45	BREAK
9:45-----11:00	Thomas Dimmitt, TFS, BMP Fundamentals
11:00-----12:00	LUNCH
12:00-----2:30	Thomas Dimmitt, TFS, Field Stops
2:30-----2:45	Thomas Dimmitt, TFS, Certificate Presentation
2:45-----3:00	BREAK
3:00-----3:45	Bubba Bonner, BITCO Insurance, Truck Safety Program & Insurance Rates
3:45-----4:30	Rob Hughes, TFA, Invasive Species, Aesthetics, & Special Sites
4:30	Adjourn the Workshop

**TLC PRO LOGGER WORKSHOP**

**SEPTEMBER 16, 2021**

**WINSTON LAND & CATTLE**

7:30.....8:00	Registration	
8:00.....8:30	TFA, (SFI Environmental Concerns)	Rob Hughes
8:30.....9:30	TFS, Best Mgmt. Practices (BMP)	Donna Work
9:30.....9:45	BREAK	
9:45.....11:00	BMP	Donna Work
11:00...11:45	LUNCH	
11:45...3:00	BMP/Field Tour (TFS)	Donna Work
3 :00.....3:30	TLC, Working For Loggers	Dave Duren



# **Domtar BMP Refresher Training**

September 10, 2019

Cass County Law Enforcement Training Center Linden, Texas.

## **Agenda**

- 8:00 a.m. Sign In, Coffee, Doughnuts
- 8:15 a.m. Welcome
- 8:20 a.m. Classroom BMP Discussion:  
*BMP History: Why BMPs Are Important*  
*Roads*  
*Stream Crossings*  
*Stream Classification*  
*Streamside Management Zones (SMZs)*  
*Planning*
- 9:40 a.m. BREAK
- 10:00 a.m. Field Portion
- 10:20 a.m. First Stop:  
*Waterbar & Wing Ditch Discussion*
- 10:40 a.m. Second Stop:  
*Stream Crossing & SMZ Discussion*
- 11:00 a.m. Wrap Up

## **BMPs: Forest Roads and Stream Crossings Workshop**

**February 21, 2020, TFA Office, Lufkin**

- 7:30....8:00 Dave Duren, TLC, Welcome and opening remarks
- 8:15....9:00 Thomas Dimmitt, TFS, BMP History/Planning
- The Clean Water Act: What is Forestry's Role?
  - Texas Forestry BMPs Mobile App
  - BMP Implementation Scores
  - Plan My Land Operation
- 9:00....9:15 BREAK
- 9:15....10:15 Thomas Dimmitt, TFS, Forest Roads/SMZs
- Forest Roads Considerations
  - Structural BMPs
    - Waterbars
    - Wing Ditches
    - Dips
  - Road Stabilization
  - Stream Identification
  - SMZs Specifications
- 10:15...11:00 Trevor Terry, Hancock Forest Management
- Why BMP's Are Important To The Industry
- 11:00...12:00 LUNCH
- 12:00...3:00 Thomas Dimmitt, TFS, Field Tour
- 3:00....3:15 Thomas Dimmitt, TFS, distribute documents to attendees
- 3:15 Adjourn Meeting

## **BMPs: Forest Roads and Stream Crossings Workshop**

**March 10 & 11, 2022, TFA Office, Lufkin**

- 7:30....8:00     **Welcome and Opening Remarks** - Dave Duren, TLC
- 8:15....9:00     **BMP History/Planning** - Donna Work, TAMFS
- The Clean Water Act: Why Do We Have BMPs?
  - BMP Development
  - BMP Implementation Monitoring and Scores
  - Planning
  - Texas Forestry BMPs Mobile App
  - Plan My Land Operation
- 9:00....9:15     BREAK
- 9:15....10:15    **Forest Roads/Stream Crossings/SMZs** - Donna Work, TAMFS
- Forest Roads Considerations
  - Structural BMPs
    - Waterbars
    - Wing Ditches
    - Dips
    - Other
  - Road Stabilization
  - Stream Crossings
  - Stream Classification
  - SMZ Specifications
- 10:15...11:00    Group Discussion – **Why BMP's Are Important To The Industry**
- 11:00...12:00    LUNCH
- 12:00...3:00     Field Tour, Distribution of Certificates
- Adjourn

Texas Logging Council

Six Hour CEU Workshop

Cleveland, Texas, Thursday, November 8, 2018

Cleveland Senior Citizens Center, 2:30-9:00 P.M.

2:00----2:30	Registration
2:30----3:30	Denege Trail, CRP Investigator, DPS
3:30----4:30	Mike Oliver
4:30----4:45	BREAK
4:45----5:15	Sam Scheler, Edward Jones Investments, Your Retirement
5:15----6:15	Ryan Daniel, WestRock, Drones in The Logging Woods
6:15----6:45	Dinner
6:45----7:45	Tood Thomas, TFS, BMP
7:45----8:00	BREAK
8:00----9:00	Jack Campbell, Union Pacific Railroad, Trains and Trucks-Don't Mix

TEXAS LOGGING COUNCIL

Six Hour CEU Workshop, Domino

Graphics Packaging Texarkana Mill Activity Center

Thursday, November 29, 2018 2:30-9:00 P.M.

- |              |  |
|--------------|--|
| 2:00----2:30 | Registration   |
| 2:30----3:30 | Jarrred Lemmon, TFS, Law Enforcement, Legal Timber Harvest Contract, & Timber Therft |
| 3:30----4:30 | Mike Oliver, NRCS, Rain on Soil Compaction Demonstration                             |
| 4:30----4:45 | BREAK  |
| 4:45----5:15 | Michael Oxsheer, Retirement  |
| 5:15----6:15 | Joe Morris, Mideast Energy, Pipeline Safety  |
| 6:15----6:45 | Dinner   |
| 6:45----7:45 | Todd Thomas, TFS, BMP's  |
| 7:45----8:00 | BREAK  |
| 8:00----9:00 | Charley Hirt, Drones in The Logging Woods  |

**TEXAS LOGGING COUNCIL, SIX HR. WORKSHOP**

**Lufkin, Texas, Thursday, December 6, 2018**

**Texas Forestry Office, 2:30-9:00 P.M.**

2:00----2:30	Registration
2:30----3:30	Cody Jenkins, DPS/CVE, Preparing for A Compliance Review
3:30----4:30	Mike Oliver, NRCS, "Rainfall Simulator and Land Uses"
4:30----4:45	BREAK
4:45----5:15	John Thannisch, Commercial Bank of Texas, Are You Ready for Retirement
5:15----6:15	Ryan Daniel, WestRock, Drones in Working Forests
6:15----6:45	Dinner
6:45----7:45	Todd Thomas, TFS, BMP
7:45----8:00	BREAK
8:00----9:00	Don Deitz, SFI Coordinator/Recreational Lease Manager



# **TLC 6 Hr. CEU's, Lufkin-TFA Office**

## **Friday-June 25, 2021**

7:30.....8:00	Registration	
8:00.....8:15	Opening Remarks, TLC -	Dave Duren
8:15.....9:15	TX. DPS/CVE-Permits, Dist. Driving, Load Securement	Rodney Tucker
9:15.....10:00	Trucking & Proper Documentation	Beau Clark
BREAK		
10:15....11:15	Forest Pest & You -- Update, TFS	Allen Smith
11:15....11:45	Trucks/Railroad Crossings, Union Pacific	Jack Bartlett
BREAK		
11:45....12:30	LUNCH	
12:30....1:00	Trucks & Truck Safety, BITCO	Bubba Bonner
1:00.....1:45	BMP Refresher, TFS	Donna Work
BREAK		
2:00.....2:45	H.B. 19 & Legislative Process, TFA	Rob Hughes
2:45.....3:00	Closing Remarks	Dave Duren

**TLC 6 HR. CEU, SILSBEE**  
**AUGUST 5, 2021**  
**Pinecrest Baptist Church**

8:00—8:15	Registration & Opening remarks/TLC	Dave Duren
8:15—9:15	Trucking-Permits, Load Securement, Dist. Driving, TX. DPS/CVE,	Nathan Pierce
9:15—9:45	BMP Refresher, TFS	Donna Work
9:45—10:00	BREAK	
10:00-10:30	Retirement, Edward Jones/Silsbee,	Dale Boothman
10:30-11:30	Truck & Truck Safety, BITCO	Bubba Bonner
11:30-12:15	LUNCH	
12:15-1:15	Trucking & Proper Documentation	Beau Clark
1:15—1:30	BREAK	
1:30—2:00	Trucks & Railroad Crossings, Union Pacific Railroad, Police	Jack Bartlett
2:00—2:30	Drones & Logging, WestRock	M. Entrekin
2:30—3:00	TLC News, HB 19, TFA Annual Meeting, TLC	Dave Duren

**Pro Logger Training**

**Live 6 HR. Workshop**

TFA Office, Lufkin

Date: December 3, 2020

7:30-----8:00	Registration	
8:00-----8:30	Welcome & Opening remarks, TLC	Dave Duren
8:30-----9:00	TFS/Law Enforcement: Proper Timber Sale Contract	Dennis Cochran, M. Cunningham
9:00-----9:15	BREAK	
9:15-----10:30	DPS/CVE: Load Securement, Distracted Driving, & Permits	Randy Noe
10:30----11:00	Truck Safety & Insurance/BITCO(Video)	Bubba Bonner
11:00----11:45	LUNCH	
11:45----12:45	TFS/BMP Refresher	Sarah Bailey
12:45----1:00	BREAK	
1:00-----2:00	Trucking & Proper Documentation	Beau Clark
2:00-----2:30	Pipeline Safety	Jeff Jacks
2:30-----3:00	TST Introduction, TLC	Dave Duren
3:00-----	Adjourn	

**TLC Six Hour CEU WORKSHOP**

**NOVEMBER 14, 2019**

**TFA OFFICE, LUFKIN**

7:30-----7:45	Registration
7:45-----8:00	Dave Duren, TLC, Welcome & Opening Remarks
8:00-----9:00	Cody Jenkins, Compliance Review Officer, DOT Compliance & Required Book Keeping.
9:00-----9:30	John Thannisch, Commercial Bank of Tx., Are You Ready for Retirement
9:30-----9:45	BREAK
9:45-----10:45	Mike Oliver, NRCS, Rain Water Runoff Simulator
10:45-----11:45	Jack Bartlett, Special Agent, Union Pacific Police Department, UP Cares
11:45-----12:45	LUNCH
12:45-----1:45	Thomas Dimmitt, TFS, BMP Update
1:45-----2:00	BREAK
2:00-----3:00	Thomas Dimmitt, TFS, BMP Update 2 <sup>nd</sup> . Half
3:00-----3:30	Dave Duren, TLC, Truck Safety
3:30	Adjourn Workshop

**October 2018 - September 2021 - extension into 2022**

Newsletter	Date
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<i>The Texas Water Source</i>	December 2019	Lake O' the Pines (Camp, Marion, Upshur Co.)	
	January 2020	Lake O' the Pines (Camp, Marion, Upshur Co.)	
	March 2020	Lake O' the Pines (Camp, Marion, Upshur Co.)	
	June 2020	Lake O' the Pines (Camp, Marion, Upshur Co.)	
	July 2020	Adams and Cow Bayous (Jasper and Orange Co.)	
	November 2020	Adams and Cow Bayous (Jasper and Orange Co.)	
	February 2021	Adams and Cow Bayous (Jasper and Orange Co.)	
	(published Ma.; already reported on QPR)	April 2021	Adams and Cow Bayous (Jasper and Orange Co.)
	written in advance by Sarah	April/May 2021	Double Bayou (Chambers and Liberty Co.)
	June 2021	Double Bayou (Chambers and Liberty Co.)	
August 2021	Double Bayou (Chambers and Liberty Co.)		
February 2022	Double Bayou (Chambers and Liberty Co.)		

Link to these newsletters:

[https://tfsweb.tamu.edu/Water\\_Publications/](https://tfsweb.tamu.edu/Water_Publications/)

<i>Forest Stewardship Briefings</i>	November 2019
	January 2020
	May 2020
	July 2020
	October 2020
	January 2021
	March 2021
	April 2021
	July 2021
	August 2021
	March 2022
	May 2022

Link to these newsletters:

<https://tfsweb.tamu.edu/StewardshipPublications/>

<i>Forest Landowner Briefings</i>	October 2019	Vol. IX
	July 2020	Vol. X
	August 2021	Vol. XI

Link to these newsletters:

[https://tfsweb.tamu.edu/Water\\_Publications/](https://tfsweb.tamu.edu/Water_Publications/)

Date	Association or Group	Topic	Location
3/7/2019	Richland-Chambers WSPP Stakeholders	BMPs and Herbicide Use	Blooming Grove
3/19/2019	SFI Implementation meeting	Water Resources Program updates	Lufkin
6/28/2019	Hood County Landowner Workshop	Plan My Land Operation and BMPs	Granbury
7/27/2019	Trinity County Forest Landowners Association	BMPs For Firelines & Forest Roads	Trinity
9/18/2019	Eastland Landowner Workshop	BMPs and Plan My Land Operation	Cisco
9/19/2019	Bell County Landowner Workshop	BMPs and Plan My Land Operation	Killeen
12/10/2019	Attoyac Bayou Stakeholder Meeting	BMPs and Wildlife Benefits	Nacogdoches
7/25/2020	Ranch Owners Association	Brush Control + RxFire in Riparian Areas	Zoom
10/27/2020	Forestry Production & Management Virtual W	Developing a Sustainable Forestry Operation - How to Get St	Zoom
11/6/2020	TFS-sponsored "Texas Women in the Woods" \	Forest Ecology and Management; Financial Management of f	Virtual
5/21/2021	TFS/Texas Wildlife Assoc. sponsored "Texas W	Forest Health; Fire on the Landscape; Soil and Water Conser	Virtual
8/17/2021	TFS/Texas Wildlife Assoc. sponsored "Texas W	Forestry and Game Management; Forestry and Non-game M	Virtual
9/24/2021	Marion/Cass Co. Forestry Forum	Forestry BMPs	Kellyville

**TOTALS:**

► **Note: These are meetings you gave a presentation.**



Number of Attendees	Length of Session/Presentation	Presenter(s)
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**October 2018 - September 2021 - extension into 2022**

36	1 hr	Hazel	
21	15 min.	Donna	
22	30 min.	Hazel	
12	60 mins.	Thomas Dimmitt	
48	30 min.	Hazel	
40	30 min.	Hazel	
13	30 min.	Donna	One "landowner," 1 consultant; others were agency personnel
14	1 hr	Hazel	
25	45 min.	Hughes	Landowners
58	4.5 hrs.	Various	Count as a LO meeting sponsored by us.
20	3.5 hrs.	Various	Count as a LO meeting sponsored by us.
25	3.5 hrs.	Various	Count as a LO meeting sponsored by us.
16	0.75 hours	Donna	

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TEXAS A&M  
**AGRI**LIFE  
EXTENSION



# MARION-CASS FORESTRY FORUM

TEXAS A&M AGRILIFE EXTENSION

SEPTEMBER 24TH, 2021

## ORDER OF PRESENTATIONS

9:00- Welcome- Marion County Extension Agent Doug Weir

9:05-Overview of Marvin Nichols- Jim Thompson, CFO Ward Timber

9:30-Grazing Forestland- Jason Villwock, NRCS Forester, and Jason Hohlt, NRCS Range Management Specialist

10:30- Vegetative Invasive Species Management- Michelle Moore, Staff Forester, Texas A&M Forest Service

11:30- Lunch

12:30- Establishing Hardwood Stands- Dr. Eric Taylor, Silviculture III with Texas A&M Forest Service and Forestry Specialist with Texas A&M AgriLife Extension

1:30- Hardwood Best Management Practices- Donna Work, Biologist IV with Texas A&M Forest Service

903.756.5391

Address:  
130 Kelly Park Rd  
Jefferson, TX 75657

[jessica.rymel@ag.tamu.edu](mailto:jessica.rymel@ag.tamu.edu)

The members of Texas A&M AgriLife will provide equal opportunities in programs and activities, education, and employment to all persons regardless of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity and will strive to achieve full and equal employment opportunity throughout Texas A&M AgriLife. If you need any type of accommodation to participate in this program or have questions about the physical access provided, please contact Jessica Rymel by phone at 9037565391 at least 2 weeks prior to the program.

Date	Association or Group or Event / Audience	Topic	Location
10/23/18	State Technical Advisory Committee Meeting	Forestry Sub-committee Update and Bedding Practice Review	Austin
2/22/19	Frio River Stakeholder Meeting	Presentation of Final Results -Frio River Study	Leakey
1/5/2019	Texas Master Gardener's Environmental Studies Sch	Texas Forests and Rainforests	Ft Parker
1/31/2019	Watershed Coordinators Roundtable Meeting	TFS Water Resources Program & BMPs Updates	Waco
Winter 2019	Southern Region Water Management Conference	Submitted abstracts	College Station
Winter 2019	Texas Forests and Drinking Water Partnership	Conducted field tour and meeting	McKinney Rouge
4/4/2019	NRCS Principle Staff Meeting	TFS Partnership Agreement & Statewide Collaboration Opportunit	Austin
4/23/2019	Texas Master Naturalist	Riparian Ecology & Management	Salado
6/10/2019	Hill Country Chapter-SAF	Riparian Area assessments and healthy watersheds	Boerne
6/22/2019	TFA - Tree Farmer of the Year Tour	SMZs/BMPs	Smith Co.
6/25/2019	NRCS Ecological Science Technical Training	Practical Silviculture for Non-Foresters	Bryan
6/26/2019	NRCS Ecological Science Technical Training Field ses	Practical Silviculture for Non-Foresters & BMPs	Anderson
7/13/2019	Texas Master Gardeners Environmental School	Floodplain Ecosystems and Management	Ft. Parker
7/17/2019	Southern Region Water Conference/TAMU Agrilife	Texas BMP Compliance Update	College Station
7/18/2019	I-Train Texas 4H program	Texas Water, Woodlands and Management	Killeen
7/25/2019	Southern Region Water Conference	Land Stewardship Training Program-Designed to Improve Water C	College Station
7/30/2019	NRCS Ecological Science Training	Practical Silviculture for Non-Foresters	Kerrville
7/31/2019	NRCS Ecological Science Training	Field Application of BMPs	Kerrville
8/20/2019	NRCS Ecological Science Training	Practical Silviculture for Non-Foresters	Stephenville
8/21/2019	NRCS Ecological Science Training	Field Application of BMPs	Stephenville
9/7/2019	SA Zoo	Greeted Visitors & Explained Tree-ID Signs	San Antonio
11/1/2019	AgriLife: Marion -Cass Forestry Forum	Best Management Practices	Jefferson
1/14/2020	SA Zoo Staff/TFS Staff	Update on TFS Kiosk Content/ Usage Tutorial/Future Content	SA Zoo
1/14/2020	TFS Staff	Gave Leighton and Jaycee Tour of SA Zoo Trees	SA Zoo
1/25/2020	National Garden Club - Texas Environmental Studies	Historical Environmental Leaders - National & Texas	Old Fort Parker
1/25/2020	National Garden Club - Texas Environmental Studies	Riparian Function & Health Assessments for Restratement/Managem	Old Fort Parker
2/20/2020	Piney Wood Lakes Texas Master Naturalists training	Forest Ecology and Management - focussing on protecting water c	Livingston
3/4/2020	Texas Master Naturalists & Interested Lanowners	Tree ID and Riparian Functioning River Walk	Medina River Natu
5/21/2020	Public/Texas Master Naturalists		WebEx
6/11/2020	North Texas Coucil of Governements	Trees are the Answer: The Role of a Healthy Urban Canopy in an L	WebEx
6/16/2020	Texas Master Naturalists	Forest Ecosystems and Ecology - with focus on water and forests	WebEx
6/30/2020	Texas Master Naturalists	Riparian Ecology and Management	WebEx

8/19/20	TWRI and Agrilife Extension	Role of i-Tree Hydro in Watershed Planning for future WPPs	Virtual
10/6/2020	City of Houston Sourcewater Protection Team	TFS and COH-SWP Cross-Training	JSF
10/20/2020	NRCS State Technical Advisory Meeting	Forest Action Plan	Virtual
1st quarter 2021	Source Water Collaborative's Forestry Learning Exchange	Benefits of Water for Drinking Water	Virtual(?)
12/9/2020	Continuing Fire Training-Water Quality and BMPs for TFS & Partners + Landowners		Virtual
1/20/21	Spring Creek WPP Steering Committee	Spring Creek Watershed Protection Plan I-Tree Hydro Results	Virtual
2/12/21	Urban Riparian Association	The Role of Forests and Trees in Urban Watershed Protection in T	Virtual
3/4/2021	Piney Wood Lakes Texas Master Naturalists training	Forest Ecology and Management - focussing on protecting water c	Virtual
3/10/2021	Water and Sediment Quality Committee	The Role of Forests and Trees in Urban Watershed Protection in H	Virtual
4/8/2021	Spring Creek Watershed Protection Plan Meeting	I-tree Hydro modeling results and targeted watershed for increasi	Virtual
4/15/2021	Regional Flood Management Committee	The Role of Forests and Trees in Urban Watershed Management	Virtual
6/8/2021	West Houston Association Sustainable Infrastructure	Houston Corporate Sustainability Project Expansion into MUDS an	Houston
8/23/2021	Corporate Sustainability Tree Planting in Developm	Association of Water Board Directors, Bridgeland	Virtual
3/26/22	Pollinator Festival/Guests of Guadalupe River State	Trees/Forests/Pollinators/Water Resources/Fire Protection	Bulverde, TX

### **TFS 101**

3/26/2019	TFS New Employees - first TFS 101	BMP Program Overview and SMZs	ID Fairchild SF
6/19/2019	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
10/28/2019	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
11/20/2019	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
12/11/2019	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
2/19/2020	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
10/14/2020	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
12/8/2020	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
12/16/2020	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
1/27/2021	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
5/5/2021	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
7/14/2021	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
10/13/2021	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF
2/2/2022	TFS New Employees	BMP Program Overview and SMZs	ID Fairchild SF

► **Note: These are meetings, events, etc. (other than forest landowner meetings) where you gave a presentation.**

Number of Attendees	Length of Session/Presentation	Presenter(s)
80	15 min	Lori
30	25 min	Jeff
50	1 hr	Lori
60	45 min	Lori
70		Hughes
75		Hughes
12	45 min	Hazel
23	2 hrs.	Hazel
25	30 min	Hazel
60	15 min.	Donna
55	30 min	Hazel
56	30 min	Hazel
43	2 hrs	Hazel
30	30 min	Jeff
15	3 hrs	Hazel
160	20 min	Hazel
50	30 min	Hazel
50	30 min	Hazel
63	30 min	Hazel
63	30 min	Hazel
500	8 hrs	Jeff McFall
10	1 hr.	Thomas
12	1 hr	Jeff McFall
3	1 hr	Jeff McFall
48	50 min	Hazel
48	2 hrs	Hazel
13	1 hr	Donna
12	4 hrs	Jeff
300	1 hr	Donna, Mac
90	1 hr	Mac
35	1 hr	Sam Rhodes
32	90 min.	Hazel

October 2018 - September 2021 - extension into 2022



3	40 min	Mac
4	9:30 a.m. - 4:30 p.m.	Mac
85	10 min	Hazel
135	30 min.	Hughes Simpson
40		Lori
8	30 min	Mac Martin
100	20 min	Mac Martin
14	1.5 hr.	Donna
50	20 min	Mac Martin
20	Session was 1 hour, Mac Martin	
30	Session was 1.5 hou Mac Martin	
15	Session was 1 hour, Mac Martin, Justin Bower	
20	30 Min	Mac Martin
500	4 hrs	Jeff McFall

21	30 min	Donna
30	30 min	Lori
30	30 min	Donna
27	30 min	
30	30 min	Donna
17	30 min	Donna
30	30 min	Donna
18	30 min	Sarah
10	30 min	Sarah
18	30 min	Sarah
19	30 min	Donna
21	30 min	Donna
20	30 min	Donna
12	30 min	Donna



October 8, 2021

Dear Landowner:

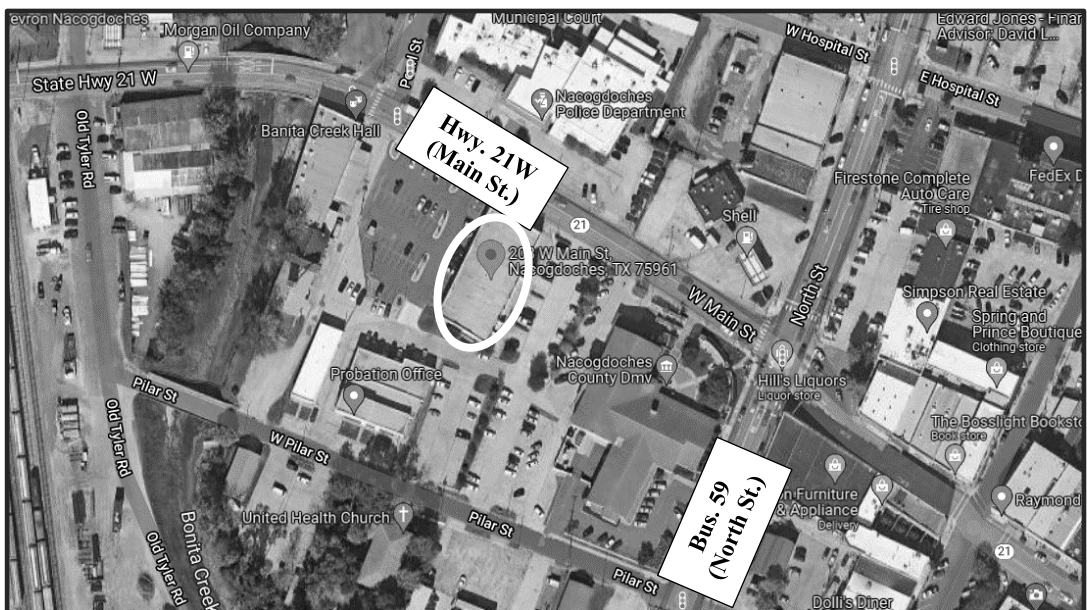
We would like to extend to you an invitation to attend an informative workshop on Saturday, November 13<sup>th</sup>, covering topics of interest to landowners such as yourself. This is an opportunity to meet other Angelina and Nacogdoches County landowners and hear updates from professionals covering topics such as: cost share programs, timberland as an investment, water quality, carbon credits, mitigation banking, trusts, prescribed burning, and more. We hope to see you at this fun get-together!

There is no charge or obligation for attending this meeting. Lunch is provided free of charge thanks to our sponsors – the SFI<sup>®</sup> Implementation Committee.

All we ask is that you RSVP by calling the number listed on the enclosed flyer. Registration begins at 8:30 a.m., with refreshments and lunch provided. Speakers will start at 9:00 a.m.

Sincerely,  
Texas A&M Forest Service, Texas Forestry Association, Angelina/Nacogdoches  
Counties Forest Landowners Association

**Nacogdoches Co.  
Extension Office –  
Courthouse Annex  
203 W. Main St.  
Nacogdoches**



Forest Resource Development and Sustainable Forestry  
481 Texas Forest Service Loop ☆ Lufkin, Texas 75902-0310  
TEL 936/639-8191  
<http://tfsweb.tamu.edu>

# Angelina/Nacogdoches County Forest Landowners

November 13, 2021

## - Landowner Survey -

We Need To Know What You Think!

1) How many acres do you own? \_\_\_\_\_

2) Do you live: on the forested property, in the same county, or outside the county? (Circle one)

3) How did you hear about this particular meeting?

**Letter received in mail** ( )      **Newspaper** ( )      **Newsletter** ( )      **Other** \_\_\_\_\_

4) Would you be interested in joining the Angelina/Nacogdoches County Forest Landowners Association?

**Yes** ( )      **No** ( )      **Already Member** ( )

*Please leave your name and mailing address if you would like information on joining the Association:*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5) Other comments regarding today's meeting (good or bad) or general comments / recommendations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*If you did not get a chance to submit this survey at the meeting, you can complete it at a later date and send it to:*

**Donna Work**  
**Texas A&M Forest Service**  
**P. O. Box 310**  
**Lufkin, TX 75902-0310**

Thank You!

**Angelina/Nacogdoches County Forest Landowners Association  
Sustainable Forestry Initiative® Program**

**November 13, 2021**

- 8:30 a.m. Registration, Coffee, Snacks
- 9:00 a.m. Welcome  
*Representative, Angelina/Nacogdoches County FLA*
- 9:05 a.m. The Sustainable Forestry Initiative® (SFI®) Program in Texas  
*Rex Benham, Resource Management Services and  
SFI® State Implementation Committee Chairman; Lufkin*
- 9:35 a.m. NRCS Technical and Financial Assistance Programs Available to Landowners  
*Jared Clements, District Conservationist, Natural Resources  
Conservation Service; Marshall*
- 10:05 a.m. Timberland as an Investment  
*Joel Rudolph, Broker/Forester, Morrow Land Group; Nacogdoches*
- 10:35 a.m. BREAK**
- 10:45 a.m. Prescribed Burning as a Tool in Forest Management  
*Jason Raines, Forester & Operations Manager, Acorn Forestry; Lufkin*
- 11:15 a.m. Wildlife Management / Mitigation Banking / Carbon Credits  
*Terry Anderson,*
- 11:45 a.m. LUNCH**
- 12:30 p.m. Tools You Can Use – There’s an App for That!  
*Donna Work, Biologist, Texas A&M Forest Service; Lufkin*
- 1:00 p.m. Forestry Best Management Practices and Their Benefits to Wildlife  
*Donna Work, Biologist, Texas A&M Forest Service; Lufkin*
- 1:45 p.m. I’ve got timber; what do I do? Question & Answer  
*Panel of Speakers*
- 2:00 p.m. Wrap Up / Questionnaire



# Angelina/Nacogdoches Counties Forest Landowner Meeting

**FREE!**

**Saturday**

**November 13, 2021**

at

**NACOGDOCHES COUNTY EXTENSION OFFICE – COURTHOUSE ANNEX**

203 W. Main St.; Nacogdoches, TX

**8:30 a.m. – 2:30 p.m.**

## TOPICS INCLUDE:

- Sustainable Forestry Initiative<sup>SM</sup>
- Timberland as an Investment
- Carbon Credits
- Prescribed Burning
- Technical and Financial Assistance
- Water Quality Protection
- Mitigation Banking
- Trusts

**\* \* \* Lunch Provided! \* \* \***

⇒ *Please RSVP by November 5 for lunch head count by calling:*

- Texas A&M Forest Service, Nacogdoches office, (936) 564-9276  
[Please leave call back phone number or email in case we need to reach you about the meeting.]

**\*\* For space considerations, still RSVP, even if it is after November 5! \*\***

**East Texas Timberland Owners Association  
Sustainable Forestry Initiative® Program**

**June 28, 2019**

- 8:30 a.m. Registration, Coffee, Doughnuts
- 9:00 a.m. Welcome  
*Jerry Voss, East Texas Timberland Owners Association (ETTOA)*
- 9:05 a.m. Reforestation and Site Prep  
*John Hawkins, Texas A&M Forest Service (TFS)*
- 9:35 a.m. Land Values in East Texas  
*Carl Herberg, Kingwood Forestry Services Inc.*
- 10:05 a.m. Reasonable BMP Expectations in Forestry Operations  
*Donna Work, Texas A&M Forest Service (TFS)*
- 10:35 a.m. BREAK**
- 10:45 a.m. Shortleaf Pine  
*Mike Oliver, Natural Resources Conservation Service (NRCS)*
- 11:15 a.m. The Sustainable Forestry Initiative® (SFI®) Program in Texas  
*Rob Hughes, SFI Committee Representative, TFA*
- 11:45 a.m. LUNCH**
- 12:30 p.m. Legislative Update  
*Rob Hughes, Texas Forestry Association (TFA)*
- 1:00 p.m. Prescribed Burning and Its Benefits  
*Penny Wilkerson, Texas Parks and Wildlife Dept. (TPWD)*
- 1:30 p.m. Black Bear in East Texas  
*Donna Work, Texas A&M Forest Service (TFS)*
- 2:00 p.m. Wrap Up and Critique  
*Jerry Voss, East Texas Timberland Owners Association (ETTOA)*





# East Texas Timberland Owners Meeting

**FREE!**

Friday  
June 28, 2019

CEUs available for  
Pro Logger,  
Accredited Forester,  
and Certified Forester

at

## CASS COUNTY LAW ENFORCEMENT TRAINING CENTER IN LINDEN

(Located on County Road 1913 east of Linden near intersection with CR 1915; watch for signs.)

8:30 a.m. – 2:30 p.m.

### TOPICS INCLUDE:

- Sustainable Forestry Initiative®
- Legislative Update
- Prescribed Burning Benefits
- Shortleaf Pine
- Reforestation and Site Prep
- Land Values in East Texas
- Best Management Practices
- Black Bear in East Texas

**\* \* \* Lunch Provided \* \* \***

⇒ **Please RSVP by Friday, June 21<sup>st</sup> by calling:**

- Texas A&M Forest Service, Linden office, (903) 756-5571



May 31, 2019

Dear Landowner:

We would like to extend to you an invitation to attend an informative workshop on Friday, June 28<sup>th</sup>, covering topics of interest to landowners such as yourself. This is an opportunity to meet other Bowie, Cass, Marion, and Red River County landowners. You'll also learn about land values in East Texas, benefits of prescribed burning, site preparation and reforestation, shortleaf pine, black bear in East Texas, and more.

There is no charge or obligation for attending this meeting. Lunch is provided free of charge thanks to the SFI<sup>®</sup> Implementation Committee. All we ask is that you RSVP by Friday, June 21<sup>st</sup>, by calling the Texas A&M Forest Service office in Linden: (903) 756-5571.

Registration begins at 8:30 a.m., with refreshments provided. Speakers start at 9:00 a.m. CEUs will be offered for Pro Loggers, Accredited Foresters, and Certified Foresters.

We hope to see you there!

Sincerely,

Texas A&M Forest Service; Texas Forestry Association; East Texas Timberland Owners Association



# East Texas Timberland Owners Association

June 28, 2019

## - Landowner Survey -

We Need To Know What You Think!

1) What type of understanding did you have about the topics presented today BEFORE this meeting?

Poor ( )

Fair ( )

Good ( )

Excellent ( )

2) What type of understanding do you have about the topics presented today AFTER this meeting?

Poor ( )

Fair ( )

Good ( )

Excellent ( )

3) How did you hear about this particular meeting?

Letter ( )

Newspaper ( )

Other ( ) \_\_\_\_\_

4) Would you be interested in joining the East Texas Timberland Owners Association?

Yes ( )

No ( )

Already Member ( )

*Please leave your name and mailing address if you would like information on joining the Association:*

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5) Other comments regarding today's meeting (good or bad) or general comments / recommendations:

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*If you did not get a chance to submit this survey at the meeting, you can complete it at a later date and send it to:*

**Donna Work  
Texas A&M Forest Service  
P. O. Box 310  
Lufkin, TX 75902-0310**

Thank You!

# NEWS

from the Texas A&M Forest Service

May 31, 2019

Water Resources Program  
Lufkin, Texas

**Contact:** Donna Work  
936-639-8191  
dwork@tfs.tamu.edu

<http://tfsweb.tamu.edu>

## Trinity and Houston County Forest Landowners Seminar

**FOREST LANDOWNERS – want to learn more about how to manage your forested property?** Do you have questions concerning the timber tax valuation on your property? Would you like to learn more about wildlife management? Here is your chance to hear professionals from the forestry/natural resources field speak on the following topics:

- Sustainable Forestry Initiative®
- Texas Forestry Association and Legislative/Legal Updates
- How Do Trees Grow?
- Herbicides as a Tool in Forestry
- Timber Markets and the Forest Economy in Texas
- Status of the Black Bear in East Texas
- Providing Food for Wildlife
- Forestry Best Management Practices and Wildlife Benefits
- Information for Forest Landowners with Timber Tax Valuations
- Texas Forest Info Online Mapping and Management Tools
- Importance of Joining a Landowner Association

All this useful information is brought to you free of charge. The meeting, sponsored by the Sustainable Forestry Initiative® Committee of the Texas Forestry Association, is brought to you by Texas A&M Forest Service and the East Texas Forestland Owners Associations for Bowie, Cass, Marion, and Red River counties. A free lunch is provided. Continuing education credits are available for Pro Loggers, Texas Accredited Foresters, and Certified Foresters.

This free seminar will be held *Friday, June 22*, 8:30 am to 3:00 pm, at the Community Center in Groveton, at the “Y” (intersection of Hwy. 94 and 287) near the ball fields. All you need to do is register online at [http://tfsweb.tamu.edu/SFI\\_Groveton](http://tfsweb.tamu.edu/SFI_Groveton) by June 18. For more information, call Texas A&M Forest Service at 936-639-8191, or e-mail Donna Work at [dwork@tfs.tamu.edu](mailto:dwork@tfs.tamu.edu). Come and bring a friend!



**Jasper/Newton County Forest Landowners Association  
Sustainable Forestry Initiative® Program**

**November 15, 2019**

- 8:30 a.m. Registration, Coffee, Doughnuts
- 9:00 a.m. Welcome  
*Representative, Jasper/Newton County Forest Landowners Association*
- 9:05 a.m. The Sustainable Forestry Initiative® (SFI®) Program in Texas  
*Ryan Daniel, WestRock-Evadale, SFI Committee Representative*
- 9:35 a.m. NRCS Technical and Financial Assistance Programs Available to Landowners  
*Brittany Semetko, Natural Resources Conservation Service (NRCS)*
- 10:05 a.m. Timber Theft is a Crime  
*Investigators Dennis Cochran and Josh Mizrany, Texas A&M Forest Service (TFS) Law Enforcement*
- 10:35 a.m. BREAK**
- 10:45 a.m. Herbicides as a Tool in Forestry  
*George Bieber, Red River Specialties*
- 11:15 a.m. Wildlife Management  
*Mariah Box, Cypress Environmental Services*
- 11:45 a.m. LUNCH**
- 12:30 p.m. Pond Management  
*Brock Fry, Texas A&M AgriLife Extension Service, Jasper County*
- 1:00 p.m. Reasonable BMP Expectations in Forestry Operations / Helpful Online Tools  
*Donna Work, Texas A&M Forest Service (TFS)*
- 1:45 p.m. Healthy Trees, Healthy Lives  
*Donna Work, Texas A&M Forest Service (TFS)*
- 2:00 p.m. Wrap Up / Questionnaire  
*Representative, Jasper/Newton County Forest Landowners Assoc.)*





# Jasper/Newton County Forest Landowners Meeting

**FREE!**

**Friday  
November 15, 2019**

CEUs available for  
Pro Logger,  
Accredited Forester,  
and Certified Forester

at

## **COURTHOUSE ANNEX BUILDING IN JASPER**

(Address is listed as 271 E. Lamar St.; but main entrance and parking closest to the meeting room is on Houston St., across from FNB – First National Bank – drive-through.)

**8:30 a.m. – 2:30 p.m.**

### **TOPICS INCLUDE:**

- Sustainable Forestry Initiative®
- Landowner Assistance Programs
- Forestry Herbicides
- Best Management Practices
- Wildlife Management
- Timber Theft
- Pond Management
- Healthy Trees, Healthy Lives

**\* \* \* Lunch Provided \* \* \***

⇒ ***Please RSVP by Monday, November 11<sup>th</sup> by calling:***

- Texas A&M Forest Service: (936) 275-3438



October 11, 2019

Dear Landowner:

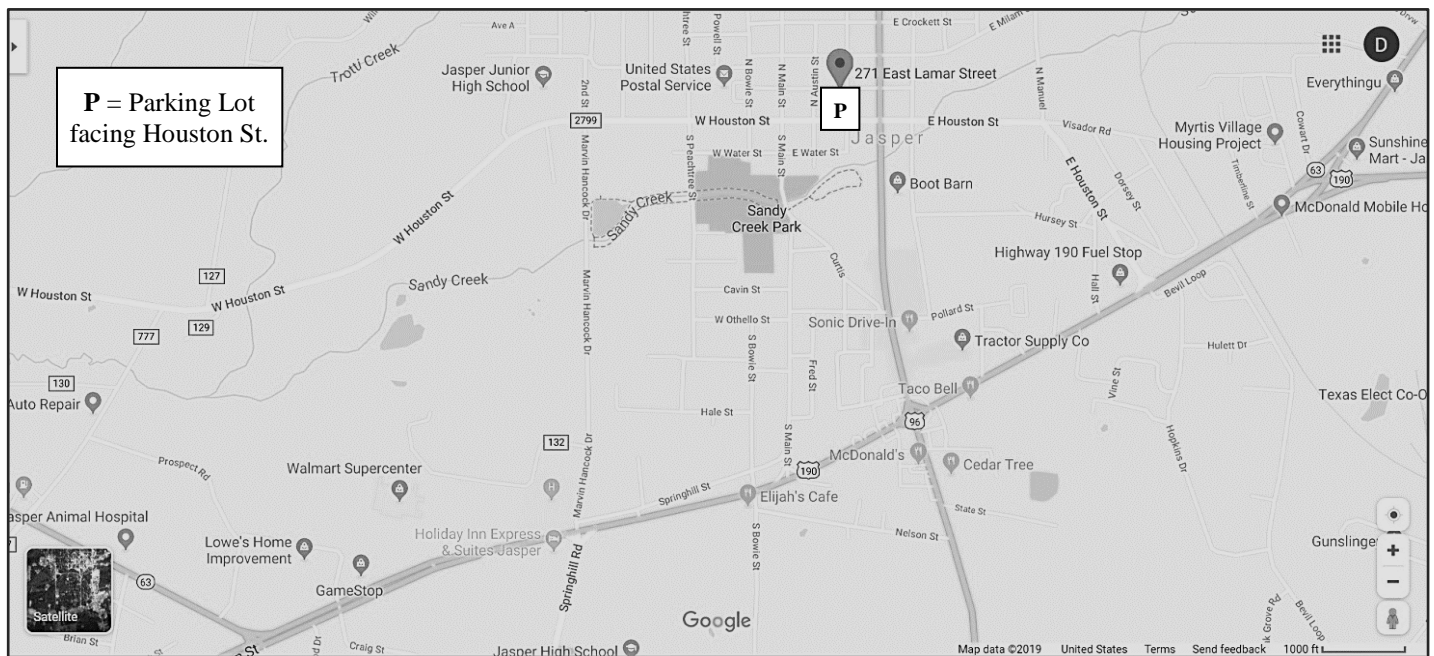
We would like to extend to you an invitation to attend an informative workshop on Friday, November 15<sup>th</sup>, covering topics of interest to landowners such as yourself. This is an opportunity to meet other Jasper and Newton County landowners. You'll also learn about technical and financial assistance available to landowners, herbicides in forestry, timber theft, pond management, wildlife management, protecting soil and water, and more.

There is no charge or obligation for attending this meeting. Lunch is provided free of charge thanks to the SFI<sup>®</sup> State Implementation Committee. All we ask is that you RSVP by Monday, November 11<sup>th</sup>, by calling the Texas A&M Forest Service at (936) 275-3438.

Registration begins at 8:30 a.m., with refreshments provided. Speakers start at 9:00 a.m. CEUs will be offered for Pro Loggers, Accredited Foresters, and Certified Foresters.

We hope to see you there!

Sincerely,  
Texas A&M Forest Service  
Texas Forestry Association  
Jasper/Newton County Forest Landowners Association



# Jasper/Newton County Forest Landowners Association

November 15, 2019

## - Landowner Survey -

We Need To Know What You Think!

1) You own property in what county(s)?

**Jasper** ( )

**Newton** ( )

**Other** \_\_\_\_\_

2) How many acres do you own? \_\_\_\_\_

3) Do you live on the forested property, in the same county, or outside the county? (Circle one)

4) How did you hear about this particular meeting?

**Letter received in mail** ( )

**Newspaper** ( )

**Newsletter** ( )

**Other** \_\_\_\_\_

5) Would you be interested in joining the Jasper/Newton County Forest Landowners Association?

**Yes** ( )

**No** ( )

**Already Member** ( )

*Please leave your name and mailing address if you would like information on joining the Association:*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5) Other comments regarding today's meeting (good or bad) or general comments / recommendations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*If you did not get a chance to submit this survey at the meeting, you can complete it at a later date and send it to:*

**Donna Work**  
**Texas A&M Forest Service**  
**P. O. Box 310**  
**Lufkin, TX 75902-0310**

Thank You!



# Tyler County Forest Landowner Meeting

**FREE!**

**Saturday**

**September 18, 2021**

at

**WOODVILLE UNITED METHODIST CHURCH WESLEY CENTER**

508 W. Bluff St.; Woodville, TX

**8:30 a.m. – 2:30 p.m.**

## TOPICS INCLUDE:

- Sustainable Forestry Initiative<sup>SM</sup>
- TFA / Legislative Update
- Loblolly Seedling Improvements
- Angelina Forest Products Update
- Land Values in East Texas
- Water Quality
- Healthy Trees, Healthy Lives
- Cost Share Programs

**\* \* \* Lunch Provided! \* \* \***

⇒ *Please RSVP by September 3 for lunch head count by calling:*

- Texas A&M Forest Service, Kountze office, (409) 246-2484 ext. 8004  
[Please leave call back phone number or email in case we need to reach you about the meeting.]

**\*\* For space considerations, still RSVP, even if it is after September 3! \*\***

# Tyler County Forest Landowners Association

September 18, 2021

## - Landowner Survey -

We Need To Know What You Think!

1) How many acres do you own? \_\_\_\_\_

2) Do you live: on the forested property, in the same county, or outside the county? (Circle one)

3) How did you hear about this particular meeting?

**Letter received in mail** ( )      **Newspaper** ( )      **Newsletter** ( )      **Other** \_\_\_\_\_

4) Would you be interested in joining the Tyler County Forest Landowners Association?

**Yes** ( )      **No** ( )      **Already Member** ( )

*Please leave your name and mailing address if you would like information on joining the Association:*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5) Other comments regarding today's meeting (good or bad) or general comments / recommendations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*If you did not get a chance to submit this survey at the meeting, you can complete it at a later date and send it to:*

**Donna Work**  
**Texas A&M Forest Service**  
**P. O. Box 310**  
**Lufkin, TX 75902-0310**

Thank You!



August 9, 2021

Dear Landowner:

We would like to extend to you an invitation to attend an informative workshop on Saturday, September 18<sup>th</sup>, covering topics of interest to landowners such as yourself. This is an opportunity to meet other Tyler County landowners and hear updates from Texas Forestry Association. You'll also learn about cost share programs, land values, water quality, seedling improvements, forest products industry, and more. This is the meeting we tried to have March 2020 but were interrupted by COVID. We hope to see you at this fun get-together!

There is no charge or obligation for attending this meeting. Lunch is provided free of charge thanks to our sponsors – the SFI® Implementation Committee.

All we ask is that you RSVP by calling the number listed on the enclosed flyer. Registration begins at 8:30 a.m., with refreshments and lunch provided. Speakers will start at 9:00 a.m.

Sincerely,  
Texas A&M Forest Service, Texas Forestry Association, Tyler County Forest  
Landowners Association

Woodville United  
Methodist Church  
Wesley Center  
508 W. Bluff St.  
Woodville





**Tyler County Forest Landowners Association  
Sustainable Forestry Initiative® Program**

**September 18, 2021**

- 8:30 a.m. Registration, Coffee, Snacks
- 9:00 a.m. Welcome (& TCFLOA administration)  
*Mr. Eddie Boxx, President, Tyler County Forest Landowners Association*
- 9:15 a.m. Improvements in Loblolly Seedlings  
*Jeff Cravey, Western Gulf Genetic Investment Advisor,  
International Forest Company (IFCO)*
- 9:45 a.m. The Sustainable Forestry Initiative® (SFI®) Program in Texas  
*Bobby Tolar, Procurement Rep II, LP Corp.; SFI Committee Representative*
- 10:15 a.m. Texas Forestry Association and Legislative Updates  
*Rob Hughes, Executive Director, Texas Forestry Association (TFA)*
- 10:45 a.m. BREAK**
- 11:00 a.m. Forestry Best Management Practices and Their Benefits to Wildlife  
*Donna Work, Biologist, Texas A&M Forest Service*
- 11:30 a.m. Land Values in East Texas  
*Eric Gage, Broker-in-Charge, Texas Region, American Forest Management*
- 12:00 p.m. LUNCH**
- 12:45 p.m. Financial Assistance for Private Landowners  
*Donna Work, Biologist, Texas A&M Forest Service*
- 1:15 p.m. Angelina Forest Products (Lufkin) Update  
*Jason Wallace, Procurement Forester, Angelina Forest Products*
- 2:00 p.m. Healthy Trees, Healthy Lives  
*Donna Work, Biologist, Texas A&M Forest Service*
- 2:15 p.m. Wrap Up  
*Mr. Eddie Boxx, President, Tyler County Forest Landowners Association*

Date	Association or Group	Topic	Location
6/28/2019	East Texas Timber Owners Assoc.	Reasonable BMP Expectations in Forestry Operations	Linden
11/15/2019	Jasper/Newton County Forest Landowners Ass	Reasonable BMP Expectations in Forestry Operations	Jasper
** 2020 meetings postponed due to COVID restrictions **			
9/18/2021	Tyler County Forest Landowners Assoc.	Forestry Best Management Practices and Their Benefits to W	Woodville
11/13/2021	Angelina/Nacogdoches Counties Forest Landov	Forestry Best Management Practices and Their Benefits to W	Nacogdoches
11/6/2020	TFS-sponsored "Texas Women in the Woods" \	Forest Ecology and Management; Financial Management of f	Virtual
5/21/2021	TFS/Texas Wildlife Assoc. sponsored "Texas W	Forest Health; Fire on the Landscape; Soil and Water Conserv	Virtual
9/17/2021	TFS/Texas Wildlife Assoc. sponsored "Texas W	Forestry and Game Management; Forestry and Non-game M	Virtual

**TOTALS:**

► **Note: These are meetings you gave a presentation.**

Number of Attendees	Length of Session/ Presentation	Presenter(s)
90	0.5 hr.	Donna
86	0.5 hr.	Donna
122	0.5	Donna
60	0.5	Donna

**October 2018 - September 2021 - extension into 2022**

58	4.5 hrs.	Various	Count as a LO meeting sponsored by us.
20	3.5 hrs.	Various	Count as a LO meeting sponsored by us.
25	3.5 hrs.	Various	Count as a LO meeting sponsored by us.

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**461**

Texas A&M Forest Service is hosting its first-ever Texas Women in the Woods Workshop for women landowners throughout the state. This free workshop will feature knowledgeable speakers discussing topics such as forest management, forestland financial considerations, and wildlife management. Whether you are actively managing your property and are looking for new insights or a prospective landowner looking at taking over or purchasing a property, there will certainly be something for you to learn and take away from this meeting.

The meeting will be from 9:00 AM-3:30 PM on Friday, November 6, and hosted on the platform Microsoft Teams. An hour for lunch and breaks for networking will be provided throughout the meeting. Attendees do not need to have existing subscription to Teams, nor do they need to purchase any software to join the meeting. A link will be provided upon registration, and attendees will simply need to access the meeting via this link on the day of the meeting.



TIME	ACTIVITY/TOPIC	SPEAKER
9:00 AM-9:30 AM	Introduction & Welcome	
9:30 AM-10:30 AM	Forest Ecology & Management: Topics to Consider	Rebecca Kidd, PhD Assistant Professor Arthur Temple College of Forestry and Agriculture-SFA
10:30 AM-10:45 AM	Break	
10:45 AM-11:45 AM	Financial Management of Forest Assets	Angela Shannon VP-Forest Products Lending Texas Farm Credit -Nacogdoches
11:45 AM-1:00 PM	Break for Lunch	
1:00 PM-2:00 PM	Wildlife Management: Game Considerations	Courtney McInerney Biologist Texas Parks and Wildlife Dept.
2:00 PM-2:15 PM	Break	
2:15 PM-3:15 PM	Wildlife Management: Non-Game Considerations	Donna Work Biologist Texas A&M Forest Service
3:15 PM-3:30 PM	Closing Remarks	



## Questions about this workshop?

Contact Samuel Rhodes, Texas A&M Forest Service Staff Forester at [samuel.rhodes@tfs.tamu.edu](mailto:samuel.rhodes@tfs.tamu.edu) for more details.



## Register [here!](#)

\*Click a Link or Scan QR code





# Texas Women in the Woods

September 17th, 2021

The Texas Wildlife Association is partnering with Texas A&M Forest Service to host a Texas Women in the Woods Virtual Workshop. This free workshop features industry speakers covering topics such as forest and game management, endangered species and more. Join us for an opportunity to network with fellow women landowners from across the state and ask questions to the speakers in a panel discussion.

The event will be held on Friday, September 17th from 9 AM to 12:00 PM hosted over Microsoft Teams. If you are new to using this video conferencing application, information will be provided leading up to the event on downloading and using the platform. Whether you are actively managing your property, or new to the concepts of land management, there will certainly be something for you to learn and take away from this virtual event!



TIME	ACTIVITY/TOPIC	SPEAKER
9:00 AM - 9:30 AM	Introduction & Welcome	Iliana A. Pena, Texas Wildlife Association
9:30 AM - 10:00 AM	Keynote Address	To Be Announced
10:00 AM - 10:45 PM	Forestry and Game Management	Courtney McInnerney Texas Parks and Wildlife Department
	Forestry and Non-game Management	Jessica Glasscock Stephen F. Austin University
	Threatened and Endangered Species on Private Lands	Donna Work Texas A&M Forest Service
10:45 AM - 11:00 AM	Break	
11:00 AM - 11:30 AM	Q&A Panel	All Speakers
11:30 AM - 12:00 PM	Group Discussion	
12:00 PM - 12:30 PM	Closing Remarks	Iliana A. Pena, Texas Wildlife Association



## Questions about this workshop?

Contact Iliana Pena, Texas Wildlife Association Director of Conservation Programs at [IPena@texas-wildlife.org](mailto:IPena@texas-wildlife.org) for more details.



## Register here!

\*Scan QR code or visit:

<https://bit.ly/WomenintheWoods21>





# Texas Women in the Woods

May 21<sup>st</sup>, 2021

Texas A&M Forest Service is partnering with the Texas Wildlife Association to host a Texas Women in the Woods Virtual Workshop. This free workshop features industry speakers covering topics such as forest health, use of fire on the landscape and soil and water conservation considerations. Join us for an opportunity to network with fellow women landowners from across the state and ask questions to the speakers in a panel discussion.

The event will be held on Friday, May 21st from 9 AM to 12:30 PM hosted over Microsoft Teams. If you are new to using this video conferencing application, information will be provided leading up to the event on downloading and using the platform. Whether you are actively managing your property, or new to the concepts of land management, there will certainly be something for you to learn and take away from this virtual event!



TIME	ACTIVITY/TOPIC	SPEAKER
9:00 AM - 9:30 AM	Introduction & Welcome	Donna Work Texas A&M Forest Service
9:30 AM - 10:00 AM	Keynote Address	Kim and Pam Bergman Lone Star Land Steward Recipients
	Forest Health Pathology	Sheila McBride AgriLife Extension
10:00 AM - 10:45 PM	The Use of Fire on the Landscape	Penny Wilkerson Texas Parks and Wildlife Dept.
	Soil and Water Conservation	Kendria Ray Texas State Soil and Water Conservation Board
10:45 AM - 11:00 AM	Break	
11:00 AM - 11:30 AM	Q&A Panel	All Speakers
11:30 AM - 12:00 PM	Group Discussion	
12:00 PM - 12:30 PM	Closing Remarks	Donna Work Texas A&M Forest Service



## Questions about this workshop?

Contact Samuel Rhodes, Texas A&M Forest Service Staff Forester at [samuel.rhodes@tfs.tamu.edu](mailto:samuel.rhodes@tfs.tamu.edu) for more details.



## Register here!

\*Scan QR code or visit: <http://bit.ly/womeninwoods2021>





# APPENDIX C

Date	Association or Group or Event / Audience	Topic	Location	Number of Attendees
<b>Landowner Technical Assistance</b>				
1/15/2019	Landowner	Flood impacts	Temple	3
1/29/2019	Landowner	Flood & erosion	Cyclone	2
5/17/19	Landowner	hillside erosion control	Temple	2
7/9/2019	Lake Dunlap Home Owners	Baldcypress Tree Health & Future Pro	Clear Spring, TX	10
8/12/2019	Mary Sturgis	Riparian tree assessment/Invasive sp	San Antonio, TX	3
8/30/2019	Daniel Rodriguez	Health and Age of Large Live Oak	San Antonio, TX	5
9/3/19	Private Landowner Assist	Riparian Area Management - MMP/F	Bell Co.	2
9/13/19	Private Landowner Assist	Riparian Area Management - RA heal	Bell Co.	1
9/19/2019	Mark Matthews, Republic Ranches, LLC	Riparian & Baldcypress Health Asses	Frio River - Hondo	3
9/24/2019	Boehm Ranch	Tree Health Assessment	San Antonio	4
10/8/2019	Riggs Family	Baldcypress Tree Health & Lake Dunl	New Braunfels	2
10/8/2019	John Ross	Baldcypress Tree Health & Lake Dunl	New Braunfels	1
10/8/2019	Lehmann Properties	Baldcypress and Pecan Tree Health &	New Braunfels	2
11/18/19	Private Landowner Assist	Ranch Road Management - Erosion/	Bell Co.	1
12/9/2019	Private Landowner Assist	Riparian Area Management; Eval & R	Bell Co.	2
1/6/2020	Brownsville city officials and landowners	Resaca restoration and Montezuma I	Brownsville?	12
1/13/2020	Private Landowner Assist	Streambank erosion & riparian area	Bell Co.	3
1/30/2020	City Of Plano	Forested Riparian Species Selection	Plano	5
2/3/2020	Landowner	Assessed riparian trees and pruning	Sequin	1
2/6/2020	Landowner	Examined headwaters of Geronimo	Navarro	1
2/7/2020	Private Landowner Assist	Riparian Area Management; erosion,	Bell Co.	2
3/20/20	Land Mgmt Consultant	Vegetation Questions & MMP Issues	phone	1
4/7/20	Landowner	Storm Water Run-off post Brush con	phone	1
4/14/2020	Landowner (Doug McLean - Big Tree Ranch)	Riparian Assessment - Erosion Proble	Frio River - Concan	2
4/20/2020	Landowner (Doug McLean - Big Tree Ranch)	Drone Flight and Video of Frio River	Frio River- Concan	5
5/16/20	Landowner	Erosion Control - hill side erosion (rill	phone	2
5/19/20	Landowner	Erosion Control - follow-up to previo	phone	1
5/22/20	Land Mgmt Consultant	Brush Control & PMLO app - underst	phone	1
5/22/20	Landowner	Brush Piles - brush pile burning, hill	s phone	1
5/27/20	Landowner	Riparian Area storm damage - down	Zoom	2
6/12/2020	Greg McCrum	Oak Wilt in Fair Oaks Ranch (Kendall	Phone	1

6/29/2020	Lake Dunlap/Meadowlake Neighborhood	Evaluated Health of brown Baldcypre Comal/Guadalupe	6
7/1/2020	Private Landowner	Road Drainage Improvments Trinity County	1
7/3/20	Landowner Assist	Ranch road erosion Kimble	1
7/7/2020	Private Landowner	Erosion control and stream side cross Walker County	1
7/9/20	HOA Assist	Stormwater runoff erosion preventic McLennan	4
7/21/20	Landowner Assist	Sheet erosion Bell	1
7/21/2020	Friends of the Little Blanco	Performed Riparian Assessment along Blanco County TX	5
7/23/2020	Jose Pena	Health assessment of Pecan Trees San Antonio, TX	1
8/4/20	Landowner Assist	BMP application - riparian area post San Saba	2
8/4/20	St Mary's Catholic School	Stormwater runoff Bell	3
8/4/2020	Wallace Farm on Little Blanco River	Performed Riparian Assessment & Co Blanco, TX	2
8/11/20	Landowner Assist	Farm Road BMP applications Bell	2
8/12/20	Landowner Assist	Fire recovery Crockett	2
8/31/20	Landowner Assist	Rills Mason	1
8/31/20	Landowner Assist	Stormwater runoff-erosion issues San Saba	1
8/31/2020	Forestry Consultant - Mike Petter for Schleicher, Co	Diagnosis of Tree Disease/ examined SA TFS Office	1
9/1/20	Landowner Assist	Erosion control Williamson	1
9/3/20	Landowner Assist	Stormwater runoff-erosion issues Mason	1
9/4/20	HOA Assist	Riparian/Floodplain construction pro Bell	3
9/5/20	St Mary's Catholic School	Stormwater runoff-erosion issues pt Bell	2
9/9/20	Landowner Assist (lot 6)	Flood damage restoration & creek ac Bell	1
9/9/20	Landowner Assist (lot 7)	Flood damage restoration & creek b: Bell	1
9/16/2020	Monico Cantero	Potential Oak Wilt / Tree Trimming/ San Antonio, TX	1
9/22/2020	Troy Meuth	Oak Wilt in Hollywood Park (bexar Co Phone	1
9/22/20	Consultant Assist	Riparian tree selections & Age class c Hamilton	1
10/5/20	Landowner Assist	Streambank erosion & riparian area i Falls	1
10/13/20	Landowner Assist	Riparian tree selections; Restoration El Paso	2
10/22/20	Landowner Assist	Erosion control - storm water erosion Jeff Davis	1
10/23/20	HOA Assist	Erosion control - poor road dign + ot Jeff Davis	4
10/28/20	Landowner Assist	Firelines Roberts	1
10/30/20	Landowner Assist	Riparian buffers - tree selection, gras Taylor	2
11/4/20	Landowner Assist	Erosion control - follow-up question Taylor	2
11/30/20	Landowner Assist	Fireline erosion control Crockett	1
11/30/20	Landowner Assist	Fireline erosion control Edwards	1

11/30/20	Landowner Assist	Fireline erosion control - groundcove Roberts	1
12/9/20	Landowner Assist	Erosion control - post-fire erosion is: Gaines	1
1/29/2021	Private landowner adjacent to Fairchild State Forest	Discussed concerns over timber harv Fairchild SF	3
2/1/2021	Charlene Meyers	Riparian Assessment and Manageme Wimberley, TX	3
6/4/2021	Rayonier	BMP Implementation Survey Walker County	3
6/14/2021	Private LO, Nolan Alders	BMP Implementation Survey San Augustine Col	1
9/15/2021	San Antonio Parks & Recreation Department	Tree Boring/Estimating age of large L San Antonio, TX	5
3/15/2022	Hoermann Residence	Oak Tree Health Assessment San Antonio	2

Length of Session/ Presentation	Presenter(s)
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**October 2018 - September 2021 - extension into 2022**

2 hrs	Lori
3 hrs	Lori
2 hrs	Lori
3 hrs	Jeff
2 hrs	Jeff
1 hr	Jeff
2 hrs	Lori
2 hrs	Lori
4	Jeff McFall
2	Jeff McFall
2	Jeff McFall
1	Jeff McFall
2	Jeff McFall
3 hrs	Lori
3	Lori
3 hrs	Jeff McFall
2	Lori
2	Lori
1.5 hrs	Jeff McFall
2 hrs	Jeff McFall
3	Lori
1 hr.	Lori
1 hr.	Lori
4 hrs	Jeff McFall
6 hrs	Jeff McFall
1 hr.	Lori
1 hr.	Lori
1 hr.	Lori
1 hr.	Lori
2 hr.	Lori
.5 hr	Mac

2 hrs	Mac
2 hr.	Mac
2 hr.	Lori
2 hr.	Mac
2 hr.	Lori
3 hr.	Lori
3 hrs	Mac
1 hr	Mac
4 hr.	Lori
2 hr.	Lori
6 hrs	Mac
1 hr.	Lori
2 hr.	Lori
1 hr.	Lori
2 hr.	Lori
2 hrs	Mac
2 hr.	Lori
2 hr.	Lori
4 hr.	Lori
3 hr.	Lori
2 hr.	Lori
2 hr.	Lori
1 hr	Mac
.5hr	Mac
2 hr.	Lori
1 hr	Lori
1 hr	Lori
1 hr	Lori
1 hr	Lori
1 hr	Lori
2 hr.	Lori
1 hr	Lori
1 hr	Lori
1 hr	Lori



1 hr	Lori	
1 hr	Lori	
2 hrs	Jake Donellan, Sarah Bailey	
3 hrs	Jeff McFall	
2 hrs.	Mac	[Left these in since LO or LO rep was present.
2hrs.	Mac	Don't think we usually keep up with individual Implementation Monitoring site visits.]
1 hr	Jeff McFall	
1 hr	Jeff McFall	

Date	Association or Group or Event / Audience	Topic
<b>Internal Technical Assistance</b>		
1/22/2019	WUI & McGregor TF	Stillhouse Hollow Fuels Mitigation Project - fireline erosion control conce
8/27/2019	Mac Martin	i-hydro training
10/23-27/2019	TRWP	Maimi Project Area - baseline BMP evaluation. Issues: sensitive areas; o
11/12/2019	TFS-FRP personnel	Erosion Mitigation - TFS Schulze Tract
11/21-25/2019	TRWP	Electra Project Area - baseline BMP evaluation. Issues: sensitive areas; c
12/4/2019	TFS	Angus GLO Harvest Courtesy Inspection
Multiple	Schulze Tract	Geo-web project; site prep and install mats
Multiple	TRWP	Miami Project - baseline evaluation for new proposed lines; sensitive are
2/24/2020	TRWP	Electra Project Area - field BMP evaluation; BMP and multiple steam cros
2/24-25/2020	TRWP	Miami Project Area -field BMP evaluation; BMP corrective measures and
3/2/2020	TWRP	Stream channel - dozer impacts and repair options
3/10/2020	TWRP	Erosion concerns - options to fix slope erosion caused by dozers
3/13/2020	TWRP	Site Assessments - existing issues; recently created issues; COVID-19 wor
3/20/2020	Cen Tx Staff	Riparian Area management - various concerns found during a site visit
4/6/2020	Cen Tx Staff	Stream channel impacts - various concerns found during a site visit
6/15-6/16/2020	TFS FRP Personnel - Hands On Instruction	Erosion Control of Roadside w/Steep, Highly erodable soils. Re-contourir
6/18/2020	TFS FRP Personnel - Hands On Instruction	Installation of Check Dams along long continuous grade
6/19/2020	TFS FRP Personnel - Live BMP Demo	Hydromulching/Hydroseeding to prevent future soil erosion
7/7/2020	FRP	Fire Recovery BMPs - general information request
7/15/2020	FRP	Fire Recovery BMPs - erosion on rocky hillslopes
7/23/2020	FRD	Firelines - BMPs; runoff control
7/24/2020	Cen Tx Staff	Roads - flooded ranch roads
8/5/2020	FRD	Culverts - install issues
8/11/2020	TWRP	RxFire in Riparain areas - general information request
8/18/2020	Central Texas Ops	Provided sources for erosion control materials in SA Texas Area
8/31/2020	FRP	Fire Recovery BMPs - fireline rehab
9/22/2020	FRD	BMPs and groundcover selection - erosion control
9/22/2020	FRD	Riparian impacts from fire - post-fire erosion control
9/23/2020	FRD	NRCS Practice Codes & species selection - roads, trails, fireline rehab
9/28/2020	FRD	BMPs/NRCS practice codes - RxFire - firelines
9/28/2020	TFS FIA Personnel	Installation of Urban Plot when no offsets intersect accessible ground

9/29/2020	TFS District Forester and others	BMP discussions
9/30/2020	TFS District Forester and others	BMP discussions
10/22/2020	FRD	Riparian assessment information - health assessment
10/28/2020	FRP	Shaded Fuel Breaks and Riparian Areas - BMPs and pruning
10/30/2020	FRP	Shaded Fuel Breaks and Riparian Areas - ground cover and erosion issue
3/30/2021	TFS Academy	Watershed Protection BMPs

Location	Number of Attendees	Length of Session/ Presentation	Presenter(s)
Bell Co	10	8 hrs	Lori
San Antonio	2	8 hrs	Jeff
Multiple-Panhandle Br:	na	32 hrs.	Lori
Rosanky	4	1	Jeff McFall
Multiple-Northwest Br:	na	12 hrs.	Lori
Polk Co.	6	1.5 hrs.	Thomas
Rosanky	3+	17 hrs.	Lori
Multiple-Panhandle Br:	na	20 hrs.	Lori
Electra-Northwest Brar	8+	8 hrs.	Lori
Multiple-Panhandle Br:	7	22 hrs.	Lori
Panhandle	2	45 min	Lori
Panhandle	1	30 min	Lori
Panhandle	1	1 hr.	Lori
Hill Country	1	1 hr.	Lori
Frio River	1	2 hrs.	Lori
TFS Schulze Tract	5	12 hrs	Mac
TFS Schulze Tract	4	6 hrs	Mac
TFS Schulze Tract	5	4 hrs	Mac
West Texas			Lori
West Texas			Lori
East Texas			Lori
Central Texas			Lori
East Texas			Lori
Panhandle			Lori
Email	1	1 hr	Mac
West Texas			Lori
Central Texas			Lori
Central Texas			Lori
East Texas			Lori
East Texas			Lori
Phone Call	1	1 hr	Mac

October 2018 - September 2021 - extension into 2022

Fairchild State Forest  
Siecke, Masterson, and Kirby State Forests  
Central Texas  
Central Texas  
Central Texas  
Virtual

1 Hour

Sarah  
Sarah  
Lori  
Lori  
Lori  
Lori Hazel    Mac attended

# Post Wildfire BMP's For Soil Stability and Water Quality

## Access Roads (existing and planned construction)

### ➤ Location

- Utilize Soil Surveys, Topo Maps, Aerial Photos to determine best locations
- Do not use waterways or Streamside Management Zones for roads
- Stabilize or reconstruct existing roads to correct erosion problems
- Minimize number of stream crossings
- Cross streams only at straight sections and at right angles
- Avoid excessive slopes / use switchbacks when needed to minimize slopes

### ➤ Construction

- Use minimum road design sufficient to carry anticipated traffic loads
- Balance cut and fills to minimize number of borrow pits
- Cut and fill slopes should be designed at normal angle of repose or less to minimize erosion
- Stabilize by seeding, mulching, or other stabilizing means
- Plan and construct erosion control structures to minimize erosion
- Complete construction in a timely manner

### ➤ Drainage

- Ditches, cross drains, and wing ditches should be installed at same time as roadway
- Roads should be designed to drain effectively using site specific practices such as crowning, culverts, water-bars, broad-based dips, turnouts, and/or out-sloping
- Cross drains, relief culverts, and wing ditches should not discharge onto erodible soils, but onto undisturbed vegetated soils
- Wing ditches should not discharge within 50 feet of a stream bed or channel
- Culverts should be of adequate size to handle flow during heavy rains



### ➤ **Water Crossings**

- Utilize bridges, culverts, concrete slabs, or other constructed fords unless natural stable solid rock low water crossing exists
- Minimize disturbance to stream bed and banks during construction
- Approaches should be stabilized with mulch, hay, grass, rock or other available suitable material
- Use of heavy equipment in stream bed should be kept to a minimum
- Crossing stream at fords should only be done during low water flows
- Utilize headwalls, wing walls, rip-rap, surfacing, etc., to stabilize low water bridges, fills, and earth embankments
- Remove excess fills and debris generated from road construction from streams and drainage ways and deposit above ordinary high water mark
- Bridges should not confine or restrict stream channels or flood flows

### ➤ **Maintenance**

- Roads should be crowned or out-sloped to dissipate surface runoff and minimize erosion of roadbed
- Ditches should be kept free of siltation, brush, and other debris
- Culverts should be kept open and clean
- Exposed soil should be revegetated or otherwise stabilized if natural revegetation does not suffice
- Roads not in use should be retired
- Quickly re-establish vegetation on roads, drainage systems, side slopes, and back slopes, after soil disturbances

## **Land Restoration/Erosion Prevention/Water Protection**

### ➤ **Stabilization of Firelines**

- Reseeding with native grass
- Utilize erosion control mats/silt fencing in steep highly erodible areas
- Utilize water bars and turn outs to slow down and redirect water
- Discharging water into undisturbed vegetated areas
- Do not discharge water directly into streams or other waterways

- Remove firelines at stream crossings and restore streams back to natural condition

➤ **Soil Protection/Coverage of bare soil on steep slopes**

- Seeding of Grass/Forbs
  - Natural Regeneration (if adequate precipitation and seedbed)
  - Artificial (utilize native seed mix) spreading/direct seeding/aerial
- Tree/sapling planting
- Hydromulching/Hydroseeding
- Mulching
  - Straw/Hay (applied aerially or mechanical straw blower)
  - Slash/Chipped Woody Debris
- Erosion Control Mats/Blankets (various sizes and materials)

➤ **Reducing/ Limiting Erosion by slowing down flow of water**

- Contour Felling using available on-site dead timber/snags
- Fiber Rolls/Straw Wattles placed along contour
- Hay Bales staked along contour
- Rock check dams (within gullies and ditches)
- Silt Fencing

Species from 3g	Wetland Indicator	Stability Rating	Wildlife Benefits	Species Count
American Sycamore	FAC	6.0		TBD
Water Hickory	OBL	7.0		TBD
Blackgum	FACW	7.0		TBD
Water Oak	FAC	6.0		TBD
Shumard Oak	FAC	6.0		TBD
Nuttall Oak	FAC	6.0		TBD
Willow Oak	FACW	6.0		TBD
Pin Oak	FAC	6.0		TBD
Laurel Oak	FACW	7.0		TBD
Swamp White Oak	FACW	7.0		TBD
Live Oak	FAC	6.0		TBD
Total				675.0
Anticipated 20% Mortality				
Total 3g Gallon Reduction				
Total Tree Gallon Reduction				
Total Tree Carbon Sequestration				
Total Tree Air Pollution Removed				

Rainfall Interception (Gallons) Year 1	Avoided Runoff (Gallons) Year 1	Rainfall Interception (Gallons) Year 5
78.0	8.0	463.0
60.0	7.0	359.0
44.0	5.0	377.0
40.0	4.0	299.0
68.0	7.0	423.0
68.0	7.0	423.0
32.0	3.0	255.0
51.0	5.0	391.0
37.0	4.0	285.0
61.0	7.0	398.0
25.0	3.0	226.0
380,700.0	40,500.0	2,631,825.0
304,560.0	32,400.0	2,105,460.0
336,960.0		2,332,800.0
471,563.0		3,169,118.0

Avoided Runoff (Gallons) Year 5	Rainfall Interception (Gallons) Year 10	Avoided Runoff (Gallons) Year 10
50.0	1,204.0	131.0
39.0	877.0	95.0
41.0	1,111.0	121.0
32.0	922.0	100.0
46.0	1,089.0	118.0
46.0	1,089.0	118.0
28.0	819.0	89.0
41.0	1,140.0	124.0
31.0	890.0	97.0
43.0	1,068.0	116.0
24.0	800.0	87.0
284,175.0	7,431,075.0	807,300.0
227,340.0	5,944,860.0	645,840.0
	6,590,700.0	
	8,777,927.0	

Rainfall Interception (Gallons) Year 20	Avoided Runoff (Gallons) Year 20	Carbon Sequestration (Pounds) Year 5
3,980.0	432.0	40.0
2,505.0	272.0	19.0
3,629.0	394.0	47.0
3,613.0	392.0	145.0
3,368.0	365.0	100.0
3,368.0	365.0	100.0
3,359.0	365.0	63.0
3,921.0	426.0	141.0
3,535.0	384.0	152.0
3,514.0	381.0	160.0
3,649.0	396.0	200.0
25,947,675.0	2,816,100.0	787,725.0
20,758,140.0	2,252,880.0	630,180.0
23,011,020.0		
29,844,490.0		
		728,908.0







# APPENDIX D



# TEXAS A&M FOREST SERVICE

# TEXAS BMP MONITORING CHECKLIST

Site ID 

## I. General Landowner and Tract Information

County  Region  Owner Type:  N  A  C  I  P

Latitude  Longitude  Landowner:

Forester Type  Name

Timber Buyer  Contractor  Address

Activity  Acres Affected  City  State

Estimated Date of Activity  Date of Inspection  Zip

Inspector  Accompanied by  Phone

## II. Site Characteristics

Terrain:  Flat  Hilly  SteepErodibility hazard:  Low  Medium  HighType stream present:  Perennial  IntermittentWatershed Code: River Basin 

Distance to nearest permanent water body:

 < 300'  300 - 800'  800 - 1600'  1600' +Predominant soil series/texture:  Clay  Clay Loam  Loam  Sandy Loam  Sand

## III. Permanent Roads

1. Respect sensitive areas, such as SMZs, steep slopes, and wet areas
2. Meet grade specifications by having slopes between two and ten percent
3. Rutting within allowable specs of less than six inches deep for not more than fifty feet
4. Well drained with appropriate structures to minimize soil movement
5. Wing ditches, waterbars, and water turnouts do not dump into streams
6. Reshaped and/or stabilized to minimize soil movement

BMPs present  RD  WD  WB  RE  OC PL  RS  CU  SD  BDSection Total Percent Implementation 

YES NO NA/NN Sig. Risk

YES	NO	NA/NN	Sig. Risk
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## IV. Temporary Roads / Skid Trails

1. Respect sensitive areas, such as SMZs, steep slopes, and wet areas
2. Slopes less than 15% and laid out on the contour of the land
3. Rutting within allowable specs of less than six inches deep for not more than fifty feet
4. Well drained with appropriate structures to minimize soil movement
5. Stabilized to minimize soil movement

BMPs present  WD  WB  RE  OC PL  RS  LSSection Total Percent Implementation 

YES NO NA/NN Sig. Risk

YES	NO	NA/NN	Sig. Risk
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SiteID <sup>1</sup>	Landowner Type <sup>2</sup>	County	Region	Forester Type <sup>3</sup>	Activity <sup>4</sup>	Specify Activity	Treatment Acres
1	2	Trinity	South	1	5		110
2	0	Houston	south	0	1		75
3	0	San Augustine	South	0	0		125
4	0	Angelina	South	0	99	Partial harvest	40
5	0	Houston	South	99	0		32
6	2	Newton	South	1	5		141
7	2	Newton	South	1	0		140
8	2	Newton	South	1	0		500
9	2	Polk	South	1	0		111
10	2	Newton	South	1	1		120
11	2	Newton	South	1	1		110
12	2	Jasper	South	1	1		200
13	2	Tyler	South	1	0		360
14	2	Polk	South	1	1		320
15	2	Polk	South	1	0		150
16	2	Angelina	South	1	0		220
17	2	Angelina	South	1	0		50
18	2	Angelina	south	1	5		200
19	2	San Augustine	South	1	0		120
20	0	Sabine	South	0	0		100
21	4	Trinity	South	2	1		40
22	4	Trinity	South	2	1		75
23	2	San Augustine	South	1	1		250
24	2	San Augustine	South	1	0		60
25	2	San Augustine	South	1	0		245

26	2	Jasper	South	1	0		114
27	2	Newton	South	1	5		110
28	2	Newton	South	1	5		250
29	3	Angelina	South	1	1		110
30	2	Angelina	South	1	0		160
31	0	Trinity	South	0	5		245
32	3	Trinity	South	1	0		115
33	0	Nacogdoches	North	0	1		120
34	2	Polk	South	1	1		275
35	0	Polk	South	0	0		88
36	0	Cherokee	North	99	5		70
37	2	Nacogdoches	North	1	0		102
38	2	Nacogdoches	North	1	5		72
39	2	Nacogdoches	North	1	1		66
40	2	Cherokee	North	1	1		68
41	0	Angelina	South	0	1		95
42	4	Cherokee	North	2	5		60
43	4	Cherokee	North	2	0		140
44	2	Polk	South	1	1		439
45	2	Polk	South	1	0		97
46	2	Polk	South	1	0		86
47	2	Newton	South	1	5		127
48	2	Jasper	South	1	0		143
49	2	Jasper	South	1	1		293
50	4	Polk	South	2	1		73
51	2	Newton	South	1	0		20
52	2	San Augustine	South	1	0		39

53	2	Panola	North	1	1		53
54	2	Nacogdoches	North	1	1		113
55	2	San Jacinto	South	1	1		144
56	0	San Jacinto	South	0	0		22
57	2	Jasper	South	1	1		100
58	2	Tyler	South	1	0		80
59	2	Jasper	South	1	1		85
60	2	Jasper	South	1	1		35
61	2	Polk	South	1	1		161
62	0	Newton	South	1	5		35
63	0	Rusk	North	0	1		29
64	0	Shelby	North	0	1		382
65	2	Tyler	South	1	0		201
66	2	Tyler	South	1	0		227
67	2	Tyler	South	1	5		83
68	2	Sabine	South	1	5		155
69	2	Sabine	South	1	5		272
70	2	Houston	South	1	0		230
71	2	Walker	South	1	1		210
72	0	Newton	South	99	1		19
73	3	Walker	South	1	0		88
74	0	San Augustine	South	0	1		340
76	2	Sabine	Central	1	6		199
77	1	Panola	North	0	0		90
78	0	Panola	North	0	6		70
79	1	Tyler	South	0	6		15
80	1	Cherokee	Central	0	1		60

81	0	Nacogdoches	Central	0	1		30
82	1	Rusk	North	0	1		175
83	1	Cherokee	Central	0	1		80
84	1	Anderson	Central	2	1		20
85	1	Shelby	Central	99	1		52
86	1	Harrison	North	0	1		81
87	1	Cass	North	0	1		150
88	1	Bowie	North	99	1		73
89	1	Shelby	Central	0	6		52
90	1	Shelby	Central	0	1		120
91	1	Houston	Central	99	1		30
92	1	Nacogdoches	Central	0	1		74
93	1	Marion	North	0	1		104
94	0	Upshur	North	99	1		60
95	1	Smith	North	0	1		190
96	1	Upshur	North	99	1		105
97	1	Rusk	North	0	1		120
98	1	Cass	North	99	1		15
99	1	Cass	North	99	1		100
100	1	Harrison	North	0	6		75
101	1	Bowie	North	99	1		135
102	1	Cass	North	0	6		200
103	1	Cass	North	0	6		100
104	1	Cass	North	0	1		140
105	1	Cass	North	99	1		100
106	1	Rusk	North	99	1		25
107	1	Rusk	North	99	1		25



108	1	Harrison	North	0	1		75
109	0	Red River	North	2	6		108
110	0	Red River	North	99	1		22
111	2	Hardin	South	1	1		131
112	1	Cherokee	Central	0	1		40
113	1	Harrison	North	0	1		80
114	1	Harrison	North	99	1		80
115	1	Shelby	Central	0	6		100
116	1	Wood	North	0	1		260
117	2	Sabine	Central	1	1		170
118	0	Harrison	North	0	1		39
119	1	Wood	North	0	1		90
120	2	Hardin	South	1	1		137
121	2	Hardin	South	1	1		108
122	2	Liberty	South	1	1		197
123	2	Jasper	South	1	1		175
124	2	Hardin	South	1	1		106
125	2	Hardin	South	1	5		60
126	2	Hardin	South	1	5		118
127	2	San Augustine	Central	99	1		100
128	2	Tyler	South	99	1		90
129	2	Tyler	South	99	1		96
130	2	Polk		99	1		90

<sup>1</sup> We don't know why the program skipped 75 in the numbering scheme. That is why there is a discrepancy in the

<sup>2</sup> Landowner Type: 1 and 2 = Private; 3 and 4 = Corporate; 5 = Public *[Specifically, 2 = absentee p*

<sup>3</sup> Forester Type: 0 = Consultant; 1 = Industry; 2 = Public; 99 = none or unknown?

<sup>4</sup> Activity: 0 = Thinning; 1 = Clear cut; 2 = Seed tree; 3 = Shelterwood; 4 = Single tree selection; 5 = Site prep; 6 :

<sup>5</sup> Terrain: 0 = Flat; 1 = Hilly; 2 = Steep

<sup>6</sup> Erodibility Hazard: 0 = Low; 1 = Medium; 2 = High

<sup>7</sup> Stream Type: 0 = Perennial; 1 = Intermittent; 2 = N/A

<sup>8</sup> River Basin: 0 = Brazos; 1 = Cypress; 2 = Neches; 3 = Red; 4 = Sabine; 5 = San Jacinto; 6 = Sulphur; 7 = Trinity

<sup>9</sup> Distance to Permanent Waterbody: 0 = < 300'; 1 = 300 - 800'; 2 = 800 - 1600'; 3 = > 1600'

<sup>10</sup> Soil Type: 0 = Clay; 1 = Clay loam; 2 = Loam; 3 = Sandy loam; 4 = Sand

**Columns Q through FT:** Roman numerals follow section numbers of Texas BMP Monitoring Checklist.

Letters following Roman numerals depict each individual question in order. Example: .

0 = Yes; 1 = No; 2 = N/A

In columns with Roman numeral, letter, then 1: FALSE = no Significant Risk; TRUE = Sig

For the columns with water control structure abbreviations: FALSE = not used; TRUE =

Terrain <sup>5</sup>	Erodibility Hazard <sup>6</sup>	Stream Type <sup>7</sup>	Watershed Code	River Basin <sup>8</sup>	Distance to Permanent Waterbody <sup>9</sup>	Soil Series
0	1	0	12020002	2	1	keltys
0	1	1	12030202	7	3	kurth
1	1	1	12020005	2	3	tenaha
0	1	1	12020002	2	0	diboll keltys
0	1	1	12020002	2	3	kurth
1	1	1	12010005	4	3	tehran letney
0	1	1	12010005	4	1	silsbee
0	1	0	12010005	4	1	otanya
0	1	2	12020003	2	0	doucette
1	1	1	12010005	4	2	tehran letney
0	0	0	12010005	4	0	evadale
0	0	1	12010005	4	3	evadale
1	1	1	12020002	2	3	pinetucky
1	1	1	12030202	7	2	pinetucky
0	1	0	12030202	2	1	diboll kelty
1	1	1	12020002	2	3	moswell
0	0	2	12020002	2	3	keltys
0	0	1	12020002	2	3	keltys-diboll
1	0	0	12020005	2	0	eastwood-latex
1	1	0	12010004	4	0	eastwood
0	0	1		2	0	
0	0	0	12020002	2	0	fuller
1	1	0	12020005	2	3	tenaha
0	1	1	12020005	2	3	eastwood
0	1	1	12010004	4	2	kurth

1	1	1	12020003	2	1	tehran letney
0	1	2	12010005	4	3	kirbyville
0	1	1	12010005	4	3	wiergate
0	1	1		2	3	
0	1	0	12020002	2	2	diboll
0	1	0	12030202	7	0	fuller
0	1	2	12020002	2	3	fuller
1	1	1	12020005	2	1	scottsville
1	1	0	12030202	7	1	pinetucky
0	0	1	12030202	2	1	pinetucky
1	1	1		2	2	
1	1	1	12020005	2	3	cuthbert
0	1	0	12020004	2	0	cuthbert
1	1	0	12020004	2	1	cuthbert
0	1	1	12020004	2	3	sacul
0	1	0	12020002	2	0	alazan
0	1	1	12020004	2	1	sacul
0	1	0	12020004	2	2	sacul
0	1	1	12020002	2	3	diboll keltys
0	0	1	12020002	2	3	diboll-kelty
0	1	1	12020002	2	2	diboll kelty
0	0	2	12010005	4	3	evadale
0	1	1	12010005	4	3	tyden
0	1	2	12010005	4	3	dallardsville
0	1	0	12020006	2	1	Woodville
0	1	0	12010005	4	1	Woodville
0	1	0	12020005	2	1	Bienville

0	0	0	12010002	4	3	Bienville
1	1	0	12020005	2	1	Bienville
1	1	0	12030202	5	1	Doucette
0	0	1	12030202	5	1	Pinetucky
0	0	1	12020003	4	3	Dallardsville
0	1	1	12020002	2	1	Hillister
0	1	0	12020003	2	1	Besner
0	1	0	12020003	2	1	Besner
1	1	1	12030202	7	3	Otanya
1	1	2	12010005	4	3	Doucette
1	1	1	12020005	2	2	Red springs
0	1	1	12010004	4	3	Eastwood
1	1	1	12020006	2	2	Pinetucky and Hillister
0	1	0	12020003	2	1	Woodville
1	1	0	12020003	2	0	Shankler
1	1	1	12020005	2	2	Tehran
0	1	1	12020005	2	3	
0	1	0	12020002	2	1	Latex, sawlit
0	1	1	12030202	7	3	Fuller
0	1	1		2	3	Woodville
0	1	2		7	2	Rosenwall-Goreen
1	1	0		2	1	
0	0	1	12020006	2	3	Dallardsville
0	0	1	12010002	4	1	Scottsville
1	0	0	12010002	4	0	Scottsville
1	2	0	12020002	2	0	Stringtown
2	2	0	12020001	2	0	Nacogdoches

1	1	1	12020005	2	2	Bernaldo
1	2	1	12020004	2	3	Cuthbert
1	1	0	12020001	2	0	Nacogdoches
1	1	0	12020001	2	0	Kirvin
1	2	1	12010004	4	1	Eastwood
1	1	0	11140307	1	0	Cuthbert
1	1	1	11140304	1	2	Tenaha
0	0	2	11140106	3	2	Sawyer
1	1	1	12010004	4	1	Scottsville
1	1	0	12020005	2	0	Darco
0	0	2	12030202	7	3	Molten
1	1	0	12020004	2	0	Lilbert
1	1	1	11140306	1	3	Kirvin
1	1	1	11140307	1	3	Bowie
1	1	1	12020004	2	0	Bowie
1	1	1	11140305	1	3	Teneha
1	1	1	12020004	2	0	Lilbert
0	1	2	11140302	6	3	Eastwood
0	1	1	11140306	1	1	Sailes
0	0	1	12010002	4	3	Scottsville
0	0	2	11140302	6	1	Adaton
0	0	0	11140304	1	0	Bernaldo
1	1	0	11140302	6	0	Metcalf
0	0	2	11140306	1	1	Gallime
1	1	2	11140304	1	3	Sailes
1	1	1	12020005	2	3	Redsprings
1	1	1	12010002	4	3	Teneha

1	1	1	11140306	1	3	Scottsville
0	0	2	11140302	6	3	Wrightsville
1	0	1	11140302	6	3	Kullit
0	0	1	12020006	2	3	Kirbyville
1	1	1	12020002	2	3	Woodtell
1	2	1	12010002	4	0	Wolfpen
0	0	1	11140304	1	3	Scottsville
1	1	1	12010004	4	3	Metcalf
1	1	1	12010002	4	0	Duffern
1	1	1	12010004	4	2	Eastwood
0	1	1	12010002	4	3	Scottsville
1	1	0	12010002	4	0	Darco
0	0	1	12020007	2	3	Sorter
0	0	2	12020006	2	3	Sorter
0	0	1	12020007	2	3	Evadale
1	1	0	12020003	2	3	Otanya
0	0	2	12020007	2	3	Waller
0	1	2	12020006	2	1	Kirbyville
0	1	2	12020006	2	3	Kirbyville
1	1	1	12020005	2	1	Moswell
1	2	1	12020006	2	2	Stringtown
1	2	1	12020003	2	3	Koury
1	2	1	12020006	2	0	Pinetucky

he site ID numbers.

*private landowner; 3 = corporate; 4 = industry]*







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IIID1	IIIE	IIIE1	IIIF	IIIF1	TOTALIII1	TOTALIII2	TOTALIII3
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FALSE	0	FALSE	2	FALSE	4	0	0



TOTALIIN	Implementation for Sect. III	BMPIII_RD	BMPIII_WD	BMPIII_WB	BMPIII_RE	BMPIII_OC	BMPIII_PL
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0	100	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE
0	100	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
0	83	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
0	100	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
1	80	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
1	100	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
2	100	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
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1	80	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
0	83	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
0	100	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE
6		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
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0	83	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
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0	83	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE



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1	100	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
1	100	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
0	83	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE



1	100	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
1	100	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
1	100	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
4	100	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE
0	83	FALSE	TRUE	TRUE	FALSE	TRUE	TRUE
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1	100	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
2	100	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE





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FALSE	TRUE	TRUE	FALSE	0	FALSE	0	FALSE



IVC	IVC1	IVD	IVD1	IVE	IVE1	TOTALIV1	TOTALIV2
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1	FALSE	0	FALSE	1	FALSE	3	2
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0	FALSE	0	FALSE	0	FALSE	5	0
0	FALSE	0	FALSE	0	FALSE	5	0
2	FALSE	2	FALSE	2	FALSE	0	0
0	FALSE	0	FALSE	0	FALSE	5	0
0	FALSE	1	FALSE	0	FALSE	4	1
0	FALSE	0	FALSE	0	FALSE	5	0
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1	FALSE	0	FALSE	0	FALSE	4	1
1	FALSE	0	FALSE	0	FALSE	4	1
1	FALSE	0	FALSE	0	FALSE	4	1
1	FALSE	0	FALSE	0	FALSE	4	1
0	FALSE	0	FALSE	0	FALSE	5	0
1	FALSE	0	FALSE	0	FALSE	4	1
0	FALSE	0	FALSE	0	FALSE	5	0
1	FALSE	0	FALSE	0	FALSE	4	1
0	FALSE	0	FALSE	0	FALSE	5	0
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0	FALSE	0	FALSE	0	FALSE	5	0
0	FALSE	0	FALSE	0	FALSE	5	0
0	FALSE	0	FALSE	0	FALSE	5	0
1	FALSE	0	FALSE	0	FALSE	4	1
0	FALSE	0	FALSE	0	FALSE	5	0

0	FALSE	0	FALSE	0	FALSE	5	0
2	FALSE	2	FALSE	2	FALSE	0	0
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0	FALSE	0	FALSE	0	FALSE	5	0
0	FALSE	0	FALSE	0	FALSE	5	0
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0	FALSE	0	FALSE	0	FALSE	5	0
1	FALSE	1	FALSE	0	FALSE	3	2
0	FALSE	0	FALSE	0	FALSE	5	0
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2	FALSE	2	FALSE	2	FALSE	0	0
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1	FALSE	1	FALSE	0	FALSE	2	3
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0	FALSE	0	FALSE	0	FALSE	5	0
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0	FALSE	0	FALSE	0	FALSE	5	0
1	FALSE	1	FALSE	1	FALSE	2	3
2	FALSE	0	FALSE	0	FALSE	4	0
2	FALSE	0	FALSE	1	FALSE	3	1
2	FALSE	0	FALSE	2	FALSE	3	0



TOTALIV3	TOTALIVN	Implement- ation for Sect. IV	BMPIV	BMPIV_WD	BMPIV_WB	BMPIV_RE	BMPIV_OC
0	5			FALSE	FALSE	FALSE	FALSE
0	0	60		FALSE	FALSE	FALSE	FALSE
0	0	100		FALSE	FALSE	TRUE	FALSE
0	0	100		FALSE	FALSE	FALSE	FALSE
0	0	100		FALSE	FALSE	FALSE	FALSE
0	5			FALSE	FALSE	FALSE	FALSE
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0	0	100		FALSE	FALSE	FALSE	FALSE
0	0	100		FALSE	FALSE	FALSE	FALSE
0	0	100		FALSE	FALSE	FALSE	FALSE
0	0	80		FALSE	FALSE	FALSE	FALSE
0	0	100		FALSE	FALSE	FALSE	FALSE

0	0	100		FALSE	FALSE	FALSE	FALSE
0	5			FALSE	FALSE	FALSE	FALSE
0	0	80		FALSE	FALSE	FALSE	FALSE
0	0	100		FALSE	FALSE	FALSE	FALSE
0	0	100		FALSE	FALSE	FALSE	FALSE
0	5			FALSE	FALSE	FALSE	FALSE
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0	5			FALSE	FALSE	FALSE	FALSE
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0	5			FALSE	FALSE	FALSE	FALSE

0	0	40		FALSE	FALSE	FALSE	FALSE
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0	0	40		TRUE	TRUE	FALSE	FALSE
0	1	100		TRUE	TRUE	FALSE	FALSE
0	1	75		TRUE	TRUE	FALSE	FALSE
0	2	100		TRUE	TRUE	FALSE	FALSE





BMPIV_PL	BMPIV_RS	BMPIV_LS	VA	VA1	VB	VB1	VC
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VC1	VD	VD1	VE	VE1	VF	VF1	VG
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VG1	VH	VH1	VI	VI1	TOTALV1	TOTALV2	TOTALV3
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FALSE	0	FALSE	0	FALSE	5	0	0

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TOTALVN	Implementation for Sect. V	BMPV_CU	BMPV_BR	BMPV_LW	VIA	VIA1	VIB
4	60	FALSE	FALSE	FALSE	0	FALSE	0
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4	80	FALSE	FALSE	FALSE	2	FALSE	0
5	50	FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
4	100	FALSE	FALSE	FALSE	0	FALSE	0
7	100	FALSE	FALSE	FALSE	0	FALSE	0
4	100	FALSE	FALSE	FALSE	2	FALSE	2
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9		FALSE	FALSE	FALSE	2	FALSE	0
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9		FALSE	FALSE	FALSE	0	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	2
4	80	FALSE	FALSE	FALSE	2	FALSE	0
4	80	FALSE	FALSE	FALSE	0	FALSE	0
5	100	TRUE	FALSE	FALSE	0	FALSE	0
4	100	TRUE	FALSE	FALSE	2	FALSE	0
4	80	FALSE	FALSE	FALSE	0	FALSE	0
0	77	FALSE	FALSE	FALSE	0	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
0	88	FALSE	FALSE	FALSE	2	FALSE	0

9		FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	0	FALSE	0
5	75	FALSE	FALSE	FALSE	0	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	2
1	75	FALSE	FALSE	FALSE	2	FALSE	0
5	100	TRUE	FALSE	FALSE	0	FALSE	0
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9		FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
5	100	FALSE	FALSE	FALSE	0	FALSE	0
6	100	TRUE	FALSE	FALSE	0	FALSE	0
4	100	FALSE	FALSE	FALSE	2	FALSE	0
0	66	TRUE	FALSE	FALSE	0	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
0	77	FALSE	FALSE	FALSE	0	FALSE	0
5	50	FALSE	FALSE	FALSE	2	FALSE	0
4	100	FALSE	FALSE	FALSE	2	FALSE	0
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0	100	FALSE	FALSE	FALSE	2	FALSE	2
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9		FALSE	FALSE	FALSE	0	FALSE	0

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9		FALSE	FALSE	FALSE	0	FALSE	0
0	88	TRUE	FALSE	FALSE	0	FALSE	0
4	80	FALSE	FALSE	FALSE	2	FALSE	0
5	100	TRUE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	0	FALSE	0
9		FALSE	FALSE	FALSE	0	FALSE	0
4	40	FALSE	FALSE	FALSE	0	FALSE	0
4	100	FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	2
4	60	FALSE	FALSE	FALSE	2	FALSE	0
4	80	FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
5	100	TRUE	FALSE	FALSE	0	FALSE	0
4	100	FALSE	FALSE	FALSE	0	FALSE	0
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9		FALSE	FALSE	FALSE	0	FALSE	0
0	89	FALSE	FALSE	FALSE	0	FALSE	0
5	100	TRUE	FALSE	FALSE	2	FALSE	0
4	80	FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	2
4	40	FALSE	FALSE	FALSE	0	FALSE	0
5	100	TRUE	FALSE	FALSE	2	FALSE	0
4	100	FALSE	FALSE	FALSE	2	FALSE	0
5	75	TRUE	FALSE	FALSE	0	FALSE	0
7	100	FALSE	FALSE	FALSE	0	FALSE	2
5	100	FALSE	FALSE	FALSE	0	FALSE	2

0	22	TRUE	FALSE	FALSE	2	FALSE	0
0	78	TRUE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	0	FALSE	2
4	80	FALSE	FALSE	FALSE	0	FALSE	2
0	44	FALSE	FALSE	TRUE	2	FALSE	0
0	100	FALSE	FALSE	FALSE	0	FALSE	0
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9		FALSE	FALSE	FALSE	2	FALSE	0
4	100	FALSE	FALSE	FALSE	0	FALSE	2
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4	20	FALSE	FALSE	FALSE	2	FALSE	0
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4	100	FALSE	FALSE	FALSE	2	FALSE	0
4	80	FALSE	FALSE	FALSE	2	FALSE	0
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4	100	FALSE	FALSE	TRUE	2	FALSE	0
4	100	FALSE	FALSE	FALSE	2	FALSE	0

4	80	FALSE	FALSE	FALSE	2	FALSE	0
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4	100	FALSE	FALSE	FALSE	2	FALSE	0
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5	100	FALSE	FALSE	FALSE	2	FALSE	2
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4	40	FALSE	FALSE	FALSE	2	FALSE	0
9		FALSE	FALSE	FALSE	2	FALSE	0
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9		FALSE	FALSE	FALSE	2	FALSE	0









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VIF1	VIG	VIG1	VIH	VIH1	TOTALVI1	TOTALVI2	TOTALVI3
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100	1	FALSE	0	FALSE	0	FALSE	0
100	2	FALSE	2	FALSE	2	FALSE	2
100	0	FALSE	0	FALSE	0	FALSE	0
100	0	FALSE	1	FALSE	0	FALSE	0
	0	FALSE	0	FALSE	0	FALSE	0
	0	FALSE	0	FALSE	0	FALSE	0
	0	FALSE	0	FALSE	0	FALSE	0
100	0	FALSE	2	FALSE	0	FALSE	0
	0	FALSE	0	FALSE	0	FALSE	0
	0	FALSE	0	FALSE	0	FALSE	0
	0	FALSE	2	FALSE	0	FALSE	0
100	0	FALSE	2	FALSE	0	FALSE	0
100	0	FALSE	2	FALSE	0	FALSE	0
	0	FALSE	0	FALSE	0	FALSE	0
75	2	FALSE	2	FALSE	2	FALSE	2
	1	FALSE	0	FALSE	0	FALSE	0
	0	FALSE	0	FALSE	0	FALSE	0





FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	1	FALSE	4	2	0
FALSE	0	FALSE	1	FALSE	5	1	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	1	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	2	FALSE	2	FALSE	0	0	0
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FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	1	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0

FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	4	1	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0
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FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	4	2	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	1	FALSE	5	1	0

FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	1	FALSE	0	FALSE	2	4	1
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	2	FALSE	2	FALSE	0	0	0
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FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	1	FALSE	0	FALSE	2	4	0
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FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
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FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0

FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
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FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	0	FALSE	0	FALSE	5	0	0
FALSE	0	FALSE	0	FALSE	5	0	0
FALSE	0	FALSE	0	FALSE	5	0	0
FALSE	0	FALSE	0	FALSE	6	0	0
FALSE	2	FALSE	2	FALSE	0	0	0
FALSE	0	FALSE	0	FALSE	5	1	0
FALSE	0	FALSE	0	FALSE	6	0	0





TOTALVIIIIN	Implement- ation for Sect. VIII	IXA	IXA1	IXB	IXB1	IXC	IXC1
6		1	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	0	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	83	0	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	1	FALSE	2	FALSE
0	100	0	FALSE	2	FALSE	2	FALSE
0	100	1	FALSE	0	FALSE	0	FALSE
0	66	2	FALSE	2	FALSE	2	FALSE
0	83	1	FALSE	0	FALSE	0	FALSE
0	100	0	FALSE	0	FALSE	0	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	0	FALSE	0	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE

0	100	2	FALSE	2	FALSE	2	FALSE
6		0	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	66	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	83	0	FALSE	0	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE

0	100	0	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
1	80	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
6		0	FALSE	2	FALSE	2	FALSE
6		0	FALSE	2	FALSE	2	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	83	0	FALSE	0	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	66	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
6		0	FALSE	0	FALSE	0	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE

0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	0	FALSE	0	FALSE	0	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	33	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	1	TRUE	1	TRUE	1	TRUE
0	100	0	FALSE	0	FALSE	0	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	0	FALSE	0	FALSE	0	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	0	FALSE	0	FALSE
0	33	1	TRUE	0	FALSE	0	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
6		0	FALSE	0	FALSE	0	FALSE
6		0	FALSE	2	FALSE	1	TRUE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE

0	83	0	FALSE	2	FALSE	0	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	0	FALSE	0	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	0	FALSE	0	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	0	FALSE	2	FALSE	1	FALSE
0	100	0	FALSE	0	FALSE	0	FALSE
0	100	0	FALSE	0	FALSE	0	FALSE
1	100	0	FALSE	2	FALSE	0	FALSE
0	100	0	FALSE	0	FALSE	0	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
1	100	2	FALSE	2	FALSE	2	FALSE
1	100	2	FALSE	2	FALSE	2	FALSE
1	100	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE
6		2	FALSE	2	FALSE	2	FALSE
0	83	2	FALSE	2	FALSE	2	FALSE
0	100	2	FALSE	2	FALSE	2	FALSE



TOTALIX1	TOTALIX2	TOTALIX3	TOTALIXN	Implement- ation for Sect. IX	TOTALX1	TOTALX2	TOTALX3
0	1	0	2	0	22	5	1
0	0	0	3		25	4	0
0	0	0	3		27	2	0
2	0	0	1	100	25	3	1
0	0	0	3		19	2	0
0	0	0	3		17	2	1
1	0	0	2	100	29	2	0
0	0	0	3		20	2	0
0	0	0	3		24	1	0
0	0	0	3		21	2	0
1	1	0	1	50	24	2	0
1	0	0	2	100	22	1	0
2	1	0	0	66	25	2	0
0	0	0	3		20	4	0
2	1	0	0	66	25	3	0
3	0	0	0	100	26	1	0
0	0	0	3		17	0	0
0	0	0	3		32	2	0
0	0	0	3		28	2	0
0	0	0	3		27	2	0
0	0	0	3		29	0	0
3	0	0	0	100	32	1	0
0	0	0	3		32	2	0
0	0	0	3		23	1	0
0	0	0	3		31	2	0



0	0	0	3		23	1	0
1	0	0	2	100	19	1	0
0	0	0	3		28	1	0
0	0	0	3		22	2	0
0	0	0	3		24	1	0
0	0	0	3		21	2	0
0	0	0	3		20	2	1
0	0	0	3		27	5	0
2	0	0	1	100	30	1	0
0	0	0	3		22	1	0
0	0	0	3		17	2	0
0	0	0	3		23	1	0
0	0	0	3		31	2	0
1	0	0	2	100	27	1	0
0	0	0	3		28	0	0
0	0	0	3		29	5	0
0	0	0	3		18	2	0
0	0	0	3		31	3	0
0	0	0	3		26	2	0
0	0	0	3		28	1	0
0	0	0	3		27	1	0
0	0	0	3		15	0	0
1	0	0	2	100	25	3	1
1	0	0	2	100	26	1	0
0	0	0	3		23	2	0
0	0	0	3		24	1	0
0	0	0	3		25	0	0

1	0	0	2	100	26	0	0
0	0	0	3		23	2	0
0	0	0	3		33	1	0
0	0	0	3		22	1	0
0	0	0	3		26	2	0
0	0	0	3		24	1	0
0	0	0	3		24	1	0
1	0	0	2	100	28	3	0
0	0	0	3		27	2	0
0	0	0	3		13	1	0
0	0	0	3		25	3	0
0	0	0	3		27	2	0
0	0	0	3		24	0	0
0	0	0	3		28	1	0
1	0	0	2	100	27	1	0
1	0	0	2	100	21	0	0
0	0	0	3		20	1	0
2	0	0	1	100	34	2	0
0	0	0	3		27	1	0
0	0	0	3		17	6	1
0	0	0	3		16	1	0
0	0	0	3		31	7	0
0	0	0	3		22	0	0
0	0	0	3		26	2	0
3	0	0	0	100	26	1	0
0	0	0	3		19	0	0
0	0	0	3		21	2	0

0	0	0	3		16	16	2
0	0	0	3		29	4	0
3	0	0	0	100	25	1	0
0	0	0	3		27	1	0
0	0	0	3		18	15	4
0	0	0	3		33	1	0
0	3	3	0	0	17	14	6
3	0	0	0	100	20	0	0
0	0	0	3		13	1	0
0	0	0	3		28	1	0
0	0	0	3		16	0	0
0	0	0	3		21	9	2
0	0	0	3		24	10	2
3	0	0	0	100	27	4	1
0	0	0	3		28	0	0
3	0	0	0	100	28	3	0
2	1	1	0	66	27	5	1
0	0	0	3		20	1	0
0	0	0	3		20	8	0
0	0	0	3		14	6	1
0	0	0	3		21	0	0
3	0	0	0	100	23	0	0
1	1	1	1	50	22	5	2
0	0	0	3		38	0	0
0	0	0	3		16	0	0
0	0	0	3		23	5	0
0	0	0	3		26	2	0

2	0	0	1	100	28	2	0
0	0	0	3		10	0	0
0	0	0	3		26	3	0
3	0	0	0	100	31	0	0
0	0	0	3		27	6	1
0	0	0	3		22	8	3
0	0	0	3		27	1	0
0	0	0	3		17	1	0
3	0	0	0	100	34	0	0
0	0	0	3		33	1	0
1	1	0	1	50	17	1	0
3	0	0	0	100	21	12	7
3	0	0	0	100	30	1	0
2	0	0	1	100	20	0	0
3	0	0	0	100	26	0	0
0	0	0	3		29	0	0
0	0	0	3		11	0	0
0	0	0	3		27	0	0
0	0	0	3		15	0	0
0	0	0	3		21	6	0
0	0	0	3		22	2	0
0	0	0	3		20	2	0
0	0	0	3		20	0	0



TOTALXN	Total Implementation Score	SCORE	Follow Up Question 1	Follow Up Question 2	Follow Up Question 3	Follow Up Question 4
18	81	11	0	0	0	0
16	86	11	1	0	1	1
16	93	12	0	0	0	0
17	89	11	0	0	0	0
24	90	12	1	1	0	1
26	89	12	0	0	0	0
14	93	12	0	0	0	0
23	90	12	0	0	0	0
20	96	13	0	0	0	0
22	91	12	0	0	0	0
19	92	12	0	0	0	0
22	95	12	0	0	0	0
18	92	12	0	0	0	0
21	83	11	0	0	0	0
17	89	12	0	0	0	0
18	96	13	0	0	0	0
28	100	13	0	0	0	0
11	94	12	0	0	0	0
15	93	12	0	0	0	0
16	93	12	0	0	0	0
16	100	13	0	0	0	0
12	96	13	0	0	0	0
11	94	12	0	0	0	0
21	95	13	0	0	0	0
12	93	12	0	0	0	0

21	95	13	0	0	0	0
25	95	13	0	0	0	0
16	96	13	0	0	0	0
21	91	12	0	0	0	0
20	96	13	0	0	0	0
22	91	12	0	0	0	0
23	90	12	0	0	0	0
13	84	11	0	0	0	0
14	96	12	0	0	0	0
22	95	12	0	0	1	0
26	89	12	1	0	0	0
21	95	13	0	0	0	0
12	93	12	0	0	0	0
17	96	13	0	0	0	0
17	100	13	0	0	0	0
11	85	11	0	0	0	0
25	90	12	0	0	0	0
11	91	12	0	0	0	0
17	92	12	0	0	0	0
16	96	12	0	0	0	0
17	96	13	0	0	0	0
30	100	12	0	0	0	0
17	89	12	0	0	0	0
18	96	12	0	0	0	0
20	92	12	0	0	0	0
20	96	13	0	0	0	0
20	100	13	0	0	0	0

19	100	13	0	0	0	0
20	92	12	0	0	0	0
11	97	12	0	0	0	0
22	95	12	0	0	0	0
17	92	12	0	0	0	0
20	96	12	0	0	0	0
20	96	12	0	0	0	0
14	90	12	0	0	0	0
16	93	12	0	0	0	0
31	92	12	0	0	0	0
17	89	11	0	0	0	0
16	93	12	0	0	0	0
21	100	13	0	0	0	0
16	96	12	0	0	0	0
17	96	13	0	0	0	0
24	100	13	0	0	0	0
24	95	13	0	0	0	0
9	94	12	0	0	0	0
17	96	12	0	0	0	0
22	73	2	1	1	0	1
28	94	12	0	0	0	0
7	81	11	0	0	0	0
23	100	13	0	0	0	0
17	92	13	0	1	0	0
18	96	13	0	0	0	0
26	100	13	0	0	0	0
22	91	13	0	0	0	0



13	50	2	1	1	0	1
12	87	12	0	0	1	0
19	96	13	0	1	0	0
17	96	13	0	0	0	0
12	54	2	1	0	0	1
11	97	13	0	0	0	0
14	54	2	0	1	0	0
25	100	13	1	1	0	1
31	92	13	0	0	0	0
16	96	13	0	0	0	0
29	100	13	1	1	0	1
15	70	11	0	0	0	0
11	70	11	0	0	0	0
14	87	12	0	0	0	0
17	100	13	0	1	0	0
14	90	13	1	0	0	1
13	84	12	0	1	0	0
24	95	13	0	1	1	0
17	71	11	1	0	0	0
25	70	11	1	1	1	1
24	100	13	0	0	0	0
22	100	13	0	1	0	1
18	81	12	0	1	0	1
7	100	13	0	0	0	0
29	100	13	1	0	0	1
17	82	12	1	1	0	1
17	92	13	1	1	0	1

15	93	13	0	0	0	0
35	100	13	0	0	0	1
16	89	12	0	1	0	1
14	100	13	0	0	0	0
12	81	12	0	0	0	0
15	73	11	0	1	0	0
17	96	13	0	1	1	0
27	94	13	0	0	0	0
11	100	13	0	0	0	0
11	97	13	0	0	0	0
27	94	13	0	1	0	0
12	63	2	0	0	0	0
14	96	13	0	0	0	0
25	100	13	0	0	0	0
19	100	13	0	0	0	0
16	100	13	0	0	0	0
34	100	13	0	0	0	0
18	100	13	0	0	0	0
30	100	13	0	0	0	0
18	77	11	0	0	0	0
21	91	13	0	0	0	0
23	90	13	0	0	0	0
25	100	13	0	0	0	0



Follow Up Question 5	Follow Up Question 5a	Follow Up Question 6	Follow Up Question 7	Follow Up Question 8	Follow Up Question 9
0	SFI	0	0	0	1
0	American Tree Farm	1	0	0	1
0	TFA	0	0	0	1
1		0	0	0	1
1		1	0	1	1
0	TFA	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA	0	0	0	1
0	TFA	0	0	0	1
0	Tfa	0	0	0	1
0	Tfa	0	0	0	1
0	Tfa	0	0	0	1
0	SFI	0	0	0	1
1		0	0	0	1
0	TFA	0	0	0	1
0	TFA	0	0	0	1
0	SFI	0	0	0	1
0	Tfa	0	0	0	1
0	TFA	0	0	0	1

0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	Tfa	0	0	0	1
0	Tfa	0	0	0	1
0	American Tree Farm	0	0	0	1
0	SFI	0	0	0	1
0	TFA	0	0	0	1
0	TFA	0	0	0	1
1		0	0	0	1
0	American Tree Farm	1	0	0	1
0	Tfa, sfi	0	0	0	1
0	TFA, SFI	0	0	0	1
0	TFA	0	0	0	0
0	TFA	0	0	0	0
1		0	0	0	1
0	TFA	0	0	0	1
0	TFA	0	0	0	1
0	TFA	0	0	0	1
0	TFA, SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA	0	0	0	0
0	TFA	0	0	0	1
0	TFA	0	0	0	1

0	TFA	0	0	0	1
0	TFA	0	0	0	0
0	TFA & SFI	0	0	0	1
0	TFA	0	0	0	1
0	TFA & SFI	0	0	0	0
0	TFA & SFI	0	0	0	0
0	TFA & SFI	0	0	0	0
0	TFA & SFI	0	0	0	0
0	TFA	0	0	0	1
0	TFA	0	0	0	1
1		0	0	0	0
1		0	0	0	0
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	SFI & TFA	0	0	0	1
0	SFI & TFA	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
0	TFA & SFI	0	0	0	1
1		1	0	1	1
0	TFA	0	1	0	0
0	TFA	0	0	0	0
0	TFA	0	0	0	1
1		0	0	1	1
1		0	0	1	1
0	Tyler County Landowners	0	0	0	1
0	Tree Farm	0	0	0	0

1		0	0	0	1
0	Tree farm	0	0	0	1
1		0	0	0	1
1		0	0	0	1
1		0	0	0	0
0	TFA	0	0	0	1
1		0	0	0	0
1		0	0	1	1
0	TFA	0	0	0	1
1		0	0	0	1
1		0	0	1	1
1		0	0	0	1
0	Marion and Cass counties	0	0	1	1
0	East Texas Forest	0	0	0	1
0	TFA	0	0	0	1
1		0	0	0	1
1		1	0	0	1
1		0	0	1	1
0	TFA	0	0	1	1
1		1	0	0	1
0	TFA	0	0	0	1
1		0	0	1	1
1		0	0	1	1
1		0	0	0	1
0	TFA	0	0	0	1
1		0	0	1	1
1		0	0	1	1







## COMMENTS

Recent rain resulted in some Good basal area and decent Good use of slash on skid Skid trails well slashed and not Skid trail was slashed Good waterbars and wing ditches Skid trails slashed well. Landings and skid trails were Good SMZ around pond, Adequate width and basal area in Very flat site. Recent heavy Good protection of hardwood flat Nice waterbars and wing ditches Good SMZ retention. Some Good SMZ retention, Landings and skid trails were Good slash dispersal. Nice Good buffers on SMZ for harvest Good protection around SMZs. Skid trails and landings were Good protection around Good SMZs all through Waterbars and wing ditches Permanent road in good Skid trails and landings well

Landings were well slashed  
SMZ very well protected.  
Stream & drain well protected.  
Good basal area retention and  
Both SMZs were protected for  
Excellent SMZs throughout  
Landings and skid trails  
SMZs were well established with  
The SMZs were decent to good  
SMZs were very well protected.  
Good SMZ & stream  
Landings and skid trails were  
Very good SMZ protection by  
All sections of SMZ/slough  
Very nice stream crossing, was  
SMZs retained enough basal  
Good SMZ, no evidence of site  
Skid trails and landings were  
Permanent roads were not  
SMZ was not thinned and  
SMZs were well protected. Skid  
There was no active erosion  
There were no temporary  
Permanent roads  
The SMZ was excellent and  
Excellent SMZs, very good buffer  
Only 2 sets and both were well

The sets and skid trails were Very good SMZ protection, no Permanent road in good shape This was a small acreage thin SMZ had enough basal area and Good SMZs and there were no This site borders the Angelina The first crossing into the site has SMZ was a good overall, there The site was planted on The skid trails had either The SMZs were very well The skid trails were well The SMZ was large & the The soil on this site is sugar The site had great SMZs that The SMZs had been selectively The permanent roads had good The logging sets were well Logging set is ponding and 4th row thinning job at 17 years. Skid roads well maintained with This inspection was conducted The streamside management There was a stream crossing Overall, the Best Management Overall, the BMPs on site





**TABLE ONE:**

**ESTIMATED TOTAL VOLUME OF EROSION AS A RESULT OF FORESTRY ACTIVITIES**

Forest Condition	Forestry Activity	Estimated Annual Acreage (Acres)	Recovery Period (Years)	Total Area (Acres)	Average Erosion Rate (Tons/Acre/Year)	Erosion Volume (Tons/Year)
Undisturbed		11,046,788	0	-	0.00	-
Harvested <sup>2</sup>	Clearcut	97,900	3	293,700	0.14	41,118
	Clearcut	8,400	1	8,400	0.24	2,016
	Partial Cut	228,100	2	456,200	0.04	18,248
Site Preparation <sup>3,4,5</sup>	Shear	3,910	4	15,640	0.26	4,066
	Shear and Pile	7,820	4	31,280	0.52	16,266
	Bedding	15,640	4	62,560	0.17	10,635
	Site Prep Burn	7,820	3	23,460	0.47	11,026
	Drum Chopping	1,564	3	4,692	0.19	891
	Chemical	55,200	2	110,400	0.05	5,520
	Chemical and Burn	2,346	3	7,038	0.50	3,519
Other <sup>6</sup>	Prescribed Burn	81,855	2	163,710	0.02	3,274
	Wildfire	14,445	2	28,890	0.13	3,756
	Temp Roads - No BMPs	11,906	4	47,624	4.20	200,021
	Skid Trails - No BMPs	11,906	4	47,624	2.70	128,585
<b>Total Timberland<sup>1</sup></b>		<b>11,595,600</b>		<b>1,301,218</b>		<b>448,941</b>
<b>Total Disturbance</b>		<b>548,812</b>				

<sup>1</sup> East Texas FIA data - Table 3.1 Area of Timberland

<sup>2</sup> East Texas FIA data - CHNG Table 8.3.1 timberland treated (cutting)

<sup>3</sup> East Texas FIA data - CHNG Table 8.3.2 timberland treated (regen)

<sup>4</sup> Site prep category estimates based on TMC Large LO survey

<sup>5</sup> East Texas FIA data - CHNG Table 8.3.2 timberland treated (regen) - Other Silvicultural - added to Chemical SP

<sup>6</sup> East Texas FIA data - CHNG Table 8.1 - disturbance (fire)

**TABLE TWO:**

**ESTIMATED TOTAL SEDIMENTATION AS A RESULT OF FORESTRY ACTIVITIES  
WITHOUT ADEQUATE BMPs**

Forest Condition	Forestry Activity	Erosion Volume (Tons/Year)	Percent Area No SMZ	Percent Roads No BMPs	Percent Erosion Reaching Stream No SMZ	Estimated Sedimentation (Tons/Year)	Percent of Sedimentation
Undisturbed		-	0	0	0	-	0.00
Harvested	Clearcut	41,118	100	N/A	3	1,233.54	5.62
	Clearcut	2,016	100	N/A	3	60.48	0.28
	Partial Cut	18,248	100	N/A	3	547.44	2.50
Site Preparation	Shear	4,066	100	N/A	6	243.98	1.11
	Shear and Pile	16,266	100	N/A	10	1,626.56	7.42
	Bedding	10,635	100	N/A	1	106.35	0.48
	Site Prep Burn	11,026	100	N/A	10	1,102.62	5.03
	Drum Chopping	891	100	N/A	3	26.74	0.12
	Chemical	5,520	100	N/A	3	165.60	0.76
	Chemical and Burn	3,519	100	N/A	10	351.90	1.60
Other	Prescribed Burn	3,274	100	N/A	0	-	0.00
	Wildfire	3,756	100	N/A	1	37.56	0.17
	Temp Roads - No BMPs	200,021	100	100	5	10,001.04	45.60
	Skid Trails - No BMPs	128,585	100	100	5	6,429.24	29.31
<b>Total Timberland</b>		<b>448,941</b>				<b>21,933.06</b>	<b>100.00</b>



**TABLE THREE:**

**ESTIMATED REDUCTION IN EROSION VOLUME FROM WOODS ROADS WHEN BMPs ARE IMPLEMENTED**

Road Classification	Estimate Annual Acreage	Recovery Period (Years)	Average Erosion Rate (Tons/Acre/Year)	Erosion Volume (Tons/Year)
<u>Without Adequate BMPs – 7.1%</u>				
Temporary Road	845.33	4	4.20	14,201.48
Skid Trails	845.33	4	2.70	9,129.52
<u>With Adequate BMPs – 92.9%</u>	11,060.67			139,364.49
Temporary Roads	11,060.67	4	3.15	88,485.39
Skid Trails		4	2.00	
<b>Total</b>	<b>23,812</b>			<b>251,180.88</b>

Estimated Annual Volume of Erosion from Woods Roads if no BMPs implemented = 328,605.60 Tons

Estimated Annual Volume of Erosion from Woods Roads with BMPs (92.9% Implementation) = 251,180.88 Tons

**Estimated Annual Reduction of Erosion from Woods Roads = 77,424.72 Tons**

**TABLE FOUR:**

**ESTIMATED TOTAL SEDIMENTATION AS A RESULT OF FORESTRY ACTIVITIES  
WITH CURRENT LEVEL OF BMP IMPLEMENTATION**

Forest Condition	Forestry Activity	Erosion Volume (Tons/Year)	Percent Area SMZ	Percent Area No SMZ	Percent Erosion Reaching Stream SMZ/No SMZ	Estimated Sedimentation (Tons/Year)	Percent of Sedimentation
Undisturbed		0	0	0	0.00/0.00	0.00	0.0
Harvested	Clearcut (3yr.)	41,118.00	99.6	0.4	1/3	414.84	3.39
	Clearcut (1yr.)	2,016.00	99.6	0.4	1/3	20.34	0.17
	Partial Cut	18,248.00	99.6	0.4	1/3	184.10	1.50
Site Preparation	Shear	4,066.40	99.6	0.4	2/6	82.05	0.67
	Shear and Pile	16,265.60	99.6	0.4	5/10	816.90	6.67
	Bedding	10,635.20	99.6	0.4	0/1	0.47	0.00
	Site Prep Burn	11,026.20	99.6	0.4	5/10	553.76	4.52
	Drum Chopping	891.48	99.6	0.4	2/3	17.87	0.15
	Chemical	5,520.00	99.6	0.4	1/3	55.69	0.45
	Chemical and Burn	3,519.00	99.6	0.4	5/10	176.73	1.44
Other	Prescribed Burn	3,274.20	99.6	0.4	0/0	-	0.00
	Wildfire	3,755.70	99.6	0.4	1/1	37.56	0.31
	Temp Roads - BMPs	200,020.80	99.6	0.4	3/5	6,018.43	49.14
	Skid Trails - BMPs	128,584.80	99.6	0.4	3/5	3,868.99	31.59
<b>Total Timberland</b>		<b>448,941.38</b>				<b>12,247.73</b>	<b>100.00</b>

**TABLE FIVE:**

**SUMMARY OF WATER QUALITY IMPROVEMENTS RESULTING FROM AN INCREASE IN BMP IMPLEMENTATION AND A REDUCTION OF SEDIMENTATION**

<b>Implementation Level</b>	<b>Percent Area of Streamside Management Zones</b>	<b>Percent Implementation for Woods Roads *</b>	<b>Estimated Total Sedimentation (Tons/Year)</b>	<b>Percent Reduction</b>
Baseline (0% Implementation)	<b>0</b>	<b>0</b>	<b>21,933</b>	<b>0</b>
2022 Implementation	<b>97.6</b>	<b>92.9</b>	<b>12,248</b>	<b>44.16</b>

**Estimated soil loss as a direct result from timber harvesting = 0.818 Tons/Acre/Year**

**Estimated sedimentation reaching streams as a direct result of timber harvesting = 0.022 Tons/Acre/Year**

\* Percent implementation for woods roads is the weighted percent implementation of temporary and permanent roads against acres on which each were applicable

## **EXPLANATION OF CALCULATIONS AND DATA PRESENTED IN TABLES 1-5**

### **TABLE 1:**

Estimated Annual Acreage: The estimated annual acreage undergoing various disturbances is from Texas Forest Service, industry, and forest survey records.

Recovery Period and Average Erosion Rate: The recovery periods and average erosion rates for various types of disturbances were developed by Dissmeyer and Stump (1978) based on the modified Universal Soil Loss Equation and observations on 9,000 silvicultural sites in the South. Rates for this analysis are for the Lower Coastal Plain, assuming an average of four percent slope.

Total Acreage: Estimated Annual Acreage times Recovery Period

Erosion Volume: Total Acreage times Average Erosion Rate

### **TABLE 2:**

Erosion Volume: From Table 1

Percent Area without SMZs and BMPs: Assumes no BMP implementation

Percent Erosion Reaching Streams: Rates for these percentages were supplied by personal communication with Dissmeyer (10-22-92).

Estimated Sedimentation: Erosion Volume times Percent Area with BMPs times Percent Erosion Reaching Streams

Percent of Sedimentation: Represents the percentage that the particular disturbance contributes to the total estimated sedimentation

### **TABLE 3:**

Estimated Annual Acreage: The estimated annual acreage undergoing various disturbances is from Texas A&M Forest Service, forest industry, and forest survey records.

Recovery Period and Average Erosion Rate: The recovery periods and average erosion rates for various types of disturbances were developed by Dissmeyer and Stump (1978) based on the modified Universal Soil Loss Equation and observations on 9,000 silvicultural sites in the South. Rates for this analysis are for the Lower Coastal Plain, assuming an average of four percent slope.

Erosion Volume: Estimated Annual Acreage times Recovery Period times Average Erosion Rate

**TABLE 4:**

Erosion Volume: From Table 1. The reduction represented is a result of adding BMPs to roads (Table 3).

Percent Area with/without SMZs: Estimated from current BMP implementation monitoring results

Percent Erosion Reaching Streams: Rates for these percentages were supplied by personal communication with Dissmeyer (10-22-92).

Estimated Sedimentation: Erosion Volume times Percent Area with BMPs times Percent Erosion Reaching Streams

Percent of Sedimentation: Represents the percentage that the particular disturbance contributes to the total estimated sedimentation

**TABLE 5:**

Percent of Area with Streamside Management Zones: BMP implementation monitoring results

Percent Woods Roads with Adequate BMPs: BMP implementation monitoring results

Estimated Total Sedimentation: From Tables 2 and 4.

Percent Reduction:  $(\text{Baseline Implementation } 0\% - \text{Current Implementation Year}) / \text{Baseline Implementation}$

# **FOREST LAND EROSION EVALUATION FOR EAST TEXAS**

## **INTRODUCTION**

This appendix presents an estimate of the erosion and sedimentation from timberlands in East Texas and an approximation of the improvement in water quality as a result of implementation of non-regulatory forestry Best Management Practices. The findings are derived from a comparison of estimated sedimentation, assuming current levels of BMP implementation compared to zero implementation levels. The evaluation relies heavily on methodology and estimates provided by George Dissmeyer, USDA Forest Service Region 8 Forest Hydrologist (retired).

The estimated annual acreage undergoing different types of forest management treatments was based on 2021 East Texas Forest Inventory and Analysis data and information from a survey of major forest landowners. The area of temporary roads and skid trails was estimated based upon data published by Dissmeyer (1976).

Recovery periods and average erosion rates for various types of disturbances were developed by Dissmeyer and Stump (1978) based upon the Modified Universal Soil Loss Equation and observations on 9,000 silvicultural sites in the South. Rates used in this analysis are for the Lower Coastal Plain, assuming an average four percent slope.

BMP implementation monitoring data were used to estimate the percent of area for which streamside management zones (SMZs) are protecting streams from sedimentation. Dissmeyer (personal communication, 10-22-92) provided estimates of the percent of erosion reaching intermittent stream channels with and without streamside management zone protection.

The results should be viewed as “ballpark” estimates of erosion and sedimentation and are most useful as a means of comparing alternative scenarios and relative impacts rather than as an absolute statement of fact.

## **DISCUSSION**

East Texas, with nearly 12 million acres of timberland, contains the bulk of the state’s timber resource. Much of this timberland is actively managed for the sustainable production of timber by forest industries, corporations, family forest landowners, and public agencies. Approximately 646,450 acres, or 5%, undergoes some type of silvicultural treatment each year. Treatments include management activities such as timber harvesting, site preparation, and prescribed burning in addition to unplanned disturbances such as wildfire.

### **Baseline Erosion and Sedimentation**

Based on available evidence, the timberland of East Texas without adequate BMPs would experience approximately 450,000 tons of erosion per year (Table 1). Without the implementation of streamside management zones, approximately 22,000 tons of this soil, five percent, would reach the stream channels (Table 2). The average erosion rate per acre of land undergoing silvicultural treatment would be 0.78 tons per year without BMPs. Non-regulatory Best Management Practices have been in effect since June 1990. It should be understood that many forest managers were using Best Management Practices prior to June 1990. Therefore, these numbers were used as a baseline and do not necessarily indicate the amount of erosion or sedimentation before June 1990.

### **Estimated Improvement to Water Quality**

Implementation with Best Management Practices recommended guidelines has been assessed through a monitoring system which evaluated BMPs on 129 randomly selected sites between October 6, 2020, and November 20, 2022.

**Forest Roads:** Table 3 shows a reduction of the total volume of erosion from temporary woods roads and skid trails when BMPs are installed correctly. When BMPs were utilized, the total erosion was reduced from 328,605 tons per year to 251,180 tons per year. The reduction in total erosion was 77,425 tons per year. That equates to a 24 percent reduction over a zero percent implementation level.

**Streamside Management Zones (SMZs):** Table 4 represents the amount of sedimentation that occurred with the current level of BMP implementation on roads in addition to the use of streamside management zones. The reduction in total sedimentation was 12,248 tons per year.

BMP implementation monitoring determined that the percent area in SMZs protecting streams was 97.6%. It should be noted that the absence of streams on a harvested tract is often a result of proper planning by forest managers. Forest managers have begun using streams as tract boundaries and therefore are reducing potential impact to water quality.

## CONCLUSIONS

Under the current level of BMP implementation, the amount of sedimentation reaching streams is 12,248 tons per year or a 44 percent reduction over a zero percent implementation level.

Use of non-regulatory Best Management Practices, specifically streamside management zones, has significantly reduced soil erosion and stream sedimentation due to silvicultural activities in East Texas. Results from this analysis show that soil erosion has been reduced by 24 percent and stream sedimentation by 44 percent. Table 5 is a summary table that illustrates the percent improvement for stream sedimentation.

It is important to recognize that this analysis is based on estimates of erosion and stream sedimentation from broad averages. Results are estimates that compare the relative improvement to water quality as a result of the use of non-regulatory Best Management Practices.

## References

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**V. Stream Crossings**

On Permanent Roads

1. Crossings avoided or minimized
2. Stream crossings correct
3. Stream crossing stabilized
4. Stream free of sediment

YES	NO	NA/NN	Sig. Risk
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

On Temporary Roads

5. Crossings avoided or minimized
6. Stream crossings correct
7. Temporary crossings removed
8. Stream crossings and approaches stabilized
9. Stream free of sediment

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BMPs Present  CU  BR  LW

Section Total  
Percent Implementation

**VI. Streamside Management Zones**

1. Present on permanent stream
2. Present on intermittent stream
3. SMZ adequately wide by leaving fifty feet on both sides of the stream
4. Thinning within allowable specs by leaving 50 square feet of BA
5. Minimize harvesting bank trees
6. SMZ integrity honored by keeping skidders, roads, landings, and firebreaks out
7. Stream clear of debris, such as tops and limbs
8. Stream free of sediment

YES	NO	NA/NN	Sig. Risk
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section Total  
Percent Implementation

**VII. Site Preparation**

Site preparation method \_\_\_\_\_  
Regeneration method \_\_\_\_\_

1. Respect sensitive areas by preventing site prep intrusion
2. No soil movement on site, especially broad scale sheet erosion
3. Firebreak erosion controlled to prevent potential erosion
4. SMZ integrity honored by preventing site prep intrusion
5. Windrows on contour / free of soil to minimize soil disturbance
6. No chemicals off site or entering water bodies
7. Mechanical site prep, machine planting on contour
8. Stream free of sediment

YES	NO	NA/NN	Sig. Risk
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section Total  
Percent Implementation

**VIII. Landings**

1. Locations free of oil / trash and properly disposed of
2. Located outside of SMZ to minimize traffic and erosion in the SMZ
3. Well drained location to minimize puddling, soil degradation, and soil movement
4. Number and size minimized
5. Respect sensitive areas, including steep slopes and wet areas
6. Restored / stabilized by back blading, spreading bark, or seeding to minimize erosion

YES	NO	NA/NN	Sig. Risk
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section Total  
Percent Implementation

**IX. Wetlands (may or may not be jurisdictional)**

1. Avoid altering hydrology of site by minimizing ruts and soil compaction
2. Road drainage structures installed properly to maintain flow of water
3. Mandatory road BMPs followed

YES NO NA/NN Sig. Risk

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section Total

Percent Implementation

**X. Overall Implementation**

- III. Permanent Roads
- IV. Skid trails/Temporary Roads
- V. Stream Crossings
- VI. Streamside Management Zones
- VII. Site Preparation
- VIII. Landings
- IX. Wetlands

YES NO NA/NN Sig. Risk

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall Total

Total Significant Risk  
Percent Implementation

Needs Improvement	Pass
<input type="checkbox"/> No Effort <input type="checkbox"/> Poor	<input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Excellent

**Follow Up Questions**

YES NO NA/NN

Was activity supervised by landowner or representative?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

Who? \_\_\_\_\_

Was landowner familiar with BMPs?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

Has logger attended BMP Workshop?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

Were BMPs included in the contract?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

Is landowner a member of TFA? Landowner Association? Tree Farm? Other?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

Organization \_\_\_\_\_

Was timber delivered to SFI mill?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

Does landowner plan to reforest?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

Does landowner have a forest management plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

Is remediation planned by landowner (if needed)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

Date \_\_\_\_\_

Comments (Explain observed actions in the field check. Make recommendations.)

## Evaluation Criteria for BMP Monitoring Checklist

### I. General Landowner and Site Information

County: Texas County inspection was located.

TFS Block and Grid: Enter only entry point if multiple blocks or grids.

Region: TFS Water Resources Region (N or S)

Latitude and Longitude: coordinates in decimal degree (D.d) format.

Forester Type: Professional, i.e. consultant, industry, etc.

Forester Name: First and last name.

Timber Buyer: First and last name or Corporation name.

Contractor: First and last name or business name.

Activity: Type activity occurring, e.g. harvesting, site preparation, etc.

Acres Affected: Acres affected by activity.

Estimated Date of Activity: Quarter and year activity appears to have occurred.

Date of inspection: mmddyy.

Inspector: Name of TFS forester doing BMP inspection.

Accompanied by: Name of landowner, forester, logger, etc. who is present during the inspection.

Owner Type: Nonindustrial (N), Absentee nonindustrial (A), Corporate (C) Industry (I), Public (P).

Name, Address, City, Zip, and Phone: Contacts for the landowner.

### II. Site Characteristics

Terrain: Check only one; Flat, Hilly, or Steep.

Erodibility hazard: Check only one; Low, Medium, or High.

Type stream present: Perennial or Intermittent.

Watershed Code: 8 digit hydrologic unit code where site is located.

River Basin: River basin where site is located.

Distance to nearest permanent water body: Distance to nearest blue line stream or lake.

Predominant soil series: Series name from Soil Survey data (if available).

Predominant soil texture: Check only one; Clay, Clay Loam, Loam, Sandy Loam, or Sand.

### III. Permanent Roads

1. Respect sensitive areas: Do roads avoid wet areas, SMZs, steep slopes if an alternative exist, erosion prone areas if an alternative exists, etc.?
2. Roads meet grade specs: Pertains to new roads or roads which are substantially reworked. Are roads within 2-10 percent grade except for short distances? Are roads on contour?
3. Rutting within allowable specs: Is the road free of ruts in excess of 6 inches deep for more than 50 feet?
4. Well drained with appropriate structures: Are roads constructed so that water will quickly drain from them to minimize soil movement?
5. Ditches do not dump into streams: Are water turn outs and water bars venting far enough from the stream to prevent sediment from entering the stream channel?
6. Roads reshaped and stabilized: If needed, are roads reworked to minimize soil movement?

BMPs present: Which types of BMPs were used? Rolling dips (RD), Wing ditches (WD), Water bars (WB), Revegetate (RE), On contour (OC), Proper placement (PL), Reshaping (RS), Culverts (CU), Side Ditch (SD), Broad based dip (BD).

#### IV. Temporary Roads/ Skid Trails

1. Respect sensitive areas: Do skid trails and temporary roads avoid wet areas, SMZs, steep slopes if an alternative exist, erosion prone areas if an alternative exists, etc.?
2. Slopes less than 15 %: Are skid trails laid out on or near contour, rather than up and down steep slopes?
3. Rutting within allowable specs: Are skid trails and temporary roads free of ruts in excess of 6 inches deep for more than 50 feet?
4. Roads well drained with water bars or other water control structures: Were BMPs installed effectively to reduce erosion from the road?
5. Roads stabilized: If needed, are skid trails and temporary roads reworked to minimize soil movement?

BMPs present: See Section III above. Logging Slash (LS).

#### V. Stream Crossings

On Permanent Roads:

1. Crossings avoided or minimized: Was an effort made to use as few crossings as possible?
2. Stream crossings correct: Are crossings installed correctly? Are crossing located properly? Are culverts properly sized? Are bridges used where necessary? Are crossings at right angles?
3. Stream crossings stabilized? Are stream banks and approaches stabilized? Are washouts evident?
4. Stream free of sediment: Has sedimentation from the road into the stream channel been minimized?

On Temporary Roads

5. Crossings avoided or minimized: Was an effort made to use as few crossings as possible?
6. Stream crossings correct: Are crossings installed correctly? Is the crossing located so as to minimize the potential erosion in the stream channel? Is the crossing at a right angle to the stream channel? Was a proper stream crossing method used?
7. Temporary crossings removed: Have the temporary crossings been removed? Excess fill removed from the stream channel
8. Stream crossings stabilized: Banks and approaches stabilized against erosion? Are washouts evident?
9. Stream free of sediment: Has sedimentation from the road into the stream channel been minimized?

BMPs present: Which types of BMPs were used? Culverts (CU), Bridge (BR), Low water crossing (LW).

#### VI. Streamside Management Zones

1. Present on permanent stream: Is there an SMZ present on any permanent stream?

2. Present on intermittent stream: Is there an SMZ present on any intermittent stream?
3. SMZ adequately wide: Is the stream being protected from erosion and deposition of sediment? Does the width meet the guidelines recommendations?
4. Thinning within allowable specs: If thinning was done, is the basal area remaining at least 50 square feet? Is there minimal soil disturbance from felling and skidding?
5. Minimize harvesting bank trees: Was an effort made to minimize harvesting bank trees? Were trees felled across the stream?
6. SMZ integrity honored: Was an effort made to stay out of the SMZ with skidders, landings, roads, etc. (except for designated stream crossings)? Is the SMZ free of firebreaks?
7. Stream clear of debris: Are tops and limbs removed from permanent and intermittent stream channels? Has any brush or debris pushed into the stream channel been removed?
8. Stream free of sediment: Has sedimentation reaching the stream channel through the SMZ been minimized?

## VII. Site Preparation

Site preparation method: Mechanical, chemical, prescribed burn.

Regeneration method: Mechanical, Hand, Natural.

1. Respect sensitive areas. Effort to prevent site prep intrusion into sensitive areas? Effort to prevent heavy equipment intrusion into sensitive areas? Effort to prevent fire intrusion into sensitive areas?
2. No soil movement on site: Is there no soil movement on site? Are rills or gullies prevented? Is there no problem with broad scale sheet erosion?
3. Firebreak erosion controlled: If present, has potential erosion from firebreaks been minimized as per guideline recommendations?
4. SMZ integrity honored: Effort to prevent site prep intrusion into the SMZ? Effort to prevent heavy equipment intrusion into the SMZ? Effort to prevent fire intrusion into the SMZ? Are perennial or intermittent streams free of debris?
5. Windrows on contour / free of soil: Are windrows on contour on hilly lands rather than up and down slopes? Was soil disturbance minimized? Was soil in windrows minimized?
6. No chemicals off site: Does it appear that chemicals were used according to label directions? Have they remained on site and out of water bodies?
7. Mechanical site prep and machine planting on contour: Are rows on contour on hilly lands rather than up and down slopes?
8. Stream free of sediment: Has sedimentation reaching the stream channel because of site prep activities been minimized?

## VIII. Landings

1. Locations free of oil/trash: Any sign of deliberate oil spills on soil? Is trash picked up and properly disposed of?
2. Located outside of SMZ: Was the landing located 50 feet outside SMZ so as to minimize traffic and erosion in the SMZ?
3. Well drained location: Were the landings located so as to minimize puddling, soil degradation and soil movement?
4. Number and size minimized: Were the number and size of landings kept to a minimum?
5. Respect sensitive areas: Were landings kept out of wet areas, steep slopes, and other erosion prone areas if an alternative exist?

6. Restored/stabilized: Has the landing been back bladed or otherwise restored as per guideline recommendations? Has erosion been minimized through spreading bark, etc., seeding, water bars, or other recommended BMP practices?

#### IX. Wetlands (may or may not be jurisdictional)

1. Avoid altering hydrology of site: Were ruts and soil compaction kept to a minimum?
2. Road drainage structures installed properly: Were BMPs installed effectively to maintain the flow of water and keep erosion to a minimum in the wetland?
3. Mandatory road BMPs followed: Were the 15 federal mandatory BMPs followed?

#### X. Overall Implementation

Section implementation percentages are determined by dividing the number of questions receiving a yes answer by the total applicable questions in each section.  $Y/(Y+N)$

Overall implementation is determined in a similar manner using the totals from all sections combined.  $Y/(Y+N)$

**Significant Risk.** A significant risk is an existing on-the-ground condition resulting from failure to correctly implement BMPs, that if left unmitigated will likely result in an adverse change in the chemical, physical or biological condition of a waterbody. Such change may or may not violate water quality standards.

#### Subjective Score.

- No Effort** Substantial erosion as a result of operations. Sedimentation in streams. Temporary stream crossings not removed. No SMZ when needed, etc. Poor attitude evident about the job.
- Poor:** Some effort at installing BMPs. Generally poor quality construction or no effort in certain locations which suffer from erosion, stream sedimentation, etc. Substantial lack of BMPs in a particular emphasis such as roads, skid trails or SMZ.
- Fair:** (1) Generally a pretty good effort at BMPs. Poor application procedures perhaps. Lack of BMPs in a particular emphasis but with moderate consequences. (2) No BMPs on a site which requires few BMPs but has some resultant minor problems.
- Good:** (1) BMPs generally installed correctly. Guidelines generally followed. Allows for some failures of BMP devices or failure to observe guidelines but with light consequences. (2) Good quality job which required no BMPs and has few problems.
- Excellent:** (1) BMPs installed correctly. Guidelines followed. (2) Some BMPs implemented even when they might not have been required. Few if any problems exist.

#### Follow up Questions

Was activity supervised by a professional forester or representative? Check Yes, No, or NA

Who? If yes, list name of individual.  
Was landowner familiar with BMPs? Check Yes, No, or NA.  
Has logger attended BMP workshop? Check Yes, No, or NA  
Were BMPs included in the contract? Check Yes, No, or NA  
Is landowner a member of TFA? Landowner Association? Other? Check Yes, No, or NA  
Organization: If yes, list name of organization.  
Was timber delivered to SFI mill? Check Yes, No, or NA  
Does landowner have a forest management plan? Check Yes, No, or NA  
Is remediation planned by the landowner? Check Yes, No, or NA.  
Date: If yes, include date of planned remediation.

# APPENDIX E



Newsletter	Date
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BMP Q&A

*(Please name by name of  
TX Logger edition in which  
article is published.)*

*written in advance by Sarah*

Winter 2019

Spring 2019

Summer 2019

Fall 2019

Winter 2020

Spring 2020

Summer 2020

Fall 2020

Winter 2021

1st Quarter 2021

2nd Quarter 2021

3rd Quarter 2021

Todd

Todd

Donna

T. Dimmitt

T. Dimmitt

T. Dimmitt

T. Dimmitt

Sarah

Sarah

Sarah

Sarah/Donna

Donna

## Winter 2019 BMP Q&A

By: Todd Thomas, BMP Forester, Texas A&M Forest Service

**Q:** Although it does not happen very often, occasionally I will come across landowner who is not interested in leaving any sort of Streamside Management Zones (SMZs) on their property. Next time I encounter this sort of situation, how should I handle it?

**A:** The best way to deal with this is to be informed of all of the benefits provided by SMZs. The first and foremost function of an SMZ is to protect water quality. SMZs protect water quality in four primary ways. The first is to slow down runoff from the surrounding area, this is accomplished by leaf litter and other material catching the runoff and allowing it to soak into the soil. By slowing down runoff, the potential for erosion next to the stream has been greatly reduced. The second is holding the soil adjacent to the stream in place; the roots of the vegetation that encompasses the SMZ do a tremendous job of this. The third is thermal protection. The shade provided by the SMZ helps to maintain the pH and the amount of oxygen in the water, maintaining the health of aquatic plants and animals. The fourth way that comes to mind is interception. SMZs intercept rainfall and drastically reduce the amount of sediment that can be displaced as a result of raindrops hitting bare soil directly. Remember, if we want clean water it only makes sense to protect it at its source.

If providing them with information on how SMZs protect water quality is not enough, provide them with some information on how SMZs benefit wildlife. It seems that most private landowners enjoy the wildlife on their property in some capacity and giving them this information could potentially change their mind. Any hunter knows that when you are in a clearcut, one of the best places to hunt is right along an SMZ, no matter what your quarry. One way that SMZs benefit wildlife is by providing edge. In a clearcut, edge is the area adjacent to the boundaries of the clearcut and the area around the SMZ. In these areas, the amount of vegetation that provide food for the wildlife is tremendous due to the amount of sunlight that previously was not reaching the area as well as an increased availability of nutrients and water. SMZs also provide travel corridors for wildlife. Since the SMZ is not as exposed as the rest of the clearcut, wildlife such as deer prefer to use it for travel due to less exposure. Many animals also use SMZs as nesting, den, and bedding sites; also a result of decreased exposure.

If they still are not convinced, remind them that according to Texas Forestry BMPs, SMZs can be thinned as long as they are not thinned so that the basal area gets below 50 square feet per acre. This allows a logger to remove the commercially viable timber while still maintaining the integrity of the SMZ. Basically, this land is not totally taken out of production, just managed in a fashion that protects water quality.

SMZs are an integral part of our best management practices and there is no good reason for removing them. Next time a landowner asks you to cut through an SMZ, remind them of all of the benefits provided by SMZs and what they will be missing out on. Remember, to send any questions you have about BMPs my way and I will be more than happy to answer them. You can reach me by e-mail at [tthomas@tfs.tamu.edu](mailto:tthomas@tfs.tamu.edu) or by phone at 936-639-8182.

Loggers are required to have six (6) hours of continuing education training every year in order to maintain their Texas Pro Logger Certificate. You can only earn one hour of continuing education per year from the four quizzes. You may submit answers to all of the quizzes but you will still only earn one (1) hour of continuing education training for the year.

In order to earn one (1) hour of continuing education training, you need to cut out the quiz from this article, fill in all the appropriate information, and provide the correct answer to the question. The completed quiz should then be mailed or faxed to the Texas Forestry Association:

Mail to:

Texas Forestry Association                      TFA's Fax: (936) 632-9461  
P.O. Box 1488  
Lufkin, TX 75902-1488

Here is the first quiz for 2019:

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**Winter 2019 – Quiz**

**Question:** The best option for crossing a perennial or intermittent with wide banks, relatively shallow depth, and low flow rate for most of the year is \_\_\_\_\_ (circle one).

- A: Culvert
- B: Pole or Slash Bundle Crossing
- C: Low Water Crossing
- D: Fill in the Crossing Location with Dirt

Name:

---

Address:

City/State:

Zip:

---

Company:

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Telephone: (     )

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Spring 2019 BMP Q&A  
By: Todd Thomas, BMP Forester, Texas A&M Forest Service

**Q:** I have been in the logging business for several years now and I pride myself in the fact that I try my best to follow BMP guidelines in all situations. Lately it seems that every time I set up on a tract it begins to rain and it stays wet for several days and possibly weeks. How can I deal with all of this wet weather?

**A:** Are any of you logging out of a canoe yet? There has been a lot of rain here in East Texas the past few months. I am sure that many of you are feeling the effects of all the recent wet weather. There are three questions that are commonly asked about wet weather logging: can I log during wet conditions, what, if any, impacts can logging have when it's too wet, and what can I do when it's too wet to log?

Can you log during wet conditions? The answer to that question is yes but caution is needed and should be used during wet weather logging operations. There are several things that you need to pay close attention to if you are going to conduct a wet weather logging operation. Rutting is the biggest concern, it should be kept to a minimum and should not exceed 6 inches in depth for more than 50 feet in length. High flotation or dual tires may be used on skidders to help reduce rutting and soil compaction. You can also lay timber down in your skid rows to create a pole road, which will help minimize rutting. As always, attention should also be given to stream crossings. These structures should be properly installed and stabilized to help reduce the chance of it washing out during a rain event. Pages 48 – 54 of the BMP book give recommendations on how to properly install stream crossings. Haul roads and skid trails are other areas that need to be examined. Maintaining these systems will help ensure that they do not become impassable either through washing or excessive rutting. Recommended specifications for properly maintaining your haul roads can be found on pages 30 – 46 of the BMP book.

What, if any, impacts can logging have when it's too wet? The biggest area of concern here would be rutting. As stated in the previous paragraph rutting should be kept to a minimum. Rutting is a primary concern because it can potentially change the hydrology and drainage of the land, cause heavy or excessive erosion through the channeling of water, and can cause soil compaction. Soil compaction will negatively impact site productivity reducing the landowner's return on investment through decreased growing potential and increased site preparation costs. Another thing to be conscious of when logging on wet tracts is the amount of mud that you are depositing on the highways and county roads. Mud on the roadway may pose a danger to motorists in numerous ways. Motorists who suddenly approach mud in the roadway may try

to avoid the mud, which could cause an accident. During a rain event mud can cause the roadway to become slick, which could result in a motorist losing traction and possibly causing an accident. To help reduce the amount of mud being deposited on the roadway some type of approach such as gravel should be put down to help clean off the tires before entering the roadway.

What can I do when it is too wet to log? This time can be used to start planning for future jobs and to take a look at past logging jobs that you have conducted. Before moving onto a tract, plan carefully by using a soil survey map, topographical map, and landowner advice to determine how rain events will affect your operation, a soil survey map is useful because it will tell you what type of soil you will be working on and what the limitations are of that particular soil type. You should try to avoid bottomland sites and sites with heavy clays until the summer months when it is traditionally dryer. Plan on operating on sandy soils during the wetter months. Use topographical maps to calculate the drainage areas for the site to ensure that you install stream crossings that are adequate enough to handle the water flow from an unexpected rain event. The landowner can tell you about areas of his land that may be potential problem sections that you should either avoid or use caution while operating in these areas. You can also use this time to go back and look at past tracts that you have harvested. Take a look at the BMPs that you implemented and see if they were constructed properly and functioning. This will let you know if you are doing good job at installing your BMPs or if you need to improve. Lastly use this time to inspect all of your equipment and get them serviced if needed.

As you can see wet weather logging can be achieved as long as you use appropriate caution and plan ahead. Keep in mind though that there are times that it is just too wet to log and this time is better used planning for future logging jobs, fishing, or hunting. Planning is very important when it comes to conducting harvest operations and installing BMPs. If you have any questions or comments regarding BMPs please feel free to call me at (936) 639-8182 or email me at [tthomas@tfs.tamu.edu](mailto:tthomas@tfs.tamu.edu).

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Lufkin, TX 75902-1488

Here is the second quiz for 2019:

------(cut here)-----

**Spring 2019 – Quiz**

**Question:** Using the “Plan My Land Operation” tool on [texasforestinfo.tamu.edu](http://texasforestinfo.tamu.edu) I can find the following information to help minimize my impacts when the soil is saturated (circle one)

- A.) Soil Maps
- B.) Topographic Maps
- C.) Hydrology Maps
- D.) Operational Considerations
- E.) All of the Above

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State: \_\_\_\_\_

Zip: \_\_\_\_\_

Company: \_\_\_\_\_

Telephone: (     ) \_\_\_\_\_

Summer 2019 BMP Q&A  
By: Donna Work, Biologist, Texas A&M Forest Service

**Q:** I've been logging since the 1990s and have been following the BMP monitoring reports over the years. What's the latest?

**A:** Wow; good for you! Glad you have an interest in keeping up with how the Best Management Practices implementation scores have been doing. You'll notice the scores have kept going up over time.

For those of you who don't know - every three years, Texas A&M Forest Service (TFS) conducts Forestry Best Management Practices (BMP) implementation monitoring on randomly-selected forested tracts across East Texas. For each round of monitoring, TFS Water Resources foresters evaluate a total of 150 tracts on which silvicultural activities occurred. The objective is to measure the degree of BMP implementation by forest landowners, silvicultural contractors, forest industry, and government agencies. The recently completed Round 10 of monitoring covered 33 counties between March 8, 2017, and December 6, 2018. These sites are believed to be a representative sample of the forestry activities that occurred in East Texas during that time period.

Averaging together all 150 scores in this round, overall BMP implementation on the monitored sites was 93.8%. In general, implementation was highest on sites under public ownership. These National Forest and General Land Office (GLO) sites had an overall implementation of 99.0%. Corporate lands (commercial landowners that do not have wood processing facilities) scored 95.3% overall, and family forest owners scored 91.1%.

Implementation with BMPs was statistically higher when:

- a forester was involved in the sale or activity;
- the logging contractor had attended formal BMP training;
- the landowner was already familiar with BMPs;
- BMPs were included in the timber sale contract;
- the timber was delivered to an SFI® mill; and
- the landowner had a forest management plan.

Overall BMP implementation has remained steady the last several years; this past round being just below the record levels set in Round 8 (94.1%). Most impressive is the considerable

progress demonstrated by family forest owners since monitoring began in the early 1990s. BMP implementation on family forest owner sites was 91.1% this past round, representing a 31% increase since 1992. This improvement demonstrates that the ongoing education and training strategies geared towards loggers, landowners, and foresters were the driving force behind the increases in implementation.

Keep up the good work out there! We want to show that Texas can follow these practices voluntarily without being regulated, as they are in some other states.

To see a copy of the full report, along with past reports, go to <https://tfsweb.tamu.edu/BMPMonitoring> . We also have a Story Map that illustrates this round of monitoring: <https://tfsfrd.tamu.edu/storymaps/BMP> .



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Lufkin, TX 75902-1488

Here is the third quiz for 2019:

------(cut here)---

**Summer 2019 – Quiz**

**Question:** In Round 10 of the BMP Implementation Monitoring, what 2 practices had IMPROVED scores from previous rounds (circle two)?

- A.) Adequately draining and stabilizing permanent roads
- B.) Adequately draining temporary roads with appropriate structures
- C.) Controlling erosion on firebreaks
- D.) Removing temporary crossings
- E.) Minimizing soil movement during site prep operations

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State: \_\_\_\_\_

Zip: \_\_\_\_\_

Company: \_\_\_\_\_

Telephone: (     ) \_\_\_\_\_

## Fall 2019 BMP Q&A

**Thomas Dimmitt, BMP Forester, Texas A&M Forest Service**

**Q:** I'm currently doing some part-time work with forest landowners while still working as a logger full-time. Right now I'm working with landowners that want firelines installed throughout their property so that they can do some prescribed burning later on this year. The landowner's property has sandy soil and there are some moderate slopes present along their proposed firelines. What are some ways I can reduce erosion and preserve the water quality?

**A:** This is an excellent and topical question! In 2018 the 10<sup>th</sup> round of BMP implementation and monitoring for East Texas had a high BMP implementation rate of 93.8%. However, this round of monitoring noted a deficiency in controlling firebreak erosion. Therefore, addressing this question could benefit Texans water quality and increase BMP implementation rates for round 11.

Prescribed burning is great tool for landowners to maintain their stands for aesthetics, weed control, and promoting native vegetation and wildlife. Building firelines is an integral part of being able to perform prescribed burns safely and effectively. Without firelines, fires could escape their desired burn perimeter and be hazardous and cause property damage.

Firelines are like forest roads, in respect that planning out the construction can save the landowner and logger the hassle of having to worry about wash outs and other erosion issues. An easy and free tool to help in the planning of firelines is the Plan My Land Operation\* online tool provided by the Texas A&M Forest Service. This online tool allows users to map any property in Texas and easily view sensitive areas such as: streams, SMZs, severe slopes (>8%), wet areas, and various other operational constraints pertinent to silvicultural operations. Firelines should be placed along the boundary of SMZs to prevent fires from burning leaf litter and organic matter within the SMZs. The leaf litter and organic matter within SMZs help intercept and filter pollutants before they enter streams. To further reduce erosion potential firelines should have the appropriate BMP structures to reduce erosion such as waterbars and wing ditches. Revegetation is a BMP tool that can be helpful in stabilizing a fireline once the fireline is no longer actively being utilized.

### Summary of Fireline BMPs:

1. Plan out where to effectively establish fireline avoiding sites sensitive areas such as streams, SMZ, wetlands, and boggy soils.
2. Construct appropriate BMP structures, like waterbars, as necessary and within the recommendations of the *Texas Forestry Best Management Practices* book or "bluebook."
3. Maintenance and inspections of the fireline should be performed periodically to ensure the firelines are stable and not eroding.

These action should help preserve water quality and mitigate erosion caused by the fireline construction. For more information regarding BMPs consult the *Texas Forestry Best Management Practices* book, contact your local Texas A&M Forest Service office, or you can contact me directly by email at [thomas.dimmitt@tfs.tamu.edu](mailto:thomas.dimmitt@tfs.tamu.edu) or by calling 936-639-8182.

\*The Plan My Land Operation can be accessed at < <http://tfsfrd.tamu.edu/planmylandoperation/> >

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P.O. Box 1488  
Lufkin, TX 75902-1488

TFA's Fax: (936) 632-9461

Here is the third quiz for 2019:

**Fall 2019 – Quiz**

**Question:** True or False (circle one). Trees felled across streams can damage streambanks, leading to erosion and sedimentation.

Address:

City/State:

Zip:

Company:

Telephone: (        )

## Winter 2019 BMP Q&A

**Thomas Dimmitt, BMP Forester, Texas A&M Forest Service**

**Q:** I'm currently a logger living out Charleston, West Virginia and I'm planning on moving to Woodville, Texas this fall to be closer to my family. I plan on continuing to log when I come down to Texas; however, I'm not sure how the BMP regulations may be different for Texas and want to be ahead of the curve on these regulations when I move down there. Could you tell me some of the basics of Texas BMP I may need to know?

**A:** Congratulations on moving to Texas, I'm sure you'll enjoy it here. We may not have mountains like West Virginia but, we do have some of the best barbeque in the U.S. Thank you for taking the initiative to reach out and ask about how our BMP program works. Well, I have some good news for you Texas is non-regulatory with our BMP program. Therefore, you won't have to worry about citations, fines, or special permits from the state.

All 50 states in the U.S. have BMP programs addressing silvicultural and forest operations. This even include states you typically wouldn't consider forested like Nebraska. States beginning in 1977 by EPA direction began developing their own BMP programs and assigned an agency or organization to manage the BMP program. From this states developed three major BMP program types: non-regulatory, quasi-regulatory, or regulatory programs.

- 1) Non-regulatory = BMPs are not mandatory or subject to permits. However, BMPs may still be mandatory under certain circumstances such as federal jurisdictional wetlands or timber sale contracts.
- 2) Quasi-regulatory = BMPs are non-regulatory; however, water quality infractions result in citations.
- 3) Regulatory = BMPs are required to be adhered by or else citations may occur. In some states this may result in revocation of harvesting permits, fines or even jail.

Even though the BMP program is non-regulatory in Texas our BMP implementation rate is above the national average at 94%. The national BMP implementation average is 91%. Texas manages to keep this high implementation rate for a variety of reason such as: foresters being involved in the logging sale or activity, logging contractor attending BMP training, BMP educated landowners, BMPs being included in timber sale contracts, timber being delivered to an SFI® mill, and landowners having a forest management plan.

To stay ahead of the curve on specific BMPs in Texas you can access our *Texas Forestry Best Management Practices* book, also called the blue book, through the Texas A&M Forest Service website or Texas BMP app. The blue book will cover all BMPs pertinent to forestry operations and provide technical specifics such as culvert sizing, waterbars spacing, revegetation rates, etc. These technical specifics will be valuable in the field when implementing BMPs.

For more information regarding BMPs consult the *Texas Forestry Best Management Practices* book, contact your local Texas A&M Forest Service office, or you can contact me directly by email at [thomas.dimmitt@tfs.tamu.edu](mailto:thomas.dimmitt@tfs.tamu.edu) or by calling 936-639-8182.

\*Link provides an interactive map of the U.S. discussing different state BMP programs: <https://www.stateforesters.org/bmps/>

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TFA's Fax: (936) 632-9461

Here is the fourth and final quiz for 2019:

**Winter 2019– Quiz**

**Question:** What size culvert (diameter in inches) is necessary for a sandy soil site with flat topography (0-5%)? The size of the watershed draining into this culvert is 250 acres. (Hint: culvert table in your blue book)

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Address: City/State: Zip:

Company:

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## Spring 2020 BMP Q&A

Thomas Dimmitt, BMP Forester, Texas A&M Forest Service

**Q:** Is it cheaper to use multiple small culverts instead of one large culvert for a stream crossing scenario. Additionally, would using two 18” culverts be the same as using one 36” culvert?

**A:** Unfortunately, effectively pricing a culvert for your operations depends. There are two primary variables to consider for this question is the price of the culvert and the cross-sectional area of the culvert. Culvert prices can vary depending on diameter, material, and length. Additionally, if you have goals and objectives outside of just drainage, such as aesthetics or aquatic habitat improvement, culvert costs could increase. Engineers and hydrologist have even developed some culverts that are more accommodating to aquatic organisms and mimic natural stream flows (Figure 1). However, for the purposes of this Q&A we’re going to focus on smaller more common forestry type round culverts (less than 48 in.). If your culvert installation is greater than 48 in. it’s recommended to consult the opinion of a professional engineer or hydrologist.



**Figure 1.** Shows a culvert with baffles installed. These baffles mimic waters natural flow by reducing flow velocity allowing fish to swim upstream.

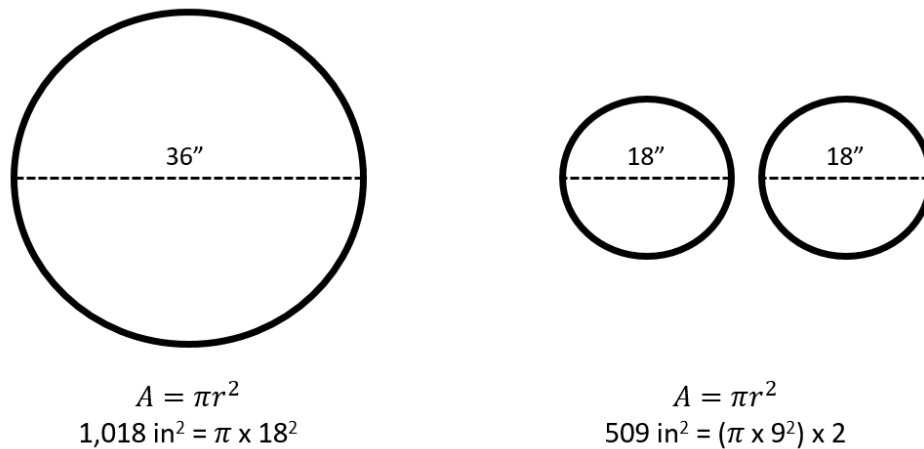
Three factors contribute to sizing a culvert:

1. **Watershed Size**
  - Larger watersheds require larger culverts to handle the discharge. Whereas, smaller watersheds require smaller culverts to handle discharge.
2. **Soil**
  - Impervious or heavy soils such as clays require larger culverts because they result in more overland flow. Whereas, pervious or light soils such as sand require smaller culverts because they result in less overland flow.
3. **Topography**
  - Steeper slopes increase the velocity of water resulting in culverts needing to discharge water quicker; therefore, requiring larger culverts to handle the increased flow.

To correctly size a culvert you can use the *Texas Forestry Best Management Practices* book or blue book culvert sizing chart (pg. 51) to determine the correct diameter of culvert needed for your operation based on the three listed factors: 1.) watershed size, 2.) soil, and 3.) topography. Another option to sizing a culvert is to use the Texas A&M Forest Service Plan My Land Operation\* which has an online culvert calculator built into the mapping program.

Once you know the culvert size necessary for your operation you may be asking yourself, “Do I really need a large culvert culvert or could I just get away with using two smaller culverts?” which, is a great question! To illustrate this question we’er going to look at the cross-sectional area of the 18” and 36”

culvert (Figure 2). The cross-sectional area of the 36" culvert is 1,018 in.<sup>2</sup> which is four times greater than the cross-sectional area of just one 18" culvert. It would take four 18" pipes to have the same cross-sectional area as one 36". This cross-sectional area is essential because it allows for the culverts to drain properly. Now depending on costs of material the initial cost of investing in one 36" culvert may be high (Ex. \$33.70/ft.) and the initial cost of one 18" pipe may be relatively cheap (Ex. \$16.50/ft.). However, once you take into account that it would take four of those 18" pipes to handle the same discharge as one 36" pipe you're now looking at (\$16.50 x 4) which would be \$65.80/ft. Therefore, installing the one 36" culvert would be the most cost effective to handle to appropriate water flow.



**Figure 2.** Illustrates a 36" culvert (left) and two 18" culvert (right) and how to calculate their appropriate cross-sectional drainage.

For more information regarding BMPs consult the *Texas Forestry Best Management Practices* book, contact your local Texas A&M Forest Service office, or you can contact me directly by email at [thomas.dimmitt@tfs.tamu.edu](mailto:thomas.dimmitt@tfs.tamu.edu) or by calling 936-639-8182.

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Here is the second quiz for 2020:

**Spring 2020 – Quiz**

**Question:** True or False (circle one). The cross-sectional area of one 48" culvert is equivalent to two 24" culverts.

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Address:

City/State:

Zip:

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Company:

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Telephone: (       )

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## Summer 2020 BMP Q&A

Thomas Dimmitt, BMP Forester, Texas A&M Forest Service

**Q:** What is the big deal with slash being in a stream? I see slash naturally occurring in streams all the time.

**A:** Slash is to streams as ice cream is to people, in moderation it is not necessarily a bad thing. For example, slash in streams can provide aquatic wildlife habitat and even ice cream can provide important nutrients to people such as calcium. However, too much of a good thing such as slash or ice cream is not necessarily the best for the overall health of the stream or person.

The key problem that can occur with introduced harvest slash within in a stream is it throws the stream's ecosystem and water quality out of whack with what it normally tolerates from naturally non-introduced slash. Slash can have many negative impacts such as increasing the flooding and erosion potentials of a stream and the reducing of water quality parameters like dissolved oxygen and excessive nutrients. So by limiting the amount of slash introduced to a stream when harvesting you can help uphold the integrity of the streams natural ecosystem and water quality.



**Figure 1.** Shows slash being utilized on the approaches of a closed out stream crossing. Slash can be an excellent erosion control tool for stream crossings; however, just make sure slash is minimized from being placed in the streambed.

Microbes such as bacteria and fungi in streams help break down organic material such as slash. The organic material that these microbes break down is an important contributor to nutrient recycling. However, if there is an excess of organic material in a body of water the oxygen will get used up quicker to compensate for the microbes increased demand for breaking down the organic material. Thus, reducing the amount of dissolved oxygen within the stream. Additionally, a buildup of slash within a stream can result in scouring of the stream banks this scouring can result in increased erosion and a release of nutrients found within the soil.

Flooding potential can also increase with excessive introduced slash from a harvest. Flooding can have a snowball effect of reducing other water quality parameters by influencing erosion. Flooding can cause exposed soil to be at greater potential for eroding and sedimentation within streams. Sediment is a nasty pollutant that can negatively influence turbidity, dissolved oxygen, pH, and nutrients. Lastly, the damming of water from slash can reduce the amount of water downstream potentially negatively affecting aquatic organisms and vegetation.

Slash is not all bad though! Slash is a great tool for erosion control on closed out skid trails, stream crossing approaches (Figure 1), temporary roads and other erosion prone areas on a harvest. So instead of letting slash waste away in stream beds and degrade water quality why not utilize it for erosion control.

Essentially, a golden rule with harvesting within SMZs would be to leave the area the way you found it or better than the way you found it. By keeping slash out of streams, the folks downstream will thank you, aquatic and vegetation life will thank you, and the landowner will thank you. Remember extra debris in the stream contributes to flooding and water quality degradation. Remember to keep the questions coming, you can send them to me at [thomas.dimmitt@tfs.tamu.edu](mailto:thomas.dimmitt@tfs.tamu.edu) or just phone it in by calling (936) 639-8182.

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Here is the third quiz for 2020:

**Spring 2020 – Quiz**

**Question:** True or False (circle one). Texas BMPs stipulate that you may only harvest or cut pine trees or snags from SMZs.

Address: \_\_\_\_\_ City/State: \_\_\_\_\_ Zip: \_\_\_\_\_

Company: \_\_\_\_\_

Telephone: (        ) \_\_\_\_\_

## Fall 2020 BMP Q&A

Sarah Bailey, BMP Forester, Texas A&M Forest Service

**Q:** How does Texas compare in implementation of BMPs to other states in the south?

**A:** Interesting question! Out of the thirteen states considered southern for this article, six of them have regulatory or “quasi” regulatory best management practices. These states include Virginia, Kentucky, North Carolina, Georgia, Florida, and Alabama. In Virginia, you are required to notify the Division of Forestry before even beginning a logging operation.

Six states including Texas have non-regulatory BMPs. These states are South Carolina, Mississippi, Louisiana, Arkansas, and Oklahoma.

Part of my job as BMP Forester is to conduct implementation surveys on randomly selected forest operations. We inspect the last operation to take place on site whether it was harvesting or site prep.

Each state has foresters that perform these implementation surveys. Using data from all these states, I compiled two charts showing implementation rates broken into ownership categories.

### Quasi-regulatory states

State	Year	TIMO	Private	Public
NC	2016	94%	79%	96%
GA	2017	95%	92%	96%
FL	2017	99.9%	99.6%	99.8%
AL	2019	98% overall (did not provide categories)		
VA	2016	91% overall (did not provide categories)		

### Non-regulatory states

State	Year	TIMO	Private	Public
SC	2016	99%	96%	99%
LA	2009	80%	79%	75%
AK	2018	97%	86%	99%
OK	2010	95%	90%	97%
TN	2017	89% overall (did not provide categories)		
MS	2019	95% overall (did not provide categories)		
<b>TEXAS</b>	<b>2018</b>	<b>95%</b>	<b>91%</b>	<b>99%</b>

The Southern Group of State Foresters (SGSF) region-wide average is 93.6% from 2018. SGSF is a non-profit with representatives from each of the states listed on here who promote forestry in

legislation, education, and inter-agency efforts. Their website is:  
<https://www.southernforests.org>.

As you can see, Texas implementation efforts are competitive with all quasi and non-regulatory states! Keep up the great work, Texas!

Remember, to send any questions you have about BMPs my way and I will be more than happy to answer them. You can reach me by e-mail at [sarah.bailey@tfs.tamu.edu](mailto:sarah.bailey@tfs.tamu.edu) or by phone at 936-639-8182.

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Lufkin, TX 75902-1488

-----cut here-----

<p>Fall 2020 Quiz</p> <p>List two ways to promote drainage on permanent roads. Hint: Look in section 3 of your BMP blue book. If you don't have one you can view an online version at: <a href="https://tfsweb.tamu.edu/BMPs/">https://tfsweb.tamu.edu/BMPs/</a> then click BMP Guidelines &gt; Texas Forestry BMP Handbook.</p> <p>1: _____ 2: _____</p> <p>Name: _____</p> <p>Address: _____</p> <p>City: _____ State: _____ Zip: _____</p> <p>Company: _____</p> <p>Telephone: _( _____ ) _____</p>
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## BMP Q&A

Sarah Bailey BMP Forester

### ‘Tis the season of wet weather!

As it gets cold and rainy out the soil is going to be wet. That means it is extra important to be mindful of your BMPs. Some wet weather related BMPs include preventing rutting and soil compaction. Running heavy equipment around a site can damage the soil by rutting and compaction.

What damage does rutting do to the soil?

Water running downhill can be channeled through ruts which increases the speed of the water flow. When the speed (velocity) is increased this can exaggerate the degree of erosion. The water can also pick up more sediment as it flows through the ruts and eventually into a water source.

What is compaction?

Compaction occurs when soil particles are compressed to the point where they break down and lose their shape. They get smushed together which increases the density of the soil. This is bad because it limits the ability of water and air to travel between the soil particles. Before the particles get smushed together, there are little spaces between the soil particles where oxygen and water could move through. When soils get compacted, water and air can't move through and that makes it harder for roots to get established and grow.

How I can prevent this?

The easiest way to protect soil quality is to back off when you start rutting. Don't keep pushing for another load when you know it is going to rut. Choosing the right equipment is important, also. Increasing flotation with larger and/or dually tires or using tracked equipment are better choices for logging in wetter soils. Shovel or corduroy logging will also reduce the chances of compaction, rutting, or getting stuck. And, of course, you can always move off the site if it is too wet.

*Questions: sarah.bailey@tfs.tamu.edu*

CEU Question:

In the Texas Forestry BMP “Blue Book” what is the depth and distance that is considered too much for rutting?

Answer should be in this format: Blank inches for blank feet

## BMP Q&A

Sarah Bailey, former BMP Forester

### Harvesting Streambank Trees

There are often some scattered high value pine trees inside of a streamside management zone (SMZ). While it is acceptable under the BMP guidelines to selectively harvest in an SMZ, extra caution should be taken.

Operating equipment inside an SMZ can cause rutting, soil compaction, and erosion of the streambanks. The soil around a stream is often wetter, making it easier to rut and to rut more deeply. As a reminder, the Texas Forestry BMP guidelines for rutting are under 6 inches for less than 50 continuous feet.

Compaction can increase the soil strength, which makes it more difficult for tree roots to grow and establish. Compaction also changes the soil structure, which limits the ability of water and air to move through the soil.

Running equipment repeatedly through an SMZ will break down the forest floor litter, reducing the filtering ability of the SMZ. One of the most important reasons we establish SMZs on a harvest is to slow down and filter out sediment. Vegetated ground is necessary to accomplish this. Excessive equipment operation will significantly reduce the amount of vegetation.

When harvesting trees in the SMZ, select ones that are NOT on the edge of the streambank. The edge of the streambank is the most sensitive part of the SMZ. Protecting the integrity and stability of the edge is the last defense for preventing erosion and sedimentation. From a BMP standpoint, not harvesting at all inside the SMZ is great! But, if you do selectively harvest in the SMZ, choose the more exterior trees, remembering the basal area requirements. Protect the interior area to reduce the impact of operating inside the SMZ. Selective harvesting should still result in an SMZ with consistent basal area of 50ft<sup>2</sup> and a forested width of 50ft on both sides and at the head of the stream.

*Questions:* [dwork@tfs.tamu.edu](mailto:dwork@tfs.tamu.edu)



CEU Question:

As found in the BMP book, the purpose of an SMZ is to reduce the potential quantity of \_\_\_\_\_ and \_\_\_\_\_ reaching the streams and to prevent increased \_\_\_\_\_.

## **BMP Q&A**

**Sarah Bailey, former BMP Staff Forester**

**Q:** What is the best way to cross a small stream, particularly in the summer months?

**A:** Stream crossings should be limited during a harvest. If possible, you want to avoid crossing completely. Take time to plan out the harvest logistics such as where to locate landings, skid trails, woods roads (if you will be creating new ones), and, if necessary, stream crossings.

If you must cross a stream, try to cross as few of times as possible within the harvest. If a stream branches into a “Y” do not cross at each side of the “Y”, but rather once at the base. Choose a crossing site that is centrally located to skid trails and landings. The fewer crossings the better. The approaches to the crossing should be stable and not steep. You should always cross at a right angle (perpendicular) to the stream.

For smaller streams with lower streambanks that are stable, low-water crossings are typically the simplest solution. Dirt crossings should never be used - these are not considered low-water crossings. Directions on to how to implement a low-water crossing can be found in the “BMP Blue Book” on page 48. Some key takeaways for low-water crossings include putting rock or other aggregate on the approaches to reduce dirt getting into the stream.

Even when the stream is dry (or almost dry) it is still important to follow crossing BMPs. If approaches are not stabilized with rock or other aggregate, the equipment will degrade the approaches and when a rain comes dirt will get into the stream. Close-out work on stream crossings is equally important. Reseeding is a simple and effective measure to reduce erosion.

Remember, even small streams affect our water quality as they all feed into larger streams and eventually into even larger waterbodies.

Question: In the BMP handbook, Guideline 5 under Stream Crossings talks about temporary crossings. Upon completion of the harvest, it is important to \_\_\_\_\_  
\_\_\_\_\_ (3 words) from the temporary stream crossing and return the crossing as  
\_\_\_\_\_ to its \_\_\_\_\_ (5 words).

Answer: In the BMP handbook, Guideline 5 under Stream Crossings talks about temporary crossings. Upon completion of the harvest, it is important to **remove all materials** (3 words) from the temporary stream crossing and return the crossing as **closely as possible** to its **original condition**. (5 words).

## **BMP Q&A**

**Donna Work, Texas A&M Forest Service Biologist**

Q: As a logger trained in Best Management Practices, I understand the purposes of BMPs and their protection of water quality and soil. But I'm also interested in wildlife and wonder if our Texas BMPs can benefit wildlife.

A: I like this question!

One obvious “wildlife-friendly” BMP is the SMZ. Streamside Management Zones can provide habitat needs for a wide variety of wildlife, both game and non-game species. Food, water, shelter, and a protected travel corridor can be found in a properly managed SMZ. Following the BMP guidelines for keeping a minimum of 50 square feet of basal area within the SMZ will leave behind some good acorn and nut producing trees. SMZs also can contain the smaller fruit-producing trees and bushes. Minimizing equipment activity within the SMZ while carefully taking out select timber helps to keep the rich forest floor intact, providing habitat for worms, insects, reptiles, and amphibians. Plus, the benefit of shading the water and keeping sediment and other pollutants out of the water helps the aquatic critters that live there – fish, insect larvae, crawfish, mussels, and more. Animals and plants that are all part of something's (or someone's) food chain can be found together in an SMZ.

One of the other ways we reduce erosion and keep soil in place is re-seeding areas left bare after harvest operations, such as landings, skid trails, and woods roads. Using fast-growing, wildlife-friendly seed mixtures can serve a dual purpose of erosion prevention and food plot. Contact your Texas AgriLife Extension agent or Texas Parks and Wildlife biologist for local mixture suggestions. Some seed suggestions are also located in the BMP Blue Book.

Even slash piles and spreading slash on disturbed ground can provide cover and safety for reptiles, amphibians, and small mammals and birds.

Mandatory road BMPs in jurisdictional wetlands call for minimizing the amount, width, and length of roads and skid trails to cut down on sediment getting into the water. These practices

could also reduce disturbance to wildlife species within the wetland. In fact, some of the mandatory road BMPs specifically mention aquatic organisms:

- Road crossings shall not disrupt the migration or other movement of aquatic life inhabiting the waterbody.
- Threatened and endangered species and their habitat should not be adversely affected by any forestry operations occurring in the wetland.
- Discharging dredge and fill material into breeding and nesting areas for migratory waterfowl, spawning areas, and wetlands should be avoided if practical alternatives exist.
- Discharge shall not occur in areas of concentrated shellfish populations.

Following these road BMPs in wetlands prevent erosion and sediment, while also considering the needs and habits of aquatic species.

We don't always think about the wildlife component when it comes to following BMPs, but next time you leave an SMZ or re-seed a road, think about the other benefits you are leaving behind for the wildlife that utilize our woods as well.

*Question:* In the Revegetation of Disturbed Areas section of the BMP Blue Book, you can find tips on seeding disturbed areas to stabilize the soil. Name 3 things to consider when choosing the types of seeds to use.

*Answer:* **From Blue Book page 66, item 4 – Seed selection should consider the season, the soil type, the availability of sunlight to the area to be seeded, and the cost of the seed.**

**Other answers that could be mentioned:**

- When temporary cover plants are used, follow up to determine if you need to plant permanent vegetation (item 7).
- How to plant the seeds (item 3)
- How/when/if to fertilize (item 10)

Tel: 281-576-1634  
10330 Lake Rd. Bldg. J  
Houston, TX 77070  
Email: info@bayouland.org



## Lands Committee Meeting Notes

April 12, 2021; 4:30PM  
Zoom Meeting

### 1. Welcome

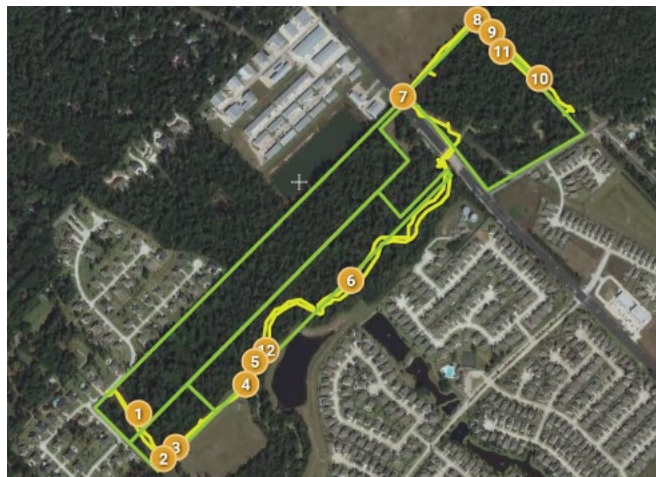
Matt Berg

Attendees: Becky Martinez, Matt Berg, Andy Newman, Jacqueline Prescott, Suzanne Simpson, Carson Stokes, Ryan Robol, Kevin Muraira, Brian Steelman, Michael Nelson, Tom Philpot, Lisa Lin, Mac Martin,  
Volunteer Note Taker: Jacqueline Prescott

### 2. Land Project Updates

#### A. Hooks Woods Site Visit

Suzanne Simpson



- a. Nature Conservancy to transfer CE but unknown how much money will be given in transfer. 2 landowners 3 CEs.
- b. Might be worthwhile if the funding is available.

#### B. Splendora Gardens Site Visit

Becky Martinez



- a. Family acquired an additional adjacent tract.
- b. Art installation in progress
- c. Becky to draft CE and send to landowner for review
- d. Timeline 1-2 years
- e. possible grants
- f. adjacent landowners potentially interested in learning more about CE
- g. Magnolia-Beech Slope forest present on property, western extent of this community assemblage. Ecologically unique.

C. Redbud Preserve/Ray Audas Update

Becky Martinez



- a. Blackland prairie in Lake Creek watershed
- b. Need partner to manage land and would like a CE
- c. Native Prairie Association of Texas (owns Deer Park Prairie preserve) - Becky to have meeting and explore opportunities

3. Grants & Awards!

4. Other business:

- A. Upcoming events – Spring Ambassador Class is ongoing



## REGIONAL FLOOD MANAGEMENT COMMITTEE OCTOBER QUARTERLY MEETING

April 15, 2021  
1:30 pm to 3:30 pm  
Online Meeting

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### Meeting Log in:

<https://zoom.us/j/99116723366?pwd=dkUzakZkUTJZajUrUVo2SWVkvOJ0QT09>

Meeting ID: 991 1672 3366

Passcode: 299043

877 853 5247 US Toll-free

### Agenda Items

1. Welcome and Introductions
2. Public Comment (3 minutes per speaker)
3. Approval of January 2021 Meeting Summary
4. Presentations: Regional Basin Planning and Natural Systems Infrastructure
  - a. Flood Studies within Combined River Basins: Study Overview– *Laura Atlas, Texas General Land Office*
  - b. Stormwater Wetlands as Green Infrastructure– *Christie Taylor, Texas A&M University Texas Community Watershed Partners*
  - c. The Role of Forests and Trees in Urban Watershed Management– *Mac Martin, Texas A&M Forest Service*
5. Legislative Update - *Justin Bower, Principal Planner, H-GAC*
6. Other Announcements or Business
  - a. Discussion of H-GAC projects and programs
    - i. H-GAC CDBG Method of Distribution Update
  - b. Discussion of Member projects, programs, and opportunities
7. Adjourn

Next Meeting: July 21, 2021, 1:30 to 3:30 pm, Virtual or in-person TBD.

For questions or comments, please contact Justin Bower at 713-499-6653 or [Justin.Bower@h-gac.com](mailto:Justin.Bower@h-gac.com).

*In compliance with the Americans with Disabilities Act, H-GAC provides for reasonable accommodation for persons attending H-GAC functions. Requests should be received by H-GAC 24 hours prior to the function.*





## TENTATIVE SCHEDULE



### 79<sup>th</sup> Annual State Meeting of District Directors

Monday, October 28<sup>th</sup>

**7:00 a.m. – 10:00 a.m.** Trade Show Exhibitor Set-Up

**8:00 a.m.** ATSWCD Board of Directors Meeting

**8:00 a.m.** TCAWS Board Meeting

**9:00 a.m. – 6:00 p.m.** Registration

**9:00 a.m.** Resolutions Committee

**10:00 a.m.** Trade Show Open

**10:30 a.m.** Invitational Meeting “Committee of 100”

**1:00 p.m.** Texas Association of Watershed Sponsors

**1:30 p.m.** Public Information and Education Committee

**1:30 p.m.** District Employees Association

**2:00 p.m.** Soil & Water Stewardship Committee

**3:00 p.m.** Area Discussion Sessions

-Area I

-Area II

-Area III

-Area IV

-Area V

**5:00 p.m.** Trade Show Close

**5:30 p.m.** Meet and Greet

**6:00 p.m.** Dinner and Raffle

**Tuesday, October 29th – Auxiliary Events**

**7:45 a.m.** Load Buses – *Windmill Motor Coach*

**8:00 a.m.** Depart for Guenther House

**8:30 a.m.** Breakfast and Auxiliary Meeting, tour to follow

**11:15 a.m.** Load Buses to Depart for Hyatt Regency Hill Country Resort

**Tuesday, October 29<sup>th</sup>**

**7:00 a.m.** Area Association Officer Breakfast – *Kerrville Private Dining*

**7:30 a.m.** Resolutions Committee (*if needed*)

**8:00 a.m.** Trade Show Open

**8:00 a.m. - 2:00 p.m.** Registration

**8:30 a.m. - 10:30 a.m.** General Session

**10:45 a.m. – 11:45 p.m.** Texas Land Trends Panel Discussion

**12:00 p.m. - 1:30 p.m.** Awards Luncheon

**1:30 p.m. - 3:30 p.m.** Concurrent Sessions

**1:30 p.m. - 2:30 p.m.** Ag Law/Estate Planning

**1:30 p.m. - 2:30 p.m.** Successful SWCD Panel Discussion

**1:30 p.m. - 2:30 p.m.** Hemp in Texas

**1:30 p.m. - 2:30 p.m.** Conservation Conversation

**2:30 p.m. - 3:30 p.m.** Ag Law/Estate Planning

**2:30 p.m. - 3:30 p.m.** Building Policy Initiatives for Texas Water & Soil Conservation

**2:30 p.m. - 3:30 p.m.** Hemp in Texas

**2:30 p.m. - 3:30 p.m.** Building Capacity through Partnerships for increased Grassroots Conservation Opportunities/Opportunities available through the 2018 Farm Bill, including Watershed Operations and Rehab

**3:45 p.m.** District Employee Association Silent Auction Close

**4:00 p.m. – 6:00 p.m.** Business Sessions

**4:00 p.m. – 6:00 p.m.** NRCS Employee Meeting

**4:00 p.m. – 6:00 p.m.** Trade Show Exhibitor Tear Down

**Wednesday, October 30<sup>th</sup> — Conservation Tour**

**7:30 a.m.** Load Buses to depart for Flood Control Tour – *Windmill Motor Coach*

**12:30 p.m.** Arrive at Hyatt Regency Hill Country Resort



# TEXAS RIPARIAN ASSOCIATION

## 2020 ANNUAL MEETING

**May 28, 2020 | 9:30 am – 11:30 am**

**Online Meeting**

- 
- |          |   |
|----------|---|
| 9:30 am  | Welcome and Overview – Blake Alldredge, TRA President   |
| 9:35 am  | Financial Report – Anne Rogers Harrison, TRA Treasurer  |
| 9:40 am  | Update on San Marcos Urban Riparian Symposium – Clare Escamilla, TRA Secretary                |
| 9:45 am  | Riparian Landowner Workshop Update – Clare Escamilla, TRA Secretary                           |
| 9:50 am  | New Urban Riparian & Stream Restoration Program – Fouad Jaber, TRA Board & Nathan Glavy, TWRI |
| 10:00 am | Board Elections – Melissa Parker, TRA Vice President  |
| 10:10 am | Update on Denton County Greenbelt Project, Blake Alldredge, TRA Board                         |
| 10:15 am | Denton County Hazard Mitigation Project, Fouad Jaber, TRA Board                               |
| 10:45 am | Jackaroo Ranch Restoration Project, Ryan McGillicuddy, TRA Board                              |
| 11:15 am | Open discussion   |
| 11:30 am | Adjourn   |



**Texas BMP/Wetland Coordinating Committee  
Virtual Meeting via Microsoft Teams  
August 19, 2020  
9:00 am – 11:00am**

- 9:00 am Welcome and Opening Comments  
*Shane Harrington, Texas A&M Forest Service*
- 9:15 am Forests and Drinking Water Campaign / Southeastern Partnership  
*Hughes Simpson, Texas A&M Forest Service*
- 9:30 am Smart Sectors Initiative for Forestry  
*Corry Schiermeyer & Sara Frey, Environmental Protection Agency*
- 9:45 am Houston Area Conservation Efforts  
*Justin Bower, Houston-Galveston Area Council*
- 10:00 am Member Overviews and Discussion  
*A representative of each organization will have the opportunity to give an overview of their current issues/projects related to Texas water, wetlands, and forests. (We will continue until all members have had a chance to fully participate).*
- 11:00 am Closing Comments

# 2021 Online Public Drinking Water Conference Planning for Long-Term Success

**Tuesday, August 10, 2021 Morning**

## General Session

8:00	Welcome and Overview	Mason T. Miller, Michele Risko, Steven Swierenga, and Joel Klumpp
<b>8:45-9:00 Break</b>		
9:00	Texas Commission on Environmental Quality Update	Toby Baker, TCEQ Executive Director and Cari-Michel La Caille, TCEQ Water Supply Division Deputy Director
<b>9:45-10:00 Break</b>		
10:00	TCEQ Plan: After-Action Review of PWS and Winter Storm Uri	Brittney Teakell
<b>10:45-11:00 Break</b>		
11:00	Preparing for Severe Weather Events	Clayton Nicolardi

## Tuesday, August 10, 2021 Afternoon

Track One		Track Two		Track Three		Track Four		
1:00	Boil Water Notice - Best Practices	Steven Swierenga	Lead Service Line Inventory and Lead Service Line Replacement Plan	Craig Stowell	Preparing for a Groundwater Investigation	Kendall Kotara	PUC Legislative and Rules Update	Tammy Benter, PUC
<b>1:45-2:00 Break</b>								
2:00	Winter Storm - A Utility's Perspective	Jeff Striplin and Hunter Stephens, North Texas Municipal Water District	Fort Worth's Approach to Revised Lead and Copper Rule Requirements	Stacy Walters, City of Fort Worth	Preparing for a Surface Water Treatment Plant Investigation	Jack Schulze and Blas Rizzo	Financial Assistance Programs	Lee Huntoon, TWDB
<b>2:45-3:00 Break</b>								
3:00	Asset Management: Getting Ready for the Next Disaster	Heather Himmelberger, Southwest Environmental Finance Center	Public Notice	Kristine Krieg	Disinfectant Residual Monitoring	Kasy Stinson	Finding, Training and Keeping Good Operators	Bill Brown, Jonah Water SUD
<b>3:45-4:00 Break</b>								
4:00	Emergency Preparedness Plans - Senate Bill 3	Elston Johnson	The Revised Total Coliform Rule (RTCR)	Mia Gonzales	Overview Operator Licensing	Shannon Watson	Water Testing Methods	Terry Smith, HACH

# Final

# Planning for Long-Term Success

**Wednesday, August 11, 2021 Morning**

Track One		Track Two		Track Three		Track Four		
8:00	Texas Drought Outlook	John Nielsen-Gammon, TAMU	RTCR Assessments and Sample Siting Plans	Claire Carlton	Chloramines and Nitrification	Alicia Diehl	Regulatory Assessment Fees (RAF) and Public Health Service (PHS) Fee	Teri Cisneros
<b>8:45-9:00 Break</b>								
9:00	Drought Preparedness Council Update and Reporting Requirements for Drought	John Honoré, TDEM and Adriana Thomas	Groundwater Rule (GWR) Compliance and CT Studies	Matt Court	Free Chlorine Conversion Strategies	David Simons	Compliance Assistance: Pre- and Post-Enforcement Programs	Sally Paramo
<b>9:45-10:00 Break</b>								
10:00	Water Conservation and Drought Planning	Jennifer Allis	Chemical Compliance Sampling 101: So, you got your results. What now?	Emily Smith	Membrane Plant Checklist	Christina Barrera	Completing your Monitoring Plan	Andrew Nidoh
<b>10:45-11:00 Break</b>								
11:00	Water Loss Auditing for Drought / Drought Information Resources	Daniel Rice and D. Nelun Fernando, TWDB	The Operational Evaluation Level (OEL) Report	Rheaa Cypert	Common Issues for Low-Pressure Membrane Plants	David Simons	How to Fill Out and Submit Your CCR	Arin Kent-Poole

**Wednesday, August 11, 2021 Afternoon**

Track One		Track Two		Track Three		Track Four		
1:00	Emergencies and the Plan Review Process	Vera Poe	Lead and Copper Rule Sampling: Preparedness and Tools	Thressa Webb	Developing a Chlorine Curve	Clayton Nicolardi	Texas Water Infrastructure Coordination Committee (TWICC)	Dorothy Young
<b>1:45-2:00 Break</b>								
2:00	Exceptions and Conditions of Approval	Robert Sims	ALE Requirements: Lead and Copper Rule	Chance Rushing	How to fill out the Surface Water Monthly Operating Report (SWMOR)	Tammy Jarocki	Regionalization and Partnerships: Joining Forces for the Future	Dorothy Young
<b>2:45-3:00 Break</b>								
3:00	How to Read and Understand Laboratory Reports	Jessica Hoch	Procedures to Submit Alternate and Innovative Technology Exceptions	Erin Guerra	Preparing a Backflow Emergency Response Plan	Katherine McGlaughlin	Texas Forests and Drinking Water	Kitty Weisman, Partnership for Forests and Water and Hughes Simpson, Texas A&M Forest Service
<b>3:45-4:00 Break</b>								
4:00	Preparing for Positive Samples	Paiton Upshaw	Water Distribution Modeling	Jose Castillo	Responding to a Backflow Incident	Kenneth Dykes	Source Water Protection (SWP)	Kim Chanslor and Rose Sobel, CDM Smith Inc., TCEQ SWP Contractor

# Final



North Central Texas Council of Governments

# AGENDA

## TMDL Wastewater Technical Subcommittee Meeting

Thursday, May 13, 2021

9:30 AM – 10:30 AM

Virtual Meeting, via Microsoft Teams

[Link to Join Meeting](#), Audio through computer, or call in at  
+1 (903) 508-4574, Conference ID: 876 112 199#

1. **Welcome and Introductions.**

## ACTION ITEMS

2. **Wastewater Subcommittee Meeting Summary.** The [January 28, 2021 meeting summary](#) is available online for review.
3. **Draft Annual Program Summary.** NCTCOG will present the [draft annual Program Summary](#) to attendees for comment and approval. The final Annual Program Summary will be presented to the TMDL Coordination Committee at their annual meeting.

## DISCUSSION

4. **Project Discussion.** NCTCOG will provide an update on the On-Site Sewage Facility (OSSF) social media toolkit. NCTCOG will request feedback from the subcommittee on potential topics for the next project.
5. **TMDL Best Management Practices (BMP) Library.** NCTCOG will request feedback on the current BMP Library and how this resource could be improved upon.
6. **NCTCOG Updates and Roundtable Discussion.** NCTCOG will provide general updates and members will have an opportunity to share what is happening in their communities.
7. **Schedule for the Next Meeting.** The next Wastewater Technical Subcommittee meeting will be held in September 2021.
8. **Adjournment.**

If you have any questions regarding the meeting or agenda items, please contact Hannah Allen at (817) 695-9215, or by email at [hallen@nctcog.org](mailto:hallen@nctcog.org)

If you plan to attend this meeting and you have a disability requiring special arrangements, please contact Barbara Bradford at (817) 695-9231 or at [BBradford@nctcog.org](mailto:BBradford@nctcog.org), 72 hours prior to the meeting. Reasonable accommodations will be made to assist your needs.

616 Six Flags Drive, Centerpoint Two  
P.O. Box 5888, Arlington, Texas 76005-5888  
(817) 640-3300 FAX: 817-608-2372  
[www.nctcog.org](http://www.nctcog.org)



# Sustainable Infrastructure Committee

Tuesday – June 8, 2021 at 7:30 AM

Hybrid: EHRA Office and [Zoom](#)

**Mission Statement:** Sustainable infrastructure enhances the long term economic, social, and environmental outcomes of development and infrastructure within the greater West Houston Association region. The committee's mission is to advocate for the use of sustainable infrastructure concepts through the education of members and stakeholders and recognition of projects and practices.

7:30 – 7:35 - **Welcome/Introductions** (Mark Gehringer)

7:35 – 7:55 am - **Presentation by Mac Martin of Texas A&M Forest Service and Justin Bower of H-GAC**

- Funding and tree plantings in exchange for water and carbon credits created by planted trees.

7:45 – 8:15 - **Education and Advocacy**

**Education:** Rising Leaders July Class Session: Sustainability (July 9<sup>th</sup>)

- **Sustainability Stars: Conrad Sauer (tour site and presentation)**
  - Staff suggests/requests Natalie
- **Green Dev Forum Recap?**
  - LID
  - Reach out to John Blount (Envision on county level)
  - Mark Gehringer volunteer
  - Michael – Envision – triple bottom line
  - Committee mission statement – recap of white paper
- **Other ideas? Volunteers?**

**Awareness:**

[Advocacy White Paper](#) – Harry/Peter

Advancement of Sustainable Infrastructure Practice in MUD's – Harry

Jennifer H reminded the committee that this was regarding presentation of different MUDs/tours.

**Specific Articles:**

Public Health integration with Sustainable Infrastructure – Edwin

Update on HB 1410 & SB - Harry

- As of 06.03.2021: Has gone to the governor, waiting for him to sign
- 3% max cap based on financial stability of the MUD

Discovered articles that can/should be shared – Open

- Please continue to share with the rest of the group, tag WHA on Social
- Library of articles? Best way to approach this?

### **8:15 – 8:20 – Community Involvement (Alan)**

2021 focus - Trees of Houston effort, Alief ISD, CenterPoint (Grassroots Sustainable Infrastructure projects.

- Hope is to create as future model for projects in West Houston
- Public Private Partnerships using CP easements
- Looking for the right stakeholder at CP to move this along
- Mac Martin (guest) offered to reach out to Gary O'Neil (senior forester) - will connect with Alan after meeting

Quality Planned Development (include sustainable aspects? QPD Green? Other?)

- Natalie, & Taylor talking with Chris, Andrew and Heath on collaborative effort.
- Working on next steps, planning an in-person meeting

### **8:20-8:30 – Open Discussion**

### **8:30 – Adjourn**

July 13<sup>th</sup> meeting to be held at RPS

### Committee

Mark Gehringer - Howard Hughes – Chair

Natalie Chaney – RPS Group – Vice chair

Scott Saenger

Maurice Mullaly

Jim Russ

Jennifer Hundl

### Guests

Taylor Reed – RL

Tim Early – A&M

### WHA Team

Alan Steinberg  
Jennifer Boggs  
Lawanda Maxwell

Prospects List (Ongoing) of Potential Sustainable Stars Applicants

<b>2021 WHA SUSTAINABLE INFRASTRUCTURE COMMITTEE MEETING SCHEDULE</b>	All Meetings at RPS Offices at 7:30 am - 9:00 am (unless otherwise noted)
<del>Tuesday, January 12</del> <del>Tuesday, February 9</del> <del>Tuesday, March 9</del> <del>Tuesday, April 13</del> <del>Tuesday, May 11</del> <b>Tuesday, June 8</b>	Tuesday, July 13 (RPS) Tuesday, August 10 (RPS) Tuesday, September 14 (RPS) Tuesday, October 12 (RPS) Tuesday, November 9 (RPS) Tuesday, December 14 (RPS)



## North Central Texas Council of Governments

# AGENDA

### **Total Maximum Daily Load Coordination Committee**

Thursday, July 1, 2021, 9:30 AM

Virtual Meeting, via Microsoft Teams

[Link to Join Meeting](#)

Call-in Number: +1 (903) 508-4574

Conference ID: 937 188 141#

#### 1. **Welcome and Introductions.**

### PRESENTATION

2. **One Total Maximum Daily Load for an Indicator Bacteria Listing in North Fork Cottonwood Creek, Assessment Unit 0841P\_01.** Jimmy Millican, Assistant Research Scientist, Texas Institute for Applied Environmental Research (TIAER) will present the technical work that is underway to develop a bacteria TMDL for the North Fork Cottonwood Creek.

### ACTION ITEMS

3. **Meeting Summary.** The [June 30, 2020 meeting summary](#) is available online for review and will be presented for approval.
4. **Approval of the FY2021 TMDL Annual Program Summary.** NCTCOG will present the [TMDL Annual Program Summary](#) to the TMDL Coordination Committee for review and approval.

### DISCUSSION

5. **TMDL Program Activities Update.** NCTCOG will share updates on projects selected by the TMDL Technical Subcommittees and proposed FY2022 activities.
6. **NCTCOG Updates.** NCTCOG will provide general updates on relevant programs and events.
7. **Roundtable.** The group will share what is happening in their communities.
8. **Adjournment.**

The next TMDL Coordination Committee meeting is scheduled for **Wednesday, June 15, 2022 at 9:30 AM**. The location for this meeting is to be determined.

The next TMDL Stormwater Technical Subcommittee meeting is tentatively scheduled for **Tuesday, September 14, 2021 at 9:30 AM**. This meeting will be held virtually, via Microsoft Teams.

The next TMDL Wastewater Technical Subcommittee meeting is tentatively scheduled for **Tuesday, September 21, 2021 at 9:30 AM**. This meeting will be held virtually, via Microsoft Teams.



## North Central Texas Council of Governments

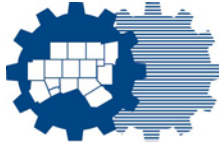
The next TMDL Monitoring Coordination Forum meeting is tentatively scheduled for **Tuesday, September 28, 2021 at 9:30 AM**. This meeting will be held virtually, via Microsoft Teams.

The next Upper Trinity River Basin Coordinating Committee meeting is scheduled for **Tuesday, August 17, 2021 at 9:30 AM**. This meeting will be held virtually, via Microsoft Teams.

If you have any questions regarding the meeting or agenda items, please contact Hannah Allen at (817) 695-9215 or at [hallen@nctcog.org](mailto:hallen@nctcog.org).

If you plan to attend this meeting and you have a disability requiring special arrangements, please contact Barbara Bradford at 817-695-9231 or [BBradford@nctcog.org](mailto:BBradford@nctcog.org), 72 hours prior to the meeting. Reasonable accommodations will be made to assist your needs.

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North Central Texas Council of Governments

# AGENDA

## Upper Trinity River Basin Coordinating Committee

9:30 AM, Tuesday, August 17, 2021

Virtual Meeting, via Microsoft Teams

[Link to Join Meeting](#)

Audio via computer speakers/microphone, or call in at  
+1 (903) 508-4574, Conference ID: 445 902 974#

1. **Welcome and Introductions**
2. **Upper Trinity River Basin Coordinating Committee Overview.** NCTCOG will provide a brief background on the purpose of the UTRB-CC.
3. **Special Presentation: Trinity River Bioremediation Demonstration Project.** Virginia Kilgore, Water is Alive, will present information on the Trinity River Bioremediation Project, a project in partnership with the US Army Corps of Engineers and the City of Dallas that utilizes biofilters to reduce *E. coli* in a tributary of the Trinity River.
4. **Special Presentation: Trinity River National Water Trail Task Force.** Breanne Johnson, NCTCOG, will present on Task Force activities, including the maintenance, promotion, and expansion of the Trinity River National Water Trail.
5. **Project Updates.** Member discussion of ongoing and planned activities.
  - North Central Texas Council of Governments
  - City of Arlington
  - City of Dallas
  - City of Fort Worth
  - City of Grand Prairie
  - City of Irving
  - City of Plano
  - DFW Airport
  - North Texas Municipal Water District
  - Tarrant Regional Water District
  - Texas A&M AgriLife
  - Texas Stream Team
  - Trinity River Authority
  - Upper Trinity Regional Water District
6. **Roundtable.** Discussion of watershed-level challenges.
7. **Schedule for the next meeting.** The next UTRB-CC meeting is tentatively scheduled for February 15, 2022 at 9:30 AM. The location for this meeting is to be determined.
8. **Adjournment**

If you have any questions regarding the meeting or agenda items, please contact Hannah Allen at (817) 695-9215, or by email at [hallen@nctcog.org](mailto:hallen@nctcog.org).

If you plan to attend this public meeting and you have a disability that requires special arrangements at the meeting, please contact Barbara Bradford by phone at (817) 695-9231 or by email at [bbradfrod@nctcog.org](mailto:bbradfrod@nctcog.org), 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.

The logo for the Texas Riparian Association is a blue diamond shape containing a map of Texas and the text "TEXAS RIPARIAN ASSOCIATION" in white capital letters.

TEXAS  
RIPARIAN  
ASSOCIATION



# TEXAS RIPARIAN ASSOCIATION

## 2022 ANNUAL MEETING

**May 19, 2022 | 9:30 am – 3 pm**

**McKinney Roughs Nature Park**

- 
- |          |   |
|----------|---|
| 9:30 am  | Welcome and Overview – Blake Alldredge, TRA President   |
| 9:40 am  | Financial Report – Clare Escamilla  |
| 9:50 am  | Update on San Marcos Urban Riparian Symposium – Clare Escamilla   |
| 10:00 am | Riparian Landowner Workshop and Urban Riparian & Stream Restoration Program Update – Dr. Lucas Gregory (TWRI) and Dr. Fouad Jaber (AgriLife)    |
| 10:30 am | Break   |
| 10:45 am | Partnership to Restore Floodplains in Central Texas – Valerie Tamburri (Tree Folks), Ingrid Karklins (City of Austin), Ryan McGillicuddy (TPWD) |
| 11:15 am | Board Elections   |
| 11:30 am | Open discussion   |
| 12:00 pm | Lunch   |
| 12:30 pm | Field Visit   |

**WATER AND SEDIMENT QUALITY (WSQ) SUBCOMMITTEE  
OF  
THE GALVESTON BAY COUNCIL  
GALVESTON BAY ESTUARY PROGRAM (GBEP)**

**Online Meeting  
June 9, 2021  
1:30 P.M. - 3:30 P.M.**

**AGENDA**

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**1:30 Call to Order, Introductions**

**1:35 Approval of Minutes:** Subcommittee review/approval of 3/10/2021 meeting minutes

**New Business**

**1:40 Presentation:** “Draft Galveston Bay Estuary Resilience Assessment” – Stephanie Glenn, Houston Advanced Research Center

**1:50 Presentation:** “Coordinating Implementation of a Watershed Protection Plan for Double Bayou” – Stephanie Glenn, Houston Advanced Research Center

**2:05 New Member Introduction:** Michael LaMontagne, Ph.D., Assistant Professor of Microbiology, University of Houston-Clear Lake

**2:10 Planning and Priorities for FY 2022 Funding**

- FY23 Project Development Process and Timeline
- Actions and Outputs of the Galveston Bay Plan, 2<sup>nd</sup> Edition. *\*See attachment*
- Past & current WSQ projects and narrowing of priorities for FY 23 project development. *\*See attachment*
- Open discussion

**Old Business**

**3:00 Projects Updates from WSQ Project Managers and Partners:**

- Implementation of Watershed Protection Plan for Double Bayou (HARC)
- Targeted Bacteria Monitoring (BPA thru H-GAC)
- Occurrence of Microplastics in Tributaries to Galveston Bay (USGS)
- Baseline Assessment of Microplastics in Galveston Bay (USGS)
- Outreach Implementation for Galveston Bay Water Quality Projects (H-GAC)
- Dickinson Bayou/Highland Bayou Watershed Protection Plan (TCWP)
- Cypress Creek and Spring Creek Watershed Protection Plans (H-GAC)
- BIG I-Plan/Basin 11/Cotton Bayou (H-GAC)

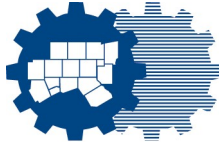
**3:15 Roundtable/Partner Announcements**



**3:20 GBEP, GBC, and Subcommittee Updates**

- PPE Subcommittee Meeting - June 10, 2021, 10:00 A.M. - 12:00 P.M., Online
- NRU Subcommittee Meeting - June 11, 2021, 9:30 A.M. - 11:30 A.M., Online
- B&P Subcommittee Meeting - July 7, 2021, 9:00 A.M. - 11:00 A.M., Online
- GBC Meeting - July 21, 2021, 9:30 A.M. - 12:30 P.M., Online
- Future WSQ Meetings:
  - Wednesday, September 8, 2021 1:30 P.M. - 3:30 P.M.
  - Wednesday, December 8, 2021 1:30 P.M. - 3:30 P.M.

**3:30 Adjourn**



North Central Texas Council of Governments

# AGENDA

Flood Management Task Force

Friday, June 11, 2021

9:30 AM, Virtual Meeting via Microsoft Teams

[https://teams.microsoft.com/l/meetup-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZmNIZGE5NWUtMDUyMy00ZTRiLTg5NjQtMjI1NmNlYjIiNDIj%40thread.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d)

[join/19%3ameeting\\_ZmNIZGE5NWUtMDUyMy00ZTRiLTg5NjQtMjI1NmNlYjIiNDIj%40thread.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZmNIZGE5NWUtMDUyMy00ZTRiLTg5NjQtMjI1NmNlYjIiNDIj%40thread.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d)

[aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZmNIZGE5NWUtMDUyMy00ZTRiLTg5NjQtMjI1NmNlYjIiNDIj%40thread.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d)

Audio will come through your computer speakers/microphone -or- call in at +1-903-508-4574 Access code: 749 696 694#

1. **Welcome and introductions.**

## DISCUSSION/PRESENTATION/ACTION ITEMS

2. **Meeting Summary.** The April 9, 2021, meeting summary is available online for review. Comments will be sought at the meeting. (Mia Brown)
3. **FY 2021 Trinity River COMMON VISION Work Program Activities Discussion.** NCTCOG staff will update the FMTF on FY 2021 Work Program activities. (Mia Brown)
  - a. **NFIP and CDC Model Consolidation Team.** NCTCOG and USACE staff will update the FMTF on scopes of work and timelines submitted by the USACE related to:
    - i. Updating the newly georeferenced CDC model with approved but not yet constructed CDC project geometries from 2017 onward and future flows.
    - ii. Creating the CDC future flows for the FEMA detailed study on the East Fork Trinity and the Trinity mainstem to extend the consolidated model.
  - b. **Update the CDC Manual to the 5<sup>th</sup> Edition.** NCTCOG staff will give an update on the launch of [www.TrinityRiverCDC.com](http://www.TrinityRiverCDC.com), CDC program changes, and efforts to update the CDC Manual to the 5<sup>th</sup> Edition. (Mia Brown)
  - c. **East Fork/Denton Creek Update.** NCTCOG staff will update FMTF on the initiatives to bring additional communities into the Common Vision program. (Mia Brown)
  - d. **Ongoing Support Activities.** NCTCOG Staff will give an update on the Ongoing Support Activities Section of the FY2021 Work Program.

616 Six Flags Drive, Centerpoint Two  
P.O. Box 5888, Arlington, Texas 76005-5888  
(817) 640-3300 FAX: 817-608-2372  
[www.nctcog.org](http://www.nctcog.org)

- i. **TWDB Flood Planning - Trinity Regional Flood Planning Group.** The Trinity River Authority will give an update on activities of the Trinity Regional Flood Planning Group.
  - ii. **USACE Storm Shifting Application.** NCTCOG and USACE staff will discuss progress of the storm shifting project on the Trinity River Corridor, funded by the Silver Jackets. (Mia Brown and Matt Lepinski)
4. **FY 2022 Trinity River Common Vision Work Program Activities Discussion.** NCTCOG staff will present the outline components of our upcoming FY 2022 draft work program and seek input from the Flood Management Task Force. (Mia Brown)

## INFORMATION ITEMS

### 5. Other Program Related Efforts

- a. **Trinity River National Water Trail.** The Trinity Coalition will provide an update on the collaborative efforts in support of the Trinity River National Water Trail.
- b. **Integration of Transportation and Stormwater Planning.** NCTCOG staff will provide an update on the scope and funding for the Integration of Transportation and Stormwater Planning Project. (Mia Brown)
- c. **North Texas Floodplain Administrators/CRS Users Group.** NCTCOG and the Texas Floodplain Management Association (TFMA) continue to hold meetings for floodplain administrators and CRS users in the region. The next meeting will be determined. (Mia Brown)
- d. **Cooperating Technical Partnership.** NCTCOG staff will provide an update on the CTP projects that are ongoing and newly awarded. (Mia Brown)
- e. **Integrated Stormwater Management (iSWM) Program.** An update on iSWM activities will be provided by NCTCOG staff. (Mia Brown)

## OTHER BUSINESS AND ROUNDTABLE DISCUSSION

6. **CDC Applications.** NCTCOG staff will share CDC applications received since the last FMTF meeting and invite members to share any upcoming CDC applications. (Mia Brown)
7. **Legislative Update.** NCTCOG staff will share information on relevant bills that were signed into law during the 87<sup>th</sup> Texas Legislature.
8. **Roundtable Topics/Other Business.** The FMTF members and NCTCOG staff may share additional items as time allows.
9. **Schedule for the Next Meeting.** The next meeting date is scheduled to be held on Friday, August 13, 2021, at 9:30 a.m. Meeting format TBD.
10. **Adjournment.**

If you have any questions regarding the meeting or agenda items, please contact Mia Brown by phone at (817) 695-9227, or by email at [MBBrown@nctcog.org](mailto:MBBrown@nctcog.org). Thank you.

If you plan to attend this public meeting and you have a disability that requires special arrangements at the meeting, please contact Barbara Bradford by phone at (817) 695-9231 or by email at [BBradford@nctcog.org](mailto:BBradford@nctcog.org) 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.



## North Central Texas Council of Governments

# AGENDA

Flood Management Task Force

Friday, August 13, 2021

9:30 AM, Virtual Meeting via Microsoft Teams

[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_YzUwNDdmMDEtNDU1MC00MTM4LWI5Y2ItYTY4NmI2MDQwMDMw%40thread.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_YzUwNDdmMDEtNDU1MC00MTM4LWI5Y2ItYTY4NmI2MDQwMDMw%40thread.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d)

[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_YzUwNDdmMDEtNDU1MC00MTM4LWI5Y2ItYTY4NmI2MDQwMDMw%40thread.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_YzUwNDdmMDEtNDU1MC00MTM4LWI5Y2ItYTY4NmI2MDQwMDMw%40thread.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d)

Audio will come through your computer speakers/microphone -or- call in at (903) 508-4574, Phone Conference ID: 614 237 72#

### 1. Welcome and introductions.

## DISCUSSION/PRESENTATION/ACTION ITEMS

2. **Meeting Summary.** The June 11, 2021, meeting summary is [available online](#) for review. Comments will be sought at the meeting. (Tamara Cook)

### 3. FY 2021 Trinity River COMMON VISION Work Program Activities Discussion.

- a. **NFIP and CDC Model Consolidation Team.** USACE staff will update the FMTF on scopes of work and timelines submitted by the USACE related to:
  - i. Updating the newly georeferenced CDC model with approved but not yet constructed CDC project geometries from 2017 onward and future flows.
  - ii. Creating the CDC future flows for the FEMA detailed study on the East Fork Trinity and the Trinity mainstem to extend the consolidated model. (Matt Lepinski)
- b. **Update the CDC Manual to the 5<sup>th</sup> Edition.** The NFIP-CDC Model Consolidation Team will share progress on updates to the CDC Manual, including sharing several completed sections for review by the FMTF. (Lisa Biggs)
- c. **Ongoing Support Activities.**
  - i. **OneRain Regional Flood Warning Software Contract.** OneRain will provide an update on current contracts with communities in North Central Texas. (Charles Yost)
  - ii. **USACE Storm Shifting Application.** USACE staff will discuss progress of the storm shifting project on the Trinity River Corridor, funded by the Silver Jackets. (Matt Lepinski)

### 4. FY 2022 Cost Shares and Steering Committee Membership Discussion.

If you plan to attend this public meeting and you have a disability that requires special arrangements at the meeting, please contact Barbara Bradford by phone at (817) 695-9231 or by email at [BBradford@nctcog.org](mailto:BBradford@nctcog.org) 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.



## North Central Texas Council of Governments

- a. **Discussion on Cost Share Changes.** NCTCOG staff will present a proposal for updates to community cost shares for the Common Vision work program. (Tamara Cook)
  - b. **Steering Committee Membership.** The FMTF members and NCTCOG staff will discuss updates to the Trinity Common Vision Steering Committee membership, in advance of the September 9<sup>th</sup> Steering Committee meeting. Meeting format (virtual or in-person) will also be decided. (Edith Marvin)
5. **Voting Item: FY 2022 Trinity River Common Vision Work Program.** NCTCOG staff will present the final draft of our upcoming FY 2022 Work Program and seek approval from the Flood Management Task Force. (Edith Marvin)

### INFORMATION ITEMS

6. **Other Program Related Efforts**
- a. **Trinity River National Water Trail.** NCTCOG staff will provide an update on the collaborative efforts in support of the Trinity River National Water Trail. (Breanne Johnson)
  - b. **Integration of Transportation and Stormwater Planning.** NCTCOG staff will provide an update on the scope and funding for the Integration of Transportation and Stormwater Planning Project. (Tamara Cook)
  - c. **North Texas Floodplain Administrators/CRS Users Group.** NCTCOG and the Texas Floodplain Management Association (TFMA) continue to hold meetings for floodplain administrators and CRS users in the region. (Breanne Johnson)
  - d. **25<sup>th</sup> Annual FEMA L-273 Course.** The annual four-day L-273 course hosted by FEMA and NCTCOG will continue this year in November. (Breanne Johnson)
  - e. **Cooperating Technical Partnership.** NCTCOG staff will provide an update on the CTP projects that are ongoing and newly awarded. (Tamara Cook)
  - f. **Integrated Stormwater Management (iSWM) Program.** An update on iSWM activities will be provided by NCTCOG staff. (Tamara Cook)

### OTHER BUSINESS AND ROUNDTABLE DISCUSSION

7. **CDC Applications.** NCTCOG staff will share CDC applications received since the last FMTF meeting and invite members to share any upcoming CDC applications. (Tamara Cook)
8. **Roundtable Topics/Other Business.** The FMTF members and NCTCOG staff may share additional items as time allows.

If you plan to attend this public meeting and you have a disability that requires special arrangements at the meeting, please contact Barbara Bradford by phone at (817) 695-9231 or by email at BBradford@nctcog.org 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.



## North Central Texas Council of Governments

- a. The FMTF members will discuss the preferred format for the October Task Force meeting, with the option to meet virtually, in-person, or in a hybrid format.
9. **Schedule for the Next Meeting.** The next meeting is scheduled to be held on Friday, October 29, 2021, at 9:30 a.m. Meeting format TBD.
10. **Adjournment.**

If you have any questions regarding the meeting or agenda items, please contact Breanne Johnson by phone at (817) 695-9148, or by email at [BJohnson@nctcog.org](mailto:BJohnson@nctcog.org). Thank you.

Tributaries of the Neches River below Lake Palestine  
(Middle Neches)  
I-Plan Meeting

Thursday, March 25<sup>th</sup>, 10:00 am

Zoom Meeting:

<https://tamu.zoom.us/j/91835658792?pwd=cFpHblo2eWVPOWgrYms5bytMU0MxZz09>

If needed, join Zoom meeting via telephone by dialing: +1 346 248 7799

Meeting ID: 918 3565 8792

Password: 466945

## Agenda

- Meeting Welcome and Housekeeping Notes
- Brief Review of November 2020 Meeting
- I-Plan Overview
  - A general overview of an I-Plan and the different components that go into developing the plan will be discussed. Examples of management measures from other watershed I-Plans will be presented.
- Stakeholder Involvement
  - A discussion of workgroups and the coordination committee and their role in identifying potential management measures for I-Plan development.
- Next Steps and Timeline

## Adjournment

We greatly appreciate all input and guidance from local stakeholders. Thank you for your participation and please contact us with any questions or comments.

Contact:

Anna Gitter  
Texas Water Resources Institute  
[Anna.gitter@ag.tamu.edu](mailto:Anna.gitter@ag.tamu.edu)



Nicole Reed  
TMDL Program  
Water Quality Planning Division, Office of Water  
[Nicole.Reed@tceq.texas.gov](mailto:Nicole.Reed@tceq.texas.gov)





# Virtual Advanced Dry Weather Field Screening Workshop

## Agenda

July 27, 2021  
9:30 a.m. – 3:30 p.m.

Instructors: Trenecia D. Williams, City of Arlington

<b>9:30-10:00</b>	<b>IDDE Expanding on The Basics</b>
<b>10:00-10:30</b>	<b>Isolating and Fixing</b>
<b>10:30-10:45</b>	<b>Break</b>
<b>10:45-11:15</b>	<b>Advanced Source Detection Methods</b>
<b>11:15-11:45</b>	<b>Video Presentation, City of Arlington</b> <ul style="list-style-type: none"><li>• Smoke Testing</li></ul>
<b>11:45-12:00</b>	<b>Q/A- Session I</b>
<b>12:00-1:15</b>	<b>Lunch</b>
<b>1:15-1:30</b>	<b>The Stormwater/Waste-water Nexus</b>
<b>1:30-1:45</b>	<b>Sanitary Sewer Maintenance Programs</b> <ul style="list-style-type: none"><li>• CMOM</li><li>• I &amp; I</li></ul>
<b>1:45-2:15</b>	<b>Advanced Source Detection Methods</b> <ul style="list-style-type: none"><li>• CCTV Video Presentation, City of Arlington</li></ul>
<b>2:15-2:30</b>	<b>Break</b>
<b>2:30-3:00</b>	<b>Case Studies, City of Irving</b>
<b>3:00-3:30</b>	<b>Q/A- Session 2</b>



Workshop provided by the  
Regional Stormwater Management Program



# Clean Waters Initiative

## H-GAC's Effort to Improve the Region's Water Quality

Thursday, August 26, 2021  
1:30 – 4:00 p.m.

HOUSTON-GALVESTON AREA COUNCIL

### Agenda

- 1:30 p.m. Watershed-based Plans Introduction - Todd Running
- 1:35 p.m. Septic System Outreach and Education – Brian Sims
- 1:50 p.m. Septic System Repair and Replacement – Daniel Albanese
- 2:05 p.m. Non-point Source Education – Kendall Guidroz
- 2:20 p.m. Urban Forestry/Riparian Cover – Justin Bower
- 2:35 p.m. Green Infrastructure – Steven Johnston
- 2:50 p.m. Targeted Monitoring – Jessica Casillas
- 3:05 p.m. Closing Statements and Instructions for the Breakout Sessions - Todd Running
- 3:10 p.m. Watershed-specific Breakout Sessions



For more information about *the Clean Waters Initiative*,  
visit H-GAC's website ([www.h-gac.com](http://www.h-gac.com)).

## *Forestry Forum*

*November 1, 2019*

Marion County Extension Office  
130 Kelly Park Rd Ste A, Jefferson, Texas 75657

Cost is \$40 (Includes lunch)

*Please Register and Remit payment by mail or*

*RSVP at 903-665-2421 or*

*doug.weir@ag.tamu.edu*

*by*

*October*

*Make Checks Payable to Agricultural Program Committee*

Available CEUs

3 CEUs for TDA Pesticide License; 5 CFEs Cat-1 for SAF;

5 CEUs for Texas Accredited Forester; and 5 CEUs for Pro Logger

- 8:00 Registration**
- 8:30 Preventing Timber Theft-** Jerod Lemmon, Texas A&M Forest Service
- 9:30 Best Management Practices-** Thomas Dimmit- Texas A&M Forest Service
- 10:30 Logging for Wildlife Management-** Penny Wilkerson, TPWD
- 11:30 Lunch**
- 12:00 Marketing Your Timber**  
Carl Herberg- Kingwood Forestry
- 1:00 What the Emerald Ash Boer means to Logging in Cass/Marion Counties**  
Lawrence Smith, Texas A&M Forest Service
- 2:00 Adjourn**



Provisions from the American Disability Act will be considered when planning educational programs and activities. Please notify the Marion County Extension Office at 903.665.2421 by Oct. 15, 2018 if you plan on attending this program and need specialized services.



## Texas Watershed Coordinator Roundtable - Agenda

**April 22, 2021 | 9:00 a.m. – 12:00 p.m.  
Virtual Roundtable**

- 9:00 a.m. Event Sign In Online**
- 9:10 a.m. Welcome, Introductions and Round Table Overview**  
Dr. Lucas Gregory, TWRI
- 9:20 a.m. Federal and State Agency Updates**  
- Continued COVID-19 Implications to Programs and Contracts
- 9:30 a.m. Program Highlight: Texas Riparian & Stream Ecosystems and Urban Stream Processes & Restoration Educational Programs Response to COVID-19**  
Clare Escamilla and Nathan Glavy, TWRI
- 10:30 a.m. Discussion and Breakout Rooms: Programming Response to COVID-19**  
-
- 11:55 a.m. Wrap-Up & Program Evaluation**  
Nathan Glavy, TWRI
- Next Roundtable – October 2021 –TBD

The Texas Watershed Planning Program is managed by the [Texas Water Resources Institute](#) and is funded through a Clean Water Act Section 319(h) nonpoint source grant provided by the Texas State Soil and Water Conservation Board and U.S. Environmental Protection Agency.



## Stakeholder Meeting Agenda

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Nacogdoches County Expo Center

3805 NW Stallings Dr., Nacogdoches, TX

December 10, 2019

6:00 PM – 7:30 PM

- 6:00 Welcome & Introductions**  
Dr. Lucas Gregory, Senior Research Scientist, Texas Water Resources Institute
- 6:05 Nacogdoches County Updates**  
Ricky Thompson, County Extension Agent – Ag & Natural Resources, Nacogdoches County
- 6:15 Attoyac Bayou Watershed Project Updates**  
Emily Monroe, Extension Program Specialist, Texas Water Resources Institute
- 6:30 Water Quality Updates**  
Angelina & Neches River Authority
- 6:45 Water, Forestry, & Wildlife**  
Donna Work, Biologist, Texas A&M Forest Service
- 7:15 Questions & Comments**
- 7:30 Adjourn**

Funding for the Attoyac Bayou Watershed Protection Plan implementation is provided by Texas State Soil and Water Conservation Board through its State Nonpoint Source Management Program.



## Stakeholder Meeting Agenda

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Nacogdoches County Expo Center

3805 NW Stallings Dr., Nacogdoches, TX

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6:00 PM – 7:30 PM

- 6:00 Welcome & Introductions**  
Dr. Lucas Gregory, Senior Research Scientist, Texas Water Resources Institute
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Ricky Thompson, County Extension Agent – Ag & Natural Resources, Nacogdoches County
- 6:15 Attoyac Bayou Watershed Project Updates**  
Emily Monroe, Extension Program Specialist, Texas Water Resources Institute
- 6:30 Water Quality Updates**  
Angelina & Neches River Authority
- 6:45 Water, Forestry, & Wildlife**  
Donna Work, Biologist, Texas A&M Forest Service
- 7:15 Questions & Comments**
- 7:30 Adjourn**

Funding for the Attoyac Bayou Watershed Protection Plan implementation is provided by Texas State Soil and Water Conservation Board through its State Nonpoint Source Management Program.



**Attoyac Bayou Stakeholder Meeting**  
**3805 NW Stallings Dr., Nacogdoches, TX**  
**December 10, 2019, 6:00 PM – 7:30 PM**

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We would like to invite you to the upcoming meeting of the Attoyac Bayou Watershed Partnership to be held on December 10<sup>th</sup>. This meeting will give project updates for the implementation of the Watershed Protection Plan and the OSSF repair and replace program.

The meeting will be from 6-7:30 p.m. at the Nacogdoches County Expo Center, 3805 NW Stallings Dr. in Nacogdoches. It is hosted by the Texas A&M AgriLife Extension Service, Texas Water Resources Institute, Angelina & Neches River Authority, and the Texas State Soil and Water Conservation Board.

Ricky Thompson, AgriLife Extension agriculture and natural resources agent for Nacogdoches County, will give an update about related activities occurring in the county. Donna Work from the Texas A&M Forest Service will discuss ways in which managing water resources, forestry and wildlife are intertwined.

TWRI Contact: Emily Monroe | [emily.monroe@ag.tamu.edu](mailto:emily.monroe@ag.tamu.edu)

ANRA Contact: Carla Ethridge | [cethridge@anra.org](mailto:cethridge@anra.org)

For more information about the Attoyac Bayou Watershed Partnership:  
<http://attoyac.tamu.edu/>

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Thank you for your participation.

Sincerely,  
Clean Rivers Program Staff  
Angelina & Neches River Authority

Tel: 281-576-1634  
10330 Lake Rd. Bldg. J  
Houston, TX 77070  
Email: info@bayouland.org



## Lands Committee Meeting Notes

January 11, 2021; 4:30PM  
Zoom Meeting

1. Welcome Matt Berg  
Volunteer Note Taker  
Introduction to Lands Committee
  
2. Land Project Updates  
  - A. Poarch/Swinbank Land Donation Becky Martinez
    1. MoCo Property Tax Exemption Update
    2. Preserve Name
      - a) Komkom Preserve: Karankawa word for water
      - b) Hōp Preserve: Atakapa word for spring of water
    3. Update on activities
      - a) Management Plan in 2021
  
  - B. Better Places Forest – Memorial Forests Becky Martinez
  
  - C. Lands to keep on your radar
    - a) Sherwood: No funding identified YET!
    - b) Bender Lakes: Potential path to CE
    - c) Splendor Gardens: New to BLC. Seems like a good fit!
  
3. Grants & Awards!
  
4. Other business:
  - A. Upcoming events
  

Adjourn



Tel: 281-576-1634  
10330 Lake Rd. Bldg. J  
Houston, TX 77070  
Email: info@bayouland.org



## Lands Committee Meeting Notes

February 8, 2021; 4:30PM  
Zoom Meeting

1. Welcome Matt Berg  
Volunteer Note Taker – Tom was January.  
Introduction to Lands Committee
  
2. Land Project Updates
  - A. Splendora Gardens – ACTION Becky Martinez
    - a) Preliminary Board Approval
  
  - B. Stockton Land along Cypress Creek – ACTION Becky Martinez
    - a) Preliminary Board Approval
  
  - C. Sherwood Update Becky Martinez
  
  - D. Hooks Woods Update Suzanne Simpson
  
  - E. New Preserve Updates Becky /Suzanne
  
  - F. Consent Decrees & Dept of Justice Becky Martinez
  
3. Grants & Awards!
  - A. HGAC Special Recognition of the Strategic Conservation Plan
  
4. Other business:
  - A. Upcoming events

Adjourn

Tel: 281-576-1634  
10330 Lake Rd. Bldg. J  
Houston, TX 77070  
Email: info@bayouland.org



### Lands Committee Meeting Notes

March 8, 2021; 4:30PM  
Zoom Meeting

1. Welcome Matt Berg  
Volunteer Note Taker
  
  2. Land Project Updates
    - A. Crosby-Eastgate – ACTION Becky Martinez
      - a) Discussion & decision/recommendation re: condemnation
  
    - B. Discussion re: Stewardship Fees Suzanne Simpson
  
    - C. Sherwood Update Becky Martinez
  
    - D. Hooks Woods Update Suzanne Simpson
  
    - E. Stockton Update Becky Martinez
  
  3. Proposed: Release rehabilitated animals on BLC lands
  
  4. Grants & Awards!
  
  5. Other business:
    - A. Upcoming events – Spring Ambassador Class 😊 Starts on March 25th
- Adjourn



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**SPRING MEETING  
Agenda**

**Tuesday, May 25, 2021  
1:00 pm to 3:00 pm**

*(Instructions to attend this web-based meeting via ZOOM can be found at the bottom of this Agenda)*

**Call to Order/Welcome/Introductions**

Welcome by H-GAC

Introductions of BIG members & staff

Review Agenda. Each agenda item shall provide time for discussion by the BIG followed by comments from the audience.

**Certification of Quorum**

**Approval of the Proposed Members & Alternates**

BIG members will review the Bacteria Implementation Group Roster and approve as appropriate.

**Approval of the December 1, 2020 Meeting Summary**

BIG members will review, comment, and approve as appropriate.

**Public Comment**

The public may sign up at the beginning of the meeting to make an informal comment of no more than three minutes.

**Item One: I-Plan Revision Update**

H-GAC staff will provide an update on revising the BIG Implementation Plan. The BIG will approve as appropriate.

**Item Two: 2021 Annual Report**

H-GAC staff will update the BIG on the 2021 Annual Report.

### **Item Three: TMDL Program Updates**

Mr. Jimmy Millican, Tarleton State University will present on new Total Maximum Daily Load efforts within the BIG and in the region – *“Status of Addition to Indicator Bacteria TMDLs in the Lake Houston Watershed.”*

### **Item Four: Implementation Projects**

- Ms. Laura Patino, City of Houston, will present on the city’s incentives for Green Stormwater Infrastructure program – *“Houston Green Infrastructure Program.”*
- Ms. Kendal Guidroz, H-GAC, will present on the Trash Free Texas project and provide an update on the Targeted Monitoring project with the Bayou Preservation Association – *“Targeted Monitoring and Trash Free Texas Updates.”*
- Ms. Jenny Oakley, Environmental Institute of Houston, will present on the Targeted Monitoring project in the Houston-Galveston Area – *“Targeted Bacteria Monitoring in the Houston-Galveston Area.”*

### **Item Five: Other Business/Roundtable**

As time permits, H-GAC, BIG members, and stakeholders are encouraged to discuss implementation activities, related projects, and announcements.

### **Next Meeting Date**

Tuesday, October 26, 2021

### **Adjourn**

**BIG Meeting Webinar instructions:** *(You must Register for the meeting to participate.)*

Register in advance for this meeting:

<https://zoom.us/j/97545533315?pwd=RHEremI0T0RlamFLcE55bDI2dFkzQT09>

After registering, you will receive a confirmation email containing information about joining the meeting.

## BIG ROSTER (May 25, 2021)

Last	First	Representing	Organization	Alternate1	Alternate 2
Bailes IV	Rep. Ernest	Agriculture (County)	San Jacinto County	Dale Everitt	
Bernhardt	Sarah	Conservation	Bayou Preservation Association	Tina Petersen	Paul Nelson
Calvino	Ralph	Business / Industry	Terracon	Clint Miller	Jason Maldonado
Caraviotis	Jerry	Urban County	Harris County Pollution Control Services	Nuguent Cotton	Elaine Savage
Chapin	Richard	Large City	City of Houston	Lam Tran	
Cioce	Danielle	Urban County	Harris County	Camila Biaggi	Nick Russo
Cisneros	Charlotte	Conservation	Galveston Bay Foundation	Scott Jones	Sasha Francis
Cooper	Christine	Small City	City of Conroe	Greg Hall	
Douglas	Tom	Conservation	Houston Sierra Club	Jim Williams	
Ehrlich	Denise	Business / Industry	Gulf Coast Authority	Shaun Austin	
Snoza**	Robert	Urban County	Harris County Flood Control District	Roberto Vega**	
Harris	Teague	Utility District	IDS Engineering		
Isbell	Andrew	Rural County	Walker County		
La Breche	Carol	Large City	City of Houston	Lisa Montemayor	
Lane	Helen	Conservation	Houston Audubon Society		
Lee	Michael	Resource Agency / Academia	US Geological Survey	Thomas Sample	John Ellis
Martin	Mac	Agriculture	Texas Forest Service		
McCoy	Cathy	Agriculture	Harris County SWCDistrict #442		
Nichols	Scott	Rural County	Montgomery County	Frank Green	Reuben Martinez
Olive	Becky	Business / Industry	AECOM	Karen Kottke	
Page	Mitchell	Utility District	Schwartz, Page, & Harding, LLP		
Pechacek	Linda	Public	Citizen, Civil Engineer	Rachel Powers	
Phillips**	Sonia	Small City	City of League City	Susie Blake	Jody Hooks
Powers	Rachel	Conservation	Citizens' Environmental Coalition	Kristen Schlemmer	Linda Shead
Rightmyer	Patrick	Large City	City of Houston	Desta Takie	
Robertson	Jim	Conservation	Cypress Creek Flood Control Coalition	Steve Hupp**	
Saenger	Scott	Business / Industry	Jones and Carter		
Shead	Linda	Conservation	Texas Coastal Partners	Carl Masterson	
Shmaefsky	Brian	Resource Agency / Academia	Lone Star College, Kingwood		
Simpson	Shane	Business / Industry	San Jacinto River Authority	Aaron Schindewolf	
Tarrant	Mayor Leah	Rural Small City	City of Patton Village		
Thornhill	Michael	Utility District	SI Environmental	Matt Carpenter	
Tuma	Scott	Business / Industry (Boating)	Boater		

\*\* Following approval of the BIG



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**Fall MEETING  
Summary**

**Tuesday, December 1, 2020  
1:00 pm to 3:00 pm  
Virtual ZOOM Meeting**

**Members Present**

Sarah Bernhardt, Ralph Calvino, Jerry Caraviotis, Richard Chapin, Danielle Cioce, Charlotte Cisneros, Christine Cooper, Tom Douglas, Denise Ehrlich, Catherine Elliott, Carol LaBreche, Mac Martin, Jack Murphy, Linda Pechacek, Rachel Powers, Patrick Rightmyer, Jim Robertson, Scott Saenger, Aaron Schindewolf, Linda Shead, Michael Thornhill

Becky Olive was represented by Karen Kottke  
Michael Lee was represented by Tom Sample

**Members Absent**

Ernest Bailes IV, Teague Harris, Andrew Isbell, Helen Lane, Cathy McCoy, Mitchell Page, Brian Schmaefsky, Leah Tarrant, Scott Tuma

**Guests Present**

Stephen Benigno, Camila Biaggi, Hailey Cofty, Shannon Dietz, Kathlie Jeng-Bulloch, Kim Korth, Jason Leifester, Lisa Marshall, Mina McPhee, Jazmyn Milford, Lisa Montemayor, Paul Nelson, Avery Patton, Tina Petersen, Nicole Reed, Christian Rines, Sarah Robinson, Sharon Salinas, Elaine Savage, Shane Simpson, Robert Snoza, Maria Stone, Desta Takie, Anthony Tomlinson, Lam Tran, Sarah Utley, Chelsea Veloso

**H-GAC Staff**

Daniel Albanese, Jessica Casillas, Kendall Guidroz, Steven Johnston, Todd Running, Brian Sims, Andrea Tantillo, Rachel Windham

**Call to Order/Welcome/Introductions**

Mr. Steven Johnston of H-GAC welcomed all in attendance. Ms. Andrea Tantillo provided instructions for features of the virtual meeting platform, Zoom. Mr. Johnston then proceeded to review the agenda with members of the BIG. Mr. Johnston asked if there were any changes or additions by BIG members. Hearing no requests for changes and no call for discussion, the meeting proceeded.

## **Certification of Quorum**

Mr. Johnston called role. Based on the number of BIG members and alternates in attendance, a quorum was certified.

## **Approval of the Proposed Members & Alternates**

The BIG approved the following changes to the roster:

- New members proposed were as follows:
  - Shane Simpson, San Jacinto River Authority (Business/Industry)
- New alternates were proposed as follows:
  - Aaron Schindewolf, San Jacinto River Authority (Business/Industry)

All member and alternate nominees were approved unanimously by the members present.

## **Approval of the June 2, 2020 Meeting Summary**

BIG members approved the June 2, 2020 meeting summary.

## **Public Comment**

No public comments were made.

## **Item One: I-Plan Revision Update**

Mr. Johnston, H-GAC, provided an update on revising the BIG Implementation Plan. The topic included a review of actions and activities taken so far to revise the I-plan.

Mr. Johnston reviewed updated maps and data tables that would be included in the revision. He noted that the data and analysis would focus on 2013 thru 2019 period. When and where possible, data comparisons will be made between the beginning implementation year, 2013, with that of 2019. The data and analysis will also look at AU and Segment level. The goal is to get the programmatic data analysis down to the AU level where the environmental analysis is generated. This will allow a more granular look at the data. The results of this data review will be shared with upcoming work group meetings and the next Coordination and Policy meeting.

Mr. Johnston reviewed the upcoming timeline which focuses on work groups in the Spring. The Coordination and Policy work group will meet in January to begin review of the first draft. A second draft review will be conducted in February with a final review in March. If the draft revision is in good order, the document will be presented at the Spring BIG meeting for review and approval.

## **Item Two: 2020 Annual Report**

Mr. Johnston provided a review of the draft 2020 Annual Report. He noted the draft had been shared with the Coordination and Policy work group in October and November. Mr. Johnston noted the major changes or updates to the report. Members suggested minor changes to the document. Members approved the document.

## **Item Three: TMDL Program Updates**

Mr. Johnston shared the TMDL Program Update which notes that there are three new TMDL projects completed in the BIG Project Area. The three, HCFCD Ditch D 138 (1007W\_01), Horsepen Creek (1014C\_01), and Walnut Creek (1008I\_01) were included in the latest TCEQ Water Quality Management Plan update.

#### **Item Four: Implementation Project Presentations**

1. Protect Our Pipes – Ms. Sarah Robinson, City of Houston presented on a new public information program to address Fats, Oils, Grease, and wipes called *Protect Our Pipes*. The program includes general information on Fats, Oils, Grease and wipes via a website; provides downloadable public service announcements and info graphics in English and Spanish; and helpful tips to deal with these residues and other items that should not be put down the drain.
2. Bayou Preservation Association/H-GAC Stream Survey – Ms. Kendall Guidroz, H-GAC reported that The Bayou Preservation Association and H-GAC are teaming up to survey 3-6 assessment units in the BIG Project Area using the Top Ten/Least Ten list of impaired waters. The Bayou Preservation Association hired interns to conduct windshield surveys and will hire additional interns to collect water samples and analyze using Texas Stream Team protocols. Any source findings will be reported to the appropriate jurisdictions. The team hopes to follow up with each jurisdiction to track any actions taken. The project will wrap up in 2021.
3. Clean Rivers Program Stream Survey – Ms. Jessie Casillas, H-GAC presented the project to the BIG. Ms. Casillas stated that H-GAC began the project in 2019 to identify 10 assessment units for study. The 10 will include waterbodies in urban, suburban, and rural settings. Windshield surveys and sample collection will be completed in each waterbody following accredited laboratory procedures. Once the surveys and analyses have been completed, the results will be conveyed to local authorities. Follow up monitoring and analysis is planned to determine if actions taken result in improved water quality. H-GAC is contracting with the San Jacinto River Authority and the Environmental Institute of Houston to perform the study.

#### **Item Five: Other Business/Roundtable**

H-GAC provided a slide on upcoming meetings and workshops. Mr. Johnston encouraged attendees to add to the list of upcoming events.

#### **Next Meeting Date**

May 25, 2021

#### **Adjourn**





# BACTERIA IMPLEMENTATION GROUP

**Spring Meeting  
May 25, 2021**



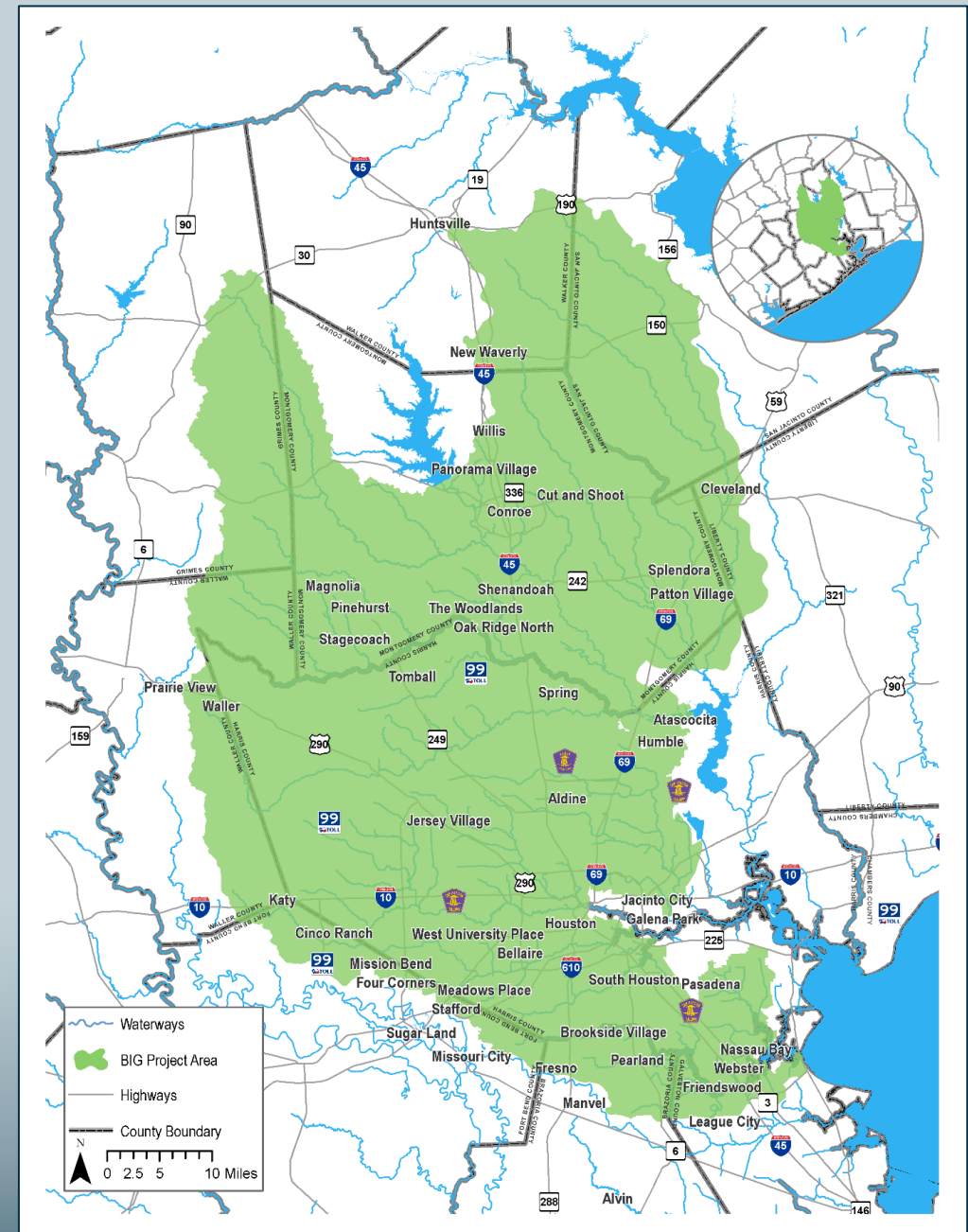
# Online Meeting Tips & Etiquette

- Mute yourself when not speaking
- Turn off your camera when not presenting
- Mute/unmute and video on/off in lower left corner of the screen
- Chat is on the bottom tool bar



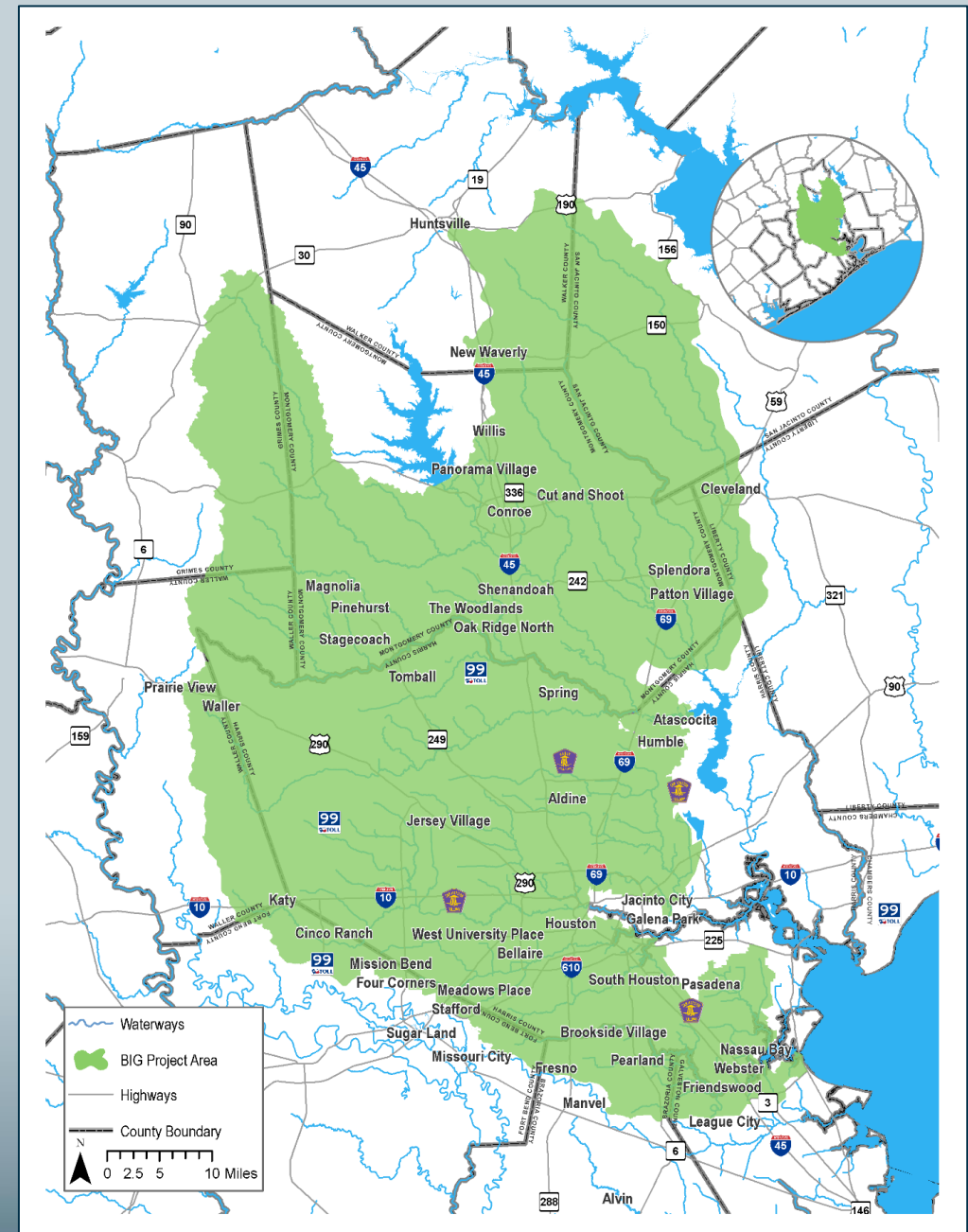
# AGENDA

- Call to Order/Introductions
- Quorum Certification
- Review and Approve Changes to the BIG Roster
- Review and Approve Minutes
- Public Comment
- Item One: I-Plan Revision Update
- Item Two: 2021 Annual Report
- Item Three: TMDL Program Update
- Item Four: Implementation Project Presentations
- Item Five: Other Business
- Adjourn



# AGENDA

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- Adjourn





# ROSTER UPDATES

## ■ BIG Membership

- **Robert Snoza** (Urban County)  
Harris County Flood Control District
- **Sonia Phillips** (Small City) League  
City
- **Tina Petersen** (Conservation)  
Bayou Preservation Association

## ■ Alternates

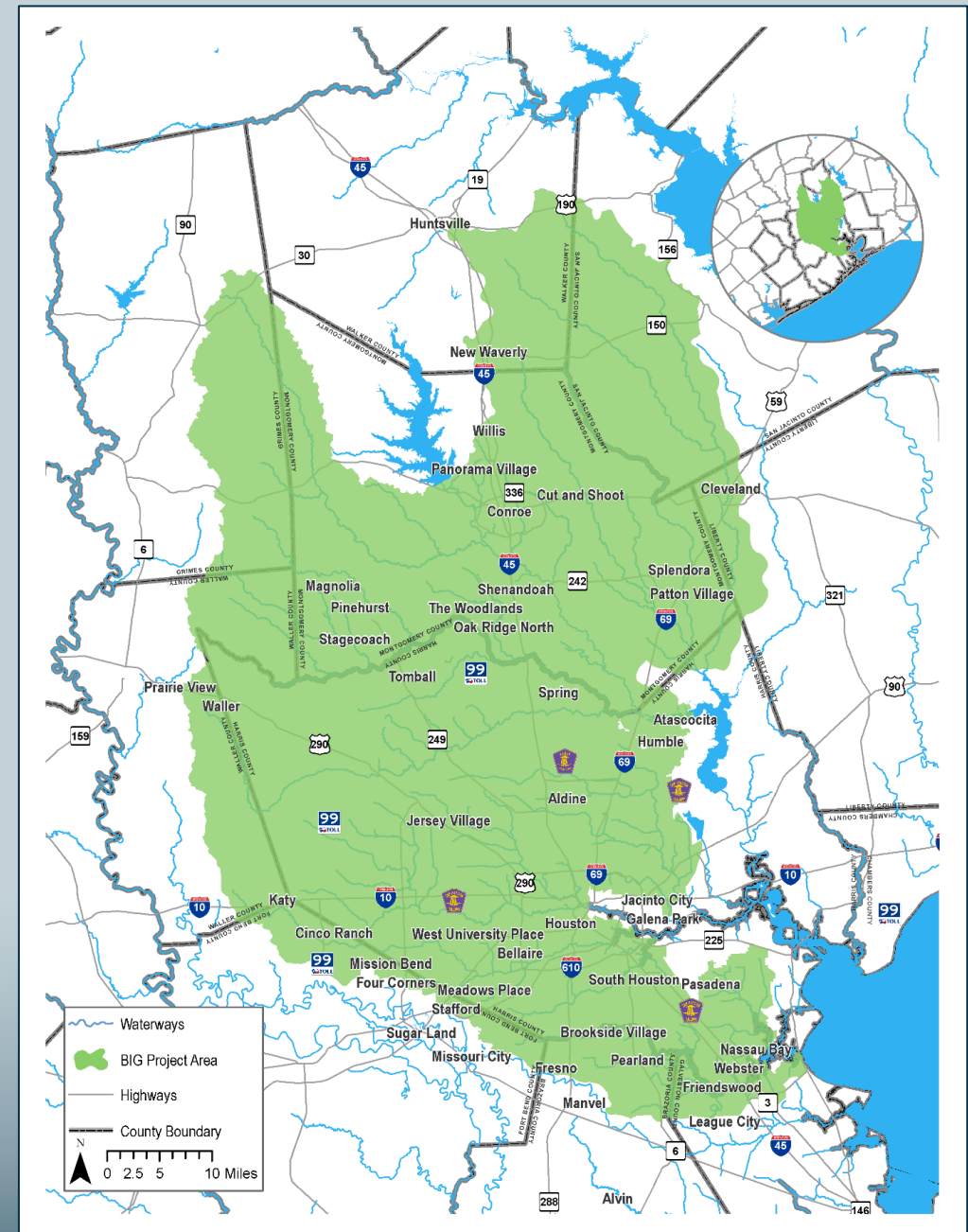
- **Roberto Vega** (Urban County)  
Harris County Flood Control District
- **Steve Hupp** (Conservation) Cypress  
Creek Flood Control Coalition





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# I-Plan Revision Update

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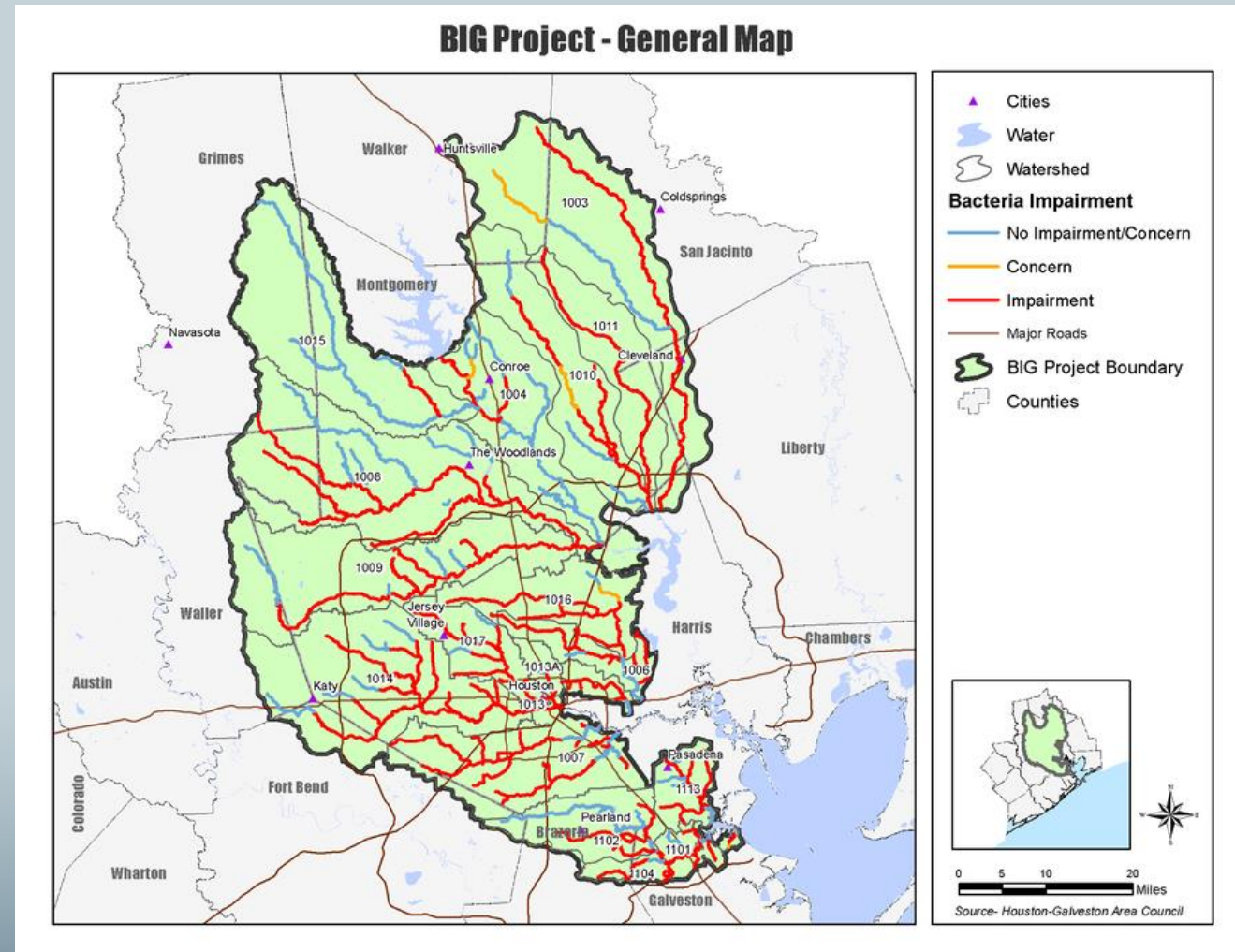
- Work Group Review
- Update to Map/Data Revisions
- Timeline





# I-Plan Map/Data Revisions

- Revising All Maps
- Revising All Data Tables
- Focus – 2020 endpoint
- Comparisons 2013 to 2020
- AU and Segment Level – Geographic Focus
- Include Socio/Economic Data where appropriate



# I-Plan Revision Timeline



July

- Work Group Meetings

August

- Coordination and Policy

September

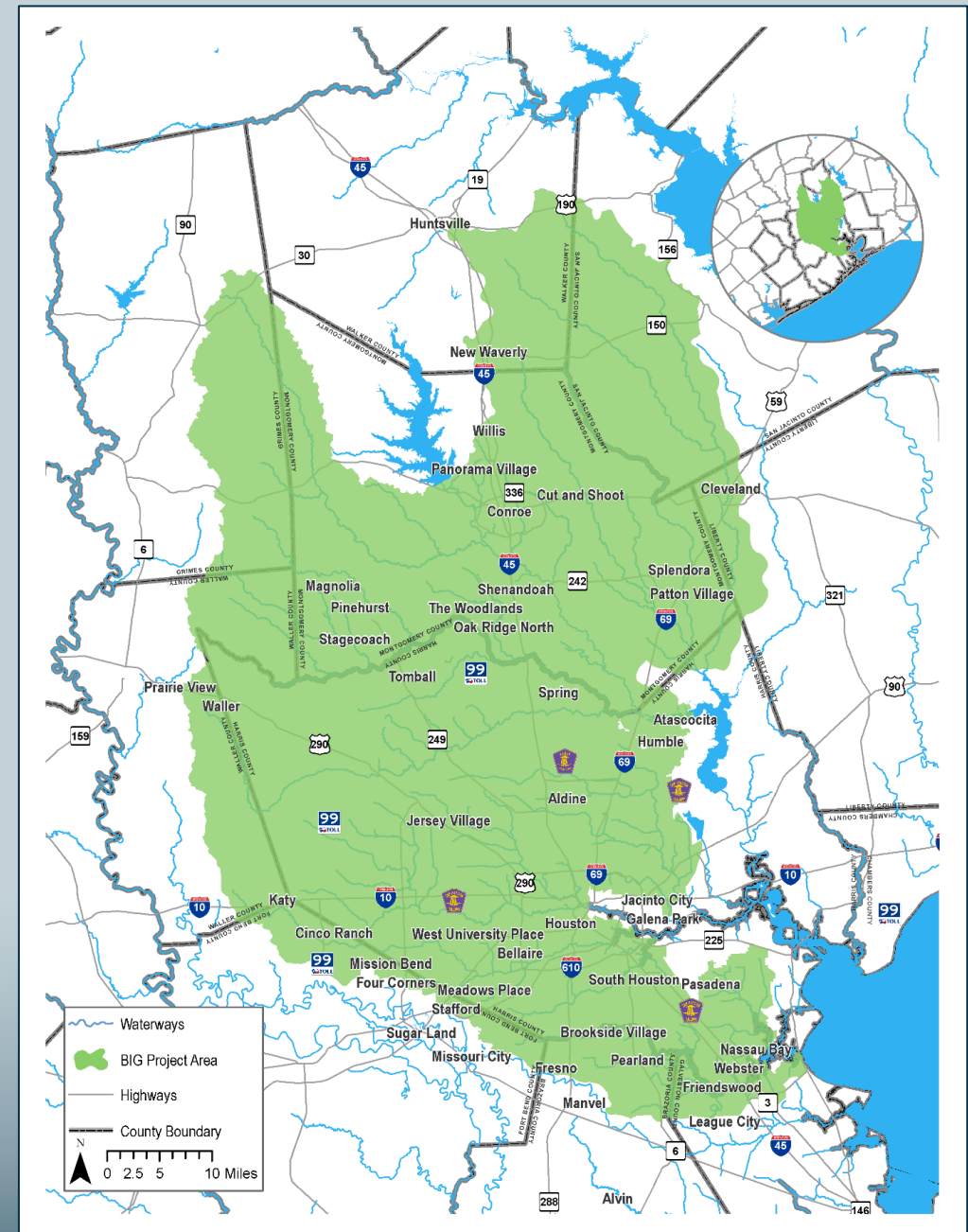
- BIG Meeting First Reading/  
Coordination and Policy

October

- BIG Meeting Final Reading

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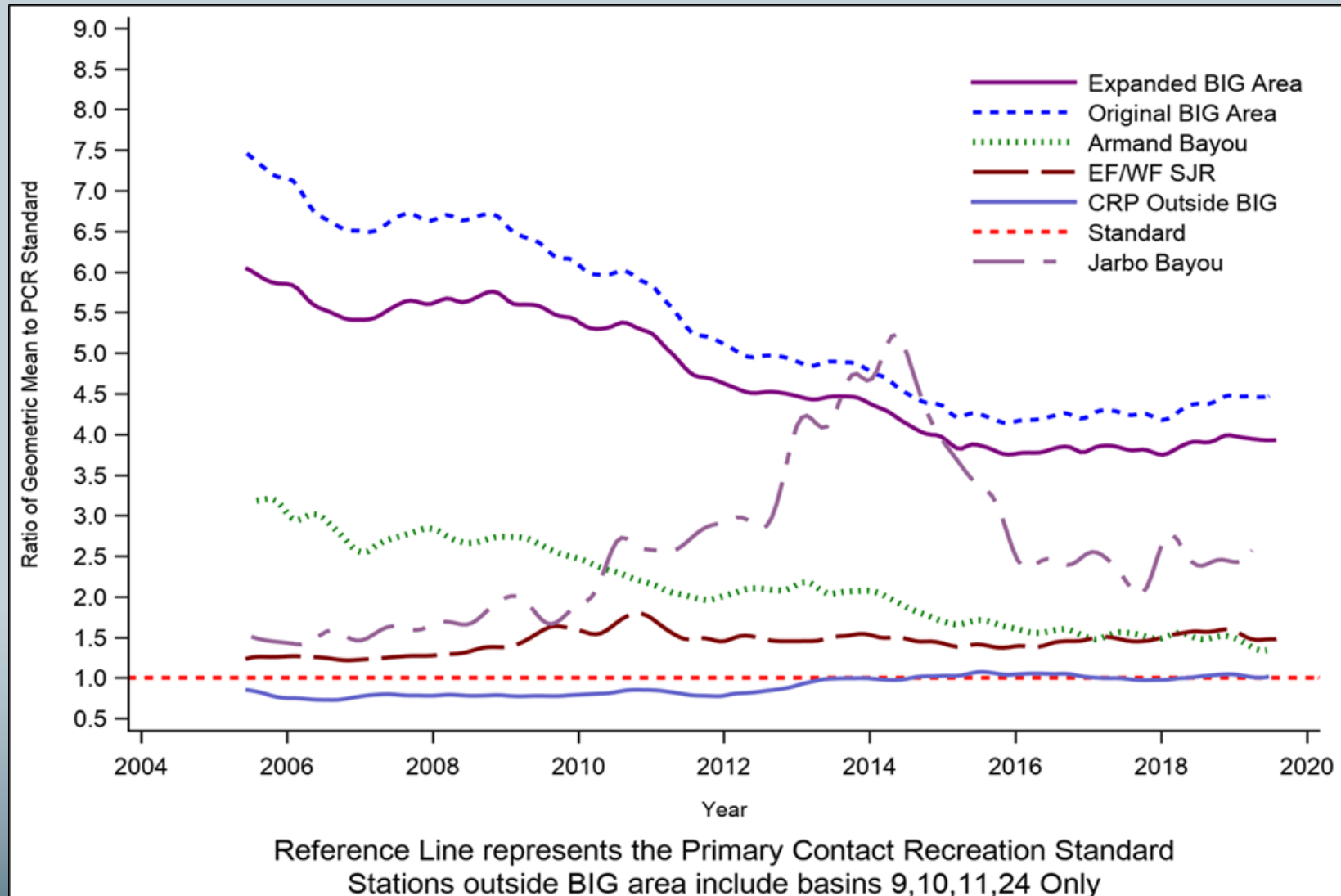
# 2021 Annual Report

- Calendar Year 2020
- Three Success Stories
- Three BIG Ideas
- Implementation Progress





# Bacteria Trends



# Annual Report Timeline



July

- Work Group Meetings

August

- Coordination and Policy

September

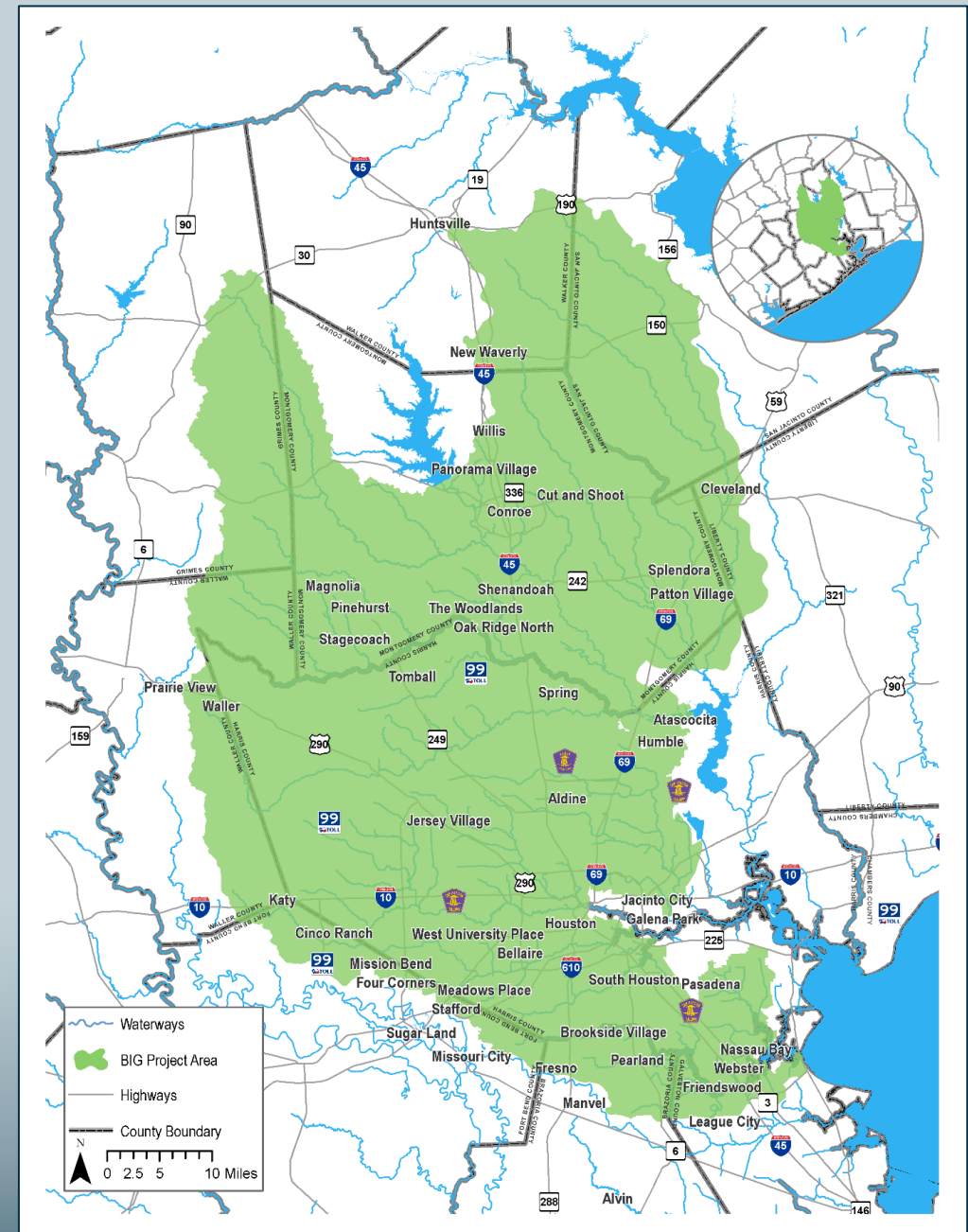
- Coordination and Policy

October

- BIG Meeting

# AGENDA

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# Regional TMDL Updates



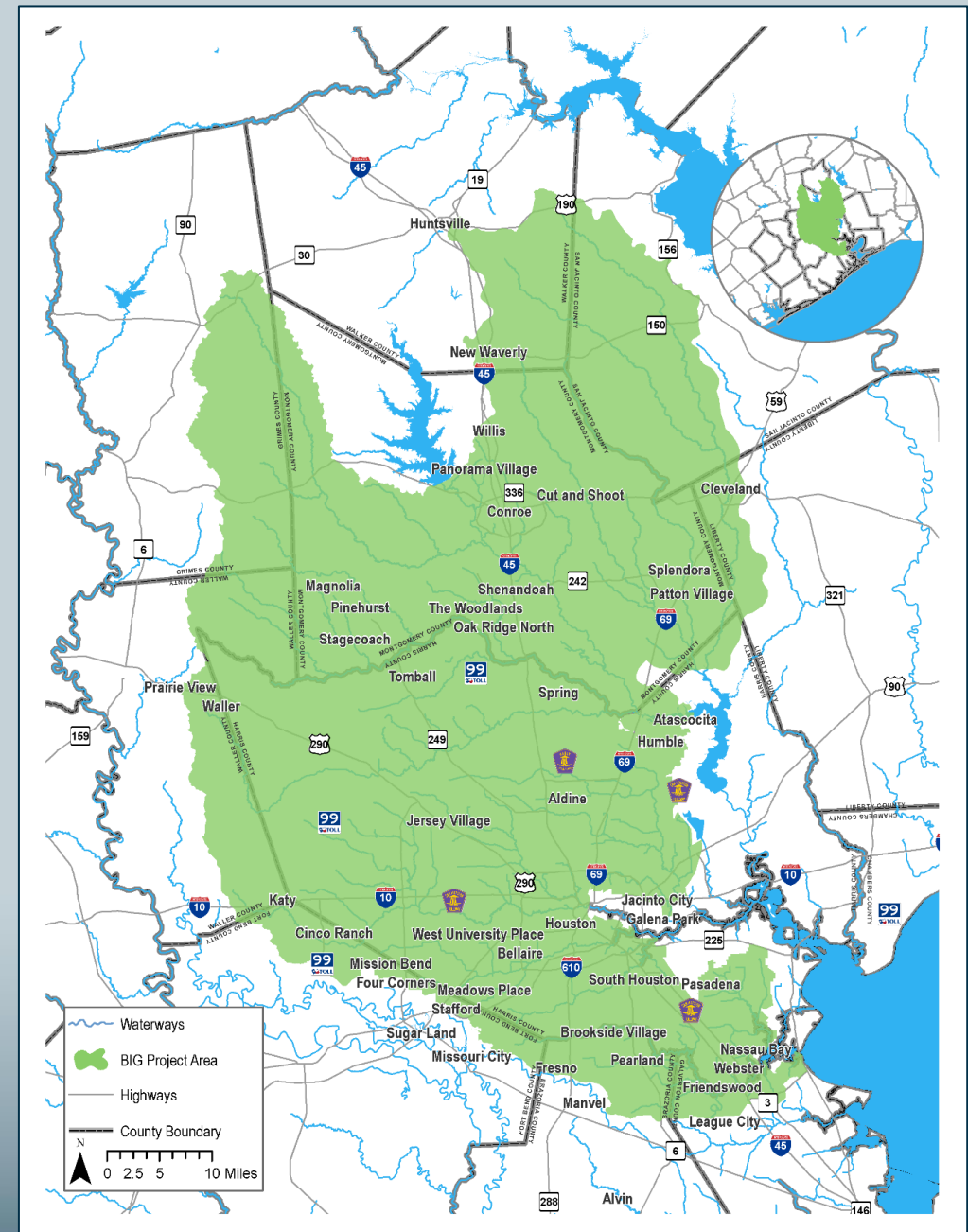
Mr. Jimmy Millican, Tarleton State University -

*"Status of Addition to Indicator Bacteria TMDLs in the Lake Houston Watershed."*



# AGENDA

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- Adjourn



# Implementation Project Presentations

**Ms. Laura Patino** – City of Houston.

*“Houston Green Infrastructure Program”*

**Ms. Kendall Guidroz** – H-GAC.

*“Targeted Monitoring Project and Trash Free Texas Updates”*

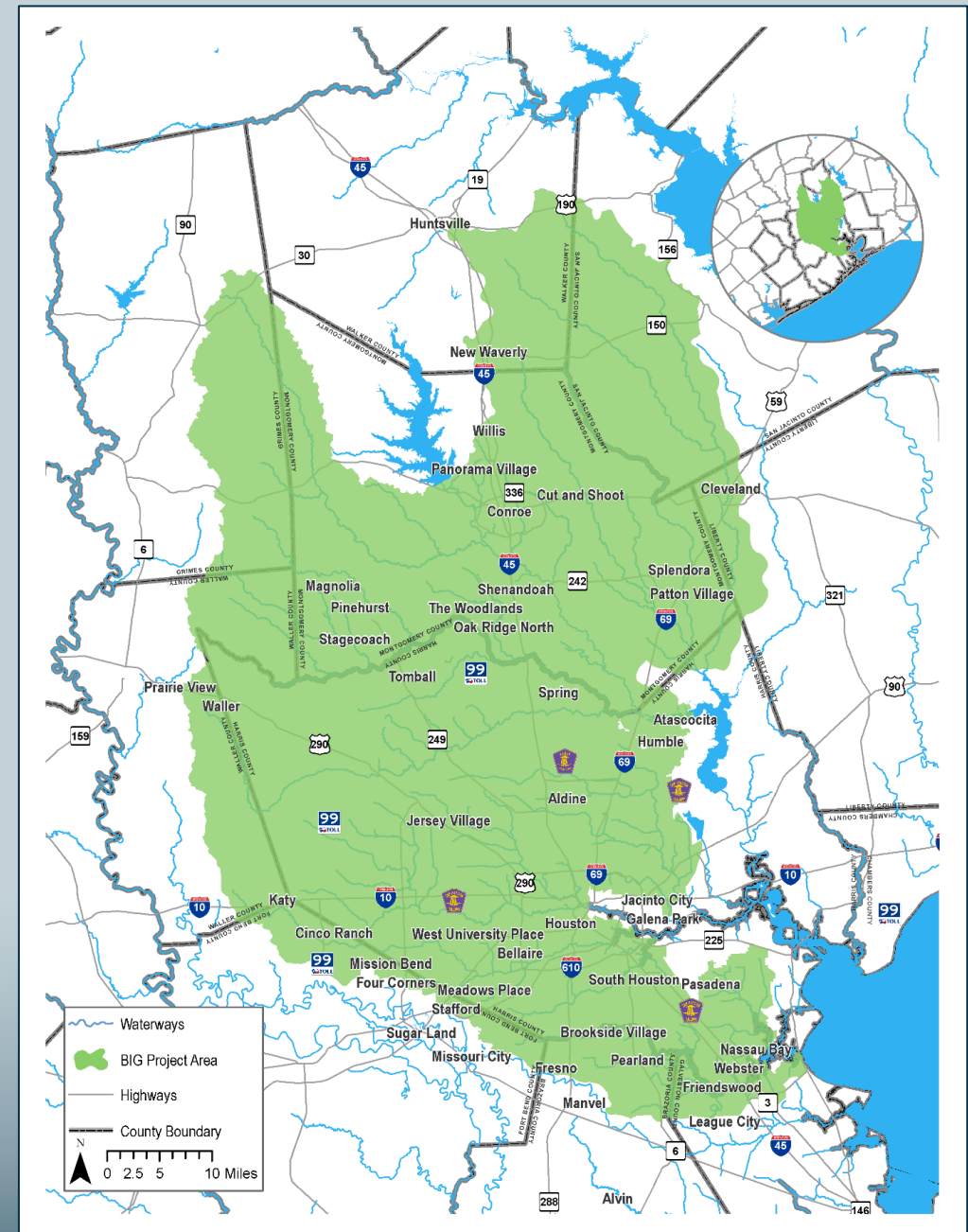
**Ms. Jenny Oakley** – Environmental Institute of Houston, UHCL.

*“Targeted Bacteria Monitoring in the Houston-Galveston Area”*



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- Adjourn





# Upcoming Meetings and Events

- 11<sup>th</sup> Annual Harris County Onsite Wastewater Seminar – *May 26, 2021*
- Spring Creek Watershed Partnership Meeting – *June 3, 2021*
- Cotton Bayou TMDL Development Meeting – *June 17, 2021*
- BIG Fall Meeting - *October 26, 2021*



# ADJOURN

- **Steven Johnston**
- [Steven.johnston@h-gac.com](mailto:Steven.johnston@h-gac.com)
- 281-681-2579



# Cotton Bayou Watershed Public Meeting

Tuesday, July 13<sup>th</sup>, 2021  
2:00 P.M.- 4:00 P.M.

Zoom Registration Link:

<https://zoom.us/meeting/register/tJEvceuqrjgvGN3flz1CIOPNgT9QtwcOAgB2>

## Agenda

- 2:00 Welcome and Introductions
- 2:10 Project Overview & Updates
- 3:00 Technical Support Document
- 3:40 Next Steps
- 3:50 Discussion
- 4:00 Adjourn

For more information about the meeting or the project, please contact  
Rachel Windham with the information below:

Phone: 713.993.2497

Email: [rachel.windham@h-gac.com](mailto:rachel.windham@h-gac.com)



This project is funded by the Texas Commission on Environmental Quality and is  
facilitated locally by the Houston-Galveston Area Council





## Public Meeting

Thursday, March 3, 2022

6:00 p.m. – 8:00 p.m.

[Please register for this virtual public meeting by clicking on this text.](#)

### Agenda

- 6:00 Welcome and Introductions
- 6:10 Overview of Water Quality in the Clear Creek Watershed
- 6:40 Developing a Clear Creek Watershed Protection Plan
- 7:10 Taking Comments and Questions from the Public
- 7:30 Small Groups (informal conversations in breakout groups)
- 8:00 Adjourn

This public meeting will discuss a voluntary community project to improve surface water quality in the Cypress Creek watershed of Galveston, Harris, Brazoria and Fort Bend counties of Texas. For more information, please visit [www.clearcreekpartnership.com](http://www.clearcreekpartnership.com) or contact Justin Bower at 713-499-6653 or [justin.bower@h-gac.com](mailto:justin.bower@h-gac.com).



*Funding for this project is provided by the United States Environmental Protection Agency through a Clean Water Act Section 319(h) grant administered by the Texas Commission on Environmental Quality. The project is facilitated locally by the Houston-Galveston Area Council.*





## **The Central Texas Water Conservation Symposium**

Day 2: Wed, April 21, 2020, 9:30am to 12:00pm

9:30

Welcome

Jennifer Walker, Deputy Director, Texas Coast and Water Program, National Wildlife Federation.

9:30 – 10:00

Oh No! I've got Regulators in my Reuse!

Robert Mace, Executive Director & Chief Water Policy Officer, The Meadows Center for Water & the Environment/Texas State University

10:00 – 10:40

Landscape Water Budgets & Outdoor Irrigation Efficiency

Moderator: Stacy Pandey, LCRA

Maximizing Water Conservation through WaterMyYard

Charles Swanson, Extension Program Specialist, Texas A&M

Using Landscape Water Budgets and Targeted Outreach to Increase Irrigation Efficiency

Alan Lewis, Texas A&M University, Jennifer Nations, City of College Station

10:40 – 11:20

Onsite Water Reuse

Moderator: Christopher Charles, City of Austin

Meet OSCAR and CLARA: Demonstrating Onsite Water Reuse in the City of Austin

Katherine Jashinski, P.E. – Supervising Engineer, Austin Water

Taking Backwash Water from a Negative to a Positive

Earl Wood, General Manager, Hurst Creek MUD

11:20 – 12:00

Water Loss Audits

Moderator: Meghan Bock, Aiqueous

Water Loss – Audits, Validation & Migration

John Sutton, Manager, Municipal Conservation Program, Texas Water Development Board

Water Loss Audit: Counting Every Drop

Darryl Westbrook, Assistant Director of Water Utilities, City of Arlington, Texas

# **Corporate Sustainability Partnership Meeting Agenda**

May 26<sup>th</sup>, 2021

1:00-2:00 PM

- I. Welcome and Introductions**
- II. Project Funding Updates** - Mac Martin and TFH
- III. Site Discussion** -*ACTION ITEM*
  - a) Wednesday field group
  - b) Friday field group
  - c) **ACTION ITEM** – First Planting Site Selection
- IV. Planning and Working Groups**
  - a) Select a date for planting
  - b) Establish workgroups for planning
- V. Adjournment**

# **Corporate Sustainability Partnership Meeting Agenda**

July 19<sup>th</sup>, 2021

1:00-2:00 PM

## **I. Welcome and Introductions**

## **II. Project Funding Updates - Mac Martin**

- a) Fully funded for January planting!

## **III. Project and Site Updates – Mac Martin**

- a) Kuykendahl
- b) HCFCD Site North of KMP
- c) MUD 468

## **IV. Work Group Updates**

- a) Reforestation Workgroup
- b) Site Prep and Logistics Workgroup

## **V. Fall 2022 Planning?**

## **VI. Adjournment**

***CSP Site Prep and Logistics Workgroup  
Meeting Agenda***

June 22, 2021  
2:00-3:00 PM

- I. Welcome and Introductions**
- II. Project Updates – Mac Martin**
- III. Planting Date Discussion**
- IV. Staging Area Coordination**
- V. Volunteer Coordination** (Number required based on event length.)
- VI. Logistics** ( Parking, Bathrooms, etc.)
- VII. Tools Available and Needed**
- VIII. Caterpillar One Tree Planted Funding – Mac Martin and Becky Martinez**
- IX. Adjournment**



# Texas Watershed Coordinator Roundtable Agenda

**August 6, 2019 | 9:30 a.m. – 3:30 p.m.**  
**Texas A&M AgriLife Center, Dallas**

- 9 a.m.**            **Registration**
- 9:30 a.m.**        **Welcome, Introductions and Tour**  
Clint Wolfe & Fouad Jaber, Texas A&M AgriLife
- 11:30 a.m.**      **Agency Updates, Panel Perspectives and Discussion**  
Moderator: Lucas Gregory, TWRI  
Panelists: Mike Bira, EPA  
Faith Hambleton, TCEQ  
TJ Helton, TSSWCB
- Noon**            **Catered networking lunch (or bring your own) [RSVP required]**
- 1 p.m.**            **Communicating Watershed Plans to Elected Officials**  
Mary Luedeker, Texas A&M AgriLife
- 1:30 p.m.**        **Break**
- 1:45 a.m.**        **North Texas Watershed Updates and Panel**  
Moderator: Lucas Gregory, TWRI  
Panelists: Tina Hendon, Tarrant Regional Water District  
Galen Roberts, North Texas Municipal Water District  
Aaron Hoff, Trinity River Authority
- 3:15 p.m.**        **Wrap-Up**  
Nathan Glavy, TWRI
- Upcoming Trainings
  - Next Roundtable – January 2020 –TBD

The Texas Watershed Planning Program is managed by the [Texas Water Resources Institute](#) and is funded through a Clean Water Act Section 319(h) nonpoint source grant provided by the Texas State Soil and Water Conservation Board and U.S. Environmental Protection Agency.

# North Central Texas CRS Users Group/Elected Officials Floodplain Seminar

July 30, 2020

Virtual Meeting – Hosted by the North Central Texas Council of Governments (NCTCOG) and the Texas Water Development Board (TWDB)

## AGENDA

<u>Time</u>	<u>Topic</u>	<u>Speaker</u>
1:00p-1:10p	<b>Welcome and Introductions</b>	<i>Mia Brown, CFM NCTCOG</i>
1:10p-1:25p	<b>Overview of Flood Activities and New Initiatives at the TWDB</b>	<i>Saul Nuccitelli, P.E., CFM TWDB</i>
1:25p-1:50p	<b>Flood Mitigation Assistance</b>	<i>Kathy Hopkins, CFM, CTCM TWDB</i>
1:50p-2:20p	<b>Floodplain Management and NFIP Outreach</b>	<i>Yi Chan, CFM TWDB</i>
2:20p-2:35p	<b>Break</b>	
2:35p-3:05p	<b>Flood Mapping and Base Level Engineering</b>	<i>Jacque Hayes, CFM TWDB</i>
3:05p-3:55p	<b>Flood Planning</b>	<i>Reem Zoun, P.E., CFM James Bronikowski, P.E., CFM Morgan White, CFM TWDB</i>
3:55p-4:00p	<b>Meeting Wrap-Up</b>	

If you have any questions regarding the meeting or agenda items, please contact  
Mia Brown: (817) 695-9227; MBBrown@nctcog.org

**NCTCOG would like to extend a special thank you to the Texas Water Development Board (TWDB) for participating in this event, the Texas Floodplain Management Association (TFMA) for their support and partnership, and the Federal Emergency Management Agency (FEMA) for grant funding to hold this and other trainings for our communities.**

If you plan to attend this public meeting and you have a disability that requires special arrangements at the meeting, please contact Barbara Bradford by phone at (817) 695-9231 or by email at BBradford@nctcog.org 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.

## NOTICE OF MEETING

### HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 468

The Board of Directors of Harris County Municipal Utility District No. 468 will hold a regular meeting on **Wednesday, July 7, 2021, at 11:30 a.m., by teleconference\* at 1-877-402-9753, Access Code: 1482912**, to discuss and, if appropriate, act upon the following items:

1. Public comments.
2. Approve minutes.
3. Authorize renewal of District's insurance policies, including review of engineer's list of District facilities to be insured.
4. District security matters.
5. Financial and bookkeeping matters, payment of bills and review of investments.
6. Discuss AWBD summer conference, approve reimbursement of eligible expenses, and authorize attendance at the AWBD winter conference.
7. Tax assessment and collections matters, including delinquent tax collections, installment agreements, and payment of bills.
8. Engineering matters, including:
  - a. authorize design of facilities;
  - b. approve plans and specifications and authorize advertisement for bids for District facilities;
  - c. review bids and award contract for construction in the service area, including Chasewood waterline loop;
  - d. receive update on construction of facilities to serve development in the District and approve pay estimates, time extensions, change orders and final acceptance, as appropriate, for construction of District facilities, including outfall repair along Cypress Creek; and
  - e. easements, deeds, plats, consents to encroachment, requests for service or utility commitment letters.
9. Maintenance of District facilities, including:
  - a. update on maintenance of Vintage Royale Detention Pond and Vintage Royale Amenity Pond including proposals for maintenance; and
  - b. update on maintenance of regional detention pond.
10. Update on park and recreation facility projects, including:
  - a. construction and maintenance of landscaping and irrigation in the District;
  - b. development and maintenance of regional parks in the District; and
  - c. review bids and award contract for construction of District Recreational Trail, Phase 1.

Persons with disabilities who plan to attend this meeting and would like to request auxiliary aids or services are requested to contact the District's attorney at (713) 860-6400 at least three business days prior to the meeting so that appropriate arrangements can be made.



11. Report regarding development in the District.
12. District website matters.
13. Operation of District facilities, billings, repairs and maintenance, including:
  - a. water accountability;
  - b. hearing on termination of water and sewer service to delinquent customers and authorize termination of service; and
  - c. amend Rate Order.



  
\_\_\_\_\_  
Attorney for the District

**\*As a result of the current COVID-19 virus epidemic emergency, the convening at one location of a quorum of the Board is difficult or impossible. Therefore, the Board will conduct this meeting by telephone conference call rather than by physical quorum pursuant to Texas Government Code Sec. 551.125 and guidance of the Governor of the State of Texas. Members of the public are entitled to participate and address the Board during the telephonic meeting. In all respects, this meeting will be open to the public and compliant with applicable law and guidance of the Governor of the State of Texas. An electronic copy of the agenda packet (which consists of the regular reports presented to the Board by its consultants) can be found at <https://www.districtdirectory.org/agendapackets/hcmud468>.**

Persons with disabilities who plan to attend this meeting and would like to request auxiliary aids or services are requested to contact the District's attorney at (713) 860-6400 at least three business days prior to the meeting so that appropriate arrangements can be made.

# *You Are Invited*

## Houston Area Urban Forestry Council's Annual Membership Meeting

### Axelrad Beer Garden

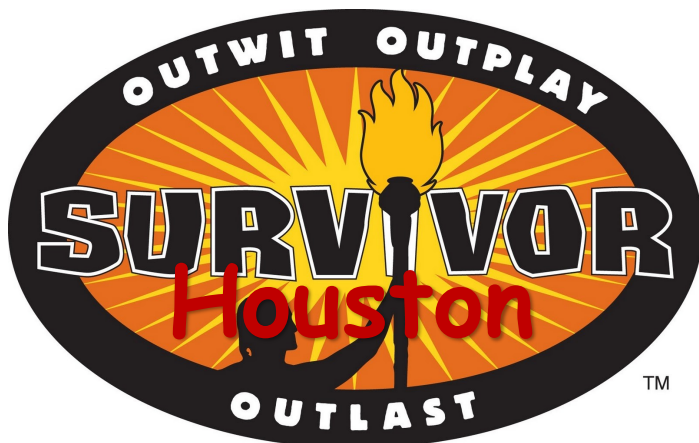
1517 Alabama St, Houston, TX 77004

June 8th 6:00-9:00 PM



You survived a pandemic, mega-freeze, and annual 100 year floods, where are you going next? That's right...Axelrad Beer Garden with your closest forestry friends. \$25 gets you in and includes: food, raffle ticket, 2 drink tickets, and an annual HAUFC membership renewal. Guests and family are welcome to attend and eat for free. Cash, check, and credit card will be accepted at the door. Don't miss this event; you never know what's next?

*This event is sponsored by:*





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**FALL MEETING  
Agenda**

**Tuesday, December 1, 2020  
1:00 pm to 3:00 pm**

*(Instructions to attend this web-based meeting via ZOOM can be found at the bottom of this Agenda)*

**Call to Order/Welcome/Introductions**

Welcome by H-GAC

Introductions of BIG members & staff

Review Agenda. Each agenda item shall provide time for discussion by the BIG followed by comments from the audience.

**Certification of Quorum**

**Approval of the Proposed Members & Alternates**

BIG members will review the Bacteria Implementation Group Roster and approve as appropriate.

**Approval of the June 2, 2020 Meeting Summary**

BIG members will review, comment and approve as appropriate.

**Public Comment**

The public may sign up at the beginning of the meeting to make an informal comment of no more than three minutes.

**Item One: Implementation-Plan (I-Plan) Revision Update**

H-GAC staff will provide an update on revising the BIG Implementation Plan.

**Item Two: 2020 Annual Report**

H-GAC staff will review the 2020 Annual Report. The BIG will approve the report as appropriate.

**Item Three: TMDL Program Updates**

H-GAC staff will provide an update to relevant TMDL project efforts within the BIG and in the region.

#### **Item Four: Implementation Projects**

- Ms. Sarah Robinson, City of Houston, will present on the new Protect Our Pipes program.
- Ms. Kendal Guidroz, H-GAC, will present on a joint project with the Bayou Preservation Association to survey local bayous for wet and dry weather bacteria sources.
- Ms. Jessie Casillas, H-GAC, will present on a Clean River Program funded project to survey urban, suburban and rural streams for wet and dry weather bacteria sources.

#### **Item Five: Other Business/Roundtable**

As time permits, H-GAC, BIG members, and stakeholders are encouraged to discuss implementation activities, related projects, and announcements.

#### **Next Meeting Date**

Tuesday, May 25, 2021

#### **Adjourn**

**BIG Meeting Webinar instructions:** *(You must Register for the meeting to participate.)*

[https://zoom.us/meeting/register/tJAvco-vqTgjGtUlm\\_y9zubH1vXR0LXR6JsF](https://zoom.us/meeting/register/tJAvco-vqTgjGtUlm_y9zubH1vXR0LXR6JsF)

After registering, you will receive a confirmation email with a meeting specific link tied to your email address. Also, the email will include instructions for joining the meeting via a conference line.

## BIG ROSTER (December 1, 2020)

Last	First	Representing	Organization	Alternate1	Alternate 2
Bailes IV	Rep. Ernest	Agriculture (County)	San Jacinto County	Dale Everitt	
Bernhardt	Sarah	Conservation	Bayou Preservation Association	Tina Petersen	Paul Nelson
Calvino	Ralph	Business / Industry	Terracon	Clint Miller	Jason Maldonado
Caraviotis	Jerry	Urban County	Harris County Pollution Control Services	Nugent Cotton	Elaine Savage
Chapin	Richard	Large City	City of Houston	Lam Tran	
Cioce	Danielle	Urban County	Harris County	Camila Biaggi	Nick Russo
Cisneros	Charlotte	Conservation	Galveston Bay Foundation	Scott Jones	Sasha Francis
Cooper	Christine	Small City	City of Conroe	Greg Hall	
Douglas	Tom	Conservation	Houston Sierra Club	Jim Williams	
Ehrlich	Denise	Business / Industry	Gulf Coast Authority	Shaun Austin	
Elliott	Catherine	Urban County	Harris County Flood Control District	Stephen Benigno	Robert Snoza
Harris	Teague	Utility District	IDS Engineering		
Isbell	Andrew	Rural County	Walker County		
La Breche	Carol	Large City	City of Houston	Lisa Montemayor	
Lane	Helen	Conservation	Houston Audubon Society		
Lee	Michael	Resource Agency / Academia	US Geological Survey	Thomas Sample	John Ellis
Martin	Mac	Agriculture	Texas Forest Service		
McCoy	Cathy	Agriculture	Harris County SWCDistrict #442		
Murphy	Jack	Small City	City of League City	Susie Blake	Jody Hooks
Nichols	Scott	Rural County	Montgomery County	Frank Green	Reuben Martinez
Olive	Becky	Business / Industry	AECOM	Karen Kottke	
Page	Mitchell	Utility District	Schwartz, Page, & Harding, LLP		
Pechacek	Linda	Public	Citizen, Civil Engineer	Rachel Powers	
Powers	Rachel	Conservation	Citizens' Environmental Coalition	Kristen Schlemmer	Linda Shead
Rightmyer	Patrick	Large City	City of Houston	Desta Takie	
Robertson	Jim	Conservation	Cypress Creek Flood Control Coalition	Richard Smith	
Saenger	Scott	Business / Industry	Jones and Carter		
Shead	Linda	Conservation	Texas Coastal Partners	Carl Masterson	
Shmaefsky	Brian	Resource Agency / Academia	Lone Star College, Kingwood		
Simpson**	Shane	Business / Industry	San Jacinto River Authority	Aaron Schindewolf**	
Tarrant	Mayor Leah	Rural Small City	City of Patton Village		
Thornhill	Michael	Utility District	SI Environmental	Matt Carpenter	
Tuma	Scott	Business / Industry (Boating)	Boater		

\*\* Following approval of the BIG



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**SPRING MEETING  
Summary**

**Tuesday, June 2, 2020  
1:00 pm to 3:00 pm**

**H-GAC Conference Room B, Second Floor  
3555 Timmons Lane**

**Members Present**

Sarah Bernhardt, Ralph Calvino, Jerry Caraviotis, Danielle Cioce, Christine Cooper, Tom Douglas, Denise Ehrlich, Karen Kottke, Carol LaBreche, Mac Martin, Jack Murphy, Becky Olive, Linda Pechacek, Rachel Powers, Jim Robertson, Linda Shead, Brian Schmaefsky, Michael Thornhill

Charlotte Cisneros\* was represented by Scott Jones  
Catherine Elliott was represented by Robert Snoza  
Michael Lee\* was represented by Tom Sample\*  
Patrick Rightmyer was represented by Desta Takie

\*Did not count toward quorum

**Members Absent**

Ernest Bailes IV, Richard Chapin, Teague Harris, Andrew Isbell, Helen Lane, Cathy McCoy, Mitchell Page, Scott Saenger, Aaron Schindewolf, Leah Tarrant, Scott Tuma

**Guests Present**

Camila Biaggi, Rick Felan, Clair Hubbel, Diane Humes, Elizabeth Kompanik, Karen Kottke, Jason Leifester, Nguyen Ly, Lisa Marshall, Carl Masterson, Jazmyn Milford, Jimmy Millican, Lisa Montemayor, Nicole Reed, Christian Rines, Sarah Robinson, Desta Takie

**H-GAC Staff**

Justin Bower, Kendall Guidroz, Bill Hoffman, Kathy Janhsen, Steven Johnston, Todd Running, Brian Sims, Rachel Windham

## **Call to Order/Welcome/Introductions**

Mr. Steven Johnston of H-GAC welcomed all in attendance and facilitated introductions for all BIG members and alternates as well as those in the general audience. After presenting the agenda for the format of the meeting, hearing no call for discussion, the meeting proceeded.

## **Certification of Quorum**

A quorum was certified during the meeting.

## **Approval of the Proposed Members & Alternates**

The BIG approved the following changes to the roster:

- New members proposed were as follows:
  - Charlotte Cisneros (Conservation, Galveston Bay Foundation)
  - Michael Lee (Resource Agency/Academia, USGS)
- New alternates were proposed as follows:
  - Tina Petersen (Conservation, Bayou Preservation Association)
  - Paul Nelson (Conservation, Bayou Preservation Association)
  - Ted Driscoll (Conservation, Galveston Bay Foundation)
  - Kristen Schlemmer (Conservation, Citizens' Environmental Coalition)
  - Nugent Cotton (Urban County, Harris County)
  - Elaine Savage (Urban County, Harris County)
  - John Ellis (Resource Agency/Academia, USGS)
  - Carl Masterson (Conservation, Texas Coastal Partnership)

All member and alternate nominees were approved unanimously by the members present through two votes, one for changes to members and one for changes to alternates.

## **Approval of the October 29, 2019 Meeting Summary**

BIG members approved the October 29, 2019 meeting summary.

## **Public Comment**

No public comments were made.

## **Item One: I-Plan Revision Update**

Mr. Johnston, H-GAC, provided an update on revising the BIG Implementation Plan. The topic included a review of the stakeholder survey and listening sessions, map and data revisions and a I-plan revision timeline. Mr. Johnston stated that staff hosted 22 listening sessions and received ten surveys from the BIG. The results of the sessions suggest that overall, members are generally satisfied with the role of the BIG and efforts to implement the I-Plan. Some areas for improvement or increase efforts include:

- increase member and outside organization participation in BIG and work group meetings;
- provide greater emphasis to research and data driven efforts;
- define meeting and work group role purpose and hold members and H-GAC staff accountable;
- expand BIG as a brand;
- define audience and expand reach; and
- consider socio-economic data as part of analyses.

Mr. Johnston noted that all maps and data tables were being revised and would focus on 2013 thru 2019 period. When and where possible, data comparisons will be made between the beginning implementation year, 2013, with that of 2019. The data and analysis will also look at AU and Segment level. The goal is to get the programmatic data analysis down to the AU level where the environmental analysis is generated. This will allow a more granular look at the data. The results of this data review will be shared with upcoming work group meetings and the next Coordination and Policy meeting.

Mr. Johnston reviewed the upcoming timeline which focuses on work groups in late July. The Coordination and Policy work group will meet in August to bring review of the first draft. A second draft review will be conducted in September with a final review in early October. If the draft revision is in good order, the document will be presented at the October BIG meeting for review and approval.

### **Item Two: 2020 Annual Report**

Mr. Johnston provided an update on preparing the 2020 Annual Report. He stated that the report will follow along the timeline of the I-Plan. The data and mapping updates will be used in the annual report. Additionally, the work group meetings will be used to gather any implementation from individual BIG members.

As part of the meeting item, two presentations covering sanitary sewer overflows (SSO) were given:

- Mr. Bill Hoffman, H-GAC, presented a review of SSO data that H-GAC receives from the TCEQ Region 12 office. Mr. Hoffman noted that analysis is challenged by the inconsistencies with the data including, a lack of SSO event location, duplicate entries, irregular use of cause descriptions to explain event and discrepancies with information supplied for associated spreadsheet columns. The errors and inconsistencies make analysis difficult, requiring H-GAC to apply assumptions and potential error to generate results.
- Ms. Lisa Montemayor, City of Houston was asked to demonstrate the city's inspection management software. The city uses the INFOR platform to report incidents through 3-1-1 service requests and inspections, corrective actions taken, and results. Inspectors and technicians enter information directly through forms to a database. INFOR captures:
  - Nature of Event (location, volume, source, route)
  - Potential Danger



- Date/Time/Duration
- Steps taken to prevent recurrence and mitigate adverse effects
- Resource usage (man hours, vehicle usage)
- Photo and File attachments
- Associated work orders (repairs, inspections, etc.)
- Other items

The database software can then be used to create reports and track actions taken to address each incident.

### **Item Three: TMDL Program Updates**

Mr. Jimmy Millican, Texas Institute for Applied Environmental Research, provided the TMDL updates within the BIG project area with a presentation titled: "Status of Additions to Indicator Bacteria TMDLs in the Brays Bayou, Lake Houston, and Buffalo and Whiteoak Bayou Watersheds." Mr. Millican reviewed previously completed TMDL projects found within Brays Bayou, Buffalo-Whiteoak Bayou and Lake Houston watersheds. This covers fifty-one completed TMDLS through the three watersheds, eight, twenty, and twenty-three, respectively. Three new TMDL projects will be completed for the next Water Quality Management Plan include:

- HCFC Ditch D 138 (1007W\_01)
- Horsepen Creek (1014C\_01)
- Walnut Creek (1008I\_01)

Mr. Millican stated that the flow duration curve and load duration curve method for developing TMDL will proceed for all three watersheds. Developed land cover across the three watersheds decrease with a high at HCFC Ditch D 138 to a low with Walnut Creek. Mr. Millican noted that 100% of Ditch 138 is covered by regulated stormwater while this decreases with Horspen Creek and Walnut Creek at 78.1% and 13.8%, respectively. Once the Technical Support Documents (TSD) are completed in August, the TCEQ will use them to develop addenda that will include the TMDLs as part of the Water Quality Management Plan updates that are submitted to the US EPA for approval. The completed TSD will be shared with the BIG.

### **Item Four: Water Program Updates**

Mr. Justin Bower, H-GAC provided an update to watershed protection planning (WPP) in the West Fork of the San Jacinto River and Cypress Creek watersheds within the BIG project area. Mr. Bower noted that the Westfork WPP has been approved and is currently in implementation. As part of implementation, education and outreach is ongoing and a focus on conservation and dredging coordination has started. A WPP in in development for the Cypress Creek watershed. Data analysis is underway, and stakeholders have begun meeting to start reviewing the data and setting up the parameters of the WPP.

Ms. Rachel Windham, H-GAC provided an update to the WPP effort in the Spring Creek watershed. This is a new project in FY 20. Initial data gathering and analysis has started. H-GAC has initiated the stakeholder process and is forming the watershed partnership to oversee plan development. Ms. Windham reported that the first meeting is scheduled for July 29, 2020.

Ms. Kathy Janhsen, H-GAC provided an update on the FY 20 Water Innovation Strategies of Excellence Awards. Ms. Janhsen stated that the awards have been delayed due to COVID-19 but expects to complete the award process by August. She noted that there were fewer submittals over the inaugural year, but this is typical for award programs. She is hopeful to work with groups like the BIG to expand the reach of the program with the goal of encouraging more submittals in the future.

**Item Five: Other Business/Roundtable**

H-GAC provided a slide on upcoming meetings and workshops. Mr. Johnston encouraged attendees to add to the list of upcoming events. The meeting adjourned on time.

**Next Meeting Date**

October 27, 2020

**Adjourn**

**BIG Meeting Call-in instructions:**

To call in, dial 713-481-0090 (or 800-240-3895). You will be asked to enter your pass code, followed by the # sign. The pass code is 1084242. If you dial in before H-GAC, you will hear "music on hold". Once H-GAC dials in, the music will cease and the conference call will begin. Remember--if you do press hold, everyone will hear your hold music.

In compliance with the Americans with Disabilities Act, H-GAC provides for reasonable accommodation for persons attending H-GAC functions. Requests should be received by H-GAC 24 hours prior to the function.

## **Houston Corporate Sustainability Partnership Notes**

*April 9, 2021*

### **Participating**

Justin Bower, Houston Galveston Area Council

Mac Martin, Texas A&M Forest Service

Becky Martinez, Bayou Land Conservancy

Mickey Merritt, Texas A&M Forest Service

Mike Morphin, City of Houston – Drinking Water Operations

Katherine Newton, Trees For Houston

Kelli Ondracek, City of Houston – Parks and Recreation

Patrick Rightmyer, City of Houston – Drinking Water Operations

### **Meeting Notes**

- After a round of introductions, Mac Martin gave an overview of the two-pronged objectives of the partnership.
- The first prong is to seek funding from local corporations for riparian restorations mostly in the form of tree plantings for sourcewater protection to the Lake Houston Drinking Water Reservoir. In return, the partnership will quantify the benefits of the planted trees to offset the corporation's water and carbon uses.
- Initially, the partnership will target the 4 impaired and largest tributaries of Lake Houston: Cypress Creek, Spring Creek and the two forks of the San Jacinto.
- The second prong is implementing those tree plantings and ensuring tree establishment is reached. This will include overseeing maintenance and volunteer group organization.
- The goal of this month's meeting was to prioritize a list of the top 5 sites appropriate for said tree plantings.
- Katherine Newton brought up idea of creating an agreement with Harris County Flood Control District (HCFCD) to ensure planted tree protection.
- Size of trees being planted was discussed. Majority will be 5 gallons. Katherine Newton mentioned the good results *Trees For Houston* is seeing with 7 gallon trees.

### **Houston Corporate Sustainability Site Prioritization**

#### **1) Kuykendahl Bridge and Cypress Creek:**

- ~20 acres of planting space.
- Vegetation on southside of Cypress Creek recently removed.
- Little to no riparian buffer on either side of the creek.
- Owned by HCFCD. No detention or future plans on property.
- Location has potential for added carbon emission reduction due to roadside proximity.

**2) Meyer Park and Champion Forest Church:**

- ~30 acres of planting space.
- Riparian area is maintained by the HCFCD and Southside of creek's riparian area was recently re-sloped.
- Sloping of site means no future plans from HCFCD and that vegetation was removed.
- Southeast side is owned by Champions Forest Church.
- Northside is Meyer Park which is owned and maintained by Harris County Precinct 4 (HCP4).
- Meyer Park is a great for site for project visibility and community tie in.

**3) MUD 230 and HCFCD Drainage:**

- ~30 acres of planting space. Drainage bisects two properties.
- Drainage has no buffer leading directly into heavily sedimented part of Cypress Creek.
- West side of drainage is owned and maintained by MUD 230.
- It has several uncovered walking trails that have little to no vegetation.
- Trees can help cool down trails for users as well as cut down on mowing costs for MUD.
- The eastside of the drainage is owned by HCFCD.
- HCP4 is incorporating flood control property into a park.
- Opportunity for more HCP4 collaboration and community tie in.

**4) MUD 468 Detention:**

- ~25 acres of planting area.
- Output of residential and business park runoff.
- Focal point of site would be slowing drainage channel as it enters and exits detention area as well as slowing sediment entering into drainage channel within detention area.

**5) Mud 230 Drainage:**

- ~8 acres on planting area. Property may be in process of being bought out by HCFCD.
- Output of nearby residential runoff.
- Heavy sediment loading into Cypress Creek here.
- Trees would be useful for slowing of runoff as well as bank stability.

\*Sites 4 and 5 were given prioritization over the larger pool of potential sites, but one was not prioritized over another.

## **Houston Corporate Sustainability Reforestation Workgroup Notes**

*June 15, 2021;1:00 PM  
Microsoft Teams Meeting*

### **Participating**

Rose Belzung, Harris County Precinct 4  
Dr. Matthew Berg, Simfero Consultants  
Natalie Jones, Trees For Houston (TFH)  
Mac Martin, Texas A&M Forest Service  
Mickey Merritt, Texas A&M Forest Service  
Katherine Newton, Trees For Houston (TFH)  
Kelli Ondracek, City of Houston – Parks and Recreation

### **Meeting Notes**

- Mac Martin updated the group on the status of the Kuykendahl site. Workgroup (WG) agreed that given threat of becoming detention basin to move to another site and allocate resources elsewhere.
- HCFCD has a site north of the KMP that was recently clear cut to renovate drainage. They are putting in 1200 trees and offered any trees our partnership would want to add they would take care of all maintenance.
- A discussion was had on the proper spacing allowed for maintenance of a reforestation effort in the MUD 230 detention basin.
- Kelli Ondracek did test plots for her riparian restorations on the Sims Bayou for which practice is best for herbaceous competition (mowing, tilling, etc.). Mowing was found to be the most effective.
- WG agreed that trees will now have to be spaced at 10ft centers to allow mowing access to mitigate herbaceous competition.
- As that spacing will mean less trees on the MUD 230 site and more resources are available from Kuykendahl not being planted, seedlings were upgraded to 5 gallons.
- Natalie Jones brought up creating wildlife corridor along the MUD 468 detention basin outfall. WG agreed it was a great idea.
- Mac Martin will follow up with MUD 468 at the next board meeting on July 7.
- Kelli Ondracek and Matt Berg both emphasized the idea of using these initial plantings as a test sites to optimize planting and management practices for future similar sites.
- The group then broke into some preferred species discussion for riparian plantings. A base list was created for the purpose of modeling benefits, but will always be site specific and constantly updated.

**Base Riparian Species Planting List**

- Common Hackberry , *Celtis occidentalis*
- American Sycamore, *Platanus occidentalis*
- Loblolly Pine, *Pinus Taeda*
- Eastern Cottonwood, *Populus deltoides*
- Red Maple, *Acer rubrum*
- Water Oak, *Quercus nigra*
- American Elm, *Ulmus americana*
- Sweetgum, *Liquidambar styraciflua*
- Green Ash, *Fraxinus pennsylvanica*
- Southern Magnolia, *Magnolia grandiflora*

**Houston CSP**  
**Site Prep, Logistics and Outreach Committee Meeting**  
**Agenda**

August 18th, 2021  
1:00-2:00 PM

**I. Welcome and Introductions**

**II. H-E-B Funding – Water, Trash Bags, What Else?**

**III. Volunteer Planning and Needs**

- a) Registration for event to be housed on BLC website. When do we want it to active and for how long?
- b) Caterpillar Volunteers
- c) How Many Volunteers do we need to cap the registration
- d) Parking and site location Logistics – How many people at one time, different needs for different sites.
- e) What will volunteers need the day of? (Shovels, water, etc)

**IV. Tools Needed and Costs Remaining**

- a) What do we need?
- b) What do we have already?
- c) Cost totals for remaining needs (tree diapers, tree guards, mulch, tank watering, basin capable auger, etc)
  - P/S Mulch Prices?
  - Auger Necessary?
- d) Swag?

**V. Outreach**



**VI. Schedule a Site Visit**

**VII. Quick Announcement**

**VIII. Adjournment**

## CSP Site Prep and Logistics Workgroup Notes

*June 22, 2021; 2:00 PM  
Microsoft Teams Meeting*

### Participating

Justin Bower, Houston Galveston Area Council (H-GAC)  
Natalie Jones, Trees For Houston (TFH)  
Mac Martin, Texas A&M Forest Service  
Becky Martinez, Bayou Land Conservancy (BLC)  
Katherine Newton, Trees For Houston (TFH)

### Meeting Notes

- Mac Martin updated the group on the status of the Kuykendahl site. Workgroup (WG) agreed that given threat of becoming detention basin to move to another site and allocate resources elsewhere.
- Now planting 1175 5g trees on MUD 230 Detention Basin south of Kickerillo-Mischer Preserve at 10ft centers to allow mowing space between trees.
- HCFCFCD also has a site north of the KMP that was recently clear cut to renovate drainage. They are putting in 1200 trees and offered any trees our partnership would want to add, they would take care of all maintenance and watering.
- Planting date was discussed between pros and cons of December vs January.
- **Consensus to plant on Houston Arbor Day (Tentatively January 22,2022).**
- Mac Martin will follow up with HCFCFCD to see time of planting and if there are public tie-in opportunities for North KMP site.
- For staging, a plan was discussed to pre-dig holes beforehand and have 5-gallon trees set up next to holes. TFH is checking to see if their auger is suitable to get in and out of basin.
- A future point of discussion was the implementation of mulch and effectiveness in a detention basin after a rain event.
- Katherine Newton brought up the idea of creating checkpoints from KMP parking lot to planting site with different partner banners, tents handouts/swag at each checkpoint as marketing for each partner in the CSP.
- Precinct 4 previously mentioned a potential shuttle service from parking to site. WG discussed as an option for those who would have trouble walking (Small children, elderly, disabled, etc.).
- Group discussed the idea of creating a registration for the event to gauge number of volunteers/tools needed, and to begin collecting a volunteer database. Becky Martinez offered BLC website to house the link and form.
- TFH estimated three hours and 100-200 volunteers needed to finish planting within that window.

- Trees for Houston is converting an existing document into a google sheet with tools available and scalable cost projections for remaining needs or add-ons.
- BLC was approached by *One Tree Planted* about a smaller funding opportunity from Caterpillar to Houston area projects. Suggested applications for this project would be for mycorrhizal stimulant and/or tree guards.
- Becky Martinez is sharing the application in a google doc for WG to work on collaboratively and apply by end of month.

## McKinney Riparian Restoration Partnership

### Meeting Agenda

5/11/2021

#### Agenda Topics:

- McKinney floodplain ordinance
- Establish committees and priorities
- Estimated volunteer numbers
- Providing food

#### McKinney floodplain ordinance:

During recent discussions at the City McKinney about the project, the city drainage engineer pointed out that there's a city ordinance that prohibits the planting of trees in a floodplain except under certain conditions. He is modeling the floodplain using information provided by Mac. If there is not change to the floodplain, the City Engineer can approve planting the trees. Because we're not planting dense forest and because the city PAR and MPF will maintain undergrowth vegetation, we shouldn't expect modeling to show a difference. Communication is ongoing and we'll proceed with the plan while waiting on the drainage engineer's report. He indicated it would be complete by the end of the month. -

Resolved

#### Committees and Roles

Below is a list of subcommittees based on our kickoff meeting discussions. The proposed names are suggested to lead/colead the groups based on their affiliation and experience, though each group should decide how they will organize and operate. That said, the city should be represented in each as they will have key roles to play.

Five months until planting day! Suggest at least monthly subcommittee meetings and reporting up during monthly planning committee meetings which will be monthly. Any other ideas for other communication among the groups?

A Google Doc will be emailed for everyone to sign up for committees. Please sign up for as many as you have capacity for.

Planning Committee (David, Mac, Rick, Amesha, Martha)

- Responsible for oversight and coordination of the project
- Liaise and provide support to workgroups
- Host update meetings (Monthly with increasing frequency before the event)

PR/Marketing Subcommittee (Martha, Kathleen)

- Responsible for branding and cobranding with other organizations.
- Advertising
- Press interface
- Volunteer Coordination
- Video as decided
- Web site to put out registration page
- o signed waivers
- o Assign families, groups individuals to different areas/trees
- o T-shirt design

Site Prep Subcommittee (Marty, Mac, Adam, Spencer)

- Design and map staging area
- Determine location of holes and logistics of when to dig holes
- Ordering and planting native riparian grass
- Determine tools required and what's already available
- Pipeline coordination

Event (Planting Day) Subcommittee (Marty, Mac, Martha, Amesha, City Public Works, Rick, David)

- Estimate number of volunteers needed and length of event
- Create a schedule (press conference, planting demonstration, clean-up etc.)
- Pipeline Safety
- Stations (Water, first-aid, etc.)
- Logistics (Parking, Bathrooms, First-Aid, Trash, etc)

# ***McKinney Riparian Restoration Partnership***

## ***Meeting Agenda***

May 26, 2021

### **I. Welcome and Introductions**

### **II. Project Overview and Updates -David Cowan, Mac Martin and Rick Moreno**

### **III. Publicity Planning and Costs**

- a) Branding
- b) Marketing
- c) Logistics (Parking, Bathrooms, First-Aid, Trash, etc)

### **IV. Site Prep Planning and Costs**

- a) Timing of holes dug, staging of area, native riparian grass discussion
- b) Tools Required and what's already available
- c) Volunteers needed for staging?
- d) Potential Rain dates

### **V. Day of Planting Planning**

- e) Estimated time and number of volunteers
- f) Schedule (press conference, planting demonstration, clean-up etc.)
- g) Pipeline Safety
- h) Stations (Water, first-aid, etc.)

### **VI. Post Planting Maintenance**

### **VII. Adjournment**

# **Texas Forests and Drinking Water Partnership Agenda**

*February 23, 2022*

*1:00 PM*

*Microsoft Teams Teleconference*

- I. Introductions
  
- II. Southeastern Partnership for Forests and Water – Kathy Hawes
  
- III. Texas Forest and Drinking Water Partnership update
  - i. Education/Outreach
    - 1. Draft website layout
    - 2. TRWA Annual Meeting
  
  - ii. Coordination
    - 1. Texan by Nature Conservation Wrangler Program
  
  - iii. Conservation Projects
    - 1. Kickerillo-Mischer Preserve
  
  - iv. Spring In person Meeting
  
- IV. TWDB Regional Flood Planning Groups

## Texas Forests and Drinking Water Partnership Notes

*February 23, 2022; 2:00 PM  
Microsoft Teams Teleconference*

### Participating

Hughes Simpson, Texas A&M Forest Service  
Mac Martin, Texas A&M Forest Service  
Shane Harrington, Texas A&M Forest Service  
Cassidy Ince, Texas A&M Forest Service  
Venus Price, City of Houston  
Desta Takie, City of Houston  
Justin Bower Houston-Galveston Area Council  
Mary Anne Piacentini, Katy Prairie Conservancy  
Jenny Sanders, Texas Longleaf Team  
David Young, Texas Parks and Wildlife  
Robert Speight, North Texas Municipal Water District  
Brian Townsend, NRCS  
Robert Potts, USFS  
Ernest Cook, Land / Water Associates  
Rene Barelvas, ANRA

### Updates

- David Young gave a presentation on Regional Flood Planning Groups. He discussed, their timelines, how goals are being formed and the considerations being given to land management strategies. (Slides included in email).
- The Southeastern Partnership for Forests and Drinking Water conducted interviews for a new Coordinator to replace Kitty Weisman. New Coordinator is expected to start in Early 2022.
- An article was written for the Texas Rural Water Association Magazine (Quench) detailing the efforts and importance of the Partnership.
- The current issue of the TAWWA magazine ([Texas h2o](#)) focuses on Source Water Protection. Drew Molly, TAWWA Chair, wrote an article that included information on the importance of this partnership as well.
- The City of Houston is hiring a new Division Manager for their Sourcewater Protection team as part of their Drinking Water Operations. The job posting can be found [here](#).
- Several public and private organizations have come together to release 2.6 million dollars in grant funding for Urban Waters Restoration Programs. Proposals are due January 25<sup>th</sup>, 2022. [Apply here](#).



- Becky gave background into a potential Forest Legacy or Community Forest Program on a 360+ acre property in Kingwood near Lake Houston.
- Becky gave an update on the 800-acre Sherwood property that the brainstorming committee was interested in submitting to Forest Legacy. Sherwood is now under contract from another buyer and is likely to sell. Becky is following up with the landowner but has not heard anything back.
- Mac gave a quick update on the McKinney Tree planting project funded by Coors. It is set to be planted on November 6<sup>th</sup>.
- Daniel Nix gave a presentation on how the Farm Bill created sourcewater protection opportunities for Ag Producers like RCPP. He also spoke about how the Texas American Water Works Association (TAWWA) worked with the NRCS to create a HUC12 watershed prioritization map and how that map has been updated since its first iteration to include parameters such as sedimentation and drought. (Full presentation attached in email).
- Frank Davis talked about the nuance of writing RCPP applications and offered his experience to anyone look to submit an application.
- The partnership agreed to have one more meeting before the end of the year in early December.

7701 Legacy Drive Plano, Texas

In Parking lot:

9AM-1PM

## Texas Forests and Drinking Water Partnership Notes

February 23, 2022; 1:00 PM  
Microsoft Teams Teleconference

### Participating

Hughes Simpson, TAMFS	Brian Townsend, NRCS
Shane Harrington, TAMFS	Robert Potts, NFGT
Mac Martin, TAMFS	Bill Bartush, LMVJV
Cassidy Ince, TAMFS	Alice Best, TPWD
Venus Price, City of Houston	Amanda Haralson, Landowner
Rob Hughes, TFA	Mason Miller, TCEQ
Justin Bower, HGAC	Deborah McMullen, TRWA
Jenny Sanders, Texas Longleaf Team	Kathy Hawes, SE Partnership
David Young, TPWD	Ernest Cook, Land / Water Associates
Rober Speight, NETMWD	

### Updates

- Kathy Hawes was hired as the Coordinator for the [Southeastern Partnership for Forests and Water](#) and introduced to the Texas Partnership. To contact her, please email [info@southeasternpartnership.org](mailto:info@southeasternpartnership.org).
- An overview of the new Partnership website design was previewed.
- The Partnership was invited to present at the Texas Rural Water Association Annual Meeting in Round Rock on April 7.
- USDA Forest Service - Southern Research Station, Texas A&M University, and Texas A&M Forest Service are collaborating on a hydrology – land cover modeling project in the San Jacinto River Basin.
- The Longleaf Alliance has funding available to support longleaf pine restoration, enhancement, and conservation for projects with a drinking water connection.
- Mac Martin provided an update on the riparian restoration project at Houston's Kickerillo-Mischer Park. Several participating partners (TFS, BLC, H-GAC, COH) and numerous local stakeholders came together to plant over 6000 trees in an effort to protect the Cypress Creek Watershed.
- Alice Best shared TPWD's watershed management program focus.
- There was discussion on an annual in-person meeting hosted in conjunction with the Texas Longleaf Team in Fall 2022. Location and details still to be determined.
- There was discussion on establishing / restarting work groups to continue advancing the Partnership. A sign up form will be distributed.
- The next meeting is tentatively planned for April 2022. A doodle poll will be distributed to identify dates.

## Texas Forests and Drinking Water Partnership Notes

July 20, 2021; 10:00 AM

Zoom Teleconference

### Participating

Hughes Simpson, Texas A&M Forest Service (TAMFS)  
Mac Martin, Texas A&M Forest Service  
Shane Harrington, Texas A&M Forest Service  
Mason Miller, Texas Commission on Environmental Quality  
Becky Martinez, Bayou Land Conservancy  
Venus Price, City of Houston  
Justin Bower Houston-Galveston Area Council  
Frank Davis, Hill Country Alliance  
Mary Anne Piacentini, Katy Prairie Conservancy  
Daniel Nix, Texas American Water Works Association  
Jenny Sanders, Texas Longleaf Implementation Team  
David Young, Texas Parks and Wildlife

### Texas Partnership Notes - Action Items

- David Young agreed to present on the role of sourcewater protection in TWDB Regional Flood Planning Groups (RFPG), and how this partnership can become more involved with the RFPGs for our next meeting in December.
- Jenny Sanders will reach out to Lisa Lord about National Fish and Wildlife Foundation about submitted longleaf pine grant application.
- Mac and Becky will further explore options for Forest Legacy and Community Forest Program on Kingwood property.
- Partnership will explore scheduling of a large 1-2 day in-person meeting for Spring 22. Possibly in College Station.

### Updates

- Kitty Weisman and Hughes recorded a presentation for TCEQ's 2021 Online Public Drinking Water Conference. The video is about Southeastern and the Texas partnership, highlighting how they intersect with drinking water utility needs. It can be viewed [here](#). **This link will expire on 12/31/21**
- Kitty submitted an application to the National Fish and Wildlife Foundation for the Longleaf Restoration Initiative. Hughes and Jenny Sanders will follow up with Lisa Lord about next steps of the application.
- Hughes and Mac updated the group about development of a Texas Forests and Drinking Water Partnership logo and website. They are looking to have something to show group by December meeting.

- There was discussion on an annual in-person meeting to take place potentially in May of 2022. Location and details still to be determined.
- Justin Bower gave an update that H-GAC is offering staff support for conservation and nature-based elements of projects in their region. <https://www.h-gac.com/regional-conservation>
- Several participating partners (TFS, BLC, H-GAC, COH) and more local stakeholders are coming together to plant over 6000 trees in Houston's Kickerillo-Mischer Park. This is in an effort to protect the Cypress Creek Watershed. [Registration is open now](#) should anyone wish to attend or share the link.
- Texas A&M Forest Service is currently developing a website for the Texas Forests and Drinking Water Partnership.
- The next meeting is tentatively planned for February 2022. A doodle poll will be distributed in January to identify dates.

Date	Title of Meeting	Group
10/10/18	State Technical Wildlife Sub-committee	Committee Members
11/6/18	East Texas Roundtable Meeting	TFS District Staff
12/11/19	NRCS Zone 4 BMP Training & Agreement Coordination	NRCS & TFS staff
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12/5/19	UAS Training and Drone Proficiency Flight	TFS
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3/31/2020	NRCS Practice Code 338 review	TFS Staff
3/25/2020	Soil Management	Multiple Agencies, NGOs and Landowners
4/2/2020	RCPP-AFA Program	Multiple Agencies + NRCS

4/2/2020	INR Committee Meeting	Multiple Agencies + NGOs
4/3/2020	Southern Regional Extension Forestry Webinar Training	SREF
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12/8/2020	LiDar Vegetation Tree Canopy Height Review	HARC, TFS
12/10/2020	2020 Natural Resource Professionals Conference	TFS
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2/9/2021	Timber Tax workshop	Landowners, others
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April 2021	NRCS State Technical Committee Meeting	
April 2021	NRCS Water Resources Committee Meeting	
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7/8/2021	Healthy Trees Healthy Lives Partnership Meeting	TAMFS, COH-Public Health
7/12/2021	H-GAC Parks and Natural Areas Roundtable	Several Agencies and Orgs
7/14/2021	Terry Hershey Bayou Awards	Bayou Preservation Association
8/9/2021	Bayou Land Conservancy Monthly Lands Committee	BLC, TAMFS, Others
8/10/2021	Forest Legacy State Coordinators Meeting	USFS, TAMFS, Other State Agencies
2/28/2022	Urban Forest and Inventory Analysis Training	USFS
1/22/2022	Houston Arbor Day - Cypress Creek Watershed Planting	TAMFS, Trees For Houston, BLC, HGAC

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Belton	75	Lori
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Temple	11	Lori
Temple	400	Lori, Donna, Mac, Jeff, Thomas, Shane
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College Station	12	Jeff
College Station	8	Lori
Old Fort Parker	5	Lori
College Station	15	Lori
Zoom	8	Mac
Conference Call	12	Mac
Conference Call	3	Lori
Web	45	Lori
Web	65	Lori

**October 2018 - September 2021 - extension into 2022**

no agenda provided

Conference Call	8	Lori
Zoom	8	Mac
Conference Call	15	Mac
Zoom	8	Mac
Conference Call	13	Lori
Conference Call	21	Lori
Zoom	10	Mac
Conference Call	16	Jeff
Webinar	100	Lori
Webinar	100	Lori
Webinar	60	Lori
Conference Call	16	Jeff
Zoom	10	Mac
Google Hangouts	15	Mac
Conference Call	22	Jeff
Virtual	20+	Mac
SA Zoo	3	Mac
Conference Call	15	Lori
Virtual	4	Mac
Virtual	20	Mac
Virtual	8	Mac
Conference Call	6	Lori
Conference Call	14	Mac
Virtual	15	Mac
Conference Call	21	Mac
Conference Call	18	Lori
Conference Call	14	Mac
Virtual	2	Mac
Conference Call	9	Lori
SA Zoo	4	Mac
Conference Call	4	Lori
Virtual	20	Mac
Virtual	8	Mac
Virtual	20	Mac
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Conference Call	4	Lori
Zoom	200	Lori
Virtual	50	Lori
GCSNA	30	Jeff
Virtual	56	Lori
Virtual	6	Mac
Virtual	3	Mac
Online	?	Jeff, Donna, Sara, others?
Virtual	9	Mac
Virtual	10	Mac
Virtual	11	Mac
Zoom	50	Sarah
Virtual	25	Mac
Virtual	50	Mac, Donna, others?
Online	60	Jeff
Virtual	10	Mac
Virtual	6	Mac
		Jeff?
		Lori?
Liberty, TX	4	Mac
Virtual	8	Mac
Virtual	60	Mac
Virtual	22	Mac
Virtual	20	Mac
Virtual	20	Mac
Virtual	18	Mac
College Station	7	Mac
Virtual	20	Mac
Houston	25	Mac
	3	Mac
Virtual	8	Mac
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Zoom	8	Mac	
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Web	45	Lori	
Web	65	Lori	

Conference Call	8	Lori
Zoom	8	Mac
Conference Call	15	Mac
Zoom	8	Mac
Conference Call	13	Lori
Conference Call	21	Lori
Zoom	10	Mac
Conference Call	16	Jeff
Webinar	100	Lori
Webinar	100	Lori
Webinar	60	Lori
Conference Call	16	Jeff
Zoom	10	Mac
Google Hangouts	15	Mac
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Virtual	11	Mac
Zoom	50	Sarah
Virtual	25	Mac
Virtual	50	Mac, Donna, others?
Online	60	Jeff
Virtual	10	Mac
Virtual	6	Mac
		Jeff?
		Lori?
Liberty, TX	4	Mac
Virtual	8	Mac
Virtual	60	Mac
Virtual	22	Mac
Virtual	20	Mac
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College Station	7	Mac
Virtual	20	Mac
Houston	25	Mac
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Virtual	100	Mac
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10/29-30/18	Texas State Soil & Water Conservation Board Annual Mtg	Various
11/29/2018	Urban Stream Processes and Restoration Program	Various
12/5/2018	3rd Annual Hill Country Water Summit	Guadalupe Basin Coalition/GBRA
12/10/2018	Texas State BMP/Wetland Coordinating Committee	Coordinating Committee
12/17/2018	Watershed Protection Plan Implementation Course	TWRI
1/18/2019	Frio River Study Partner's Meeting	TPWD
1/31/2019	Watershed Coordinator's Roundtable	TSSWB/TWRI
2/12/2019	Staff Meeting	TFS Water Resources Program Staff
2/19/2019	Big Elm Creek Watershed Stakeholders Meeting	TWRI
2/27-3/1/2019	Urban Riparian Symposium	TRA
2019	TFS participated in a SGSF WRC webinar on erosion and sedimenta	SGST WRC
2019	SGSF Water Resources Committee Winter Meeting	SGSF WRC
3/1/2019	Urban Riparian Symposium	TRA; TFS; multiple
4/16/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
5/21/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
5/30/2019	Nolan Creek Watershed Protection Plan meeting	Stakeholders
6/14/2019	Texas Forest Landowners Council Meeting	Texas Forest Landowner Council
6/18/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
6/18/2019	Quarterly Meeting	SFI Implmentation Committee Meeting
7/1/2019	Water Resoucrs Staff Meeting	Water Resoucre Program TFS
8/6/2019	Watershed Coordinators Roundtable Meeting	Watershed Coordinators
8/7/2019	TWDB Flood Implementation Stakeholder Workshop	TWDB
8/13/2019	State Flood Planning Mtg	TWDB
9/24/2019	Quarterly Meeting	SFI Implmentation Committee Meeting
10/22/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
10/29-10/30/2019	Annual Mtg TSSWCB District Managers (set up booth for 8 hrs on k	TSSWCB
10/31/2019	i-tree (i-hydro webinar)	USFS
11/22/2019	Middle Neches Water Quality Meeting	TWRI
12/3/2019	River Road Riparian Restoration	SARA & USACE
12/13/2019	Water Resources Program Mtg	TFS
Januray 2020	Water Resources Committee meeting	Southern Group of State Foresters
3/23/2020	Board Meeting & Annual Meeting Planning	TRA

4/4/2020	Gavelston Bay Estuary Program Water Quality and Sedimentation	Multiple Agencies & NGOs
4/14/2020	Cypress Creek WPP I-Tree Hyrdo Trends Meeting	TFS, HGAC
4/15/2020	Intro to Watershed Modeling	TWRI
4/16/2020	Bacteria Implementation Group Stakeholder Session	TFS, HGAC
4/23/2020	Watershed Coordinators Meeting	TWRI
4/30/2020	Texas Flooding Challenges Webinar	Texas Water Journal
5/12/2020	NRCS Water Resources Meeting	Multiple Agencies & NGOs
5/20/2020	Joint Regulatory Plan Stakeholder Review	Harris-Galveston Subsidence District
5/28/2020	Annual Membership & Board Meeting	TRA
5/28/2020	Cypress Creek WPP Public Stakholder Meeting	HGAC, TCEQ
5/28/2020	Bacteria Implementation Group Meeting	HGAC, Multiple Agencies
6/1/2020	Spring Creek Watershed Protection Plan	TFS, HGAC
6/2/2020	Bacteria Implementation Group Public Meeting	Multiple Agencies & NGOs
6/4/2020	Principles of Riverscape Restoration	SER
6/4/2020	NRCS Source Water Protection & Farm Bill Funds	NRCS
6/9/2020	Source Water Protection Committee Meeting	Multiple Agencies & NGOs
6/10/2020	Gavelston Bay Estuary Program Water Quality and Sedimentation	Multiple Agencies & NGOs
6/10/2020	Texas Forest and Drinking Water Partnership	Southeastern Partnership for Forests and Dr
6/11/2020	“Trees Are the Answer: The Role of a Healthy Urban Canopy in an I	NCTCOG
6/18/2020	Texas Riparian Association Workday	TRA
6/22/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
6/23/2020	Big Creek Watershed Protection	H-GAC
6/30/2020	Oyster Creek Coordination Committee	H-GAC, TFS, Other agencies
7/1/2020	Kiolbassa Fish Kill Investigation - San Pedro Creek	SARA personnel
7/14/2020	Texas Forest and Drinking Water and Harris Galveston Subsidence	TFS,HGSD
7/21/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/22/2020	Geospatial Watershed Assessment	TFS
7/24/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/24/2020	F2D-Source Water Protection	Multiple Agencies
7/28/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/28/2020	Bacteria Implementation Group Agriculture Workgroup	H-GAC, TFS other agencies
7/29/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/29/2020	Spring Creek Watershed Partnership Meeting	H-GAC, TFS other agencies
7/30/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs

7/31/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
8/4/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
8/5/2020	How to Engage in Houston-area Flood Mitigation Webinar	National Wildlife Federation, Bayou City Wa
8/5/2020	Cypress Creek Watershed Protection Plan Meeting	H-GAC, TFS other agencies and Municipalitie
8/6/2020	Joint Meeting to discuss GLO Green Infrastructure grant proposal	TFS, HPARD, DWO Sourcewater Protection
8/6/2020	Texas Riparian Association Workday	TWRI, Agrilife, TFS, other agencies
8/6/2020	Urban Riparian Symposium Planning Meeting	TRA Planning Committee
8/10/2020	Tree Planting and Watershed Partnership Study	Harris County Flood Control, TFD
8/13/2020	Chocolate Bay TMDL Stakeholder Meeting	H-GAC, TFS other agencies
8/13/2020	San Jacinto Regional Watershed Master Drainage Plan	San Jacinto River Authority, other agencies
8/14/2020	Neches Tidal and Hillebrandt TMDL	Agrilife, TWRI,
8/14/2020	GLO Green Infrastructure Grant Conference Call	Harris County Precinct 1, TFS
8/19/2020	BMP/Wetlands Coordinating Committee	TFS, NRCS, Other agencies
8/20/2020	Cotton Bayou Watershed TMDL	H-GAC, other agencies
8/26/2020	Oyster Creek TMDL Meeting	H-GAC, other agencies
8/28/2020	Forest and Drinking Water Partnership	TFS, F&DWP, other agencies
9/1/2020	GLO Grant Stormwater Wetlands Site Visit	TFS, Harris County Precinct 1, HCFC
9/1/2020	Internal Cross-Training Planning Meeting	TFS, COH Sourcewater Protection
9/2/2020	Stream Corridor Restoration Committee Meeting	Bayou Preservation Association, TFS, other :
9/9/2020	Galveston Bay Estuary Program (GBEP) Water Quality and Sedimer	GPEB, TFS, other agencies
9/15/2020	GLO Grant Stormwater Wetlands Budget Discussion	TFS, HCP1
9/16/2020	Urban Forestry and Green Infrastructure in Schools	The Nature Conservancy, TFS
9/17/2020	Texas Riparian Association Board Workday	TRA
9/17/2020	Urban Riparian Symposium Planning Meeting - Virt Team	TRA Planning Committee
9/24/2020	Post Fire Treatments Efficacy & Stream sedimentation	Multiple Agencies & NGOs
9/29/2020	Assessing Watersheds/Firesheds for pre & post fire treatments	Multiple Agencies & NGOs
9/30/2020	Houston Galveston Subsidence District Joint Regulatory Plan Review	Houston Galveston Subsidence District
10/6-7/20	Restoring the West - Dryland Watersheds & Soil Erosion	Multiple Agencies & NGOs
10/7/2020	Rainscape Project Meeting	SMCS Officials & Other Partners
10/19/2020	TWRI & Partners	Attoyac Bayou Watershed - Riparian & Strea
10/21/2020	Watershed Coordinator Roundtable Mtg	Watershed Coordinators
10/21/2020	Rainscape Project Meeting	SMCS Officials & Other Partners
10/29/2020	Urban Riparian Symposium Planning Meeting - Virt Team	TRA Planning Committee
11/18/2020	NRCS Water Resources Subcommittee Mtg	Multiple Agencies & NGOs

11/30/2020	Tributaries of the Neches below Lake Palestine	Texas Water Resources Institute
12/1/2020	Bacteria Implementation Group Annual Meeting	HGAC, TFS, COH, BPA, Public Stakeholders ar
12/3/2020	Post Fire Water Impacts	Multiple Agencies & NGOs
12/4/2021	Riparian Restoration Partnership Meeting	TFS, Heard Nature Museum, Blackland Prair
12/7/2021	Riparian Species Selection Discussion	TFS
12/8/2020	San Antonio Area Watersheds - Riparian & Streams Ecosystems W	TWRI & Partners
12/9/2020	Water Sedimentation and Quality Committee	GBEP, TFS, TSSWCB, HGAC and others
12/10/2020	Joint Regulatory Plan Review Stakeholder Meeting	Houston-Gavleston Subsidence District
12/10/2020	Secret is in the Soil: Understanding the Critical Key to Water Mana	Davey Tree Company
12/10/2020	Spring Creek Watershed Protection Plan	HGAC, TFS, HCP4, BPA, BLC
12/11/2020	Riparian Restoration Partnership Meeting	TFS, NTMWD
1/5/2021	State Water Implementation Fund Presentation	TWDB
1/7/2021	Urban Riparian Symposium Abstract Reviews	TWRI, TFS, TPWD and others
1/11/2021	Lavon Lake Watershed Meeting	TFS, NTMWD, BEF
1/19/2021	Texas Forest and Drinking Water Partnership Meeting	TFS, Southeastern Partnership for Forests an
1/20 - 22/2021	3-day Advanced Urban Stream Restoration	TWRI
1/25/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF
1/27/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, City of McKinney, Heard Natu
1/28/2021	Clean Coast Texas	The Meadows Center for Water and the Env
1/28/2021	Clean Rivers Program Basin Steering Committee	HGAC
2/2/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD
2/8/2021	Sandy Creek	TWRI/TCEQ
2/8/2021	Spring Creek Watershed Protection Plan Human Sources Workgrou	HGAC, TFS, Other agencies
2/9/2021	Spring Creek WPP Forestry and Ag Workgroup	HGAC, TFS, TSSWCB other agencies
2/10-12/2021	Urban Riparian Symposium	TWRI & Partners
2/12/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD
Feb. 2021	Southern Group of State Foresters Water Resources Committee	TFS, others
3/2/2021	Spring Creek WPP Forestry and Ag Workgroup	HGAC, TFS, TSSWCB other agencies
3/5/2021	Houston Corporate Sustainability Meeting	TFS, BLC, COH DWO
3/9/2021	Texas Forest and Drinking Water Partnership Brainstorm Meeting	TFS, Southeastern Partnership for Forests an
3/10/2021	Benefits of Forests and Drinking Water Webinar	Association of State Drinking Water Adminis
3/12/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF
3/13/2021	McKinney Sourcewater Protection Project Site Visit	TFS, NTMWD, MPF, Heard Nature Museum,
3/18/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF, MPF



3/19/2021	Using Vegetation to Manage Stormwater and Protect Water Quality	Stormwater Journal
3/23/2021	Stakeholder Meeting	Upper San Marcos River PP
3/23/2021	Texas Forest and Drinking Water Partnership Brainstorm Meeting	TFS, Southeastern Partnership for Forests and
3/25/2021	Spring Creek WPP Forestry Review Meeting	HGAC, TFS
3/25/2021	Tributaries of the Neches River below Lake Palestine (Middle Nech	TWRI/TCEQ
3/31/2021	Healthy Creeks and Waterways: Vegetation and the Flow of Health	NTCCOG/Upper Trinity Water District
4/7/2021	NRCS Water Resources STAC	NRCS, TFS, TPWD, Other Water Districts
4/8/2021	San Jacinto Regional Flood Planning Group	TWDB, HCFCD other agencies
4/8/2021	Corporate Sustainability Partnership (CSP) Site Meeting W/	HCFCD TFS,HCFCD
4/9/2021	Houston CSP Partnership Meeting	TFS, Trees for Houston, BLC, COH Parks and
4/13/2021	Understanding 319 Grants Webinar	EPA
4/13/2021	Bonneville Environmental Foundation McKinney Meeting	TFS,NTMWD, BEF
4/15/2021	Catawamba-Wateree Initiative - A Case Study for Forests and Drink	Southeastern Partnership for Forests and W
4/20/2021	Texas Forests and Drinking Water Partners Meeting	TFS, SEPF&DW, AWWA,
4/20/2021	Intro to Base Level Engineering	TWDB
5/7/2021	Integrated Stormwater Management	NCTCOG, Other agencies
4/21/2021	2021 Central Texas Water Conservation Symposium	Central Texas Water Efficiency Network
4/22/2021	Texas Watershed Coordinator Roundtable	TWRI other water agencies
4/23/2021	Cypress Creek Site Evaluation	TFS, Cypress Creek Flood Coalition
4/23/2021	CSP Harris County Precinct 4 Discussion	TFS, HCP4
4/26/2021	McKinney Parks Foundation Agreement	TFS, NTMWD, McKinney Parks Foundation
4/28/2021	Houston CSP Financial and Logistics Meeting	TFS,Trees for Houston
5/3/2021	Investigating the Stormwater: Quantity and Quality Impacts of Urb	USFS
5/5/2021	McKinney CSP Restoration Meeting	TFS,NTMWD, BEF and others
5/7/2021	Detention Basin Study Watershed Modeling Meeting	TFS, HCP1, Houston Parks Board
5/12/2021	Alief ISD Early Childhood Center- Resilience Restoration	PBK, TNC, Trees for Houston TFS
5/12/2021	Houston CSP Site Visits	TFS,BLC H-GAC, HCP4, Simfero and more
5/13/2021	TMDL Wastewater Technical Subcommittee	NCTCOG, Other agencies
5/13/2021	Utilities in Action Webinar	Source Water Collaborative Forestry
5/14/2021	Houston CSP Site Visits	TFS,TFH,HCP4, COH DWO
5/18/2021	Multi-Use Detention Basins	TFS, Houston Arboretum
5/18/2021	Chocolate Bay TMDL Stakeholder Committee	HGAC
5/19/2021	Texas Tree Foundation Meeting for McKinney CSP	TTF,TFS
5/19/2021	Regional Stormwater Management Coordinating Council	NCTCOG

5/19/2021	Urban Prairie Resilience Project Convening	COH Mayors Office, TNC, Asakura Robinson
5/19/2021	Texas Watershed Quarterly Team Meeting	NRCS
5/20/2021	Rowlett Creek Watershed Characterization Meeting	Agrilife , NCTCOG other agencies
5/20/2021	Stream Corridor Restoration Committee Meeting	TFS, BPA, BLC, HCFCD, KPC
5/20/2021	Bacteria Implementation Group Coordination and Policy Workgroup	HGAC, TFS, BPA, COH, CEC
5/25/2021	CSP Houston Site Discussion with TFH	TFS,TFH
5/25/2021	Bacteria Implementation Group Spring Meeting	HGAC
5/26/2021	Kickoff Meeting for CSP McKinney	TFS,NTMWD, City of McKinney
5/26/2021	West Houston Association Meeting	TFS,HGAC, WHA
5/26/2021	Houston CSP Meeting	TFS
6/1/2021	Houston CSP HCFCD Meeting	TFS,HCFCD
6/2/2021	EPA Cypress Creek Canopy Estimation and Modeling discussion	TFS, EPA
6/2/2021	Clean Rivers Basin Steering Committee	HGAC
6/3/2021	SFI Implementation Committee meeting	SFI Implmentation Committee Meeting
6/4/2021	NRCS Water Resources STAC	NRCS, TFS, TPWD, Other Water Districts
6/7/2021	Middle Neches I-Plan Coordination Committee Meeting	Texas Water Resources Institute
6/9/2021	GBEP Water and Sedimentation Quality Subcommittee	GBEP, TSSWCB, Other agencies
6/10/2021	Texas Forests and Drinking Water Partners Meeting	TFS,SEPF&DW, Others
6/10/2021	Opportunities for Engagement with NRCS New NWQI Watersheds	NRCS
6/10/2021	Houston CSP Funding Meeting	TFS,BEF
6/11/2021	Flood Management Task Force	NCTCOG
6/11/2021	McKinney CSP Restoration Meeting	TFS,NTMWD, Otheres
6/15/2021	West Houston MUD Drainage Basin Discussion	TFS, TAMU Department of Landscape Archit
6/15/2021	Tree Planting Small Funding App Discussion	TFS,BLC
6/15/2021	Houston CSP Reforestation Workgroup Meeting	TFS,TFH, COH Parks, Simefero, HCP4
6/15/2021	Alief ISD Early Childhood Center- Resilience Restoration Site Visit	TFS, PBK,TFH, Green Star
6/22/2021	Houston CSP Site Prep and Logisitcs Meeting	TFS,TFH, BLC,HGAC
6/23/2021	NRCS Sourcewater Protection Taskforce Meeting	NRCS, TFS, TPWD, Other Water Districts
6/24/2021	TFS-Repsol Introductory Funding Meeting for CSP	TFS, Repsol
6/24/2021	Wastewater Permitting Discussion	TFS,NTMWD
6/29/2021	Zube Park Detention Basin GSI Site Visit	Houston Public Health, TFS, HGAC
6/30/2021	Stream Corridor Restoration Committee Meeting	TFS, BPA, BLC, HCFCD, KPC
7/1/2021	TMDL Coordination Committee	NCTCOG,TAMFS, Municipalities
7/1/2021	Pillot Gulley Planting Planning Meeting	TAMFS, HCFCD,Trees for Houston

7/2/2021	Buffalo Bend Tree Planting Site Inspection	TAMFS,TFH
7/2/2021	Wilson Creek Planning Committee Meeting	TAMFS,NTMWD,COM,MPF
7/5/2021	Microforest Basin Planting Discussion	TAMFS AJL Lindsay Environmental Engineeri
7/7/2021	Houston Corporate Sustainability Project Expansion into MUD 468	MUD 468 Board
7/8/2021	Texas Riparian Association Workday	TRA,TWRI, TAMFS,TRWD, Others
7/8/2021	Texas Forest and Drinking Water Partnership Houston Meeting	TAMFS, SEP, BLC,COH, Others
7/8/2021	Repsol Funding Meeting for future CSP Planting	TAMFS, Repsol
7/13/2021	Wastewater Treatment Education Roundtable	NCTCOG, Other agencies
7/13/2021	Cotton Bayou Watershed TMDL	H-GAC, TAMFS, TSSWCB, Others
7/15/2021	Assessing State of Knowledge and Research Needs for Stormwater	TCEQ
7/19/2021	Future Funding as Strategy Meeting for CSP	TAMFS, TFH
7/19/2021	Trees as Wastewater Treatment Introductory Meeting	TAMFS, Harris County Engineering
7/19/2021	CSP July Partnership Meeting	TAMFS, Others
7/20/2021	Texas Forest and Drinking Water State Meeting	TAMFS, SEP, Others
7/20/2021	Spring Creek Steering Committee Target Reduction Meeting	HGAC, TAMFS, TSSWCB, Others
7/21/2021	Regional Flood Management Committee	HGAC, TAMFS, Several Municipalities and W
7/21/2021	Wilson Creek Site Planning Call	TAMFS, NTMWD
7/23/2021	Zube Park Detention Basin Tree Evaluation and Planning	COH-PH, HCFCD, TAMFS
7/23/2021	Upper Oyster Creek TMDL Meeting	HGAC
7/27/2021	Intermediate/Advanced Dry Weather Workshop	NCTCOG
7/27/2021	Big Creek TMDL Stakeholder Meeting	HGAC, TCEQ, City of Richmond, TAMFS
7/28/2021	Wastewater Tree Planting Pilot Project Desgin	HCENG,TAMFS, TFH
7/29/2021	Wilson Creek Day of Planting Committee Meeting	TAMFS, NTMWD, COH, MPF
7/29/2021	Annual Elected Official and CRS Users Floodplain Seminar	NCTCOG
7/30/2021	Southeastern Partnership for Forests and Water Leadership meeting	
8/3/2021	Spring Creek Watershed Protection Plan Stakeholder Meeting	HGAC, TAMFS Others
8/3/2021	Aquatic plant planting / lake shore restoration at Lake Conroe	TPWD, SJRA, TMN, Bass Club, SHSU, TFS+Co
8/4/2021	Wilson Creek Site Prep Committee Meeting	TAMFS, NTMWD, COM, MPF
8/4/2021	Wilson Creek Site Visit Prep Meeting	TAMFS, NTMWD
8/5/2021	Wilson Creek Site Evaluation	TAMFS, NTMWD, COM, MPF, Heard Museu
8/6/2021	Pepsi-Frito Lay CSP Future Funding Meeting	TAMFS, Pepsi-Frito Lay
8/10-11/2021	TCEQ Online Public Drinking Water Conference	
8/11/2021	Stream Corridor Restoration Committee Meeting	BPA, BLC, COH-PH, KPC,TAMFS, HCFCD, COH
8/12/2021	Region 6 San Jacinto RFPG Meeting	TWDB Several agencies

8/12/2021	Pilot Gulley Planting Planning Meeting	TAMFS, HCFCF, TFH,HCP4
8/13/2021	Flood Management Task Force	NCTCOG,TAMFS, Municipalities
8/13/2021	Texan by Nature Introductory Meeting to Join TxWAC	TxN, TAMFS
8/16/2021	Houston CSP Funder Connector Meeting	TAMFS, BEF, TFH
8/17/2021	Upper Trinity River Basin Coordinating Committee	NCTCOG, TAMFS, Other Municipalities and \
8/18/2021	Regional Stormwater Management Coordinating Council	NCTCOG, TAMFS, Other Municipalities and \
8/18/2021	CSP Site Prep, Logistics and Outreach Committee Meeting	TAMFS, BLC, HCP4, HGAC, COH-SWP, TFH
8/19/2021	NRCS Sourcewater Protection Taskforce Meeting	TPWD, AWWA, NRCS, TAMFS, TRWD, Other
8/20/2021	Pepsi-Frito Lay CSP Future Funding Meeting	TAMFS, Pepsi-Frito Lay
8/23/2021	Region 6 San Jacinto RFPG Technical Committee Meeting	TWDB, HCFCF other agencies
8/24/2021	Wilson Creek Tree Planting Outreach Committee	TAMFS, NTMWD, MPF, COH
8/26/2021	Clean Waters Initiative Workshop	HGAC
8/27/2021	Wilson Creek Day of Planting Committee Meeting	TAMFS, NTMWD, MPF, COH
9/7/2021	Northeast Texas Conservation Delivery Network Field Day	TAMFS, ABC, TPWD, USFWS, LMVJV, ETX Na
2/16/2022	Lanana Bayou Watershed Protection Plan Meeting	TWRI
2/22/2022	Riparian and Stream Ecosystems	TWRI
2/23/2022	Texas Forest and Drinking Water Partnership	TAMFS
2/25/2022	Pro Loggers Training	TFA and TAMFS
3/3/2022	Clear Creek Watershed Partnership	HGAC
3/24/2022	Urban Riparian and Stream Restoration	TWRI
3/30/2022	HGAC Celebration of Conservation	HGAC

► **Note: These are meetings you attended but did not give a presentation.**

Location	Number of Attendees	Attended By
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**October 2018 - September 2021 - extension into 2022**

Lufkin	12	Lori
Ft. Worth	105	Lori
Belton	30	Lori
New Braunfels	75	Jeff
College Station	22	Jeff, Lori, Donna, Todd T., Shane
College Station	32	Jeff, Lori
San Marcos	13	Jeff
Waco	124	Jeff
College Station	6	All
Rogers	9	Lori
Grapevine	103	Jeff
Webinar	65	Hughes
Biloxi, MS	16	Hughes
Grapevine	102	Lori
Rogers	10	Lori
Rogers	17	Lori
Killeen	22	Lori
TFA, Lufkin	15	Thomas
Rogers	16	Lori
TFA, Lufkin	20	Thomas
College Station	7	Thomas, Lori, Mac, Shane, Donna
Dallas	63	Lori
Tyler	40	Thomas, Donna
Kerrville, TX	120	Jeff
TFA, Lufkin	20	Thomas
Rogers	10	Lori
San Antonio	510	Jeff <i>Put on Display Subtask 2.4</i>
Online	11	Jeff
Lufkin	22	Thomas
San Antonio	65	Jeff
College Station	8	Jeff, Lori, Mac, Shane, Hughes, Thomas, Donna, Sam
Auburn, Alabama	15	Hughes
Conference Call	11	Lori

Conference Call	27	Mac
Teams Meeting	3	Mac
WebEx Class	62	Lori, Jeff
Teams Meeting	2	Mac
Zoom Meeting	48	Lori, Mac, Shane
WebEx	33	Mac
Conference Call	15	Lori
GoToWebinar	34	Mac
Web Meeting	52	Lori, Donna, Mac, Jeff
GoToWebinar	42	Mac
GoToWebinar	18	Mac
Teams Meeting	3	Mac
GoToWebinar	43	Mac
WebEx Webinar	57	Lori
WebEx Webinar	58	Lori
Conference Call	15	Lori
Teams Meeting	26	Mac
Zoom Meeting	20+	Mac , Hughes, Shane
Webinar	60	Mac
Virtual	17	Mac
Conference Call	11	Lori
Virtual	16	Mac
Virtual	13	Mac
San Pedro Creek	5	Mac
Virtual	6	Mac
Conference Call	11	Lori
Conference Call	3	Lori
Conference Call	11	Lori
Conference Call	6	Lori
Conference Call	11	Lori
Virtual	12	Mac
Conference Call	11	Lori
Virtual	21	Mac
Conference Call	11	Lori

Conference Call	11	Lori
Conference Call	11	Lori
Virtual	22	Mac
Virtual	23	Mac
Virtual	3	Mac
Virtual	12	Mac
Conference Call	18	Lori
Virtual	12	Mac
Virtual	17	Mac
Virtual	15	Mac
Virtual	21	Mac
On Phone	2	Mac
Virtual	33	Mac, Shane, Hughes, Lori, Jeff, Sarah, Donna
Virtual	10	Mac
Virtual	11	Mac
Virtual	16	Mac
Tom Bass Regional Park	9	Mac
Virtual	3	Mac
Virtual	13	Mac
Virtual	23	Mac
Virtual	2	Mac
Virtual	3	Mac
Virtual	16	Mac
Conference Call	10	Lori
Conference Call	20	Lori
Conference Call	30	Lori
Virtual	21	Mac
Zoom	100	Lori
Conference Call	5	Lori
Virtual	31	Lori
Virtual	42	Lori
School Grounds	4	Lori
Conference Call	11	Lori
Conference Call	29	Lori

Zoom	12	Sarah, Donna
Virtual	40	Mac
Virtual	68	Lori
Virtual	4	Mac
Virtual	3	Mac
Virtual	30	Lori
Virtual	40	Mac
Virtual	50	Mac
Virtual	42	Mac
Virtual	12	Mac
Virtual	2	Mac
Virtual	13	Mac
Virtual	10	Mac
Virtual	3	Mac
Virtual	15	Mac
Online	15	Jeff
Virtual	3	Mac
Virtual	9	Mac
Virtual	10	Mac
Virtual	20	Mac
Virtual	2	Mac
Zoom	20	Sarah
Virtual	20	Mac
Virtual	10	Mac
Virtual	112	Lori, Mac, Donna, Jeff
Virtual	5	Mac
Virtual	15	Shane, Hughes(?)
Virtual	8	Mac
Virtual	3	Mac
Virtual	8	Mac
Virtual	50	Mac
Virtual	3	Mac
McKinney Greens	8	Mac
Virtual	4	Mac



Online	23	Jeff
Online	19	Jeff
Virtual	7	Mac
Virtual	2	Mac
Zoom	13	Donna
Virtual	186	Mac, Donna
Virtual	16	Mac
Virtual	22	Mac
Virtual	2	Mac
Virtual	13	Mac
Virtual	8	Mac
Virtual	3	Mac
Virtual	50	Mac
Virtual	20	Mac
Virtual	7	Mac
Virtual	25	Mac
Virtual	55	Mac
Virtual	50	Mac
Virtual	3	Mac
Virtual	4	Mac
Virtual	3	Mac
Virtual	3	Mac
Virtual	45	Mac
Virtual	10	Mac
Virtual	3	Mac
Virtual	10	Mac
Houston	6	Mac
Virtual	20	Mac
Virtual	50	Mac
Houston	7	Mac
Virtual	2	Mac
Virtual	15	Mac
Virtual	4	Mac
Virtual	10	Mac

Virtual	30	Mac
Virtual	20	Mac
Virtual	20	Mac
Virtual	10	Mac
Virtual	12	Mac
Virtual	3	Mac
Virtual	30	Mac
Virtual	18	Mac
Virtual	3	Mac
Virtual	14	Mac
Virtual	2	Mac
Virtual	2	Mac
Virtual	15	Mac
TFA, Lufkin; and virtual	20	Donna
Virtual	15	Mac
Virtual	7	Donna
Virtual	30	Mac
Virtual	10	Mac
Virtual	8	Mac
Virtual	2	Mac
Virtual	30	Mac
Virtual	17	Mac
Virtual	2	Mac
Virtual	2	Mac
Virtual	7	Mac
Alief, TX	7	Mac
Virtual	5	Mac
Virtual	8	Mac
Virtual	2	Mac
Virtual	2	Mac
Houston	5	Mac
Virtual	12	Mac
Virtual	15	Mac
Virtual	3	Mac

Houston,TX	4	Mac	
Virtual	6	Mac	
Virtual	2	Mac	
Virtual	15	Mac	This was kind of a presentation, but was done in the public speaking minutes. Not sure where it sh
Virtual	10	Mac	
Virtual	8	Mac	
Virtual	3	Mac	
Virtual	20	Mac	
Virtual	10	Mac	
Virtual	12	Mac	
Virtual	3	Mac	
Virtual	2	Mac	
Virtual	14	Mac	
Virtual	20	Mac	
Virtual	11	Mac	
Virtual	22	Mac	
Virtual	2	Mac	
Houston	6	Mac	
Virtual	10	Mac	
Virtual	20	Mac	
Virtual	20	Mac	
Virtual	4	Mac	
Virtual	5	Mac	
Virtual	60	Mac	
	65	Shane	
Virtual	20	Mac	
Stow-Away Marina, Willis	20	Donna	
Virtual	6	Mac	
McKinney Greens	2	Mac	
McKinney Greens	10	Mac	
Virtual	2	Mac	
Virtual	55	Shane	gave presentation? Not on Agenda.
Virtual	13	Mac	
Virtual	20	Mac	

Virtual	4	Mac
Virtual	20	Mac
Virtual	2	Mac
Virtual	3	Mac
Virtual	30	Mac
Virtual	20	Mac
Virtual	8	Mac
Virtual	10	Mac
Virtual	2	Mac
Virtual	15	Mac
Virtual	5	Mac
Virtual	25	Mac
Virtual	5	Mac
Overton	40	Donna
Nacogdoches	15	Tyler
La Marque, TX	20	Cassidy
Virtual	20	Cassidy
Lufkin, TX	30	Cassidy
Virtual	20	Cassidy
The Woodlands, TX	20	Cassidy
Houston, TX	30	Cassidy

Date	Title of Meeting	Group
10/3/2018	State Technical Forestry Sub-committee	Committee Members
10/29-30/18	Texas State Soil & Water Conservation Board Annual Mtg	Various
11/29/2018	Urban Stream Processes and Restoration Program	Various
12/5/2018	3rd Annual Hill Country Water Summit	Guadalupe Basin Coalition/GBRA
12/10/2018	Texas State BMP/Wetland Coordinating Committee	Coordinating Committee
12/17/2018	Watershed Protection Plan Implementation Course	TWRI
1/18/2019	Frio River Study Partner's Meeting	TPWD
1/31/2019	Watershed Coordinator's Roundtable	TSSWB/TWRI
2/12/2019	Staff Meeting	TFS Water Resources Program Staff
2/19/2019	Big Elm Creek Watershed Stakeholders Meeting	TWRI
2/27-3/1/2019	Urban Riparian Symposium	TRA
2019	TFS participated in a SGSF WRC webinar on erosion and sedimenta	SGST WRC
2019	SGSF Water Resources Committee Winter Meeting	SGSF WRC
3/1/2019	Urban Riparian Symposium	TRA; TFS; multiple
4/16/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
5/21/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
5/30/2019	Nolan Creek Watershed Protection Plan meeting	Stakeholders
6/14/2019	Texas Forest Landowners Council Meeting	Texas Forest Landowner Council
6/18/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
6/18/2019	Quarterly Meeting	SFI Implmentation Committee Meeting
7/1/2019	Water Resoucrs Staff Meeting	Water Resoucre Program TFS
8/6/2019	Watershed Coordinators Roundtable Meeting	Watershed Coordinators
8/7/2019	TWDB Flood Implementation Stakeholder Workshop	TWDB
8/13/2019	State Flood Planning Mtg	TWDB
9/24/2019	Quarterly Meeting	SFI Implmentation Committee Meeting
10/22/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
10/29-10/30/2019	Annual Mtg TSSWCB District Managers (set up booth for 8 hrs on k	TSSWCB
10/31/2019	i-tree (i-hydro webinar)	USFS
11/22/2019	Middle Neches Water Quality Meeting	TWRI
12/3/2019	River Road Riparian Restoration	SARA & USACE
12/13/2019	Water Resources Program Mtg	TFS
Januray 2020	Water Resources Committee meeting	Southern Group of State Foresters
3/23/2020	Board Meeting & Annual Meeting Planning	TRA

4/4/2020	Gavelston Bay Estuary Program Water Quality and Sedimentation	Multiple Agencies & NGOs
4/14/2020	Cypress Creek WPP I-Tree Hyrdo Trends Meeting	TFS, HGAC
4/15/2020	Intro to Watershed Modeling	TWRI
4/16/2020	Bacteria Implementation Group Stakeholder Session	TFS, HGAC
4/23/2020	Watershed Coordinators Meeting	TWRI
4/30/2020	Texas Flooding Challenges Webinar	Texas Water Journal
5/12/2020	NRCS Water Resources Meeting	Multiple Agencies & NGOs
5/20/2020	Joint Regulatory Plan Stakeholder Review	Harris-Galveston Subsidence District
5/28/2020	Annual Membership & Board Meeting	TRA
5/28/2020	Cypress Creek WPP Public Stakholder Meeting	HGAC, TCEQ
5/28/2020	Bacteria Implementation Group Meeting	HGAC, Multiple Agencies
6/1/2020	Spring Creek Watershed Protection Plan	TFS, HGAC
6/2/2020	Bacteria Implementation Group Public Meeting	Multiple Agencies & NGOs
6/4/2020	Principles of Riverscape Restoration	SER
6/4/2020	NRCS Source Water Protection & Farm Bill Funds	NRCS
6/9/2020	Source Water Protection Committee Meeting	Multiple Agencies & NGOs
6/10/2020	Gavelston Bay Estuary Program Water Quality and Sedimentation	Multiple Agencies & NGOs
6/10/2020	Texas Forest and Drinking Water Partnership	Southeastern Partnership for Forests and Dr
6/11/2020	“Trees Are the Answer: The Role of a Healthy Urban Canopy in an I	NCTCOG
6/18/2020	Texas Riparian Association Workday	TRA
6/22/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
6/23/2020	Big Creek Watershed Protection	H-GAC
6/30/2020	Oyster Creek Coordination Committee	H-GAC, TFS, Other agencies
7/1/2020	Kiolbassa Fish Kill Investigation - San Pedro Creek	SARA personnel
7/14/2020	Texas Forest and Drinking Water and Harris Galveston Subsidence	TFS,HGSD
7/21/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/22/2020	Geospatial Watershed Assessment	TFS
7/24/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/24/2020	F2D-Source Water Protection	Multiple Agencies
7/28/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/28/2020	Bacteria Implementation Group Agriculture Workgroup	H-GAC, TFS other agencies
7/29/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/29/2020	Spring Creek Watershed Partnership Meeting	H-GAC, TFS other agencies
7/30/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs

7/31/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
8/4/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
8/5/2020	How to Engage in Houston-area Flood Mitigation Webinar	National Wildlife Federation, Bayou City Wa
8/5/2020	Cypress Creek Watershed Protection Plan Meeting	H-GAC, TFS other agencies and Municipalitie
8/6/2020	Joint Meeting to discuss GLO Green Infrastructure grant proposal	TFS, HPARD, DWO Sourcewater Protection
8/6/2020	Texas Riparian Association Workday	TWRI, Agrilife, TFS, other agencies
8/6/2020	Urban Riparian Symposium Planning Meeting	TRA Planning Committee
8/10/2020	Tree Planting and Watershed Partnership Study	Harris County Flood Control, TFD
8/13/2020	Chocolate Bay TMDL Stakeholder Meeting	H-GAC, TFS other agencies
8/13/2020	San Jacinto Regional Watershed Master Drainage Plan	San Jacinto River Authority, other agencies
8/14/2020	Neches Tidal and Hillebrandt TMDL	Agrilife, TWRI,
8/14/2020	GLO Green Infrastructure Grant Conference Call	Harris County Precinct 1, TFS
8/19/2020	BMP/Wetlands Coordinating Committee	TFS, NRCS, Other agencies
8/20/2020	Cotton Bayou Watershed TMDL	H-GAC, other agencies
8/26/2020	Oyster Creek TMDL Meeting	H-GAC, other agencies
8/28/2020	Forest and Drinking Water Partnership	TFS, F&DWP, other agencies
9/1/2020	GLO Grant Stormwater Wetlands Site Visit	TFS, Harris County Precinct 1, HCFC
9/1/2020	Internal Cross-Training Planning Meeting	TFS, COH Sourcewater Protection
9/2/2020	Stream Corridor Restoration Committee Meeting	Bayou Preservation Association, TFS, other :
9/9/2020	Galveston Bay Estuary Program (GBEP) Water Quality and Sedimer	GPEB, TFS, other agencies
9/15/2020	GLO Grant Stormwater Wetlands Budget Discussion	TFS, HCP1
9/16/2020	Urban Forestry and Green Infrastructure in Schools	The Nature Conservancy, TFS
9/17/2020	Texas Riparian Association Board Workday	TRA
9/17/2020	Urban Riparian Symposium Planning Meeting - Virt Team	TRA Planning Committee
9/24/2020	Post Fire Treatments Efficacy & Stream sedimentation	Multiple Agencies & NGOs
9/29/2020	Assessing Watersheds/Firesheds for pre & post fire treatments	Multiple Agencies & NGOs
9/30/2020	Houston Galveston Subsidence District Joint Regulatory Plan Review	Houston Galveston Subsidence District
10/6-7/20	Restoring the West - Dryland Watersheds & Soil Erosion	Multiple Agencies & NGOs
10/7/2020	Rainscape Project Meeting	SMCS Officials & Other Partners
10/19/2020	TWRI & Partners	Attoyac Bayou Watershed - Riparian & Strea
10/21/2020	Watershed Coordinator Roundtable Mtg	Watershed Coordinators
10/21/2020	Rainscape Project Meeting	SMCS Officials & Other Partners
10/29/2020	Urban Riparian Symposium Planning Meeting - Virt Team	TRA Planning Committee
11/18/2020	NRCS Water Resources Subcommittee Mtg	Multiple Agencies & NGOs

11/30/2020	Tributaries of the Neches below Lake Palestine	Texas Water Resources Institute
12/1/2020	Bacteria Implementation Group Annual Meeting	HGAC, TFS, COH, BPA, Public Stakeholders ar
12/3/2020	Post Fire Water Impacts	Multiple Agencies & NGOs
12/4/2021	Riparian Restoration Partnership Meeting	TFS, Heard Nature Museum, Blackland Prair
12/7/2021	Riparian Species Selection Discussion	TFS
12/8/2020	San Antonio Area Watersheds - Riparian & Streams Ecosystems W	TWRI & Partners
12/9/2020	Water Sedimentation and Quality Committee	GBEP, TFS, TSSWCB, HGAC and others
12/10/2020	Joint Regulatory Plan Review Stakeholder Meeting	Houston-Gavleston Subsidence District
12/10/2020	Secret is in the Soil: Understanding the Critical Key to Water Mana	Davey Tree Company
12/10/2020	Spring Creek Watershed Protection Plan	HGAC, TFS, HCP4, BPA, BLC
12/11/2020	Riparian Restoration Partnership Meeting	TFS, NTMWD
1/5/2021	State Water Implementation Fund Presentation	TWDB
1/7/2021	Urban Riparian Symposium Abstract Reviews	TWRI, TFS, TPWD and others
1/11/2021	Lavon Lake Watershed Meeting	TFS, NTMWD, BEF
1/19/2021	Texas Forest and Drinking Water Partnership Meeting	TFS, Southeastern Partnership for Forests an
1/20 - 22/2021	3-day Advanced Urban Stream Restoration	TWRI
1/25/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF
1/27/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, City of McKinney, Heard Natu
1/28/2021	Clean Coast Texas	The Meadows Center for Water and the Env
1/28/2021	Clean Rivers Program Basin Steering Committee	HGAC
2/2/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD
2/8/2021	Sandy Creek	TWRI/TCEQ
2/8/2021	Spring Creek Watershed Protection Plan Human Sources Workgrou	HGAC, TFS, Other agencies
2/9/2021	Spring Creek WPP Forestry and Ag Workgroup	HGAC, TFS, TSSWCB other agencies
2/10-12/2021	Urban Riparian Symposium	TWRI & Partners
2/12/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD
Feb. 2021	Southern Group of State Foresters Water Resources Committee	TFS, others
3/2/2021	Spring Creek WPP Forestry and Ag Workgroup	HGAC, TFS, TSSWCB other agencies
3/5/2021	Houston Corporate Sustainability Meeting	TFS, BLC, COH DWO
3/9/2021	Texas Forest and Drinking Water Partnership Brainstorm Meeting	TFS, Southeastern Partnership for Forests an
3/10/2021	Benefits of Forests and Drinking Water Webinar	Association of State Drinking Water Adminis
3/12/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF
3/13/2021	McKinney Sourcewater Protection Project Site Visit	TFS, NTMWD, MPF, Heard Nature Museum,
3/18/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF, MPF



3/19/2021	Using Vegetation to Manage Stormwater and Protect Water Quality	Stormwater Journal
3/23/2021	Stakeholder Meeting	Upper San Marcos River PP
3/23/2021	Texas Forest and Drinking Water Partnership Brainstorm Meeting	TFS, Southeastern Partnership for Forests and
3/25/2021	Spring Creek WPP Forestry Review Meeting	HGAC, TFS
3/25/2021	Tributaries of the Neches River below Lake Palestine (Middle Nech	TWRI/TCEQ
3/31/2021	Healthy Creeks and Waterways: Vegetation and the Flow of Health	NTCCOG/Upper Trinity Water District
4/7/2021	NRCS Water Resources STAC	NRCS, TFS, TPWD, Other Water Districts
4/8/2021	San Jacinto Regional Flood Planning Group	TWDB, HCFCD other agencies
4/8/2021	Corporate Sustainability Partnership (CSP) Site Meeting W/	HCFCD TFS,HCFCD
4/9/2021	Houston CSP Partnership Meeting	TFS, Trees for Houston, BLC, COH Parks and
4/13/2021	Understanding 319 Grants Webinar	EPA
4/13/2021	Bonneville Environmental Foundation McKinney Meeting	TFS,NTMWD, BEF
4/15/2021	Catawamba-Wateree Initiative - A Case Study for Forests and Drink	Southeastern Partnership for Forests and W
4/20/2021	Texas Forests and Drinking Water Partners Meeting	TFS, SEPF&DW, AWWA,
4/20/2021	Intro to Base Level Engineering	TWDB
5/7/2021	Integrated Stormwater Management	NCTCOG, Other agencies
4/21/2021	2021 Central Texas Water Conservation Symposium	Central Texas Water Efficiency Network
4/22/2021	Texas Watershed Coordinator Roundtable	TWRI other water agencies
4/23/2021	Cypress Creek Site Evaluation	TFS, Cypress Creek Flood Coalition
4/23/2021	CSP Harris County Precinct 4 Discussion	TFS, HCP4
4/26/2021	McKinney Parks Foundation Agreement	TFS, NTMWD, McKinney Parks Foundation
4/28/2021	Houston CSP Financial and Logistics Meeting	TFS,Trees for Houston
5/3/2021	Investigating the Stormwater: Quantity and Quality Impacts of Urb	USFS
5/5/2021	McKinney CSP Restoration Meeting	TFS,NTMWD, BEF and others
5/7/2021	Detention Basin Study Watershed Modeling Meeting	TFS, HCP1, Houston Parks Board
5/12/2021	Alief ISD Early Childhood Center- Resilience Restoration	PBK, TNC, Trees for Houston TFS
5/12/2021	Houston CSP Site Visits	TFS,BLC H-GAC, HCP4, Simfero and more
5/13/2021	TMDL Wastewater Technical Subcommittee	NCTCOG, Other agencies
5/13/2021	Utilities in Action Webinar	Source Water Collaborative Forestry
5/14/2021	Houston CSP Site Visits	TFS,TFH,HCP4, COH DWO
5/18/2021	Multi-Use Detention Basins	TFS, Houston Arboretum
5/18/2021	Chocolate Bay TMDL Stakeholder Committee	HGAC
5/19/2021	Texas Tree Foundation Meeting for McKinny CSP	TTF,TFS
5/19/2021	Regional Stormwater Management Coordinating Council	NCTCOG

5/19/2021	Urban Prairie Resilience Project Convening	COH Mayors Office, TNC, Asakura Robinson
5/19/2021	Texas Watershed Quarterly Team Meeting	NRCS
5/20/2021	Rowlett Creek Watershed Characterization Meeting	Agrilife , NCTCOG other agencies
5/20/2021	Stream Corridor Restoration Committee Meeting	TFS, BPA, BLC, HCFCD, KPC
5/20/2021	Bacteria Implementation Group Coordination and Policy Workgroup	HGAC, TFS, BPA, COH, CEC
5/25/2021	CSP Houston Site Discussion with TFH	TFS,TFH
5/25/2021	Bacteria Implementation Group Spring Meeting	HGAC
5/26/2021	Kickoff Meeting for CSP McKinney	TFS,NTMWD, City of McKinney
5/26/2021	West Houston Association Meeting	TFS,HGAC, WHA
5/26/2021	Houston CSP Meeting	TFS
6/1/2021	Houston CSP HCFCD Meeting	TFS,HCFCD
6/2/2021	EPA Cypress Creek Canopy Estimation and Modeling discussion	TFS, EPA
6/2/2021	Clean Rivers Basin Steering Committee	HGAC
6/3/2021	SFI Implementation Committee meeting	SFI Implmentation Committee Meeting
6/4/2021	NRCS Water Resources STAC	NRCS, TFS, TPWD, Other Water Districts
6/7/2021	Middle Neches I-Plan Coordination Committee Meeting	Texas Water Resources Institute
6/9/2021	GBEP Water and Sedimentation Quality Subcommittee	GBEP, TSSWCB, Other agencies
6/10/2021	Texas Forests and Drinking Water Partners Meeting	TFS,SEPF&DW, Others
6/10/2021	Opportunities for Engagement with NRCS New NWQI Watersheds	NRCS
6/10/2021	Houston CSP Funding Meeting	TFS,BEF
6/11/2021	Flood Management Task Force	NCTCOG
6/11/2021	McKinney CSP Restoration Meeting	TFS,NTMWD, Otheres
6/15/2021	West Houston MUD Drainage Basin Discussion	TFS, TAMU Department of Landscape Archit
6/15/2021	Tree Planting Small Funding App Discussion	TFS,BLC
6/15/2021	Houston CSP Reforestation Workgroup Meeting	TFS,TFH, COH Parks, Simefero, HCP4
6/15/2021	Alief ISD Early Childhood Center- Resilience Restoration Site Visit	TFS, PBK,TFH, Green Star
6/22/2021	Houston CSP Site Prep and Logisitcs Meeting	TFS,TFH, BLC,HGAC
6/23/2021	NRCS Sourcewater Protection Taskforce Meeting	NRCS, TFS, TPWD, Other Water Districts
6/24/2021	TFS-Repsol Introductory Funding Meeting for CSP	TFS, Repsol
6/24/2021	Wastewater Permitting Discussion	TFS,NTMWD
6/29/2021	Zube Park Detention Basin GSI Site Visit	Houston Public Health, TFS, HGAC
6/30/2021	Stream Corridor Restoration Committee Meeting	TFS, BPA, BLC, HCFCD, KPC
7/1/2021	TMDL Coordination Committee	NCTCOG,TAMFS, Municipalities
7/1/2021	Pillot Gulley Planting Planning Meeting	TAMFS, HCFCD,Trees for Houston

7/2/2021	Buffalo Bend Tree Planting Site Inspection	TAMFS,TFH
7/2/2021	Wilson Creek Planning Committee Meeting	TAMFS,NTMWD,COM,MPF
7/5/2021	Microforest Basin Planting Discussion	TAMFS AJL Lindsay Environmental Engineeri
7/7/2021	Houston Corporate Sustainability Project Expansion into MUD 468	MUD 468 Board
7/8/2021	Texas Riparian Association Workday	TRA,TWRI, TAMFS,TRWD, Others
7/8/2021	Texas Forest and Drinking Water Partnership Houston Meeting	TAMFS, SEP, BLC,COH, Others
7/8/2021	Repsol Funding Meeting for future CSP Planting	TAMFS, Repsol
7/13/2021	Wastewater Treatment Education Roundtable	NCTCOG, Other agencies
7/13/2021	Cotton Bayou Watershed TMDL	H-GAC, TAMFS, TSSWCB, Others
7/15/2021	Assessing State of Knowledge and Research Needs for Stormwater	TCEQ
7/19/2021	Future Funding as Strategy Meeting for CSP	TAMFS, TFH
7/19/2021	Trees as Wastewater Treatment Introductory Meeting	TAMFS, Harris County Engineering
7/19/2021	CSP July Partnership Meeting	TAMFS, Others
7/20/2021	Texas Forest and Drinking Water State Meeting	TAMFS, SEP, Others
7/20/2021	Spring Creek Steering Committee Target Reduction Meeting	HGAC, TAMFS, TSSWCB, Others
7/21/2021	Regional Flood Management Committee	HGAC, TAMFS, Several Municipalities and W
7/21/2021	Wilson Creek Site Planning Call	TAMFS, NTMWD
7/23/2021	Zube Park Detention Basin Tree Evaluation and Planning	COH-PH, HCFCD, TAMFS
7/23/2021	Upper Oyster Creek TMDL Meeting	HGAC
7/27/2021	Intermediate/Advanced Dry Weather Workshop	NCTCOG
7/27/2021	Big Creek TMDL Stakeholder Meeting	HGAC, TCEQ, City of Richmond, TAMFS
7/28/2021	Wastewater Tree Planting Pilot Project Desgin	HCENG,TAMFS, TFH
7/29/2021	Wilson Creek Day of Planting Committee Meeting	TAMFS, NTMWD, COH, MPF
7/29/2021	Annual Elected Official and CRS Users Floodplain Seminar	NCTCOG
7/30/2021	Southeastern Partnership for Forests and Water Leadership meeting	
8/3/2021	Spring Creek Watershed Protection Plan Stakeholder Meeting	HGAC, TAMFS Others
8/3/2021	Aquatic plant planting / lake shore restoration at Lake Conroe	TPWD, SJRA, TMN, Bass Club, SHSU, TFS+Co
8/4/2021	Wilson Creek Site Prep Committee Meeting	TAMFS, NTMWD, COM, MPF
8/4/2021	Wilson Creek Site Visit Prep Meeting	TAMFS, NTMWD
8/5/2021	Wilson Creek Site Evaluation	TAMFS, NTMWD, COM, MPF, Heard Museu
8/6/2021	Pepsi-Frito Lay CSP Future Funding Meeting	TAMFS, Pepsi-Frito Lay
8/10-11/2021	TCEQ Online Public Drinking Water Conference	
8/11/2021	Stream Corridor Restoration Committee Meeting	BPA, BLC, COH-PH, KPC,TAMFS, HCFCD, COH
8/12/2021	Region 6 San Jacinto RFPG Meeting	TWDB Several agencies

8/12/2021	Pilot Gulley Planting Planning Meeting	TAMFS, HCFCD, TFH,HCP4
8/13/2021	Flood Management Task Force	NCTCOG,TAMFS, Municipalities
8/13/2021	Texan by Nature Introductory Meeting to Join TxWAC	TxN, TAMFS
8/16/2021	Houston CSP Funder Connector Meeting	TAMFS, BEF, TFH
8/17/2021	Upper Trinity River Basin Coordinating Committee	NCTCOG, TAMFS, Other Municipalities and \
8/18/2021	Regional Stormwater Management Coordinating Council	NCTCOG, TAMFS, Other Municipalities and \
8/18/2021	CSP Site Prep, Logistics and Outreach Committee Meeting	TAMFS, BLC, HCP4, HGAC, COH-SWP, TFH
8/19/2021	NRCS Sourcewater Protection Taskforce Meeting	TPWD, AWWA, NRCS, TAMFS, TRWD, Other
8/20/2021	Pepsi-Frito Lay CSP Future Funding Meeting	TAMFS, Pepsi-Frito Lay
8/23/2021	Region 6 San Jacinto RFPG Technical Committee Meeting	TWDB, HCFCD other agencies
8/24/2021	Wilson Creek Tree Planting Outreach Committee	TAMFS, NTMWD, MPF, COH
8/26/2021	Clean Waters Initiative Workshop	HGAC
8/27/2021	Wilson Creek Day of Planting Committee Meeting	TAMFS, NTMWD, MPF, COH
9/7/2021	Northeast Texas Conservation Delivery Network Field Day	TAMFS, ABC, TPWD, USFWS, LMVJV, ETX Na
2/16/2022	Lanana Bayou Watershed Protection Plan Meeting	TWRI
2/22/2022	Riparian and Stream Ecosystems	TWRI
2/23/2022	Texas Forest and Drinking Water Partnership	TAMFS
2/25/2022	Pro Loggers Training	TFA and TAMFS
3/3/2022	Clear Creek Watersehd Partnership	HGAC
3/24/2022	Urban Riparian and Stream Restoration	TWRI
3/30/2022	HGAC Celebration of Conservation	HGAC

► **Note: These are meetings you attended but did not give a presentation.**

Location	Number of Attendees	Attended By
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October 2018 - September 2021 - extension into 2022

Lufkin	12	Lori
Ft. Worth	105	Lori
Belton	30	Lori
New Braunfels	75	Jeff
College Station	22	Jeff, Lori, Donna, Todd T., Shane
College Station	32	Jeff, Lori
San Marcos	13	Jeff
Waco	124	Jeff
College Station	6	All
Rogers	9	Lori
Grapevine	103	Jeff
Webinar	65	Hughes
Biloxi, MS	16	Hughes
Grapevine	102	Lori
Rogers	10	Lori
Rogers	17	Lori
Killeen	22	Lori
TFA, Lufkin	15	Thomas
Rogers	16	Lori
TFA, Lufkin	20	Thomas
College Station	7	Thomas, Lori, Mac, Shane, Donna
Dallas	63	Lori
Tyler	40	Thomas, Donna
Kerrville, TX	120	Jeff
TFA, Lufkin	20	Thomas
Rogers	10	Lori
San Antonio	510	Jeff <i>Put on Display Subtask 2.4</i>
Online	11	Jeff
Lufkin	22	Thomas
San Antonio	65	Jeff
College Station	8	Jeff, Lori, Mac, Shane, Hughes, Thomas, Donna, Sam
Auburn, Alabama	15	Hughes
Conference Call	11	Lori

Conference Call	27	Mac
Teams Meeting	3	Mac
WebEx Class	62	Lori, Jeff
Teams Meeting	2	Mac
Zoom Meeting	48	Lori, Mac, Shane
WebEx	33	Mac
Conference Call	15	Lori
GoToWebinar	34	Mac
Web Meeting	52	Lori, Donna, Mac, Jeff
GoToWebinar	42	Mac
GoToWebinar	18	Mac
Teams Meeting	3	Mac
GoToWebinar	43	Mac
WebEx Webinar	57	Lori
WebEx Webinar	58	Lori
Conference Call	15	Lori
Teams Meeting	26	Mac
Zoom Meeting	20+	Mac , Hughes, Shane
Webinar	60	Mac
Virtual	17	Mac
Conference Call	11	Lori
Virtual	16	Mac
Virtual	13	Mac
San Pedro Creek	5	Mac
Virtual	6	Mac
Conference Call	11	Lori
Conference Call	3	Lori
Conference Call	11	Lori
Conference Call	6	Lori
Conference Call	11	Lori
Virtual	12	Mac
Conference Call	11	Lori
Virtual	21	Mac
Conference Call	11	Lori

Conference Call	11	Lori
Conference Call	11	Lori
Virtual	22	Mac
Virtual	23	Mac
Virtual	3	Mac
Virtual	12	Mac
Conference Call	18	Lori
Virtual	12	Mac
Virtual	17	Mac
Virtual	15	Mac
Virtual	21	Mac
On Phone	2	Mac
Virtual	33	Mac, Shane, Hughes, Lori, Jeff, Sarah, Donna
Virtual	10	Mac
Virtual	11	Mac
Virtual	16	Mac
Tom Bass Regional Park	9	Mac
Virtual	3	Mac
Virtual	13	Mac
Virtual	23	Mac
Virtual	2	Mac
Virtual	3	Mac
Virtual	16	Mac
Conference Call	10	Lori
Conference Call	20	Lori
Conference Call	30	Lori
Virtual	21	Mac
Zoom	100	Lori
Conference Call	5	Lori
Virtual	31	Lori
Virtual	42	Lori
School Grounds	4	Lori
Conference Call	11	Lori
Conference Call	29	Lori

Zoom	12	Sarah, Donna
Virtual	40	Mac
Virtual	68	Lori
Virtual	4	Mac
Virtual	3	Mac
Virtual	30	Lori
Virtual	40	Mac
Virtual	50	Mac
Virtual	42	Mac
Virtual	12	Mac
Virtual	2	Mac
Virtual	13	Mac
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Virtual	3	Mac
Virtual	15	Mac
Online	15	Jeff
Virtual	3	Mac
Virtual	9	Mac
Virtual	10	Mac
Virtual	20	Mac
Virtual	2	Mac
Zoom	20	Sarah
Virtual	20	Mac
Virtual	10	Mac
Virtual	112	Lori, Mac, Donna, Jeff
Virtual	5	Mac
Virtual	15	Shane, Hughes(?)
Virtual	8	Mac
Virtual	3	Mac
Virtual	8	Mac
Virtual	50	Mac
Virtual	3	Mac
McKinney Greens	8	Mac
Virtual	4	Mac



Online	23	Jeff
Online	19	Jeff
Virtual	7	Mac
Virtual	2	Mac
Zoom	13	Donna
Virtual	186	Mac, Donna
Virtual	16	Mac
Virtual	22	Mac
Virtual	2	Mac
Virtual	13	Mac
Virtual	8	Mac
Virtual	3	Mac
Virtual	50	Mac
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Virtual	7	Mac
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Virtual	20	Mac
Virtual	50	Mac
Houston	7	Mac
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TFA, Lufkin; and virtual	20	Donna
Virtual	15	Mac
Virtual	7	Donna
Virtual	30	Mac
Virtual	10	Mac
Virtual	8	Mac
Virtual	2	Mac
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Virtual	2	Mac
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Alief, TX	7	Mac
Virtual	5	Mac
Virtual	8	Mac
Virtual	2	Mac
Virtual	2	Mac
Houston	5	Mac
Virtual	12	Mac
Virtual	15	Mac
Virtual	3	Mac

Houston,TX	4	Mac	
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Virtual	15	Mac	This was kind of a presentation, but was done in the public speaking minutes. Not sure where it sh
Virtual	10	Mac	
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Houston	6	Mac	
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Virtual	20	Mac	
Virtual	20	Mac	
Virtual	4	Mac	
Virtual	5	Mac	
Virtual	60	Mac	
	65	Shane	
Virtual	20	Mac	
Stow-Away Marina, Willis	20	Donna	
Virtual	6	Mac	
McKinney Greens	2	Mac	
McKinney Greens	10	Mac	
Virtual	2	Mac	
Virtual	55	Shane	gave presentation? Not on Agenda.
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Virtual	10	Mac
Virtual	2	Mac
Virtual	15	Mac
Virtual	5	Mac
Virtual	25	Mac
Virtual	5	Mac
Overton	40	Donna
Nacogdoches	15	Tyler
La Marque, TX	20	Cassidy
Virtual	20	Cassidy
Lufkin, TX	30	Cassidy
Virtual	20	Cassidy
The Woodlands, TX	20	Cassidy
Houston, TX	30	Cassidy



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TEXAS A&M  
AGRI LIFE

# Middle Neches I-Plan Coordination Committee Meeting

Anna Gitter  
Texas Water Resources Institute  
June 7, 2021

1

## Housekeeping

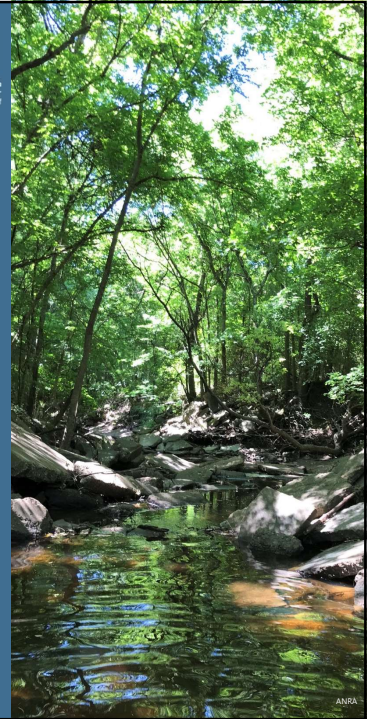
- Please sign in using the link to the webform (which will be posted in the chat box): <https://forms.gle/gY5xqPXCAWjAGBBV6>
- If you are having trouble with audio or sound, please try joining the meeting by phone instead.
- I encourage any questions, comments or suggestions during this meeting.

2

# Agenda

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- 1: Brief TSD and TMDL Update
- 2: Potential Management Measures
- 3: Discussion and Next Steps



3

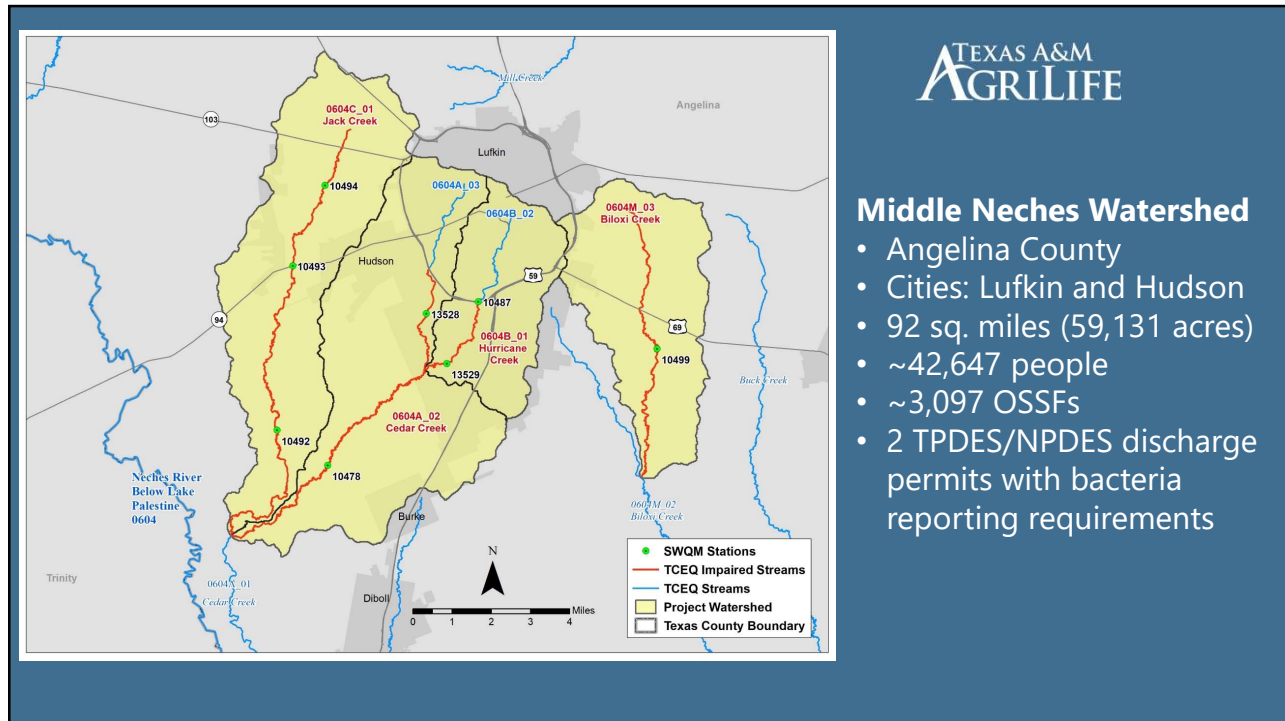


## TSD and TMDL

- The TSD is posted online for public review: [https://www.tceq.texas.gov/assets/public/water\\_quality/tmdl/118lufkin/118-as205-midneches-bacteria-tsd.pdf](https://www.tceq.texas.gov/assets/public/water_quality/tmdl/118lufkin/118-as205-midneches-bacteria-tsd.pdf)
- The draft TMDL is currently being reviewed by TCEQ.

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4



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**TEXAS A&M  
AGRI LIFE**

**Management Measures to address bacteria sources**

- Voluntary actions implemented by stakeholders that will result in direct or indirect pollutant load reductions
- Need to identify:
  - The actions
  - Implementation schedule
  - Needed technical and financial resources
  - Measurable milestones
  - Monitoring
  - Responsible entities
  - Anticipated pollutant load reduction

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## Indicator Bacteria Sources: Regulated and Unregulated

### Regulated Sources

- TPDES permitted point source discharges
  - Wastewater facilities: City of Hudson and City of Lufkin/Hurricane Creek WWTF
- Permitted stormwater
  - SSOs and Illicit discharges
  - Industrial stormwater
  - Construction sites

### Unregulated Sources

- Agriculture activities (non-CAFO)
- OSSFs (septic systems)
- Pets
- Wildlife

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## Potential Management Measures

8



# Livestock

Implement NRCS Conservation Plans and TSSWCB Water Quality Management Plans to install conservation practices that improve water quality. Promote education and outreach regarding benefits of management practices.



- Measurable Milestones
  - # of conservation plans and WQMPs developed
  - # of education/outreach programs delivered and materials developed
- Technical & Financial Assistance
  - Farm Bill Programs to install practices
  - NRCS and local SWCDs
- Responsible Entity
  - NRCS, TSSWCB, Upper Neches SWCD, Local Stakeholders

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Practice	NRCS Code	Focus Area or Benefit
Fencing	382	Livestock, Water Quality
Filter Strips	393	Livestock, Water Quality, Wildlife
Heavy Use Area Protection	562	Livestock, Water Quality, WaterQuantity
Pond	378	Livestock, Water Quality, WaterQuantity, Wildlife
Prescribed Burning	338	Livestock, Water Quality, Wildlife
Prescribed Grazing	528	Livestock, Water Quality, Wildlife
Range/Pasture Planting	550/512	Livestock, Water Quality, Wildlife
Shade Structure	NA	Livestock, Water Quality, Wildlife
Stream Crossing	578	Livestock, Water Quality
Supplemental Feeding Locations	NA	Livestock, Water Quality
Water Well	642	Livestock, Water Quantity, Wildlife
Watering Facility	614	Livestock, Water Quantity

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## Promoting Sustainable Forestry Practices

Texas A&M Forest Service provides technical assistance to forestry owners and operators for selecting, installing, and operating best management practices.



- Measurable Milestones
  - Development and delivery of education and outreach programs in the watershed
- Technical & Financial Assistance
  - TAMU Forest Service provides technical assistance as requested
  - NRCS provides cost shares through Farm Bill Programs for implementation of BMPs
- Responsible Entity
  - NRCS, TSSWCB, TFS, Local Stakeholders, Upper Neches SWCD

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## Feral Hog Management and Control

Feral hog management extension programs as well as trapping assistance practices (panels, gates, installation)



- Measurable Milestones
  - # of events held and # of individuals reached
  - Feral hog program grants secured
- Technical & Financial Assistance
  - Mix of local, state, and/or federal funds
  - Workshop costs covered by registration fees and sponsorships
  - TAMU AgriLife Extension Service provides technical assistance
- Responsible Entity
  - Texas A&M AgriLife Extension, TPWD, Local Stakeholders

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## Reducing SSOs and Unauthorized Discharges

To maintain and replace watershed infrastructure overtime, including maintaining the SSO Initiative program, sewer line inspections, and replacement of equipment.



- Measurable Milestones
  - # of entities participating in the TCEQ SSO Initiative
  - Length of sewer lines and # of manholes inspected, repaired, and replaced
  - # of call received by the City's 311
  - Delivery of education and outreach to staff and local community
- Technical & Financial Assistance
  - Participation is ongoing and funded through local dollars; costs vary on system size and performance
  - TCEQ Small Business and Environmental Assistance Division
- Responsible Entity
  - City of Lufkin, City of Hudson, other eligible entities in the SSO initiatives

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## Ordinances

Continued implementation of city ordinances to manage stormwater and prevent bacteria pollution of waterways.



Image Credit: Michigan Radio (<https://www.michiganradio.org/post/detroit-s-controversial-damage-fee-and-michigan-s-struggles-fund-stormwater-infrastructure>)

- Measurable Milestones
  - Continued implementation and enforcement of city ordinances
  - Documented # of amended and new ordinances developed
- Technical & Financial Assistance
  - Participation is ongoing and funded through local dollars
  - TCEQ Small Business and Environmental Assistance Division
- Responsible Entity
  - City of Lufkin, City of Hudson, businesses and private property owners

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## Education and Outreach #1: Volunteer Water Quality Monitoring

Volunteer water quality monitoring from the Texas Stream Team



- Measurable Milestones
  - Establishment and continuation of a local monitoring chapter or group of volunteers
  - # of actively monitored sites
- Technical & Financial Assistance
  - Local certified trainers at ANRA
  - Purchasing test kits (\$600) and funding for training events
  - Texas Stream Team provides statewide technical assistance through training programs, QA/QC, and database
- Responsible Entity
  - ANRA

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## Education and Outreach #2: CRP

Continuing the Clean Rivers Program and involvement of stakeholders



- Measurable Milestones
  - #of stakeholders engaged
  - # of steering committee meeting attendees
- Technical & Financial Assistance
  - CRP is an ongoing program that does not require additional support
- Responsible Entity
  - ANRA, TCEQ

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## Education and Outreach #3: Education to address F.O.G. and Illegal Dumping

Implement and continue education and outreach to homeowners and local community regarding the environmental impacts of fats, oils and greases and illegal dumping in sewer lines.

- Measurable Milestones
  - # of materials distributed
  - Development and maintenance of informational website
  - Educational events for schools
- Technical & Financial Assistance
  - City and County staff
  - TCEQ
  - State CWA §319(h) Grants (TCEQ/TSSWCB)
- Responsible Entity
  - City of Lufkin and City of Hudson

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# Thoughts? Questions?

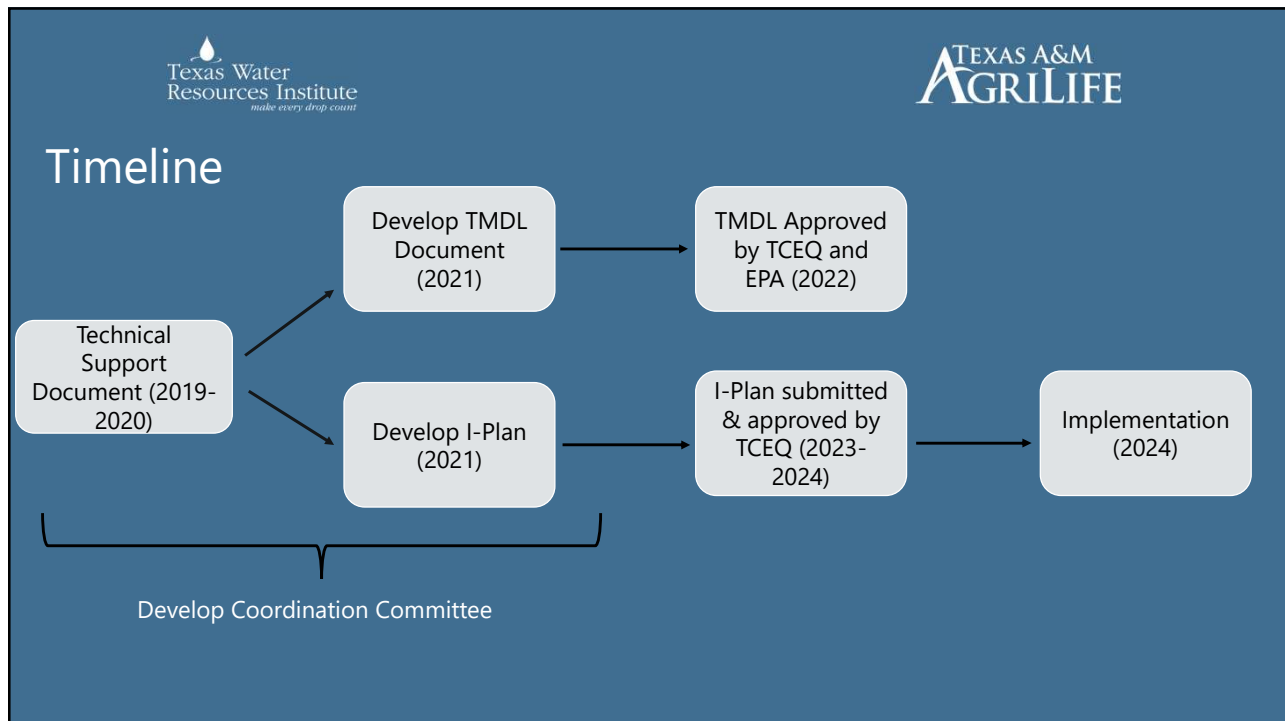
18



# Next Steps



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## Next Steps

- Further develop and document management measures
  - Begin calculating approximate load reductions
- Distribute draft of measures to committee members
- Next Meeting:
  - Review management measures
  - Begin identifying implementation schedule
- Any other topics to discuss next meeting?


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## Thank You!

Project Websites:

<https://twri.tamu.edu/our-work/restoring-protecting/neches-river-basin/middle-neches-river-tributaries/>

<https://www.tceq.texas.gov/waterquality/tmdl/nav/118-lufkinwatersheds-bacteria>

Anna Gitter – [anna.gitter@ag.tamu.edu](mailto:anna.gitter@ag.tamu.edu)

Lucas Gregory – [lfgregory@ag.tamu.edu](mailto:lfgregory@ag.tamu.edu)

Carla Ethridge – [cethridge@anra.org](mailto:cethridge@anra.org)

Tim Cawthon – [tim.cawthon@tceq.texas.gov](mailto:tim.cawthon@tceq.texas.gov)

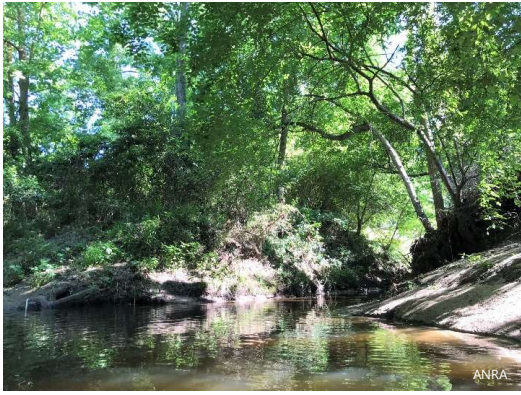
Nicole Reed – [nicole.reed@tceq.texas.gov](mailto:nicole.reed@tceq.texas.gov)

22

# Tributaries of the Neches River below Lake Palestine I-Plan Meeting

Anna Gitter  
Lucas Gregory  
Texas Water Resources Institute

March 25, 2021





## Online Meeting Housekeeping:

- 1) Please mute your microphones.
- 2) If you have questions, please use the chat box and our moderator will help make sure your question is addressed.
- 3) Please sign in using our web form. The link will be posted in the chat box and you will need to copy and paste the link into your web browser.

# Project Team

Anna Gitter- Project Manager, Texas Water Resources Institute (TWRI)

Lucas Gregory- Assistant Director, Texas Water Resources Institute (TWRI)

Carla Ethridge- Angelina & Neches River Authority (ANRA)

Nicole Reed- Texas Commission on Environmental Quality (TCEQ) TMDL Program

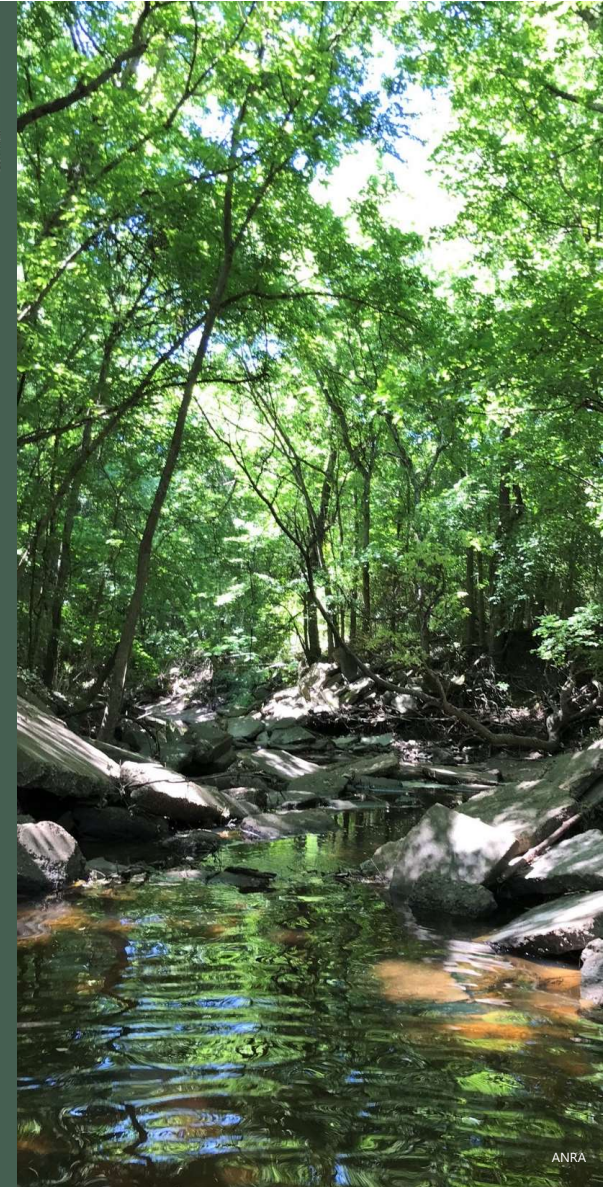
Tim Cawthon- TCEQ TMDL Program

\*\*\*If you are interested in being on the coordination committee or planning workgroups, please let me know or indicate on the web form when signing in.

# Agenda



- 1: Brief Review of November 2020 Meeting
- 2: I-Plan Overview
- 3: Stakeholder Involvement
- 4: Next Steps and Timeline

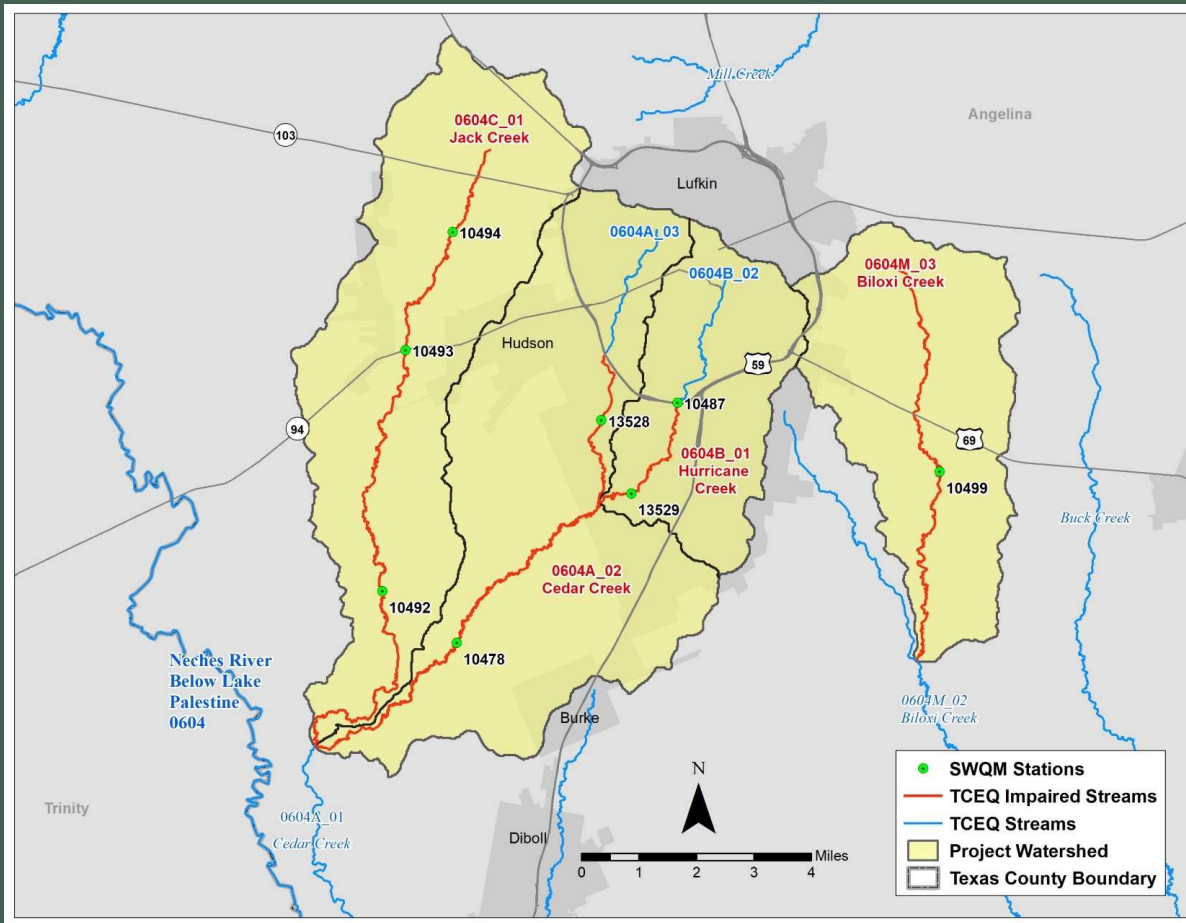




# November 2020 Meeting

- Discussed findings from the Technical Support Document
- Take Home Message from TSD:
  - Bacteria impairments in Cedar, Hurricane, Jack and Biloxi Creeks
  - Greatest exceedances occur under high-flow, moist and mid-range flow conditions
  - Elevated loadings under high flow and moist conditions likely associated with stormwater and runoff from nonpoint sources
  - Failing OSSFs can be a potential bacteria source under any flow condition
  - High-flow related loadings likely influenced by unregulated stormwater
- Technical work from TSD goes into the TMDL

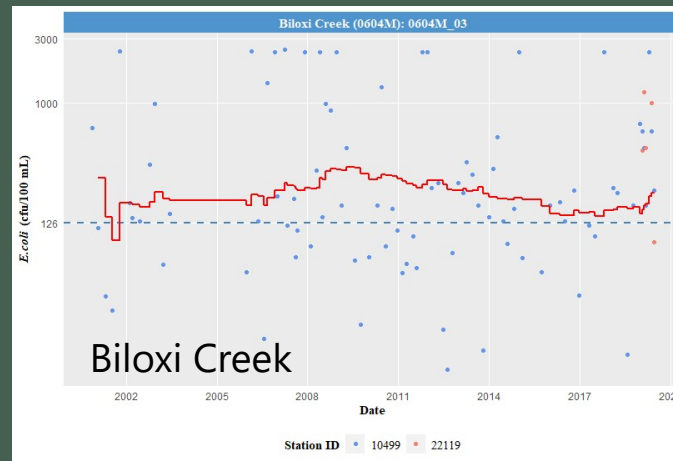
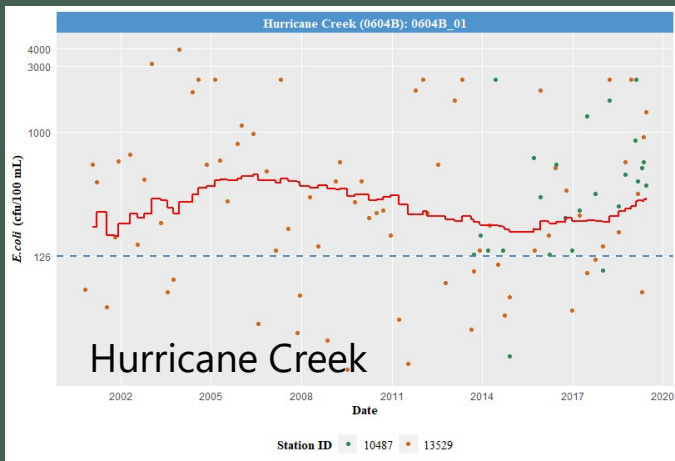
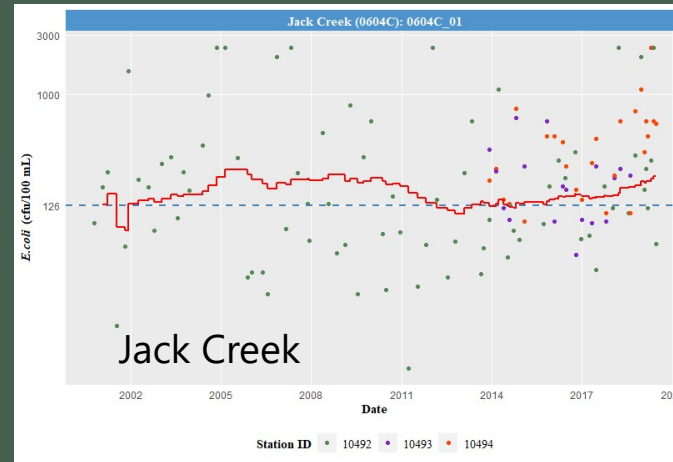
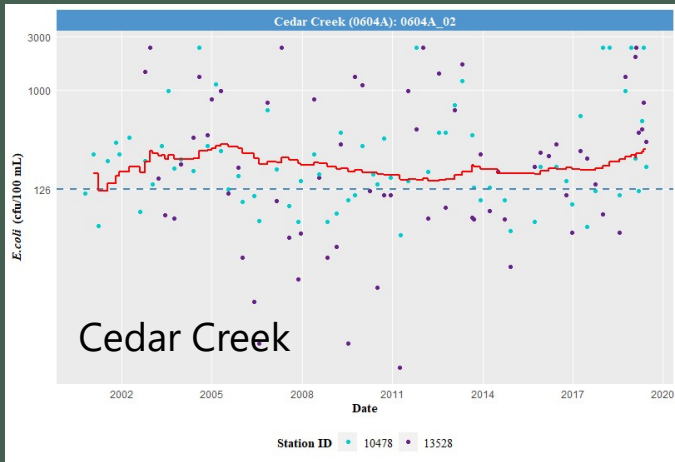




## Middle Neches Watershed

- **Impairments:**
  - Cedar Creek (0604A)
    - Impaired AU: 0604A\_02
  - Hurricane Creek (0604B)
    - Impaired AU: 0604B\_01
  - Jack Creek (0604C)
    - Impaired AU: 0604C\_01
  - Biloxi Creek (0604M)
    - Impaired AU: 0604M\_03

# Indicator Bacteria Data



Cedar Creek	291.49 cfu/100mL
Hurricane Creek	276.16 cfu/100mL
Jack Creek	185.35 cfu/100mL
Biloxi Creek	152.24 cfu/100mL

TCEQ. 2020. 2020 Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d) . URL: <https://www.tceq.texas.gov/waterquality/assessment/20twqj/20txir>

# Percent Reductions

AU/ SWQM Station	Flow Regime	Median Flow (cfs)	Geometric Mean (cfu/100mL)	Existing Load (Billion cfu/Day)	Allowable Load (Billion cfu/Day)	Percent Reduction Required (%)
<b>0604A_02/</b>	High Flows	154.66	1,983.64	7,505.92	476.77	94
<b>10478</b>	Moist Conditions	33.20	325.24	264.20	102.35	61
	Mid-Range Flows	26.11	227.02	145.03	80.50	44
	Dry Conditions	23.75	163.87	95.21	73.21	23
	Low Flows	22.37	218.57	119.62	68.95	42
<b>0604B_01/</b>	High Flows	52.61	2,400.00	3,089.09	162.18	95
<b>13529</b>	Moist Conditions	8.41	525.63	108.18	25.93	76
	Mid-Range Flows	6.10	325.32	48.58	18.82	61
	Dry Conditions	5.30	192.84	24.99	16.83	35
	Low Flows	4.81	105.74	12.45	14.84	NA
<b>0604C_01/</b>	High Flows	92.89	2,400.00	5,454.38	286.36	95
<b>10492</b>	Moist Conditions	9.22	342.63	77.31	28.43	63
	Mid-Range Flows	4.53	203.10	22.53	13.98	38
	Dry Conditions	2.94	77.67	5.59	9.07	NA
	Low Flows	2.01	52.82	2.59	6.19	NA
<b>0604M_03/</b>	High Flows	49.20	213.72	257.26	151.67	41
<b>10499</b>	Moist Conditions	3.92	438.15	42.00	12.08	71
	Mid-Range Flows	1.35	207.74	6.85	4.16	39
	Dry Conditions	0.72	188.14	3.34	2.23	33
	Low Flows	0.21	61.53	0.32	0.66	NA



# I-Plan Development



## I-Plan

- The TMDL I-Plan is a document that outlines the steps and schedule for reducing a pollutant load in a waterbody covered by a TMDL.
  - The four impaired tributaries will be covered by one TMDL and one I-Plan.
- Stakeholders develop the management measures and control actions described in the I-Plan.
  - Outlines the schedule for implementation activities
- I-Plans address the pollutant of concern in the TMDL.
- I-Plans do not require EPA approval.
- The I-Plan is designed as a guide for activities that will help achieve water quality goals for Cedar, Hurricane, Jack and Biloxi Creeks.

## I-Plan Components

- A. Identification of causes and sources
- B. Estimate of load reductions to achieve water quality goals
- C. Description of management measures
- D. Estimate of technical and financial assistance needed
- E. Education and outreach
- F. Implementation schedule
- G. Interim, measurable milestones
- H. Indicators of progress toward load reduction goals
- I. Monitoring for effectiveness



Approved January 24, 2018

### Implementation Plan for One Total Maximum Daily Load for Indicator Bacteria in Tres Palacios Creek Tidal

Segment 1501  
Assessment Unit 1501\_01

Tres Palacios Creek Watershed Stakeholder Group and Texas Water Resources Institute

With support from:  
Water Quality Planning Division, Office of Water  
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



Approved December 11, 2013

### Implementation Plan for Seventeen Total Maximum Daily Loads for Bacteria in the Greater Trinity River Region

Upper Trinity River  
Segment 0805  
Assessment Units 0805\_03 and 0805\_04

Cottonwood Branch and Grapevine Creek  
Segments 0822A and 0822B  
Assessment Units 0822A\_02 and 0822B\_01

Lower West Fork Trinity River  
Segments 0841, 0841B, 0841C, 0841E, 0841G, 0841H, 0841J, 0841L, 0841M, 0841R, 0841T, and 0841U  
Assessment Units 0841\_01, 0841\_02, 0841B\_01, 0841C\_01, 0841E\_01, 0841G\_01, 0841H\_01, 0841J\_01, 0841L\_01, 0841M\_01, 0841R\_01, 0841T\_01, and 0841U\_01

Prepared by the:  
Environment and Development Department  
North Central Texas Council of Governments



Approved August 22, 2012

THE STATE OF TEXAS  
COUNTY OF TRAVIS  
I hereby certify that this is a true and correct copy of a Texas Commission on Environmental Quality document, which is filed in the permanent records of the Commission. Given under my hand and the seal of office on  
*Bridget C. Blotac* AUG 29 2012  
Bridget C. Blotac, Chief Clerk  
Texas Commission on Environmental Quality

### Implementation Plan for Three Total Maximum Daily Loads for Indicator Bacteria in the Carters Creek Watershed

Segments 1209C, 1209D, 1209L  
Assessment Units 1209C\_01, 1209D\_01, 1209L\_01

Water Quality Planning Division, Office of Water  
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

# Examples from Previous I-Plans

- Management Measures
  - Coordinating and expanding existing water quality monitoring in the watershed
  - Development and Implementation of Pet Waste Programs
  - Installation of Urban Best Management Practices
  - Reduction of Illicit Dumping and Proper Disposal of Animal Carcasses
  - Removal and Management of Feral Hogs

# Example Management Measure #1

**Table 21. Management Measure 6:**

Potential locations for urban stormwater BMPs will be identified by working with local community representatives. Education and outreach will be used to teach residents about BMPs that can be used on their own properties and how they reduce bacteria pollution in the Tres Palacios Creek watershed.

Potential Load Reduction	Technical and Financial Assistance Needed	Education Component	Schedule of Implementation	Interim, Measurable Milestones	Indicators of Progress	Monitoring Component	Responsible Entity
1.74×10 <sup>10</sup> cfu/year	<b>Technical Assistance</b> TCEQ Region 12 City of El Campo <b>Financial Assistance</b> Clean Water State Revolving Fund Environmental Education Grants State CWA §319(h) Grants (TCEQ) Urban Small Water Grants	An education and outreach program is needed to broadly promote the adoption of BMPs by area residents and property owners.	<b>Years 1-5</b> Identify, plan, and prioritize areas for urban BMP stormwater demonstration projects (capture 50 acres over the course of the five years); plan and construct urban BMP stormwater projects to capture 50 acres as funding allows; deliver education and outreach programs to area residents and property owners	The number of urban stormwater BMPs adopted  The number of educational programs delivered  The number of individuals reached through educational activities	<b>Year 1:</b> Development and submittal of proposal to fund urban stormwater education components and planning activities  <b>Year 2:</b> Funding secured for education and planning activities  <b>Years 3-5:</b> Number of stormwater BMPs installed and acres treated if BMP installation is determined feasible; number of educational materials delivered	TCEQ CRP  City of El Campo	Watershed coordinator  City of El Campo  AgriLife Extension

TCEQ. 2018. Implementation Plan for One Total Maximum Daily Load for Indicator Bacteria in Tres Palacios Creek Tidal. Retrieved from: <https://www.tceq.texas.gov/assets/public/waterquality/tmdl/108trespalacios/108b-trespalacios-iplan-approved.pdf>

# Example Management Measure #2

**Table 13. Management Measure 2:**

Stakeholders will voluntarily implement efforts to reduce feral hog populations throughout the watershed by reducing food supplies, removing hogs as practical, and educating landowners on BMPs for hog removal.

Potential Load Reduction	Technical and Financial Assistance Needed	Education Component	Schedule of Implementation	Interim, Measurable Milestones	Indicators of Progress	Monitoring Component	Responsible Entity
9.66×10 <sup>12</sup> cfu/year	<p><b>Technical Assistance</b> AgriLife Extension, TWS</p> <p><b>Financial Assistance</b> State CWA 319(h) Grants (TSSWCB) TDA County Hog Abatement Matching Program TWS</p>	An education and outreach program is needed to broadly promote the adoption of BMPs such as the Feral Hog Management and the Wildlife Management education programs.	<p><b>Years 1-5</b> Voluntarily construct fencing, identify travel corridors for trapping and hunting, shoot hogs, promote use of Extension's online tracking tool for reporting harvest data</p> <p><b>Years 1, 3, and 5</b> Feral Hog Management and Wildlife Management education programs</p>	<p>The number of educational programs delivered per year</p> <p>The number of educational materials developed and disseminated</p> <p>The number of individuals reached</p> <p>The number of feral hogs removed per year</p>	<p><b>Year 1:</b> Development and submittal of funding proposals to fund education programs and implementation of feral hog management measures</p> <p><b>Years 2-5:</b> Number of materials developed and disseminated, number of persons reached through education, number of feral hogs removed from the watershed</p>	TCEQ CRP and watershed coordinator	<p>Stakeholders</p> <p>Watershed Coordinator</p> <p>AgriLife Extension</p> <p>TPWD</p>

TCEQ. 2018. Implementation Plan for One Total Maximum Daily Load for Indicator Bacteria in Tres Palacios Creek Tidal. Retrieved from: <https://www.tceq.texas.gov/assets/public/waterquality/tmdl/108trespalacios/108b-trespalacios-iplan-approved.pdf>





# Stakeholder Involvement

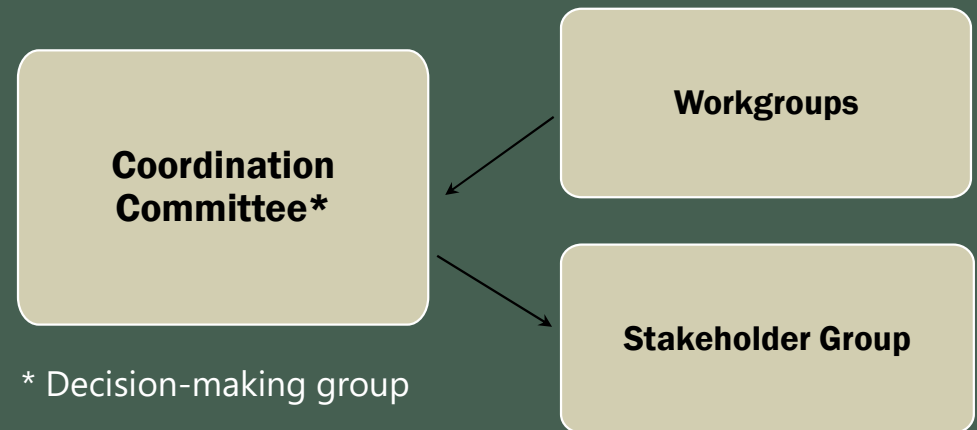
## Stakeholder Format

- Based on previous discussions and input, the stakeholder format will be:
  - **Workgroups:** groups of individuals representing similar interests or expertise. Can provide expertise and guidance to decision-making body on impact and effectiveness of implementation strategies
    - Develops the potential management measures for the I-Plan
  - **Coordination Committee:** a group made up of representatives from various workgroups (and stakeholders) to voice different concerns (including non-agency representatives)
    - Sets ground-rules
    - Decide on strategies and schedules in the I-Plan



# Suggested Stakeholder Structure

- Workgroups that would communicate to a coordination committee
- Specific Workgroups
  - Agriculture
  - Wastewater
  - Stormwater
- Please indicate on the google form if you would be interested in participating in the coordination committee or a workgroup and if so, which group
  - <https://forms.gle/QF4jQKiZczvoCHeq6>





# Coordination Committee

# Coordination Committee

1. Who needs to be included?
2. Who can serve on the Committee (alternates/backups)?
3. Desired meeting times/locations?
4. Meeting frequency?
5. Ground rules?



<b>Name</b>	<b>Alternate</b>	<b>Agency/Organization</b>	<b>Representing Group(s)</b>
Carla Ethridge	Jeremiah Poling	ANRA	River Authority
Sarah Bailey		Texas Forest Service	Forestry
Justin Parks		NRCS	Agriculture
Gary Barton	Linda Jones	City of Lufkin WW	Wastewater

## Meetings

- Meetings will be hosted online
- Meeting frequency as needed (?)

## Draft Ground Rules

- Any feedback from potential coordination committee members?
- Anyone else want to be on coordination committee? Can send draft ground rules to those interested.



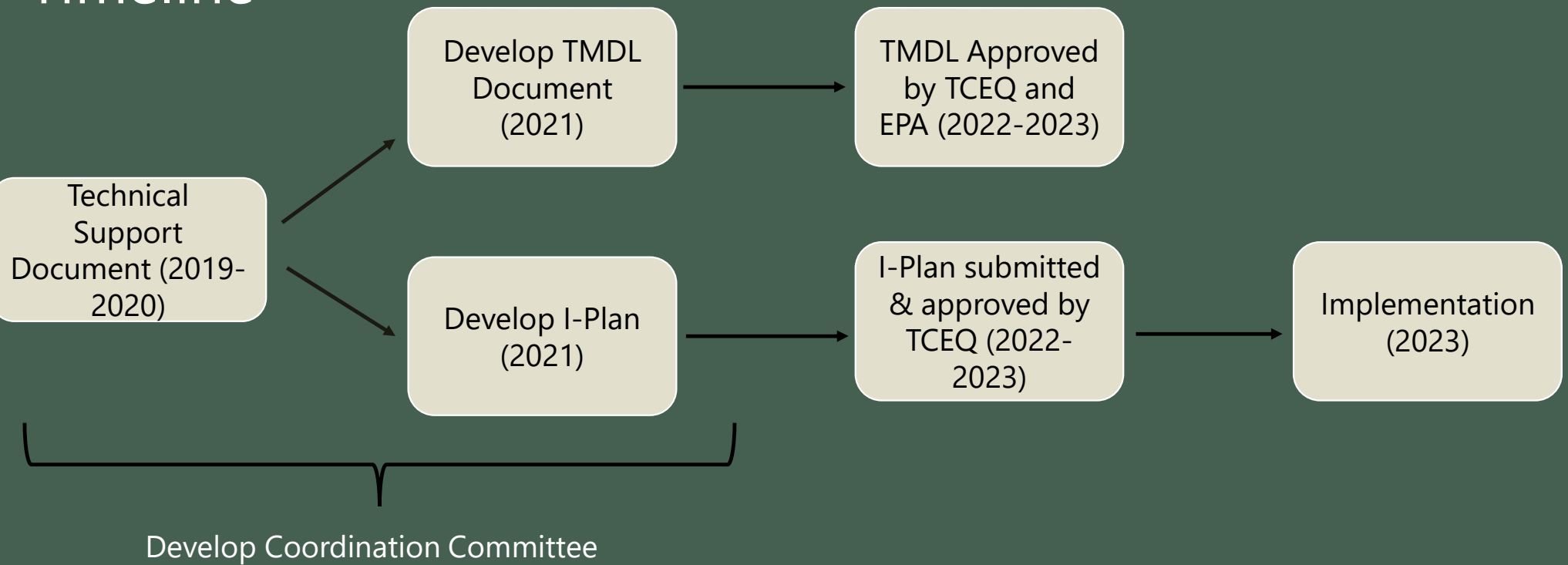


# Tentative Timeline

# TMDL and I-Plan Development

- Draft of TMDL submitted by early April 2021
- I-Plan
  - Finalize formation of Coordination Committee and workgroups by end of March/early April 2021
  - Workgroup meetings in April and May 2021
  - First coordination committee meeting in May 2021
  - Develop draft I-Plan to be submitted in July 2021

# Timeline





## Next Steps

- TSD will be posted on TCEQ webpage in early 2021 for stakeholder review
- Continue developing TMDL document
- Begin developing the I-Plan
  - Meetings with workgroups to identify potential management measures
  - Meetings with coordination committee
- Any other topics to discuss next meeting?



# Thank You!

Project Websites:

<https://twri.tamu.edu/our-work/restoring-protecting/neches-river-basin/middle-neches-river-tributaries/>

<https://www.tceq.texas.gov/waterquality/tmdl/nav/118-lufkinwatersheds-bacteria>

Anna Gitter – [anna.gitter@ag.tamu.edu](mailto:anna.gitter@ag.tamu.edu)

Lucas Gregory – [lfgregory@ag.tamu.edu](mailto:lfgregory@ag.tamu.edu)

Carla Ethridge – [cethridge@anra.org](mailto:cethridge@anra.org)

Tim Cawthon – [tim.cawthon@tceq.texas.gov](mailto:tim.cawthon@tceq.texas.gov)

Nicole Reed – [nicole.reed@tceq.texas.gov](mailto:nicole.reed@tceq.texas.gov)

Tributaries of the Neches River below Lake Palestine  
(Middle Neches)  
Stakeholder Meeting

**Monday, November 30<sup>th</sup>, 2:00 pm**

Zoom Meeting:

<https://tamu.zoom.us/j/91784615201?pwd=TUM1VnA3N3RZYVpjWTB0TVd6Y01Sdz09>

If needed, join Zoom meeting via telephone by dialing: +1 346-248-7799

Meeting ID: 917 8461 5201

Password: 508939

## Agenda

- Meeting Welcome and Housekeeping Notes (Anna Gitter, TWRI)
- TSD Findings and Stakeholder Involvement (Anna Gitter, TWRI)
  - Findings from the Technical Support Document will be shared and how those findings will assist water quality management efforts will be discussed. Next steps for stakeholder involvement with the Implementation Plan will also be presented.
- TCEQ TMDL and I-Plan Update (Tim Cawthon, TCEQ and Nicole Reed, TCEQ)
- Next Steps (Anna Gitter, TWRI)

## Adjournment

We greatly appreciate all input and guidance from local stakeholders to help develop future management solutions for this watershed. Thank you for your participation and please contact us with any questions or comments.

Contact:

Anna Gitter  
Texas Water Resources Institute  
Anna.gitter@ag.tamu.edu



Tim Cawthon  
TMDL Program  
Water Quality Planning Division, Office of Water  
[Tim.Cawthon@tceq.texas.gov](mailto:Tim.Cawthon@tceq.texas.gov)





The Friends of Guadalupe River State Park/ Honey Creek State Natural Area thank you for helping us celebrate Monarchs as they visit our area during the fall migration as well as all pollinators at our **Monarch and Friends Pollinator Fiesta March 26 from 10-2**

Set up begins at 9:00 please plan to be ready to start by 9:45. The event ends at 2:00 pm please plan to man your station for the entire time frame.

When you arrive at the entrance to the park tell the ranger that you are working at the event- there will be no charge to enter the park and they will direct you to the area where the event will take place. If you are familiar with the park, it is by the Discovery Center area at the back of the day use parking area.

**Note:** If you are using a maps app to locate the park, allow an additional 10 minutes to arrive at the event site from the entrance.

The stations will be on a short trail adjacent to the Discovery Center/amphitheater. There will be people on hand to direct you. You may pick your spot on a first come basis. Please plan to bring your own table and chairs (We have a very limited supply available on request if needed). You are welcome to bring your pop up, however most spots are nestled in the trees for shade. Please plan to bring your lunch, water and any personal comfort items.

We will have speakers at 10:30 am, 12:30 pm in the amphitheater behind the Discovery Center.

Contact person for this event is [Thea Platz](#)

**Cell 210 860 0143**

Friends of Guadalupe River State Park and Honey Creek State Natural Area presents

## Monarch & Friends

# Pollinator Fiesta

Saturday, March 26th - 10am til 2pm

Crafts, Speakers, Activities and so much more. Fun for all ages!

Held on the trails outside the Discovery Center

This event is free with  
Park admission!





North Central Texas Council of Governments

# AGENDA

## iSWM Implementation Subcommittee

Wednesday, April 21, 2021

1:30 p.m., Microsoft Teams

### [Join Microsoft Teams Meeting](#)

+1 903-508-4574 United States, Tyler (Toll)

Conference ID: 314 767 012#

Chair: Ranjan Muttiah, City of Fort Worth

#### 1. **Welcome and Introductions.**

### PRESENTATION/ACTION ITEMS

#### 2. **Approval of January 13, 2021, [Meeting Summary](#)**

3. **Task Order 4 (Work Scope) Updates.** Task Order four project update by consultants Half Associates.

4. **Review Draft Work Scope No. 6.** Discuss potential tasks for Task Order 6.

### INFORMATION ITEMS

5. **iSWM Certification Update.** The IIS review board will provide the subcommittee with an update.

6. **Discussion Of Outcome No. 17 - Water Quality.** Staff will prep the subcommittee for a future discussion over iSWM certification water quality outcome.

7. **Legislative update.** Staff will update the subcommittee on legislative bills filed for the 87th Texas Legislature Regular Session.

8. **Regional Public Works Program Update.** NCTCOG staff will update IIS on the FY21 Regional Public Works Program.

### OTHER BUSINESS AND ROUNDTABLE DISCUSSION

9. **Upcoming Events and Conferences.**

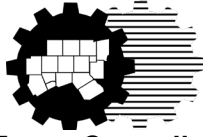
10. **Future Agenda Items and Roundtable Discussion.**

11. **Schedule for the Next Meeting.** The next meeting scheduled for July 14, 2021 at 1:30 p.m. Location, TBD

### Adjournment

If you have any questions regarding the meeting or agenda items, please contact Sydni Ligons by phone at (817) 608-2360 or by email at [sligons@nctcog.org](mailto:sligons@nctcog.org). If you plan to attend this public meeting and have a disability that requires special arrangements at the meeting, please contact Barbara Bradford by phone at (817) 695-9231 or by email at [bbradford@nctcog.org](mailto:bbradford@nctcog.org), 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.

616 Six Flags Drive, CenterPoint Two  
P.O. Box 5888, Arlington, Texas 76005-5888  
(817) 640-3300 FAX: 817-608-2372  
[www.nctcog.org](http://www.nctcog.org)



## North Central Texas Council of Governments

# AGENDA

### North Texas Regional Integration of Sustainability Efforts (RISE) Coalition Public Meeting

April 26, 2021

10:30 a.m. – 11:30 a.m.

Teams Meeting

#### Join Microsoft Teams Meeting

Phone: 903-508-4574

Conference ID: 603 488 613#

1. **Welcome** (Pharr Andrews, RISE Coalition Chair)

### DISCUSSION ITEMS

2. **RISE Coalition Program Update.** (5 minutes, Members and NCTCOG) NCTCOG will provide an update on the regional projects underway. Members and guests will have an opportunity to discuss or ask questions about the regional activities.

3. **RISE Educational Update.** (15 minutes, NCTCOG)

- Upcoming Funding Opportunities
  - DOE Opportunities
  - EPA Opportunities
  - NCTCOG Solid Waste Grants
  - Other Opportunities

### INFORMATION ITEMS

4. **Legislative Update and Discussion.** (20 minutes, Matt Bucchin and Karen Walz) Matt Bucchin and Karen Walz, with the American Planning Association Texas Chapter Advocacy Committee, will provide an overview of State bills that have been introduced in areas of interest to RISE Coalition members. Time for group discussion and input from attendees on bills they are watching will be reserved.

5. **Participant Roundtable.** (20 minutes, All) Members and participants are asked to share what is happening in their communities/organizations to identify areas for collaboration and sharing.

### OTHER BUSINESS

6. **Next Meeting Date.** The next meeting is scheduled for Friday, July 9, 2021. Virtual Meeting.

7. **Adjournment.**

If you have any questions regarding the meeting or agenda items, please contact Tamara Cook at (817) 695-9221 or [tcCook@nctcog.org](mailto:tcCook@nctcog.org). If you plan to attend this public meeting and you have a disability that requires special arrangements at the meeting, please contact department staff at (817) 695-9210 or [EandD@nctcog.org](mailto:EandD@nctcog.org) at least 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.

616 Six Flags Drive, Centerpoint Two  
Arlington, TX 76011  
(817) 640-3300  
[EandD@nctcog.org](mailto:EandD@nctcog.org)  
[www.nctcog.org/envir](http://www.nctcog.org/envir)



### *Agenda*

Monday, July 12, 2021

**1:30 to 3:30 p.m.**

Zoom

### **Welcome & Introductions**

Glenn Laird, Roundtable Chair

### **Presentations**

#### **HB 1410**

Augustus "Auggie" Campbell, Executive Director of the Association of Water Board Directors, and Deborah January-Bevers, President and CEO of Houston Wilderness

#### **Regional Conservation Framework**

Justin Bower, Principal Planner, Houston-Galveston Area Council

#### **PNA Awards Update (Application Changes Proposal, Timeline, Judges Needed)**

Glenn Laird, Roundtable Chair

### **Round Robin Discussion**

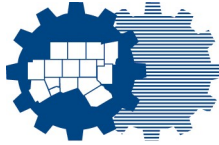
The Round Robin discussion is the time for subcommittee members and meeting participants to discuss their current projects, upcoming events, and other issues related to Parks and Natural Areas. Future meeting topics and site visits will be discussed as well.

### **Next Meeting**

The next meeting will be Monday, September 13, on Zoom.

### **Adjourn**





North Central Texas Council of Governments

# AGENDA

## Regional Stormwater Management Coordinating Council

Wednesday, May 19, 2021

Microsoft Teams

[Join Microsoft Teams Meeting](#)

Chair: Amesha Morris, City of McKinney

Vice Chair: Echo Rexroad, City of Plano

### 1. Welcome and Introductions.

## PRESENTATION/ACTION ITEMS

2. **Regional Stormwater Management Coordinating Council (RSWMCC) Meeting Summary.** The February 24, 2021 meeting [summary](#) is available on the web for viewing.

## INFORMATION ITEMS

3. **87th Texas Legislative Session Update.** NCTCOG staff will present a spreadsheet of relevant legislative bills.
4. **FY2022 RSWMCC Reappointments and Appointments.** NCTCOG will discuss the process for committee reappointments. In June, committee members with expiring terms will receive notification that their term is expiring. The individuals nominated for appointment and reappointment will be brought to the RSWMCC for approval at the August 18, 2021 meeting. Once the watershed representatives are selected, nominations for a Vice-Chair will be accepted and voting by email started for the position of Vice Chair for FY22.
5. **FY2022 Work Program.** NCTCOG staff will request input and discussion of the draft FY2022 RSWCC Work Program
6. **Roundtable Programs.** NCTCOG staff will present information on the most recent Total Maximum Daily Load (TMDL) roundtable event.
7. **FY2021 Work Program.** The NCTCOG staff will discuss on-going, and planned task force activities and other components of the regional stormwater management program. Topics include:

616 Six Flags Drive, Centerpoint Two  
P.O. Box 5888, Arlington, Texas 76005-5888  
(817) 640-3300 FAX: 817-608-2372  
[www.nctcog.org](http://www.nctcog.org)

- General program activities
- FY2021 Cost Share participation
- Public Education Task Force
- Pollution Prevention Task Force
- Illicit Discharge Detection & Elimination Task Force
- Stormwater Monitoring Program

**8. Other NCTCOG Program activities:**

- Integrated Stormwater Management (iSWM) Program Activities
- Total Maximum Daily Load (TMDL) Program Activities
- Trash Free Waters
- Trinity River Trail Coordination Activities
- Wastewater and Treatment Education Roundtable (WATER)
- Upcoming events and conferences

**9. News and Resources.** NCTCOG staff will provide some informational items from related programs.

**OTHER BUSINESS AND ROUNDTABLE DISCUSSION**

**10. Future Agenda Items.** RSWMCC Members and NCTCOG staff may suggest future agenda items.

**11. Roundtable Discussion.** Discussion of activities within individual jurisdictions and other topics as time allows.

**12. Schedule for the Next Meeting.** The next meeting date is scheduled for Wednesday, August 18, 2021.

**13. Adjournment.**

If you have any questions regarding the meeting or agenda items, please contact Carolyn Horner at (817) 695-9217, or by email at [chorner@nctcog.org](mailto:chorner@nctcog.org) .

If you plan to attend this public meeting and you have a disability that requires special arrangements at the meeting, please contact Barbara Bradford by phone at (817) 695-9231 or by email at [bbradford@nctcog.org](mailto:bbradford@nctcog.org), 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.

# SMALL ACREAGE BIG OPPORTUNITY

Nacogdoches Workshop: Sept. 25, 2021

NRCS East Texas Plant Materials Center  
FM 2782, Nacogdoches, TX 75964

Online learning materials  
can be accessed at:  
[vimeo.com/channels/  
1667986](https://vimeo.com/channels/1667986)



TEXAS A&M  
AGRI LIFE  
EXTENSION

## AGENDA

8:15 AM: Arrival and Check-In

8:30 AM: Welcome and Introduction - Alan Shadow, NRCS

8:45 AM: Forest-Grassland Ecosystems - Alan Shadow and Brian Townsend, NRCS

9:15 AM: Planting Native Grasses - Tyler Wayland, Texas Native Seeds

9:45 AM: Break/drive to Alazan Bayou Wildlife Management Area

10:00 AM: Wildlife Tax Valuation - Sean Willis, TPWD

10:45 AM: Prescribed Fire - Sean Willis, TPWD

11:15 AM: Meet Your Local Partners - NRCS, TLIT, LMVJV, NETxCDN, TFS, USFWS

12:00 PM: Lunch - Rob Hughes, TFA

12:30 PM: Landowner Story - Greg Grant

1:00 PM: Travel to Winston 8 Ranch

1:15 PM: Plant ID - Greg Grant, TAES

2:00 PM: iNaturalist Practice - TAES and TWA

2:30 PM: Break

2:45 PM: Management Tour - Dr. Eric Taylor, TAES

4:00 PM: Summarize and Dismiss

## KEY ACRONYMS

NRCS: Natural Resources Conservation Service

TPWD: Texas Parks and Wildlife Department

TLIT: Texas Longleaf Implementation Team

NLMVJV: Lower Mississippi Valley Joint Venture

NETxCDN: Northeast Texas Conservation

Delivery Network

TFS: Texas A&M Forest Service

USFWS: U.S. Fish & Wildlife Service

TFA: Texas Forestry Association

TAES: Texas A&M AgriLife Extension Service

TWA: Texas Wildlife Association

## SPONSORS



**GOLD**



**GOLD**



**LUNCH**



**From:** Gates, Michael <[Michael.Gates@sazoo.org](mailto:Michael.Gates@sazoo.org)>  
**Sent:** Tuesday, March 15, 2022 11:24 AM  
**To:** Tosh, Jacey <[Jacey.tosh@tfs.tamu.edu](mailto:Jacey.tosh@tfs.tamu.edu)>  
**Subject:** [External] Party for the Planet at San Antonio Zoo - Community Partner Invitation

Good morning Jacye!

I got your information from a contact list for the San Antonio region Texas Children in Nature Network.

I am reaching out to invite the Texas Forest Service to join us as a community partner for the inaugural Party for the Planet event at San Antonio Zoo!

If there is someone who would be a better contact for this within your organization, could you please connect me with them?



**What:** Party for the Planet is our celebration of Earth Day! This event is intended to be a fun and educational celebration of the diversity of life on earth and in the San Antonio Area. Attendees will learn about innovative work being done to secure a future for wildlife in our area and around the world, as well as learn how they can get outside and take action to protect animals and they places where they live.

**Where:** Throughout San Antonio Zoo grounds. Party for the Planet is our celebration of Earth Day and the diversity of life on our planet.

**Who:** The zoo is seeking community partners to assist us in engaging more than 1800 students, plus our typical Friday crowds, with the work that you do in our community and demonstrations or activities that engage them with the natural world and introduce them to ways they can get outside.

**When:** Community partners are invited to join us from **10 am to 2 pm on Friday, April 22<sup>nd</sup>, 2022.**

Arrival and set-up can begin as early as 9:00 am.

There is no fee associated with presenting at Party for the Planet. San Antonio Zoo will provide tables and chairs and I am working on also being able to provide tents if you're not able to bring one.

If you are interested, please fill out this form: <https://forms.gle/g7Kk7EVHvhjCMKXD7>

Please let me know if you have any questions!

Thank you!

### Michael Gates

Education Programs Coordinator – Schools

Certified Interpretive Guide

Office: (210) 626-5606 ex. 7786



Our vision is securing a future for wildlife.  
A non-profit 501(c)(3) organization.



### OUR ANIMALS NEED YOUR HELP!

As a 501(c)3 non-profit, we rely on your generous support to care for our animals.







SPRING CREEK  
WATERSHED PARTNERSHIP

# Agriculture, Wildlife and Invasives Workgroup Meeting

Tuesday, February 9<sup>th</sup>, 2021  
1:00 P.M. - 3:00 P.M.

Zoom Meeting Registration Link:

<https://zoom.us/j/95898731901?pwd=VTRHQXxIVGR6bFdHaVhscklXWIRjZz09>

## Agenda

- 1:00 Welcome and Introductions
- 1:15 Model Results Review
- 1:30 Timeline and Reduction Targets
- 1:45 Water Quality Improvement Strategies
- 2:40 Next Steps
- 2:50 General Discussion, Partnership News and Questions
- 3:00 Adjourn

For more information about the meeting or project, please visit our website at:  
<http://springcreekpartnership.com>

Or contact Rachel Windham with the information below:

Email: [rachel.windham@h-gac.com](mailto:rachel.windham@h-gac.com)  
Phone: 713.993.2497





SPRING CREEK  
WATERSHED PARTNERSHIP

# Agriculture, Wildlife and Invasives Workgroup Meeting

Tuesday, March 2<sup>nd</sup>, 2021  
1:00 P.M. - 3:00 P.M.

Zoom Meeting Registration Link:

<https://zoom.us/j/95898731901?pwd=VTRHQxIVGR6bFdHaVhscklXWIRjZz09>

## Agenda

- 1:00 Welcome and Introductions
- 1:10 Timeline and Reduction Targets
- 1:40 Implementation Strategy Logistics
- 2:40 Next Steps
- 2:50 General Discussion, Partnership News and Questions
- 3:00 Adjourn

For more information about the meeting or project, please visit our website at:  
<http://springcreekpartnership.com>

Or contact Rachel Windham with the information below:

Email: [rachel.windham@h-gac.com](mailto:rachel.windham@h-gac.com)  
Phone: 713.993.2497



This project is funded by a Clean Water Act 319(h) grant from the US Environmental Protection Agency, administered by the Texas Commission on Environmental Quality, and is facilitated locally by the Houston-Galveston Area Council.



SPRING CREEK  
WATERSHED PARTNERSHIP

# Human Sources and Pet Waste Workgroup Meeting

Monday, February 8<sup>th</sup>, 2021  
5:30 P.M.- 7:30 P.M.

Zoom Meeting Registration Link:

<https://zoom.us/j/94737204119?pwd=TkwyQnRqU1pBRVFoZ2IYOUVkbWZjQT09>

## Agenda

- 5:30 Welcome and Introductions
- 5:45 Model Results Review
- 6:00 Timeline and Reduction Targets
- 6:15 Water Quality Improvement Strategies
- 7:10 Next Steps
- 7:20 General Discussion, Partnership News and Questions
- 7:30 Adjourn

For more information about the meeting or project, please visit our website at:

<http://springcreekpartnership.com>

Or contact Rachel Windham with the information below:

Email: [rachel.windham@h-gac.com](mailto:rachel.windham@h-gac.com)

Phone: 713.993.2497







# SPRING CREEK WATERSHED PARTNERSHIP

## Public Meeting

Thursday, December 10<sup>th</sup>, 2020  
2:00 P.M.- 4:00 P.M.

Zoom Meeting Registration Link:

<https://zoom.us/meeting/register/tJYpfu6prjluHtNQL8uKQ7sgjD6nPGPmpEmk>

### Agenda

- 2:00 Welcome and Introductions
- 2:10 Project Overview
- 2:20 Partnership News
- 2:30 Model Update Review and Discussion
- 3:20 Introduction to Water Quality Improvement Strategies
- 3:40 Next Steps
- 3:50 General Discussion and Questions
- 4:00 Adjourn

For more information about the meeting or project, please visit our website at:

<http://springcreekpartnership.com>

Or contact Rachel Windham with the information below:

Email: [rachel.windham@h-gac.com](mailto:rachel.windham@h-gac.com)

Phone: 713.993.2497





# SPRING CREEK WATERSHED PARTNERSHIP

## Public Meeting

Thursday, April 8<sup>th</sup>, 2021  
2:00 P.M.- 4:00 P.M.

Zoom Meeting Registration Link:

<https://zoom.us/j/99845009517?pwd=QW5GNnJYNVhYUmpoOHZtR1VLSWFpZz09>

### Agenda

2:00 Welcome and Overview

2:15 Timeline and Reduction Targets

2:45 Discussion of Strategies

3:45 Next Steps

3:50 General Discussion, Partnership News and Questions

4:00 Adjourn

For more information about the meeting or project, please visit our website at:

<http://springcreekpartnership.com>

Or contact Rachel Windham with the information below:

Email: [rachel.windham@h-gac.com](mailto:rachel.windham@h-gac.com)

Phone: 713.993.2497



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# SPRING CREEK WATERSHED PARTNERSHIP

## Public Meeting

Tuesday, August 3<sup>rd</sup>, 2021  
2:00 P.M.- 4:00 P.M.

Zoom Meeting Registration Link:

<https://zoom.us/meeting/register/tJAqdOyppj4sE9Vgg6YVO8o1O3M0PueeEOFk>

### Agenda

2:00 Welcome and Overview

2:10 Watershed Protection Plan Updates

3:45 Next Steps

3:50 General Discussion, Partnership News, and Questions

4:00 Adjourn

For more information about the meeting or project, please visit our website at:

<http://springcreekpartnership.com>

Or contact Rachel Windham with the information below:

Email: [rachel.windham@h-gac.com](mailto:rachel.windham@h-gac.com)

Phone: 713.993.2497



This project is funded by a Clean Water Act 319(h) grant from the US Environmental Protection Agency, administered by the Texas Commission on Environmental Quality, and is facilitated locally by the Houston-Galveston Area Council.



# SPRING CREEK WATERSHED PARTNERSHIP

## Public Meeting

Tuesday, August 3<sup>rd</sup>, 2021  
2:00 P.M.- 4:00 P.M.

Zoom Meeting Registration Link:

<https://zoom.us/meeting/register/tJAqdOyppj4sE9Vgg6YVO8o1O3M0PueeEOFk>

### Agenda

2:00 Welcome and Overview

2:10 Watershed Protection Plan Updates

3:45 Next Steps

3:50 General Discussion, Partnership News, and Questions

4:00 Adjourn

For more information about the meeting or project, please visit our website at:

<http://springcreekpartnership.com>

Or contact Rachel Windham with the information below:

Email: [rachel.windham@h-gac.com](mailto:rachel.windham@h-gac.com)

Phone: 713.993.2497



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# SPRING CREEK WATERSHED PARTNERSHIP

## Public Meeting

Wednesday, July 29<sup>th</sup>, 2020  
2:00 P.M.- 4:00 P.M.

GoToWebinar Registration Link:

<https://register.gotowebinar.com/register/8222007622240352267>

### Agenda

2:00 Welcome and Introductions

2:10 Project Overview and Preliminary Findings

3:00 Pollutant Source Overview and Partnership Outlook

3:30 Discussion

4:00 Adjourn

For more information about the meeting or project, please visit our website at:

<http://springcreekpartnership.com>

Or contact Rachel Windham with the information below:

Email: [rachel.windham@h-gac.com](mailto:rachel.windham@h-gac.com)

Phone: 409.466.3538



This project is funded by a Clean Water Act 319(h) grant from the US Environmental Protection Agency, administered by the Texas Commission on Environmental Quality, and is facilitated locally by the Houston-Galveston Area Council.

# SFI Implementation Committee

June 18, 2019

10 a.m. \* Texas Forestry Association

## Agenda

- |  |                      |
|--|----------------------|
| I. Call to Order                                     | Phil Ferguson, Chair |
| II. Antitrust Reminder                               | Rob Hughes           |
| III. Approve Minutes – <i>March 19, 2019</i>         | Phil Ferguson        |
| IV. Financial Reports                                | Susan Stutts         |
| V. Training/Reports                                  |                      |
| 1. Logger Training                                   |                      |
| a. Core Workshops                                    | Dave Duren           |
| i. Fall  |                      |
| ii. TFS BMP Forester                                 | Thomas Dimmitt       |
| b. Continuing Education                              |                      |
| i. 2019 Workshops                                    | Dave Duren           |
| ii. Subcommittee Report                              | Group                |
| c. Team Safe Trucking                                | Dave Duren           |
| 2. Inconsistent Practices Report                     | Rob Hughes           |
| VI. Outstanding Logger of the Year Nominations       | Dave Duren           |
| VII. Communications/Outreach                         |                      |
| 1. State Fair of Texas                               | Susan Stutts         |
| 2. Landowner Workshop - June 28, 2019                | Donna Work           |
| 3. Teacher Conservation Institute - <i>cancelled</i> | Rob Hughes           |
| 4. LearnPlanActTexas Website                         | Susan Stutts         |
| VIII. SIC Chairman/Vice Chair                        | Phil Ferguson        |
| ↳ <i>Rex</i>   |                      |
| X. Next Meeting/Adjourn                              | Phil Ferguson        |

# SFI Implementation Committee

September 24, 2019  
10 a.m. \* Texas Forestry Association

## Agenda

- ✓ I. Call to Order Phil Ferguson, Chair
- ✓ II. Antitrust Reminder Rob Hughes
- ✓ III. Approve Minutes – June 18, 2019 Phil Ferguson
- ✓ IV. Financial Reports Susan Stutts
- ✓ V. Training/Reports
  - ✓ 1. Logger Training
    - ✓ a. Core Workshops Dave Duren
    - ✓ b. Continuing Education Dave Duren
      - ✓ i. 2019 Workshops Dave Duren
      - ✓ ii. Online *No more business meetings* Susan Stutts
      - ✓ iii. Proposed Forest Roads and Stream Crossings 2020-21 Group
    - ✓ c. Team Safe Trucking Dave Duren
  - ✓ 2. Inconsistent Practices Report Rob Hughes  
*None*
- ✓ VI. Outstanding Logger of the Year Dave Duren  
*Chp. 4 Southern Region*
- ✓ VII. Communications/Outreach
  - ✓ 1. State Fair of Texas Susan Stutts
  - ✓ 2. Landowner Workshops Donna Work
  - ✓ 3. Teacher Conservation Institute Rob Hughes - *shorter sessions*
  - ✓ 4. LearnPlanActTexas Website Susan Stutts
- ✓ VIII. 2020 Budget Review Susan Stutts
- ✓ IX. Annual Meeting Susan Stutts
- ✓ X. Potential Tree Planting Project *look @ website* Susan Stutts/Rex Benham/Rob Hughes
- ✓ XI. Next Meeting/Adjourn Phil Ferguson  
*March 10<sup>th</sup> or 25<sup>th</sup> TBA*

TPL Expires: 2020: 175 <u>2019: 363</u> 2018: 114
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TFA

## Agenda

- |       |                                     |  |                               |              |
|-------|-------------------------------------|--|-------------------------------|--------------|
| I.    | Call to Order                       |  | Rex Benham, Chair             |              |
| II.   | Antitrust Reminder                  |  | Rob Hughes                    |              |
| III.  | Approve Minutes – February 11, 2021 |  | Rex Benham                    |              |
| IV.   | Financial Report                    |  | Susan Stutts                  |              |
| V.    | Logger Training                     |  |                               |              |
|       | a.                                  | Renewals 2/8/21  | Renewals 6/2/21               | Susan Stutts |
|       |                                     | 2022 – 1   | 2022 - 58                     |              |
|       |                                     | 2021 – 358   | 2021 - 363                    |              |
|       |                                     | 2020 – 142   | 2020 -107                     |              |
|       |                                     | 2019 – 100   | 2019 - 89                     |              |
|       | b.                                  | Yearly SIC Report  |                               | Susan Stutts |
|       | c.                                  | Core Workshops   |                               | Dave Duren   |
|       |                                     | i.   | April 22-23                   |              |
|       |                                     | ii.  | Fall                          |              |
|       | d.                                  | Continuing Education Workshops                             |                               |              |
|       |                                     | i.   | Current                       | Dave Duren   |
|       |                                     | ii.  | 2022 Required                 | Susan Stutts |
|       |                                     | iii.   | PCA Letter                    | Mike Smith   |
|       | e.                                  | Online Training Site                                       |                               | Susan Stutts |
|       |                                     | i.   | Revise Online Safety Training | Dave Duren   |
|       | f.                                  | SFI Online Training Project with Michigan State University |                               | Susan Stutts |
|       | g.                                  | TPL Training Lapse Update                                  |                               | Dave Duren   |
| VI.   | Inconsistent Practices Report       |  | Susan Stutts                  |              |
| VII.  | Outstanding Logger of the Year      |  | Dave Duren                    |              |
| VIII. | Communications/Outreach             |  |                               |              |
|       | a.                                  | Landowner Workshops  |                               | Donna Work   |
|       | b.                                  | State Fair   |                               | Susan Stutts |
|       | c.                                  | TreeFolks  |                               | Rex Benham   |
|       |                                     | i.   | SFI Community Grant Project   |              |
|       |                                     | ii.  | Other Opportunities           |              |
| IX.   | SIC Vice Chair                      |  | Rex Benham                    |              |
| X.    | Other                               |  | Rex Benham                    |              |
| XI.   | Next Meeting/Adjourn                |  | Rex Benham                    |              |





North Central Texas Council of Governments

# AGENDA

## Sustainable Public Rights-of-Way Subcommittee

Tuesday, May 18, 2021

1:30 PM, Microsoft Teams

[https://teams.microsoft.com/join/19%3ameeting\\_YTEwNjNiMjctYWE1Yi00Y2JmLWEyYzUtMzUzMzgxZWY4NjRi%40thead.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d](https://teams.microsoft.com/join/19%3ameeting_YTEwNjNiMjctYWE1Yi00Y2JmLWEyYzUtMzUzMzgxZWY4NjRi%40thead.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22cab28b78-d671-4384-9c8e-6035f7c46b7d%22%7d)

Or call in (audio only)

+1 903-508-4574,,530066560# United States, Tyler

Phone Conference ID: 530 066 560#

Co-Chair: Robert Woodbury, City of Cedar Hill

Co-Chair: Misty Christian, Kimley-Horn

1. **Welcome and Introductions.**

## DISCUSSION ITEMS

2. **Meeting Summary.** The April 20th meeting summary is available online for review. Approval will be sought at this meeting.
3. **Utilities Planning.** The Subcommittee will discuss utility BMPs for the Utility Coordination chapter.

## OTHER BUSINESS AND ROUNDTABLE DISCUSSION

4. **Roundtable Discussion.**
5. **Schedule for the Next Meeting.** The next Subcommittee meeting is June 15, 2021 at 1:30pm through Microsoft Teams.
6. **Adjournment.**

If you have any questions regarding the meeting or agenda items, please contact Olivia Kale by phone at (817) 695-9213, or by email at [okale@nctcog.org](mailto:okale@nctcog.org).

616 Six Flags Drive, Centerpoint Two  
P.O. Box 5888, Arlington, Texas 76005-5888  
(817) 640-3300 FAX: 817-608-2372  
[www.nctcog.org](http://www.nctcog.org)

**USDA Natural Resources Conservation Service  
State Technical Committee  
Meeting Agenda  
April 13, 2021**

Teleconference/Webinar

Title: USDA NRCS State Technical Committee - Texas  
Microsoft Teams meeting  
[Click here to join the meeting](#)  
Or call in (audio only): 1-469-294-4461  
Access Code: 223 172 519#

8:30-8:45	Welcome – Announcements – Overview of Meeting	Charles Kneuper
8:45-8:55	Agency Updates Natural Resources Conservation Service, State Conservationist	Kristy Oates
8:55-9:05	Farm Service Agency, State Executive Director	Eddie Trevino
9:05-9:15	National Agricultural Statistic Service, Southern Plains Director	Wilbert Hundl, Jr.
9:15-9:25	Risk Management Agency, Director	Jim Bellmon
9:25-9:35	Animal Plant and Health Inspection Service – Wildlife Services	Bruce Leland
9:35-9:45	Rural Development	Daniel Torres
9:45-10:10	Subcommittee Reports	Committee Representatives
10:10 – 11:00	Farm Bill Updates NRCS FSA	Lori Ziehr Jeff Dudensing
11:00 – 11:30	Public Comment and Open Discussion	Charles Kneuper
11:30	Closing comments/Adjourn	Kristy Oates

**\*\* Written agenda item comments are encouraged.  
Agenda is subject to minor adjustments**



# Stream Corridor Restoration Committee

Meeting Agenda Outline

*Wednesday, May 19, 2021. 11:30 am – 1:30 pm*

- 1. Welcome, technology check-in, introductions (5 min)**
- 2. Bayou Preservation Project Update (20 min)**
  - a. Riparian Restoration Workshops
    - a. Review goals and objectives
    - b. Review curriculum and suggest speakers
- 3. Committee Member Project Presentation (20 min)**
  - a. Shoreline restoration – Thomas Bell Foster Park – Presented by Marissa Llosa, Houston Parks Board
- 4. Committee Project (40 min)**
  - a. Principles Next Steps
    - i. Checklist
      1. Development of a checklist for each principle (Divide into four breakout rooms – 1 room per principle)
      2. Regroup to share results (brief recap) and provide feedback
- 5. Wrap up and Next Meeting (5 min)**
  - a. Distribution plan for principles and checklist (future meeting)
  - b. Consider other types of supplemental materials and resources (future meeting)
  - c. Set date (first Wednesday, odd months, at 11:30 am)

*Our Mission is to celebrate, protect and restore the natural richness of all our bayous and streams.  
Our Vision is a network of healthy bayous, streams and watersheds.*

# **Texas Forests and Drinking Water Partnership Agenda**

*February 23, 2022*

*1:00 PM*

*Microsoft Teams Virtual Meeting*

- I. Introductions
  
- II. Southeastern Partnership for Forests and Water – Welcome Kathy Hawes
  
- III. Texas Forest and Drinking Water Partnership
  - i. Education/Outreach
    - 1. Draft website layout preview
    - 2. TRWA Annual Meeting
  
  - ii. Coordination
    - 1. SRS – TAMU Watershed Project
    - 2. Texas Longleaf Team
  
  - iii. Conservation Projects
    - 1. Kickerillo-Mischer Preserve
  
  - iv. Forests and Water Forum - Partnership Meeting
  
- IV. Partner Updates
  
- V. Adjourn

# AGENDA

## Texas Forest Landowners Council Meeting

June 14, 2019

TFA Office

Lufkin, Texas

10 a.m.

- 
- |       |  |                      |
|-------|--|----------------------|
| I.    | Call to Order  | Rodney Hebert, Chair |
| II.   | Antitrust Reminder   | Rob Hughes           |
| III.  | Minutes – April 12, 2019                                   | Rodney Hebert        |
| IV.   | Financial/Membership/Scholarship                           | Rob Hughes           |
| V.    | Business Items   |                      |
|       | a. Legislative Update                                      | Rob Hughes           |
|       | b. State Woodland Clinic                                   | Rodney Hebert        |
|       | c. August Seminar Review                                   | Rob Hughes           |
| VI.   | Reports  |                      |
|       | a. TFS   | Michelle Moore       |
|       | b. NRCS  | Mike Oliver          |
|       | c. TAEX  | Larry Pierce         |
|       | d. County Associations                                     | All                  |
| VII.  | 2019 Meeting Dates   | Rodney Hebert        |
|       | <u>2<sup>nd</sup> Friday of every other month, 10 a.m.</u> |                      |
|       | August 9, 2019 (seminar)                                   |                      |
|       | October – TFA Annual Meeting                               |                      |
|       | December 13, 2019  |                      |
| VIII. | Adjourn  | Rodney Hebert        |



# TEXAS A&M FOREST SERVICE

Facilitator *Handwritten*  
PLT  
@ Austin w/i  
Bayette

**Southern Region Staff Meeting  
Huntsville Office  
August 1, 2019 9:30am**

- ✓ Jostle Promo
- ✓ RFC Update - Holbrook
- ✓ 2:1 Work to Rest ratio / MDDO reminders - Hambright
- ✓ HEO and FFT1/ICT5 taskbook review by RF – Hambright
- ✓ UAS program – Murnane
- ✓ Good Neighbor Authority update – Hambright
- ✓ Working Lands for Wildlife (LPS) update - Matel
- ✓ Texas Ranch Wildfire Program (TRWP) - Hambright
- ✓ Training / mentoring update – Rusty
- ✓ Readiness Checks / Dozer Exercising / Dispatch – Teel & Hambright *- 10 hrs e-month target force check*
- ✓ Availability / Hand crew availability - Hambright
- ✓ Video goal – Warner/Murnane
- ✓ ForestREE Experience / Con Ed update – Cruz
- ✓ AP 10.08 Volunteer background check policy review - Hambright
- ✓ FY2020 Goal discussion – All
- ✓ FY20 Budget & FY19 End-of-year purchases - Hambright
- District updates – All
- ✓ Schedule next staff meeting *October Early*



**TFS and COH-SWP Cross-Training**  
**W.G Jones State Forest**  
**1328 Farm to Market Rd 1488,**  
**Conroe, TX 77384**  
**October 6, 2020**  
**9:00 am – 4:30 pm**

- 9:00 am Welcome and Opening Comments  
*Mac Martin, Texas A&M Forest Service*
- 9:05 am Houston Urban and Water Resources Office Roles  
*Matt Ford, Mac Martin, Mickey Merritt, Matt Weaver, Texas A&M Forest Service*
- 9:20 am Importance of Prescribed Burning in Forest Management and Sourcewater Protection  
*Matt Ford, Texas A&M Forest Service*
- Importance of fire in a forest ecosystem, when to burn, and safe ways to keep ash out of the stream.
- 9:45 am Forest Management for Watershed Protection  
*Mac Martin, Texas A&M Forest Service*
- Best Management Practices (BMP) Tour ~ 2 miles
- i. Crowned Roads
  - ii. Permanent Water Crossings
  - iii. Streamside Management Zone (SMZ)
  - iv. Wind Ditches
  - v. Temporary Crossings
  - vi. Culverts
- 11:00 am Break on your own/Lunch  
*Meet back at Sourcewater Protection Office to get on SWP Boat at 12:30pm*
- 12:30 pm Forests and Flood Plot Measurement  
*Mickey Merritt & Matt Weaver, Texas A&M Forest Service*
- Activity that teaches SWP staff some forest measurement skills. Highlights importance of species diversity to healthy forests and how that impacts flood mitigation and water quality.
- 4:30 pm Closing Comments

## Timber Tax Agenda

- 1:00-1:15
  - Welcome & introduction
  
- 1:15-2:00
  - Update for the Federal Timber Income Tax
  - Record keeping, reforestation expenses, basis determination, depletion, and amortization
  - Form T and other related Tax Forms: Detailed Explanation
  
- 2:00-2:10
  - Q&A session
  
- 2:10-3:00
  - Reforestation expenses, cost-share payments under Section 126
  - Income tax considerations during timber sales
  
- 3:10-3:50
  - Texas Timberland Property Tax
  
- 3:50-4:00
  - Q&A session / transition
  
- 4:00-4:50
  - Practical Issues during Tax Filing
  - Discussion on Current Tax related Issues
  
- 4:50-5:00
  - Q&A session / transition
  
- 5:00-5:30
  - Mini-consultations with accountants





TEXAS WATER DEVELOPMENT BOARD  
FLOOD IMPLEMENTATION STAKEHOLDER WORKSHOP  
9:30 – 11:30 a.m.

Agenda

- I. Welcome and opening remarks
- II. TWDB Flood Activities: Past, Present, and Future
- III. Presentations of Senate Bill 7 and Senate Bill 8 stakeholder consideration issues  
*This portion will be interactive with real-time polling and audience participation.*
- IV. Breakout session discussions (optional)
  - Group 1: discussion on flood planning
  - Group 2: discussion on financial assistance
- V. Adjourn

# **Texas Forests and Drinking Water Partnership Agenda**

*February 23, 2022*

*1:00 PM*

*Microsoft Teams Virtual Meeting*

- I. Introductions
  
- II. Southeastern Partnership for Forests and Water – Welcome Kathy Hawes
  
- III. Texas Forest and Drinking Water Partnership
  - i. Education/Outreach
    - 1. Draft website layout preview
    - 2. TRWA Annual Meeting
  
  - ii. Coordination
    - 1. SRS – TAMU Watershed Project
    - 2. Texas Longleaf Team
  
  - iii. Conservation Projects
    - 1. Kickerillo-Mischer Preserve
  
  - iv. Forests and Water Forum - Partnership Meeting
  
- IV. Partner Updates
  
- V. Adjourn

# Texas Forests & Drinking Water Projects Brainstorming Meeting Notes

June 10, 2021

## Participating

Hughes Simpson, Texas A&M Forest Service  
Gretchen Riley, Texas A&M Forest Service  
Mac Martin, Texas A&M Forest Service  
Becky Martinez, Bayou Land Conservancy  
Ernest Cook, Land/Water Associates  
David Young, Texas Parks & Wildlife, Water Resources  
Johanna Valente, Texas Parks & Wildlife, Water Resources  
Patrick Rightmyer, City of Houston, Drinking Water Operations  
Jenny Sanders, Texas Longleaf Implementation Team  
Kitty Weisman, Southeastern Partnership for Forests and Water

Follow-Up actions are noted below in yellow highlighting

Follow-Up documents will be posted on our Google share site at: (page down to folder titled "1 A Texas Projects Brainstorming 2021": <https://sites.google.com/a/scrwa.org/south-east-water-quality-collaborative/documents>)

## ***NRCS priority watersheds and Texas Forest Service priority areas Map***

- Kitty shared the map with the group (it's also on our Google share site)
- Hughes will share the geospatial data with the group.

## ***Mac Martin & Urban Forest Planting Projects***

- McKinney - funded by Coors, planting 1700 trees, kick-off was two weeks ago, with a goal for a planting event on Arbor Day in November 2021.
- Houston-Area work - Planting planned for along Cypress Creek, trees are coming from Trees for Houston through funding from Aramco. Planting event is scheduled for Houston Arbor Day (January 2022). Mac is actively meeting with folks about funding

## ***Funding idea: Texas Commission on Environmental Quality - Supplemental Environmental Projects (SEP)***

- Funding comes from fines levied by the TCEQ and funneled to an environmental non-profit.
- Bayou Land Conservancy has a SEP. Their SEP allows for restoration work (plantings and invasive species removal) and land/conservation easement acquisitions. However, the contributions haven't been large enough to pay for land purchase.
- In their experience, the funding is sporadic (difficult to plan) but they have been told by the TCEQ that they can reach out to fined companies about their ability to funnel funds to BLC through this program. It sounds like TCEQ doesn't always let folks know about the program. Great way to put money back into the areas that are impacted by local

TCEQ violations.

- Patrick mentioned that he may have a connection at the Coastal Water Authority that can also help offset invasive species removal costs.

### ***Funding Idea: Mitigation Banking***

- Becky let folks know that she used to manage mitigation banks with Harris Co. Flood Control District. They take several years to setup and consider capital costs.
- The group agreed that it would be great to promote areas we want to preserve/conservate to mitigation bankers.

### ***Forest Legacy & Community Forest & Open Space Programs – Gretchen Riley, Texas A&M Forest Service***

Forest Legacy Program:

- Funded with the Land & Water Conservation Funds that come to the state.
- Generally, this funds conservation easements on larger lands.
- No minimum acreage. Gretchen thinks that Houston may be a fantastic location for funding
- This funds 75% of a project, requires 25% match. The match should come from non-federal funds, though there are a few exceptions (REPI funds - Readiness and Environmental Protection Integration, and Acres for America]
- The going rate for a conservation easement in East Texas is \$600/acre. Houston land would be valued higher, but it is hard to find appraisal comps.

Community Forest Open Space Program:

- Pays for fee simple ownership
- 50/50 match
- \$600,000 per project. Which isn't very high to purchase land.

What Ranks Well (for these two grant programs):

- Unique lands, we are competing against grizzly bears eating salmon folks. It has to be more than tree cover and development trends.
- Climate resiliency scores very highly
- Health Equity - Kitty suggested to consider this broadly and think about how the project influences drinking water.
- Conservation strategy – does this project tie into other area plans?
- Economic value – others struggle here, but if you can add numbers for local/regional/state economics, it will be very helpful
- Lands that are low quality, but restoration is proposed with placement into the program rank highly – as do lands that are high quality, but going to the market for sale.
- Deal breaker: If the land is already protected for another reason.
- Forest Legacy Program Texas Deadline: August 15 to Gretchen Riley at Texas Forest Service [griley@tfs.tamu.edu](mailto:griley@tfs.tamu.edu)

More Information from Gretchen:

- Application Form, evaluation guide, and project brief for Bobcat Ridge project (2014) will be on our Google share site (see top of notes for link)
- Bobcat Ridge project ranked mid-way (about #21) of all projects submitted that year and was the last project in that submittal list to be funded from that year.
- IMPORTANT NOTE ABOUT PROJECT EVALUATION - Projects are discounted by reviewers when there is no mention of one or more of the evaluation elements.
- Land with a utility easement can be considered – contact Gretchen for more information.

***Forest Legacy Project Ideas Discussion***

- Ernest has a potential project for Forest Legacy consideration in the Columbia Bottomlands. It would be conservation of 5,000 acres adjacent to the Peach Creek Forest Project. Nothing has been done in Brazoria County with these funding sources. Gretchen let him know that the tree makeup isn't as important as the conservation & economic values of conserving the land. Ernest will share more information with Gretchen.
- Becky had a couple of project suggestions in previous month and Gretchen encouraged the Sherwood land. It didn't seem too expensive (it is listed at \$6 million) for the Forest Legacy Program. Becky let the group know that ownership is an issue on the land – the current owners would like to sell the land and no one seems to want to own it. Gretchen will reach out to a land broker she knows to see if they know anyone interested.

## Wednesday Schedule

Schedule for Wednesday, February 10, 2021:

<b>Wednesday Morning, February 10, 2021</b>	
9:00 AM	Welcome and Introduction <b>Blake Alldredge, TRA President</b>
9:30 AM	Plenary 1: <b>Dr. Brian Bledsoe, University of Georgia</b>
10:30 AM	Break
10:45 AM	Plenary 2: <b>Dr. Samuel Atkinson, University of North Texas</b>
11:45 AM	Discussion & Conference Information
12:00 PM	Adjourn

**Thursday Morning, February 11, 2021**

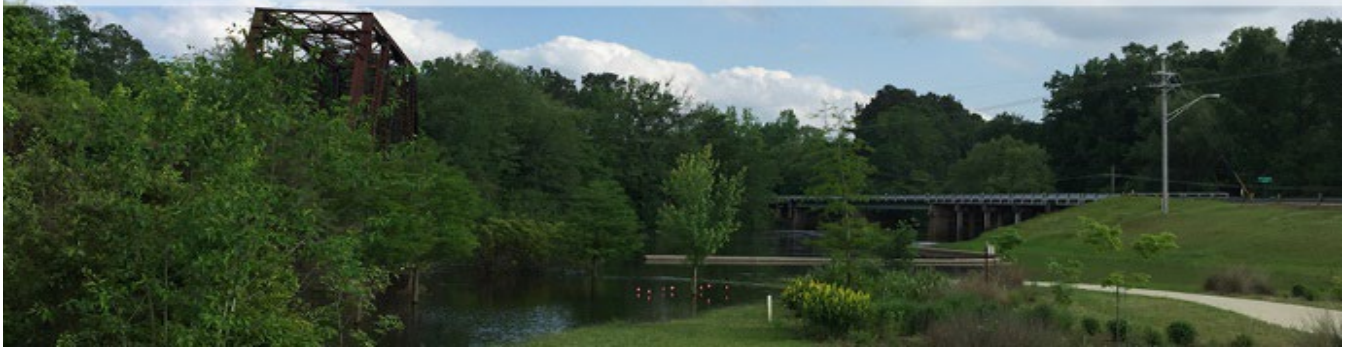
<b>Time</b>	<b>Riparian Management</b>	<b>BMPs</b>	<b>Restoration/Case Studies</b>
9:00 AM	The Influence of Vegetation Type on Stream Bank Strength in East-Central Texas Streams	Large-scale Tree Planting with Native Tree Species	Cottonmouth Creek Riparian Restoration at Easton Park Residential Development
9:20 AM	A GIS-based urban Index of Riparian Integrity	Assistance Available through the NRCS	Building a Home Oasis with Green Stormwater Infrastructure
9:40 AM	Riparian Evaluation Monitoring: Utilizing Texas Stream Citizen Science to Evaluate Riparian Health	Clean Water Act: New Database Connects Builders and Landowners to Facilitate Stream Restoration	STORMWATER WETLANDS TREATING RUNOFF THAT ENTERS OUR URBAN RIPARIAN SYSTEMS: HOUSTON BOTANIC GARDEN CASE STUDY
10:00 AM	Natural Areas and Urban Forestry Management Program at Lady Bird Lake	Water Quality Ordinances Enhance Water Quality Protection and Promote Aquatic Health for the Cypress Creek Watershed	
10:20 AM	<b>Discussion</b>	<b>Discussion</b>	<b>Discussion</b>
10:40 AM	<b>Break</b>		
	<b>Riparian Management</b>	<b>Community Engagement</b>	<b>Ecology/Biology</b>
11:00 AM	Challenges and Benefits of Drones in Urban Restoration	Public and Landowner Engagement in River and Riparian Conservation Through Social Media	A Regional Approach to Mitigating the Impacts of Wild Pigs ( <i>Sus scrofa</i> ) on Riparian and Upland Ecosystems
11:20 AM	Support for Urban Riparian Forests: Dallas-Fort Worth International Airport Case Study	Leveraging Urban Floodplains for Community Resilience: Central Williamson Creek Greenway	Constructed Urban Wetlands in North-Central Texas: Comparing 4 Clusters of Wetlands for Viability of Waterbird Habitat
11:40 AM	The Role of Forests and Trees in Urban Watershed Management	Public-private interactions for the development of urban riparian restoration projects.	Urban Wildlife
12:00 PM	<b>Discussion</b>	<b>Discussion</b>	<b>Discussion</b>
	<b>Break</b>		
12:30 – 2:00 PM	<b>TRA Board Meeting &amp; Social</b>		

## Friday, February 12, 2021

Time	Outreach & Education	Hydrology	Community Connection
9:00 AM	TRWD Informal Education: Part 1	Not So Fast, My Friend What the interplay of stream velocity and soil means for urban flooding	TWRI's Urban Stream Processes & Restoration Education Program
9:20 AM	TRWD Informal Education: Part 2	Sensitivity of stream temperature to climate warming and environmental factors in regulated rivers of Texas	Texas Riparian & Stream Ecosystem Program -- Adapting to an Online Delivery Format
9:40 AM	TRWD Rainscapes: Part 1	Evaluating the effects of change in imperviousness on watershed hydrology: A case study of five major basins in Texas	Engaging Landowners and Conservation Partners for Riparian and Stream Conservation in a Socially Distanced World
10:00 AM	TRWD Rainscapes: Part 2	Coupled Overland Erosion and In-Stream Sediment Transport GIS-based Model for Estimating Stormwater-induced Erosion and Sediment Load at Bridge Construction Sites	Establishing a New Model for Hands-on Riparian Stewardship Instruction
10:20 AM	<b>Discussion</b>	Evaluating the impact of re-vegetation on streambank stability and erosion	
10:40 AM	Break		
11:00 AM	Closing Speaker: <b>Dr. Robert Mace, Meadows Center for Water and the Environment</b>		
11:45 AM	Closing Remarks		
12:00 PM	Conclude		



# Urban Riparian and Stream Restoration Program



## Austin Urban Stream Restoration Training Agenda

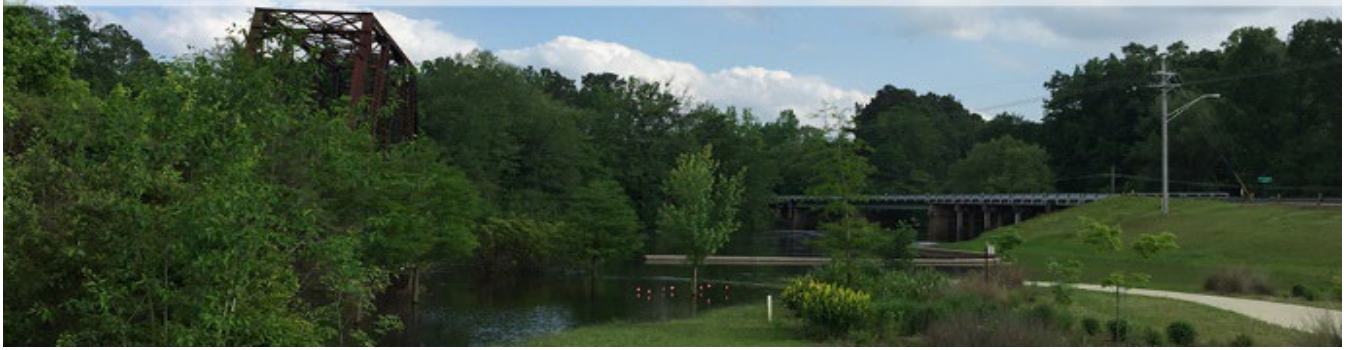
March 18, 2020 | 8:30 am - 4:00 pm

- 8:30 am** Welcome and Protecting Water Quality by Restoring Riparian Corridors  
- **Clare Escamilla**, Texas Water Resources Institute
- 9:00 am** Stream Processes, Classifications of Streams, and Stream Restoration  
- **Dr. Fouad Jaber**, Texas A&M AgriLife
- 11:30 am** Management and Photo Monitoring of Restoration  
- **Nathan Glavy**, Texas Water Resources Institute
- 12:00 pm** Lunch (Provided)
- 12:00 pm** Local Watershed Planning Updates Over Lunch  
- **Staryn Wagner**, City of Austin Watershed Protection Department
- 12:30 pm** Prepare for the Field  
- **Dr. Fouad Jaber**, Texas A&M AgriLife
- 1:00 pm** Field Analysis Stations (30 minute Stations, bring boots or waders)  
- Stream Inspection: **Dr. Fouad Jaber**, Texas A&M AgriLife  
- Stream Surveying: **Clare Escamilla & Nathan Glavy**, TWRI  
- Stream Substrate Analysis: **Isabella Garrone**, TWRI  
- Stream Trailer
- 3:00 pm** Data Analysis, Course Evaluation and Wrap Up



Funding provided through a Clean Water Act Section 319(h) nonpoint source grant from the Texas Commission on Environmental Quality and U.S. Environmental Protection Agency.

# Urban Riparian and Stream Restoration Program



## South Texas Urban Stream Restoration Training Agenda

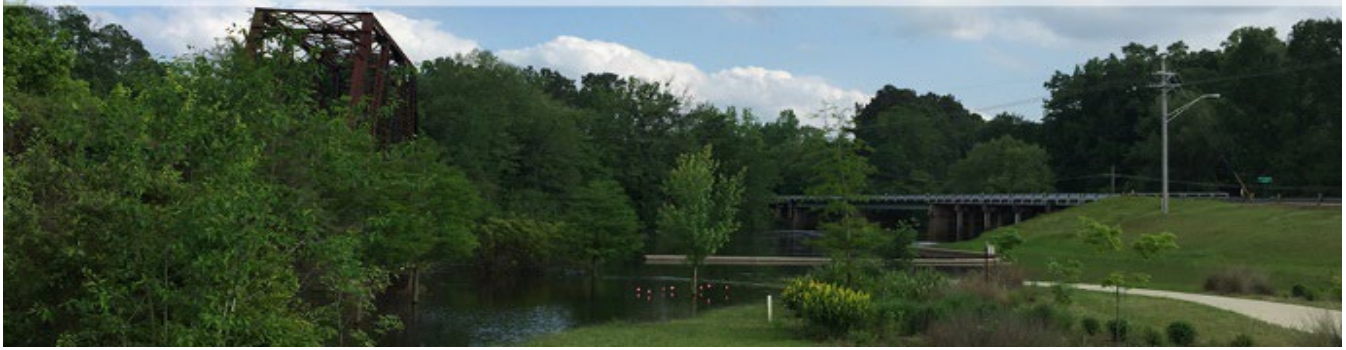
February 20, 2020 | 8:30 am - 4:00 pm

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- 9:00 am** Stream Processes, Classifications of Streams, and Stream Restoration  
- **Dr. Fouad Jaber**, Texas A&M AgriLife
- 11:30 am** Management and Photo Monitoring of Restoration  
- **Nathan Glavy**, Texas Water Resources Institute
- 12:00 pm** Lunch (Provided)
- 12:00 pm** Local Watershed Planning Updates Over Lunch  
- **Jaime Flores and Victor Gutierrez**, Texas Water Resources Institute
- 12:30 pm** Prepare for the Field  
- **Dr. Fouad Jaber**, Texas A&M AgriLife
- 1:00 pm** Field Analysis Stations (30 minute Stations, bring boots or waders)  
- Stream Inspection: **Dr. Fouad Jaber**, Texas A&M AgriLife  
- Stream Surveying: **Clare Escamilla & Nathan Glavy**, TWRI  
- Stream Substrate Analysis: **Isabella Garrone**, TWRI  
- Stream Trailer
- 3:00 pm** Data Analysis, Course Evaluation and Wrap Up



Funding provided through a Clean Water Act Section 319(h) nonpoint source grant from the Texas Commission on Environmental Quality and U.S. Environmental Protection Agency.

# Urban Riparian and Stream Restoration Program



## New Braunfels Training Agenda

October 29, 2019 | 8:30 am - 4:00 pm

- 8:30 am** Welcome and Protecting Water Quality by Restoring Riparian Corridors
- **Clare Entwistle**, Texas Water Resources Institute
- 9:00 am** Stream Processes, Classifications of Streams, and Stream Restoration
- **Dr. Fouad Jaber**, Texas A&M AgriLife
- 11:30 am** Management and Photo Monitoring of Restoration
- **Nathan Glavy**, Texas Water Resources Institute
- 12:00 pm** Lunch (Provided)
- 12:00 pm** Local Watershed Planning Updates Over Lunch
- **Mark Enders and Phillip Quast**, City of New Braunfels
- 12:30 pm** Prepare for the Field
- **Dr. Fouad Jaber**, Texas A&M AgriLife
- 1:00 pm** Field Analysis Stations (30 Minute Stations, bring boots or waders)
- Stream Inspection: **Dr. Fouad Jaber**, Texas A&M AgriLife
  - Stream Surveying: **Clare Entwistle**, TWRI
  - Stream Substrate Analysis: **Nathan Glavy & Isabella Garrone**, TWRI
  - Stream Trailer
- 3:00 pm** Data Analysis, Course Evaluation and Wrap Up



Funding provided through a Clean Water Act Section 319(h) nonpoint source grant from the Texas Commission on Environmental Quality and U.S. Environmental Protection Agency.



# Urban Stream Processes and Restoration Program



## The Woodlands Stream Restoration Training Agenda

March 24, 2022 | 8:30 am - 4:00 pm

- 8:30 am** Welcome and Protecting Water Quality by Restoring Riparian Corridors
- **Dr. Lucas Gregory**, Texas Water Resources Institute
- 9:00 am** Stream Processes, Classifications of Streams, and Stream Restoration
- **Dr. Fouad Jaber**, Texas A&M AgriLife
- 11:30 am** Management and Photo Monitoring of Restoration
- **Alexander Neal**, Texas Water Resources Institute
- 12:00 pm** Lunch (Provided)
- 12:00 pm** Local Watershed Planning and Stream Restoration Updates Over Lunch
- **Ryan Bare**, Houston Advanced Research Center
  - **Avery Lewis**, Harris County Flood Control District
- 12:30 pm** Prepare for the Field
- **Dr. Fouad Jaber**, Texas A&M AgriLife
- 1:00 pm** Field Analysis Stations (30 minute Stations, bring boots or waders)
- Stream Inspection: **Dr. Fouad Jaber**, Texas A&M AgriLife
  - Stream Surveying: **Dr. Lucas Gregory**, TWRI
  - Stream Substrate Analysis: **Alexander Neal**, TWRI
- 3:00 pm** Data Analysis, Course Evaluation and Wrap Up



Life's better outside.  
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## North Central Texas Council of Governments

# AGENDA

### **Wastewater and Treatment Education Roundtable**

Tuesday, July 13, 2021

10:00 AM – 12:00 PM

Virtual Meeting, via Microsoft Teams.

[Link to Join Meeting.](#)

Call-in Number: +1 903-508-4574

Conference ID: 894 184 223#

Chair: Duy Vu, City of Cedar Hill

Vice Chair: Elijah Dorminy, City of Irving

1. **Welcome and Introductions.**
2. **Meeting Summary.** The [March 10, 2021 meeting summary](#) is available online for your review.
3. **Member Highlight Presentation.** Martha Cavazos Fipps, City of McKinney, will present McKinney's activities related to Defend Your Drains, including advertising successes.
4. **FY2022 Work Program Discussion.** NCTCOG will present the draft FY22 Work Program for review and discussion.
5. **FY2021 Training Update.** NCTCOG will seek feedback from attendees on potential virtual training topics for FY2021.
6. **Promotional Activities Update.** NCTCOG will provide an update on promotional activities and provide analytics from the Defend Your Drains website and social media activities. Additionally, NCTCOG will provide an update on the educational explainer videos. NCTCOG will also provide an update on the 2021 Holiday Grease Roundup marketing materials.
7. **General Updates.** NCTCOG will provide general updates on relevant programs and events.
8. **Roundtable.** The group will share what is happening in their communities.
9. **Schedule for the Next WATER Meeting.** The next WATER meeting is tentatively scheduled for October 7, 2021 at 10:00 AM. The location for this meeting is to be determined.
10. **Adjournment.**

If you have any questions regarding the meeting or agenda items, please contact Hannah Allen at (817) 695-9215 or [hallen@nctcog.org](mailto:hallen@nctcog.org). Thank you!

If you plan to attend this public meeting and you have a disability that requires special arrangements at the meeting, please contact Barbara Bradford at (817) 695-9231 or [bbradford@nctcog.org](mailto:bbradford@nctcog.org) at least 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.

***Wilson Creek Restoration Planning Committee***  
***Meeting Agenda***

July 2<sup>nd</sup>, 2021

1:00-2:00 PM

- I. Welcome and Introductions**
- II. Discuss Coordination of Committees – Meeting Schedules and Participation in Google Sheet**
- III. Overall Budget Coordination – Required vs Incidental**
  - a) Tree and Mulch Cost
  - b) Public Works Update
- IV. Site Visit - Scheduling**
- V. Partnership Monthly Meeting Scheduling**
- VI. Naming**
- VII. Adjournment**

State Wetland / BMP Coordinating Committee Meeting

Texas A&M Forest Service Headquarters Building  
College Station, Texas

December 10, 2018

Welcome/Introductions – **Shane Harrington**

Updates from Agencies/Organizations

☐ **Texas A&M Forest Service (TFS) – Shane Harrington and others**

- Discussed staff changes, restructuring of our department.
  - Hughes Simpson is now the Sustainable Forestry Department Head.
  - Shane is now a Program Leader within the Forest Resource Development and Sustainable Forestry Division.
  - Our Houston Water Resources Program position is now open; going to revamp and repost the position announcement early 2019; hope to fill the position by early spring.
- There is a big need for water management in the Houston area. We have a USFS grant to help with green infrastructure in the Houston area; flood mitigation. Want to work with Justin's group on this.
- Just completed our 10<sup>th</sup> round of BMP implementation monitoring. Data analysis is yet to come; will be complete by early next year; but **Todd Thomas** feels confident the overall compliance rate of 94-95% still stands; private landowner rate still on the rise.
- A portion of our implementation monitoring has a Risk Assessment component; not quite the same as showing effectiveness, but similar information.
- Texas Forests and Drinking Water Partnership – **Hughes Simpson**
  - Initiative to connect forests with drinking water utilities. Meet to find funding and to show how landowners' management can affect/improve water quality; to advance watershed protection.
  - Part of a regional effort; 8 other southern states involved in similar programs.
  - Next meeting February 5 & 6, 2019, at McKinney Roughs, between Bastrop and Austin on Hwy. 71. Field tour afternoon of the 5<sup>th</sup>; meeting on the 6<sup>th</sup>.
  - How can we get projects off the ground? We'd like to do something like the Savannah River Clean Water Fund (watershed between SC and GA) – provides landowner incentives to implement Stewardship practices and conservation easements.
- Central Texas – Land Stewardship Contractor Training – **Lori Hazel**
  - BMP educational workshops for heavy equipment operators and landowners – to implement practices correctly.
  - 2015 – first workshop; 6 total to date.
  - 2018 – took a break, as had staff and leadership changes among partners.
  - 131 students to date.
  - Receive positive feedback from students; they would recommend the course.
  - Workshop design mirrors our BMP and riparian area workshops.

- Classroom topics: Wildlife Management; Operations Planning; 811 Pipeline Safety; Landowner/Contractor Lessons Learned; Woody Material.
  - Field topics: Erosion Control; Riparian Management; Wildlife Management; Brush Control Operations.
- Goal: 2 workshops/year.
- Focus: Watershed Protection Plans with brush control listed as a priority element of the plan; for water quality/quantity.
- Grew out of these workshops – Inks Lake area, landowners and post-fire recovery.
  - They are using the older guide now; Lori is working on a newer, expanded version.
  - Lampasas watershed has discussed having contractors signing onto Land Management Connector app.
  - TPWD offers extra points to those using trained contractors in their landowner incentive programs.
- Texas Forest Info [ <http://texasforestinfo.tamu.edu> ] – **Shane Harrington**
  - Developed “My Land Management Connector.”
    - Live about 1 year.
    - This app helps landowners find land management service providers, assists service providers in aggregating land management services, and works for any size property and most land management services.
    - Looking to get some “success stories” from this in next 6-8 months.
  - Developed “got LAND” application to help “fill in the blanks” for new or impending landowners.
    - Helps them to know what to do/ask now that have wooded property.
    - Lists resources to help landowners.
    - This group – please check it out and let us know if you have any suggestions.
  - “Plan my Land Operation” app still going strong. Has been demonstrated by TFS Water Resources staff at stakeholder/landowner meetings.
  - Please check out Texas Forest Info and let us know if you have any ideas of other apps that could be added.
- Trying to develop NGO Leadership Training Course – **Shane Harrington**
  - To teach landowners advocacy and staying engaged in natural resources, stewardship, etc.
  - To be a high-level academy, about 1 year long, with prominent, well-known speakers for certain topics.
  - Have hired someone new to work on this.
  - Small class sized of around 25 people.
  - Hope to continue each year; every 18 months.
  - Landowner associations, urban tree advocacy groups, and water resource-led groups could benefit.
  - Hope by this time next year to have it underway or about to start.
  - Forestry, tree, water, and other topics are included.
- State Flood Assessment document – recommended trees to incorporate in infrastructure to help flooding issues.
- Emerald Ash Borer
  - Confirmed detection in Fort Worth area (Tarrant County; near Eagle Mountain Lake).



- Photo taken and posted in 2017, but had no specimen.
- Have been monitoring in the neighborhood of the photographic documentation.
- Reared some larvae from ash trees – genetics work confirms EAB.
- Press release: <http://tfsweb.tamu.edu/content/article.aspx?id=29756>
- There are some treatments for protecting higher-value trees, but not practical to treat on a landscape scale.
- EAB has already been detected in Harrison Co. in 2016; Cass and Marion counties in 2018.
- More info on EAB:  
[http://tfsweb.tamu.edu/uploadedFiles/TFSSMain/Manage\\_Forest\\_and\\_Land/Forest\\_Health/Invasive\\_Species/Emerald%20Ash%20Borer\\_Fact%20Sheet%202018.pdf](http://tfsweb.tamu.edu/uploadedFiles/TFSSMain/Manage_Forest_and_Land/Forest_Health/Invasive_Species/Emerald%20Ash%20Borer_Fact%20Sheet%202018.pdf)

#### ☐ National Forests and Grasslands in Texas (NFGT) – Rob Potts

- Planning Team Personnel
  - 7 permanent, full-time staff; 4 interns currently (probably keeping one in Texas on the Sam Houston National Forest).
  - No Hydrologist, no Soil Scientist; not even listed on the organizational chart anymore; highly unlikely to add these back.
  - They work with NRCS (helped with Forest Plan), university partners, and others; do a lot of contracting out. So partnership very important to them.
  - Possible USFS contacts for water issues:
    - Dave Peterson, Fisheries Biologist
    - Ruben Torres - interest in Hydrology
- Projects
  - Forest-wide Oil and Gas lease Availability Analysis going on now
    - Just an analysis; not operational; doesn't authorize drilling; Environmental Impact Statement (EIS).
    - What lands are available for leasing?
    - Under what conditions, stipulations (no surface occupancy, controlled surface use, etc.) could drilling occur?
    - In 2015, received over 2,000 letters from advocacy groups on oil and gas topics.
    - The agency nationwide is losing in litigations on air quality, greenhouse gases, water quality.
    - Wants advice, guidance on water quality from this group in the EIS.
    - May get a recent graduate, intern to help in implementation monitoring.
    - Developing a communication, collaboration strategy.
    - Wants us to help identify key stakeholders – NGOs, technical groups, etc.
    - A proposed action on these oil/gas leases to come out in January, February.
    - February or March 2019 – public meetings on this issue; particularly in air and water quality, and greenhouse gases.
- Still trying to fill the Forest Planner position; G12; to facilitate the EIS on oil/gas project. Having NEPA experience would be good, but not required.
- BLM has BMPs related directly to oil and gas – USFS has national and local MOUs with BLM.
- Also, some National forests in other states have some.
- Todd Thomas' thesis data on oil and gas and water quality could give them some information.
- USFS trying to determine what models to use for air quality and greenhouse gases.
- With public input, they could get 4-5 alternatives on how to handle oil/gas/greenhouse gases issues.

☐ **Houston-Galveston Area Council (H-GAC) – Justin Bower**

- They provide data resources.
  - Clean Rivers program doing water quality data collection for them.
- Doing Watershed Protection Plans (WPPs) and Total Maximum Daily Load (TMDL) plans.
  - Focused a lot on fecal waste and low dissolved oxygen.
  - Wanting to take a more landscape-wide look – industry, forests.
  - Uses TFS and others to help with forestry ecosystem information in WPPs.
  - Please continue to be involved in forestry aspect.
  - Please use them as a resource for data.
  - A lot of WPP workshops going on; want to “upgrade” forestry portion.
  - Question: How can we include urban/development issues into the WPPs?
    - H-GAC just got their first Urban Project after 2011 drought and Hurricane Harvey.
    - Did a lot of data gathering from the region; included urban FIA data, etc.
  - WPP with fork of San Jacinto River just released. This is their first try at including urban forestry in a WPP.
- Question: Do you think EPA would approve us bringing on other urban tree canopy models?
  - Suggested they go by “trial and error” to see what the EPA would accept. They don’t necessarily have an “approval board” for that. EPA is results-oriented.

☐ **Texas Water Resources Institute (TWRI) – Lucas Gregory**

- Watershed planning work: Lower Rio Grande Valley project; also working in other waterbodies: Copano Bay and Matagorda Bay.
  - Working with public stakeholders
  - Doing water quality monitoring
- Angelina & Neches River Authority work this week – collected water quality samples over a large area.
- They do a lot of training that supports Watershed Planning efforts, including a “Train the Trainer” Watershed Protection Course.
  - To develop WPPs.
  - January 31, 2019, meeting in Waco. Hope to include forestry too.
  - Doing a Watershed Planning Short Course now – 3-5 days. Next one in Bandera February 18-21, 2019.
- Implementation training – a stand-alone course; hot to implement WPPs. Next one in College Station next week.
- BMP Implementation training – have ag and urban ones; should add forestry ones too.
- Riparian and Stream Ecosystem Education programs for landowners across the state.
- Urban Riparian BMP training for practitioners to plan out restoration efforts; have an evaluation aspect to it; also collect samples.

☐ **Tarrant Regional Water District (TRWD) – Tina Hendon**

- Have a 3-watershed, 11-county service area.
- Sell to around 25 customers – Fort Worth, Arlington, Mansfield, and other cities.
- In 2012, she started as Watershed Program Coordinator; now she has a staff of 3.
- Plans developed outside the 309 grants are called 3<sup>rd</sup> party plans.
- Nutrients and sediments are #1 concerns in their district.

- Some of their customers don't have the funding or infrastructure to have water treatment facilities; so they try to keep water as clean as possible.
- 30-50% of their sediment is from erosion/channelization of streams.
- They try to address riparian needs and awareness with the public, but "taking the land out of production" is a difficult issue with cattle and cotton raisers.
- Richland-Chambers watershed – getting a grant for Mill Creek watershed.
- Brush management is a prime focus in their WPPs.
- Education and outreach is important in getting landowners to leave buffers to stabilize banks.
- Green infrastructure is just beginning to take off in North Texas. They have some demo sites on their property.
- They are interested in implementing new/small landowner workshops; covering ag tax valuation, etc.
- Forests and Drinking Water Partnership – not sure where they fit in with this, as it is not a focus area for them. But they could show the forests/trees and water connections; greenbelts.
- NGO Leadership Training Course – they are interested in sending at least one person to that.
- EAB – they have an extensive communication network via social media; would be glad to help get the word out, and give access for surveys along trails and in parks.

#### ☐ **Texas Logging Council (TLC) – Dave Duren**

- Texas Forestry Association/Texas Logging Council sponsor Logger Training sessions that cover BMPs, Safety, Silviculture, and Wildlife. Went from 3 days of training to now 2 days to cover these topics. Field tours are also a part of the training.
- Pro-Loggers have to have 6 hours of CEUs each year, BMPs included; so they have other classes and events that count toward these CEUs.
- The logging business has decreased over time.
- NRCS/Mike Oliver has been giving rainfall simulator presentations, showing the effects of rainfall on soil and water.
- We have trained 51 in the Pro Logger Workshop in 2018. This is where non-Pro Logger people are trained in a two day period in all subjects required by SFI.
- In the regular CEU classes where Pro Loggers can take six hours to keep up their required training, we have had 226. Training sites were in Jefferson, Lufkin, and Cleveland.

#### ☐ **Texas State Soil and Water Conservation Board (TSSWCB) – Wesley Gibson**

- We are a pass-through granting agency; administers Texas Nonpoint Source Grant Program; 319 grants.
- Work all over the state.
- Conduct all sorts of water quality services.
- A certain percentage of their monies have to go towards implementing WPPs; they "thrive" on our creative projects.
- They work some with endangered species.
- They educate landowners on WPPs.
- They organized the state into Soil and Water Conservation Districts (SWCDs).
- Upcoming – trying to work with smaller and small, absentee landowners.

#### ☐ **Natural Resources Conservation Service – Mike Oliver**

- He is now located in Nacogdoches County at the Plant Materials Center.

- One reason he transferred to East Texas was to work at restoring native ecosystems. Longleaf pine and shortleaf pine initiatives are part of Farm Bill interests.
- This dovetails in with Plant Material Center goals, which focuses on warm-season native grasses; now into forbs as well.
- They are now in between Farm Bills. The 2014 Farm Bill ended in September 2018. The 2019 Farm Bill may not come along until after the first of the year.
- There is a lot of interested in native plants.
- He has worked with TFS twice on plant identification workshops.
- NRCS now has 5 rainfall simulators/outreach trailers that show runoff and infiltration. Can use these to demonstrate outdoors or indoors. They also have PowerPoint viewing capabilities with these trailers. They are going to do Pro Logger events.
- Working on a wetland/BMP workshop for NRCS staff with Lori Hazel and Todd Thomas.
- NRCS has a new 2-year agreement with TFS statewide.
- Joint Chief's Project – USFS and NRCS – reviewing proposals now; they put monies together for water quality, wildlife/endangered species, and wildfire prevention.

#### ☐ **Texas A&M AgriLife Research and Extension – Dr. Fouad Jaber**

- Urban Riparian Restoration Workshops
  - Were held in Pearland, Corpus Christi, and Junction.
  - 5 new ones planned for 2019/2020.
  - Natural channel workshops; not utilizing concrete, Gabions.
  - They have a research/demonstration area in Seguin.
    - Guadalupe River from New Braunfels to Seguin – having erosions issues.
    - Want to restore riparian vegetation in parts; no restoration in other parts (control section).
    - Looking at bank erosion and streambed erosion; sediment, hydrologic flow.
    - Using plants instead of instream structures to restore.
    - TCEQ-funded project.
- Watershed Characterization Plan
  - Rowlett Creek through Plano; 100% urban stream.
  - Precursor to a WPP.
  - Project funded by TCEQ.
- Katy Prairie
  - Works with Harris County Flood Control District; funded by Harris County.
  - Modeling the entire Cypress Watershed.
  - Can prairies absorb water enough to help prevent flooding in Houston from large water events (not like Hurricane Harvey, though)?
    - Have been taking intense measurement of infiltration in last 3 months.
    - Has high clay content.
- Coming: The Nature Conservancy is re-granting them to model stormwater flow in City of Dallas.
  - Determine where the problems areas are in the city.
  - Assess how much green infrastructure (permeable pavement, rain gardens, etc.) can help these areas that flood frequently.
  - Designing water retention system in Medical Center in Houston and Houston Botanical Gardens.

❑ **Texas Rural Water Association – Deborah McMullan**

- Source Water Protection Plans
  - Work with a specific water supply and their customers.
  - Help protect the source.

❑ **Presentation: “Creating the Relationship Between Good Science and Informed Policy” – Dr. John C. Tracy, Director, TWRI**

- What is Science?
- Designing a Resource Science-Policy System.
- Integrating the Research Community – How can science integrate with management and policy?
- True science has to lead to an increase in knowledge, not just more data.  
Data → Information → Knowledge
- How is knowledge used? – To aid in the decision process; adds input.
- Understanding of the process:
  - Belief-based knowledge – All involved are pretty evened in their opinions
  - Expert-based knowledge – There is more diversity in the range of the opinions
  - Science-based knowledge – there is a tight spread, with a one idea that really stands out
- Logical Reasoning has a Premise – a Rule – and an Outcome.
- Types of Logical Reasoning:
  - Deduction
  - Induction – physical science
  - Abduction – social science
- Mission-focused Research – a question waiting for an answer.
- Programmic Research.
- Environmental Management Community and Environmental Research Community need good communication between the two.
  - Not pointing fingers (such as Environmental Research saying Environmental Management causes the problem); but should come up with ways to avoid/fix the problem.
  - Shared knowledge creation – conflicts become smaller.
  - Program of Research integrated into Environmental Management program (joint responsibility) leads to an adaptive management structure. [Knowledge by Research integrated into Management decisions.]
  - Knowledge creation becomes part of the Plan.
- Problems:
  - The 2 communities operate on different business cycles.
  - Their goals are significantly different.
  - Incentive structures for both can be at odds, different.
- Integrating these 2 will ultimately restrict the short-term decision space; only so much each can do, especially when the researchers come in.
- Environmental Management problems have 3 dimensions: complexity, uncertainty, and risk.
- Elements to consider:
  - Define the value the Research community can bring to Environmental Management.
  - Develop opportunity for engagement of the Research community.
  - Encourage investment by the Research community.
  - Evolve and formalize the Research community’s role in the watershed.

☐ **Adjournment**

- You can ask Shane to give you a distribution list, or he can put out a message on your behalf, if you want to contact the group on something.

☐ **Attendees:**

Dave Duren, TLC/TFA  
Wesley Gibson, TSSWCB  
Lucas Gregory, TWRI  
Shane Harrington, TFS  
Lori Hazel, TFS  
Tina Hendon, TRWD  
Dr. Fouad Jaber, AgriLife Res. &  
Ext. Justin Bower, H-GAC

Jeff McFall, TFS  
Deborah McMullan, TRWA  
Mike Oliver, NRCS  
Rob Potts, NFGT  
Hughes Simpson, TFS  
Todd Thomas, TFS  
Dr. John Tracy, TWRI  
Donna Work, TFS

## Texas BMP / Wetland Coordinating Committee

Virtual Meeting via Teams

August 19, 2020

### Welcome and Opening Comments – Shane Harrington, TFS

- What the Committee is about.
- TFS is updating/revising the Forest Action Plan. It is now out for review and comments. Please go to <https://tfsweb.tamu.edu/ForestActionPlan> to review/comment.

### Forests and Drinking Water Campaign / Southeastern Partnership – Hughes Simpson, TFS

- This initiative started when a representative with South Carolina's Rural Watershed Association met with a U.S. Forest Service representative in Atlanta.
  - This led to a 2012 meeting bringing together forest managers and water utilities. They decided a coordinated effort between the forest and drinking water sectors was needed.
  - The project picked up steam in 2016 with the receipt of USFS grants.
- The Southeastern United States is the service area for this initiative.
  - Now operating in 9 states; 4 of which are very active. [but Hughes said something about 13 states?] There are 13 southern states we are attempting to bring into the partnership 9 signed on 4 very active
  - Educating those in both sectors on how forests produce clean water.
  - Working on source water protection and sustainable forest and water management.
  - <https://southeasternpartnership.org>
- This is a regional effort, but realize state cooperation as well as local efforts are needed between the forest and drinking water sectors.
  - TFS created a geospatial water distribution map with water locations, threats, etc. See <https://tfsweb.tamu.edu/partnership/>.
  - The Texas Partnership is focusing on the Greater Houston area and Austin/Hill Country area.
    - Working on how to incentivize clean water efforts monetarily.
    - Putting together outreach materials.
- Question: Was EPA Region 6 invited to these meetings?  
Answer: Yes; we value EPA's partnership; welcome others to join as well.

### Smart Sectors Initiative for Forestry – Corry Schiermeyer and Sara Frey, EPA

- This new EPA initiative is not specific to forestry, but has a sector for Forestry, Wood and Paper Products. See <https://www.epa.gov/smartsectors>.
- Launched initially in the early-mid 2000s. Lagged some; then relaunched.
- 13 total sectors: <https://www.epa.gov/smartsectors/explore-sectors>.
- Sara Frey is the Point of Contact on the forestry sector. She is a Physical Scientist in the Enforcement Division. [Frey.Sarah@eps.gov](mailto:Frey.Sarah@eps.gov)
- [Schiermeyer.Corry@epa.gov](mailto:Schiermeyer.Corry@epa.gov)

## Houston Area Conservation Efforts – Justin Bower, Houston-Galveston Area Council

- Resiliency challenges
  - Need to look at what benefit wetlands, marshes, etc., provide.
  - Loss of ecosystem services due to development.
  - Looking at conservation to help deal with this resiliency.
- The Houston area has a mix of state, national, and private lands.
- Have a large regional capacity for conservation, but though there are huge conservation efforts by some entities, there is a disproportional amount of effort to the area that needs coverage.
- Need regional coordination that leads to a regional conservation framework, leading to [developing government organizations to deal with urban issues](#).
- There is a regional move towards natural functions in transportation, detention, and recreation.
- “Embrace the Adjacent”
  - Forestry/Water Quality
  - Community
  - Air Quality/Climate Change
- City of Houston Initiatives
  - Resilient Houston – wide range of issues, focus on natural infrastructure
  - Houston Climate Action Plan
    - Planting 4.6 million trees
  - Source Water Protection
    - Look at those headwaters, especially for Lake Houston area.
  - Natural Areas Conservation Master Plan (planned)
- Urban Forestry
  - Many efforts focused on benefits of forested areas; TFS and others involved.
    - Houston Area Urban Forests
    - Texas Forests and Drinking Water
  - Inclusion in water quality planning – Watershed Protection Plans, etc.
  - Coordinated approach
- Recreation/Sense of Place
  - Seeing huge increase of people using outdoor spaces now, due to COVID-19.
  - Spring Cypress Creek Greenways, Bayou Greenways, etc.
  - Waller County Parks Natural Areas Master Plan
    - Growing focus in outer counties on rural character; influx of growth.
- Transportation
  - Ecological
    - Robust, user-defined environmental assessment
    - Required in TIP process
  - Regional Resilience Pilot Program
    - Considering natural function as part of the strategies
  - Forested buffer around a roadway/linear forests – being built into project proposals!
- [www.h-gac.com/ecological/default.aspx](http://www.h-gac.com/ecological/default.aspx) - Ecological tool open for public use. Can help in identifying natural priorities and impacts of projects; identifying priority conservation areas.
- [justin.bower@h-gac.com](mailto:justin.bower@h-gac.com)



### Importance of This Meeting – Tom Boggus, TFS Director

- Highlighted how important meetings like the BMP/Wetland Coordination Committee are
- Encouraged stakeholders to continue to be open handed in their sharing of projects with other stakeholders
- Encouraged stakeholders to continue to use TFS as a resource moving forward

### Roundtable Updates - TFS, EPA, TSSWCB, NRCS and USACE Updates

#### Shane Harrington- TFS

- Introduced entire Water Resources staff including members and their duties Lori Hazel (Temple), Sarah Bailey (Hudson), Mac Martin (Houston) Jeff McFall (San Antonio) and Donna Work (Hudson)
- New BMP Implementation Round 10 Story Map available. Story Map provides an excellent snapshot entire history of BMP Implementation growth and success through each round of surveying. Also highlights the strengths and weaknesses of the most recent BMP Implementation Survey from 2018. <http://tfsfrd.tamu.edu/storymaps/BMP/>
- TFS is developing a BMP guideline for Central and West Texas to be made available soon
- Inaugural TFS Leadership Institute to hold first classes in Fall 2020 virtually and hopefully in person in Spring 2021
- Began running i-Tree Hydro stormwater models to help Natural Resource Managers and Urban Planners quantify the impacts of changes in tree and impervious cover on local hydrology to aid in management and planning decisions. Has been integrated in Watershed Protection Plans and TMDLs in the Houston area. Contact Mac Martin if you have interest in using models for watershed planning. [Mac.martin@tfs.tamu.edu](mailto:Mac.martin@tfs.tamu.edu)

#### Mike Bira – EPA

- There will be a Non-Point Source Pollution Conference from November 16<sup>th</sup>-19<sup>th</sup>, 2020
- There will be a [Watershed Planning Short Course](#) in Bandera from November 2<sup>nd</sup>-5<sup>th</sup>
- Introduced Anthony Suttice an NPS Project Officer and Jim Drake a Life Scientist with EPA

#### Randy Rush – EPA

- There has been an update to the Waters of the United States (WOTUS) Rule. Now the Navigable Waters Rule
- Navigable waters are broken into four categories:
  - “Other Waters” such Lakes, Ponds and Sloughs
  - Traditional Navigable Waters
  - Tributaries of Traditional Navigable Waters
  - Wetlands adjacent to Traditional Navigable Waters
- Maps and workgroups surrounding these categories coming from EPA soon

#### Wesley Gibson – TSSWCB

- Listed all of the programs at the TSSWCB
  - 319 Grants and Watershed Protection Plans
  - Texas Well Owner Network
  - Water Quality Management
  - Feral Hog Education courses
- TSSWCB is working on management plan to come out in 2022
- Introduced Jett Preston as is a 319 Grant Project Manager
- Listed all of the regional offices at the TSSWCB
  - Dublin
  - Mt. Pleasant
  - Poultry
  - Wharton
  - Harlingen
  - San Angelo
  - Hale Center

#### Dan Keesee – NRCS

- Application period for [the Texas Regional Conservation Partnership Program](#) (RCPP) is open from now through 11/4/2020. Project funding for 250K-10 Million Dollars. Submitted projects are expected to match or exceed awarded funds
- [RCPP funding webinar](#) to be held August 27<sup>th</sup> to explain application process
- Conservation Innovation Grant available to award \$75,000 in East Texas for silvopasture. The overall goal is to establish demonstration areas of several silvopasture practices and utilize the demonstration areas to transfer agroforestry science and technology to producers and others. Stephen F. Austin is lead partner.
- NRCS currently has a [floodplain easement program](#) where if land qualifies under flooding criteria landowners voluntarily agree to sell a permanent conservation easement to the United States through NRCS. The NRCS will then restore the land, to the maximum extent possible, to its natural condition. Restoration techniques include the use of structural and non-structural practices to restore the flow and storage of floodwaters, control erosion, and to improve management of the easement. The landowner retains the land's title, the right to quiet enjoyment, the right to control public access and the right to undeveloped recreational use
- NRCS is also conducting extensive coastal zone soil surveying and soil mapping

#### Neil Lebscok- USACE

- Has a PowerPoint presentation on the Navigable Waters rule change that will be attached in this email

#### Closing Statements – Shane Harrington, TFS

- Emphasis to keep regular contact with Coordination Committee

- Look for an invite for a potential electronic meeting this fall
- Potential in-person meeting hopefully this fall, if not next Spring

# ***Wilson Creek Riparian Restoration Site Prep Committee Meeting Agenda***

August 4, 2021  
9:00-10:00 AM

## **I. Welcome and Introductions**

## **II. Tools Required**

- a) What do we have?
  - 1. Augur for 15g
  - 2. Handheld Augur for Seedlings
  - 3. Trowels?
  - 4. Shovels?
  - 5. Buckets for Mulch?
  - 6. Wheelbarrows
- b) What do we still need and Costs?
  - 1) Mulch -**Texas Pure** -Marty
  - 2) Stakes for 15g (~100 needed)
  - 3) Gloves
  - 4) Tree Guards?
  - 5) Others?

## **III. Staging Schedule and Volunteers Needed**

- a) November 3<sup>rd</sup> – Drill Holes: How long and many people are needed?
- b) November 4<sup>th</sup>- Mulch Delivery and Bucket Staging: How long and many people are needed?

- c) November 5<sup>th</sup>- Tree Delivery and Staging: How long and many people are needed?
- d) What else needs to be done for proper staging? (trash, porta-potties pipeline safety)

**IV. August 5<sup>th</sup> Site Visit – What do we need to know?**

- a) Finetune Planting Location. Mac will have GPS to drop points and upload into ArcMap
- b) Coordinate and Measure Pipeline Easement
- c) Determine best path for all phases of staging (getting vehicles onsite, etc. )

**V. Adjournment**



## SGSF Water Resources Committee Winter Meeting – AGENDA

February 04, 2021

### All times are Central Time Zone

#### Thursday – February 04

8:00 a.m.	Welcome	Ryan Peek
8:05 a.m.	Introductions /WRC Business Meeting: Review minutes from WRC Winter Meeting in AL	Group
8:30 a.m.	Individual State Water Program Updates	State Water Program Reps
9:30 a.m.	Break – 15 minutes	
9:45 a.m.	Updates on Action Items from WRC Winter Meeting in AL	Group
10:45 a.m.	Keeping Forests	Daniel McInnis
11:00 a.m.	KF: Ecosystems Team update	Holly Welch
11:15 a.m.	Southern Forest Outlook	Daniel McInnis
11:30 a.m.	Results of AJ's soil erosion estimates at stream crossings	AJ Lang
11:45 a.m.	SouthFACT revamp status update Replacement WRC GIS liaison	Jim Jolley
12:00 noon	Lunch	
1:00 p.m.	Intro to Paul Gellerstedt	Paul Gellerstedt
1:30 p.m.	LaSR Grant Program Update WRC grant ideas	Paul Gellerstedt Group
2:00 p.m.	SE Partnership for Forests and Water (SEPFW)	Kitty Weisman – Coordinator Southeastern Partnership for Forests and Water

2:30 p.m.	USFS General Update	Paul Gellerstedt
3:00 p.m.	Southern Research Station Update	Andy Dolloff
3:30 p.m.	Break	
3:45 p.m.	SGSF Policy Update	Tim Foley
4:15 p.m.	NCASI/VT Update	Eric Schilling
4:45 p.m.	Business Meeting Dissmeyer award, action items review, next meeting, etc.	Group
5:00 p.m.	Adjourn	

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(If desired)		
7:00 p.m.	After hours virtual social	Group

**WATER AND SEDIMENT QUALITY (WSQ) SUBCOMMITTEE  
OF  
THE GALVESTON BAY COUNCIL (GBC)  
GALVESTON BAY ESTUARY PROGRAM (GBEP)**

**Online Meeting  
March 10, 2021  
1:30 P.M. – 3:30 P.M.**

***AGENDA***

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**1:30 Call to Order, Introductions**

**1:35 Approval of Minutes:** Subcommittee review/approval of 12/09/2020 meeting minutes

**New Business**

**1:40 Presentation and Discussion:** “Baseline Assessment of Microplastics in Galveston Bay” - Zulimar Lucena, United States Geological Survey

**1:50 Presentation:** “The Role of Forests and Trees in Urban Watershed Management” - Mac Martin, Texas A&M Forest Service

**2:10 Open Discussion:** Impacts/observations of recent Winter Storm Uri.

**2:40 Subcommittee Discussion:** Needs and gaps (Time permitting)

**Old Business**

**3:00 Projects Updates from WSQ Project Managers and Partners:**

- Implementation of Watershed Protection Plan for Double Bayou (HARC)
- Targeted Bacteria Monitoring (BPA thru H-GAC)
- Occurrence of Microplastics in Tributaries to Galveston Bay (USGS)
- Baseline Assessment of Microplastics in Galveston Bay (USGS)
- Outreach Implementation for Galveston Bay Water Quality Projects (H-GAC)
- Dickinson Bayou/Highland Bayou Watershed Protection Plan (TCWP)
- Cypress Creek and Spring Creek Watershed Protection Plans (H-GAC)
- BIG I-Plan/Basin 11/Cotton Bayou (H-GAC)
- Green Infrastructure for Texas (TCWP)

**3:10 Roundtable/ Partner Announcements**



**3:15 GBEP, Council, and Subcommittee Updates**

**3:30 Adjourn**

**Future Meetings:**

PPE Subcommittee Meeting - TBD

NRU Subcommittee Meeting - TBD

B&P Subcommittee Meeting - April 6, 2021, 9:00am - 11:00am

GBC Meeting - April 21, 2021, 9:30am -12:30pm

Next Quarterly WSQ Meeting - June 9, 2021, 1:30pm - 3:30pm

Fall WSQ Meeting - September 8, 2021, 1:30pm - 3:30pm

Winter WSQ Meeting - December 8, 2021, 1:30pm - 3:30pm

**WATER AND SEDIMENT QUALITY (WSQ) SUBCOMMITTEE  
OF  
THE GALVESTON BAY COUNCIL (GBC)  
GALVESTON BAY ESTUARY PROGRAM (GBEP)**

**Online Meeting  
December 9, 2020  
1:30 P.M. - 3:30 P.M.**

**AGENDA**

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**1:30 Call to Order, Introductions**

**1:35 Approval of Minutes:** Subcommittee review/approval of 9/09/2020 meeting minutes

**New Business**

**1:40 Presentation and Discussion:** State of the Bay, 4<sup>th</sup> Edition Platform Launch - Erin Kinney, Houston Advanced Research Center

**2:00 Presentation:** Targeted Bacteria Monitoring - Kendall Guidroz, Houston-Galveston Area Council

**2:20 Presentation:** Bacteria Implementation Group (BIG) Update - Steven Johnston, Houston-Galveston Area Council

**2:40 Subcommittee Discussion:** FY22 WSQ Projects, Needs and gaps (Time permitting)

**Old Business**

**3:00 Projects Updates** from WSQ Project Managers

- Dickinson Bayou/Highland Bayou Watershed Protection Plan (TCWP)
- Green Infrastructure for Texas (TCWP)
- Cypress Creek and Spring Creek Watershed Protection Plans (H-GAC)
- BIG I-Plan/Basins 11 and 13 (H-GAC)
- Implementation of Watershed Protection Plan for Double Bayou (HARC)
- Bacterial Source Tracking (TWRI)
- Targeted Bacteria Monitoring (BPA thru H-GAC)
- Occurrence of Microplastics in Tributaries to Galveston Bay (USGS)
- Baseline Assessment I f

**3:10 Roundtable/ Partner Announcements**

**3:15 GBEP, Council, and Subcommittee Updates**

**3:30 Adjourn**

**Future Meetings:**

PPE Subcommittee Meeting - TBD

NRU Subcommittee Meeting - TBD

B&P Subcommittee Meeting - TBD

GBC Meeting - January 20, 2021 (9:30am -12:30pm)

Next Quarterly WSQ Meeting - March 10, 2021

Date	Title of Meeting	Group
10/3/2018	State Technical Forestry Sub-committee	Committee Members
10/29-30/18	Texas State Soil & Water Conservation Board Annual Mtg	Various
11/29/2018	Urban Stream Processes and Restoration Program	Various
12/5/2018	3rd Annual Hill Country Water Summit	Guadalupe Basin Coalition/GBRA
12/10/2018	Texas State BMP/Wetland Coordinating Committee	Coordinating Committee
12/17/2018	Watershed Protection Plan Implementation Course	TWRI
1/18/2019	Frio River Study Partner's Meeting	TPWD
1/31/2019	Watershed Coordinator's Roundtable	TSSWB/TWRI
2/12/2019	Staff Meeting	TFS Water Resources Program Staff
2/19/2019	Big Elm Creek Watershed Stakeholders Meeting	TWRI
2/27-3/1/2019	Urban Riparian Symposium	TRA
2019	TFS participated in a SGSF WRC webinar on erosion and sedimenta	SGST WRC
2019	SGSF Water Resources Committee Winter Meeting	SGSF WRC
3/1/2019	Urban Riparian Symposium	TRA; TFS; multiple
4/16/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
5/21/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
5/30/2019	Nolan Creek Watershed Protection Plan meeting	Stakeholders
6/14/2019	Texas Forest Landowners Council Meeting	Texas Forest Landowner Council
6/18/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
6/18/2019	Quarterly Meeting	SFI Implmentation Committee Meeting
7/1/2019	Water Resoucrs Staff Meeting	Water Resoucre Program TFS
8/6/2019	Watershed Coordinators Roundtable Meeting	Watershed Coordinators
8/7/2019	TWDB Flood Implementation Stakeholder Workshop	TWDB
8/13/2019	State Flood Planning Mtg	TWDB
9/24/2019	Quarterly Meeting	SFI Implmentation Committee Meeting
10/22/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
10/29-10/30/2019	Annual Mtg TSSWCB District Managers (set up booth for 8 hrs on k	TSSWCB
10/31/2019	i-tree (i-hydro webinar)	USFS
11/22/2019	Middle Neches Water Quality Meeting	TWRI
12/3/2019	River Road Riparian Restoration	SARA & USACE
12/13/2019	Water Resources Program Mtg	TFS
Januray 2020	Water Resources Committee meeting	Southern Group of State Foresters
3/23/2020	Board Meeting & Annual Meeting Planning	TRA

4/4/2020	Gavelston Bay Estuary Program Water Quality and Sedimentation	Multiple Agencies & NGOs
4/14/2020	Cypress Creek WPP I-Tree Hyrdo Trends Meeting	TFS, HGAC
4/15/2020	Intro to Watershed Modeling	TWRI
4/16/2020	Bacteria Implementation Group Stakeholder Session	TFS, HGAC
4/23/2020	Watershed Coordinators Meeting	TWRI
4/30/2020	Texas Flooding Challenges Webinar	Texas Water Journal
5/12/2020	NRCS Water Resources Meeting	Multiple Agencies & NGOs
5/20/2020	Joint Regulatory Plan Stakeholder Review	Harris-Galveston Subsidence District
5/28/2020	Annual Membership & Board Meeting	TRA
5/28/2020	Cypress Creek WPP Public Stakholder Meeting	HGAC, TCEQ
5/28/2020	Bacteria Implementation Group Meeting	HGAC, Multiple Agencies
6/1/2020	Spring Creek Watershed Protection Plan	TFS, HGAC
6/2/2020	Bacteria Implementation Group Public Meeting	Multiple Agencies & NGOs
6/4/2020	Principles of Riverscape Restoration	SER
6/4/2020	NRCS Source Water Protection & Farm Bill Funds	NRCS
6/9/2020	Source Water Protection Committee Meeting	Multiple Agencies & NGOs
6/10/2020	Gavelston Bay Estuary Program Water Quality and Sedimentation	Multiple Agencies & NGOs
6/10/2020	Texas Forest and Drinking Water Partnership	Southeastern Partnership for Forests and Dr
6/11/2020	“Trees Are the Answer: The Role of a Healthy Urban Canopy in an I	NCTCOG
6/18/2020	Texas Riparian Association Workday	TRA
6/22/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
6/23/2020	Big Creek Watershed Protection	H-GAC
6/30/2020	Oyster Creek Coordination Committee	H-GAC, TFS, Other agencies
7/1/2020	Kiolbassa Fish Kill Investigation - San Pedro Creek	SARA personnel
7/14/2020	Texas Forest and Drinking Water and Harris Galveston Subsidence	TFS,HGSD
7/21/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/22/2020	Geospatial Watershed Assessment	TFS
7/24/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/24/2020	F2D-Source Water Protection	Multiple Agencies
7/28/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/28/2020	Bacteria Implementation Group Agriculture Workgroup	H-GAC, TFS other agencies
7/29/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/29/2020	Spring Creek Watershed Partnership Meeting	H-GAC, TFS other agencies
7/30/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs

7/31/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
8/4/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
8/5/2020	How to Engage in Houston-area Flood Mitigation Webinar	National Wildlife Federation, Bayou City Wa
8/5/2020	Cypress Creek Watershed Protection Plan Meeting	H-GAC, TFS other agencies and Municipalitie
8/6/2020	Joint Meeting to discuss GLO Green Infrastructure grant proposal	TFS, HPARD, DWO Sourcewater Protection
8/6/2020	Texas Riparian Association Workday	TWRI, Agrilife, TFS, other agencies
8/6/2020	Urban Riparian Symposium Planning Meeting	TRA Planning Committee
8/10/2020	Tree Planting and Watershed Partnership Study	Harris County Flood Control, TFD
8/13/2020	Chocolate Bay TMDL Stakeholder Meeting	H-GAC, TFS other agencies
8/13/2020	San Jacinto Regional Watershed Master Drainage Plan	San Jacinto River Authority, other agencies
8/14/2020	Neches Tidal and Hillebrandt TMDL	Agrilife, TWRI,
8/14/2020	GLO Green Infrastructure Grant Conference Call	Harris County Precinct 1, TFS
8/19/2020	BMP/Wetlands Coordinating Committee	TFS, NRCS, Other agencies
8/20/2020	Cotton Bayou Watershed TMDL	H-GAC, other agencies
8/26/2020	Oyster Creek TMDL Meeting	H-GAC, other agencies
8/28/2020	Forest and Drinking Water Partnership	TFS, F&DWP, other agencies
9/1/2020	GLO Grant Stormwater Wetlands Site Visit	TFS, Harris County Precinct 1, HCFC
9/1/2020	Internal Cross-Training Planning Meeting	TFS, COH Sourcewater Protection
9/2/2020	Stream Corridor Restoration Committee Meeting	Bayou Preservation Association, TFS, other :
9/9/2020	Galveston Bay Estuary Program (GBEP) Water Quality and Sedimer	GPEB, TFS, other agencies
9/15/2020	GLO Grant Stormwater Wetlands Budget Discussion	TFS, HCP1
9/16/2020	Urban Forestry and Green Infrastructure in Schools	The Nature Conservancy, TFS
9/17/2020	Texas Riparian Association Board Workday	TRA
9/17/2020	Urban Riparian Symposium Planning Meeting - Virt Team	TRA Planning Committee
9/24/2020	Post Fire Treatments Efficacy & Stream sedimentation	Multiple Agencies & NGOs
9/29/2020	Assessing Watersheds/Firesheds for pre & post fire treatments	Multiple Agencies & NGOs
9/30/2020	Houston Galveston Subsidence District Joint Regulatory Plan Review	Houston Galveston Subsidence District
10/6-7/20	Restoring the West - Dryland Watersheds & Soil Erosion	Multiple Agencies & NGOs
10/7/2020	Rainscape Project Meeting	SMCS Officials & Other Partners
10/19/2020	TWRI & Partners	Attoyac Bayou Watershed - Riparian & Strea
10/21/2020	Watershed Coordinator Roundtable Mtg	Watershed Coordinators
10/21/2020	Rainscape Project Meeting	SMCS Officials & Other Partners
10/29/2020	Urban Riparian Symposium Planning Meeting - Virt Team	TRA Planning Committee
11/18/2020	NRCS Water Resources Subcommittee Mtg	Multiple Agencies & NGOs

11/30/2020	Tributaries of the Neches below Lake Palestine	Texas Water Resources Institute
12/1/2020	Bacteria Implementation Group Annual Meeting	HGAC, TFS, COH, BPA, Public Stakeholders ar
12/3/2020	Post Fire Water Impacts	Multiple Agencies & NGOs
12/4/2021	Riparian Restoration Partnership Meeting	TFS, Heard Nature Museum, Blackland Prair
12/7/2021	Riparian Species Selection Discussion	TFS
12/8/2020	San Antonio Area Watersheds - Riparian & Streams Ecosystems W	TWRI & Partners
12/9/2020	Water Sedimentation and Quality Committee	GBEP, TFS, TSSWCB, HGAC and others
12/10/2020	Joint Regulatory Plan Review Stakeholder Meeting	Houston-Gavleston Subsidence District
12/10/2020	Secret is in the Soil: Understanding the Critical Key to Water Mana	Davey Tree Company
12/10/2020	Spring Creek Watershed Protection Plan	HGAC, TFS, HCP4, BPA, BLC
12/11/2020	Riparian Restoration Partnership Meeting	TFS, NTMWD
1/5/2021	State Water Implementation Fund Presentation	TWDB
1/7/2021	Urban Riparian Symposium Abstract Reviews	TWRI, TFS, TPWD and others
1/11/2021	Lavon Lake Watershed Meeting	TFS, NTMWD, BEF
1/19/2021	Texas Forest and Drinking Water Partnership Meeting	TFS, Southeastern Partnership for Forests an
1/20 - 22/2021	3-day Advanced Urban Stream Restoration	TWRI
1/25/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF
1/27/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, City of McKinney, Heard Natu
1/28/2021	Clean Coast Texas	The Meadows Center for Water and the Env
1/28/2021	Clean Rivers Program Basin Steering Committee	HGAC
2/2/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD
2/8/2021	Sandy Creek	TWRI/TCEQ
2/8/2021	Spring Creek Watershed Protection Plan Human Sources Workgrou	HGAC, TFS, Other agencies
2/9/2021	Spring Creek WPP Forestry and Ag Workgroup	HGAC, TFS, TSSWCB other agencies
2/10-12/2021	Urban Riparian Symposium	TWRI & Partners
2/12/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD
Feb. 2021	Southern Group of State Foresters Water Resources Committee	TFS, others
3/2/2021	Spring Creek WPP Forestry and Ag Workgroup	HGAC, TFS, TSSWCB other agencies
3/5/2021	Houston Corporate Sustainability Meeting	TFS, BLC, COH DWO
3/9/2021	Texas Forest and Drinking Water Partnership Brainstorm Meeting	TFS, Southeastern Partnership for Forests an
3/10/2021	Benefits of Forests and Drinking Water Webinar	Association of State Drinking Water Adminis
3/12/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF
3/13/2021	McKinney Sourcewater Protection Project Site Visit	TFS, NTMWD, MPF, Heard Nature Museum,
3/18/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF, MPF

3/19/2021	Using Vegetation to Manage Stormwater and Protect Water Quality	Stormwater Journal
3/23/2021	Stakeholder Meeting	Upper San Marcos River PP
3/23/2021	Texas Forest and Drinking Water Partnership Brainstorm Meeting	TFS, Southeastern Partnership for Forests and
3/25/2021	Spring Creek WPP Forestry Review Meeting	HGAC, TFS
3/25/2021	Tributaries of the Neches River below Lake Palestine (Middle Nech	TWRI/TCEQ
3/31/2021	Healthy Creeks and Waterways: Vegetation and the Flow of Health	NTCCOG/Upper Trinity Water District
4/7/2021	NRCS Water Resources STAC	NRCS, TFS, TPWD, Other Water Districts
4/8/2021	San Jacinto Regional Flood Planning Group	TWDB, HCFCD other agencies
4/8/2021	Corporate Sustainability Partnership (CSP) Site Meeting W/	HCFCD TFS,HCFCD
4/9/2021	Houston CSP Partnership Meeting	TFS, Trees for Houston, BLC, COH Parks and
4/13/2021	Understanding 319 Grants Webinar	EPA
4/13/2021	Bonneville Environmental Foundation McKinney Meeting	TFS,NTMWD, BEF
4/15/2021	Catawamba-Wateree Initiative - A Case Study for Forests and Drink	Southeastern Partnership for Forests and W
4/20/2021	Texas Forests and Drinking Water Partners Meeting	TFS, SEPF&DW, AWWA,
4/20/2021	Intro to Base Level Engineering	TWDB
5/7/2021	Integrated Stormwater Management	NCTCOG, Other agencies
4/21/2021	2021 Central Texas Water Conservation Symposium	Central Texas Water Efficiency Network
4/22/2021	Texas Watershed Coordinator Roundtable	TWRI other water agencies
4/23/2021	Cypress Creek Site Evaluation	TFS, Cypress Creek Flood Coalition
4/23/2021	CSP Harris County Precinct 4 Discussion	TFS, HCP4
4/26/2021	McKinney Parks Foundation Agreement	TFS, NTMWD, McKinney Parks Foundation
4/28/2021	Houston CSP Financial and Logistics Meeting	TFS,Trees for Houston
5/3/2021	Investigating the Stormwater: Quantity and Quality Impacts of Urb	USFS
5/5/2021	McKinney CSP Restoration Meeting	TFS,NTMWD, BEF and others
5/7/2021	Detention Basin Study Watershed Modeling Meeting	TFS, HCP1, Houston Parks Board
5/12/2021	Alief ISD Early Childhood Center- Resilience Restoration	PBK, TNC, Trees for Houston TFS
5/12/2021	Houston CSP Site Visits	TFS,BLC H-GAC, HCP4, Simfero and more
5/13/2021	TMDL Wastewater Technical Subcommittee	NCTCOG, Other agencies
5/13/2021	Utilities in Action Webinar	Source Water Collaborative Forestry
5/14/2021	Houston CSP Site Visits	TFS,TFH,HCP4, COH DWO
5/18/2021	Multi-Use Detention Basins	TFS, Houston Arboretum
5/18/2021	Chocolate Bay TMDL Stakeholder Committee	HGAC
5/19/2021	Texas Tree Foundation Meeting for McKinny CSP	TTF,TFS
5/19/2021	Regional Stormwater Management Coordinating Council	NCTCOG



5/19/2021	Urban Prairie Resilience Project Convening	COH Mayors Office, TNC, Asakura Robinson
5/19/2021	Texas Watershed Quarterly Team Meeting	NRCS
5/20/2021	Rowlett Creek Watershed Characterization Meeting	Agrilife , NCTCOG other agencies
5/20/2021	Stream Corridor Restoration Committee Meeting	TFS, BPA, BLC, HCFCD, KPC
5/20/2021	Bacteria Implementation Group Coordination and Policy Workgroup	HGAC, TFS, BPA, COH, CEC
5/25/2021	CSP Houston Site Discussion with TFH	TFS,TFH
5/25/2021	Bacteria Implementation Group Spring Meeting	HGAC
5/26/2021	Kickoff Meeting for CSP McKinney	TFS,NTMWD, City of McKinney
5/26/2021	West Houston Association Meeting	TFS,HGAC, WHA
5/26/2021	Houston CSP Meeting	TFS
6/1/2021	Houston CSP HCFCD Meeting	TFS,HCFCD
6/2/2021	EPA Cypress Creek Canopy Estimation and Modeling discussion	TFS, EPA
6/2/2021	Clean Rivers Basin Steering Committee	HGAC
6/3/2021	SFI Implementation Committee meeting	SFI Implmentation Committee Meeting
6/4/2021	NRCS Water Resources STAC	NRCS, TFS, TPWD, Other Water Districts
6/7/2021	Middle Neches I-Plan Coordination Committee Meeting	Texas Water Resources Institute
6/9/2021	GBEP Water and Sedimentation Quality Subcommittee	GBEP, TSSWCB, Other agencies
6/10/2021	Texas Forests and Drinking Water Partners Meeting	TFS,SEPF&DW, Others
6/10/2021	Opportunities for Engagement with NRCS New NWQI Watersheds	NRCS
6/10/2021	Houston CSP Funding Meeting	TFS,BEF
6/11/2021	Flood Management Task Force	NCTCOG
6/11/2021	McKinney CSP Restoration Meeting	TFS,NTMWD, Otheres
6/15/2021	West Houston MUD Drainage Basin Discussion	TFS, TAMU Department of Landscape Archit
6/15/2021	Tree Planting Small Funding App Discussion	TFS,BLC
6/15/2021	Houston CSP Reforestation Workgroup Meeting	TFS,TFH, COH Parks, Simefero, HCP4
6/15/2021	Alief ISD Early Childhood Center- Resilience Restoration Site Visit	TFS, PBK,TFH, Green Star
6/22/2021	Houston CSP Site Prep and Logisitcs Meeting	TFS,TFH, BLC,HGAC
6/23/2021	NRCS Sourcewater Protection Taskforce Meeting	NRCS, TFS, TPWD, Other Water Districts
6/24/2021	TFS-Repsol Introductory Funding Meeting for CSP	TFS, Repsol
6/24/2021	Wastewater Permitting Discussion	TFS,NTMWD
6/29/2021	Zube Park Detention Basin GSI Site Visit	Houston Public Health, TFS, HGAC
6/30/2021	Stream Corridor Restoration Committee Meeting	TFS, BPA, BLC, HCFCD, KPC
7/1/2021	TMDL Coordination Committee	NCTCOG,TAMFS, Municipalities
7/1/2021	Pillot Gulley Planting Planning Meeting	TAMFS, HCFCD,Trees for Houston

7/2/2021	Buffalo Bend Tree Planting Site Inspection	TAMFS,TFH
7/2/2021	Wilson Creek Planning Committee Meeting	TAMFS,NTMWD,COM,MPF
7/5/2021	Microforest Basin Planting Discussion	TAMFS AJL Lindsay Environmental Engineeri
7/7/2021	Houston Corporate Sustainability Project Expansion into MUD 468	MUD 468 Board
7/8/2021	Texas Riparian Association Workday	TRA,TWRI, TAMFS,TRWD, Others
7/8/2021	Texas Forest and Drinking Water Partnership Houston Meeting	TAMFS, SEP, BLC,COH, Others
7/8/2021	Repsol Funding Meeting for future CSP Planting	TAMFS, Repsol
7/13/2021	Wastewater Treatment Education Roundtable	NCTCOG, Other agencies
7/13/2021	Cotton Bayou Watershed TMDL	H-GAC, TAMFS, TSSWCB, Others
7/15/2021	Assessing State of Knowledge and Research Needs for Stormwater	TCEQ
7/19/2021	Future Funding as Strategy Meeting for CSP	TAMFS, TFH
7/19/2021	Trees as Wastewater Treatment Introductory Meeting	TAMFS, Harris County Engineering
7/19/2021	CSP July Partnership Meeting	TAMFS, Others
7/20/2021	Texas Forest and Drinking Water State Meeting	TAMFS, SEP, Others
7/20/2021	Spring Creek Steering Committee Target Reduction Meeting	HGAC, TAMFS, TSSWCB, Others
7/21/2021	Regional Flood Management Committee	HGAC, TAMFS, Several Municipalities and W
7/21/2021	Wilson Creek Site Planning Call	TAMFS, NTMWD
7/23/2021	Zube Park Detention Basin Tree Evaluation and Planning	COH-PH, HCFCD, TAMFS
7/23/2021	Upper Oyster Creek TMDL Meeting	HGAC
7/27/2021	Intermediate/Advanced Dry Weather Workshop	NCTCOG
7/27/2021	Big Creek TMDL Stakeholder Meeting	HGAC, TCEQ, City of Richmond, TAMFS
7/28/2021	Wastewater Tree Planting Pilot Project Desgin	HCENG,TAMFS, TFH
7/29/2021	Wilson Creek Day of Planting Committee Meeting	TAMFS, NTMWD, COH, MPF
7/29/2021	Annual Elected Official and CRS Users Floodplain Seminar	NCTCOG
7/30/2021	Southeastern Partnership for Forests and Water Leadership meeting	
8/3/2021	Spring Creek Watershed Protection Plan Stakeholder Meeting	HGAC, TAMFS Others
8/3/2021	Aquatic plant planting / lake shore restoration at Lake Conroe	TPWD, SJRA, TMN, Bass Club, SHSU, TFS+Co
8/4/2021	Wilson Creek Site Prep Committee Meeting	TAMFS, NTMWD, COM, MPF
8/4/2021	Wilson Creek Site Visit Prep Meeting	TAMFS, NTMWD
8/5/2021	Wilson Creek Site Evaluation	TAMFS, NTMWD, COM, MPF, Heard Museu
8/6/2021	Pepsi-Frito Lay CSP Future Funding Meeting	TAMFS, Pepsi-Frito Lay
8/10-11/2021	TCEQ Online Public Drinking Water Conference	
8/11/2021	Stream Corridor Restoration Committee Meeting	BPA, BLC, COH-PH, KPC,TAMFS, HCFCD, COH
8/12/2021	Region 6 San Jacinto RFPG Meeting	TWDB Several agencies

8/12/2021	Pilot Gulley Planting Planning Meeting	TAMFS, HCFCD, TFH,HCP4
8/13/2021	Flood Management Task Force	NCTCOG,TAMFS, Municipalities
8/13/2021	Texan by Nature Introductory Meeting to Join TxWAC	TxN, TAMFS
8/16/2021	Houston CSP Funder Connector Meeting	TAMFS, BEF, TFH
8/17/2021	Upper Trinity River Basin Coordinating Committee	NCTCOG, TAMFS, Other Municipalities and \
8/18/2021	Regional Stormwater Management Coordinating Council	NCTCOG, TAMFS, Other Municipalities and \
8/18/2021	CSP Site Prep, Logistics and Outreach Committee Meeting	TAMFS, BLC, HCP4, HGAC, COH-SWP, TFH
8/19/2021	NRCS Sourcewater Protection Taskforce Meeting	TPWD, AWWA, NRCS, TAMFS, TRWD, Other
8/20/2021	Pepsi-Frito Lay CSP Future Funding Meeting	TAMFS, Pepsi-Frito Lay
8/23/2021	Region 6 San Jacinto RFPG Technical Committee Meeting	TWDB, HCFCD other agencies
8/24/2021	Wilson Creek Tree Planting Outreach Committee	TAMFS, NTMWD, MPF, COH
8/26/2021	Clean Waters Initiative Workshop	HGAC
8/27/2021	Wilson Creek Day of Planting Committee Meeting	TAMFS, NTMWD, MPF, COH
9/7/2021	Northeast Texas Conservation Delivery Network Field Day	TAMFS, ABC, TPWD, USFWS, LMVJV, ETX Na
2/16/2022	Lanana Bayou Watershed Protection Plan Meeting	TWRI
2/22/2022	Riparian and Stream Ecosystems	TWRI
2/23/2022	Texas Forest and Drinking Water Partnership	TAMFS
2/25/2022	Pro Loggers Training	TFA and TAMFS
3/3/2022	Clear Creek Watersehd Partnership	HGAC
3/24/2022	Urban Riparian and Stream Restoration	TWRI
3/30/2022	HGAC Celebration of Conservation	HGAC

► **Note: These are meetings you attended but did not give a presentation.**

Location	Number of Attendees	Attended By
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**October 2018 - September 2021 - extension into 2022**

Lufkin	12	Lori
Ft. Worth	105	Lori
Belton	30	Lori
New Braunfels	75	Jeff
College Station	22	Jeff, Lori, Donna, Todd T., Shane
College Station	32	Jeff, Lori
San Marcos	13	Jeff
Waco	124	Jeff
College Station	6	All
Rogers	9	Lori
Grapevine	103	Jeff
Webinar	65	Hughes
Biloxi, MS	16	Hughes
Grapevine	102	Lori
Rogers	10	Lori
Rogers	17	Lori
Killeen	22	Lori
TFA, Lufkin	15	Thomas
Rogers	16	Lori
TFA, Lufkin	20	Thomas
College Station	7	Thomas, Lori, Mac, Shane, Donna
Dallas	63	Lori
Tyler	40	Thomas, Donna
Kerrville, TX	120	Jeff
TFA, Lufkin	20	Thomas
Rogers	10	Lori
San Antonio	510	Jeff <i>Put on Display Subtask 2.4</i>
Online	11	Jeff
Lufkin	22	Thomas
San Antonio	65	Jeff
College Station	8	Jeff, Lori, Mac, Shane, Hughes, Thomas, Donna, Sam
Auburn, Alabama	15	Hughes
Conference Call	11	Lori

Conference Call	27	Mac
Teams Meeting	3	Mac
WebEx Class	62	Lori, Jeff
Teams Meeting	2	Mac
Zoom Meeting	48	Lori, Mac, Shane
WebEx	33	Mac
Conference Call	15	Lori
GoToWebinar	34	Mac
Web Meeting	52	Lori, Donna, Mac, Jeff
GoToWebinar	42	Mac
GoToWebinar	18	Mac
Teams Meeting	3	Mac
GoToWebinar	43	Mac
WebEx Webinar	57	Lori
WebEx Webinar	58	Lori
Conference Call	15	Lori
Teams Meeting	26	Mac
Zoom Meeting	20+	Mac , Hughes, Shane
Webinar	60	Mac
Virtual	17	Mac
Conference Call	11	Lori
Virtual	16	Mac
Virtual	13	Mac
San Pedro Creek	5	Mac
Virtual	6	Mac
Conference Call	11	Lori
Conference Call	3	Lori
Conference Call	11	Lori
Conference Call	6	Lori
Conference Call	11	Lori
Virtual	12	Mac
Conference Call	11	Lori
Virtual	21	Mac
Conference Call	11	Lori

Conference Call	11	Lori
Conference Call	11	Lori
Virtual	22	Mac
Virtual	23	Mac
Virtual	3	Mac
Virtual	12	Mac
Conference Call	18	Lori
Virtual	12	Mac
Virtual	17	Mac
Virtual	15	Mac
Virtual	21	Mac
On Phone	2	Mac
Virtual	33	Mac, Shane, Hughes, Lori, Jeff, Sarah, Donna
Virtual	10	Mac
Virtual	11	Mac
Virtual	16	Mac
Tom Bass Regional Park	9	Mac
Virtual	3	Mac
Virtual	13	Mac
Virtual	23	Mac
Virtual	2	Mac
Virtual	3	Mac
Virtual	16	Mac
Conference Call	10	Lori
Conference Call	20	Lori
Conference Call	30	Lori
Virtual	21	Mac
Zoom	100	Lori
Conference Call	5	Lori
Virtual	31	Lori
Virtual	42	Lori
School Grounds	4	Lori
Conference Call	11	Lori
Conference Call	29	Lori

Zoom	12	Sarah, Donna
Virtual	40	Mac
Virtual	68	Lori
Virtual	4	Mac
Virtual	3	Mac
Virtual	30	Lori
Virtual	40	Mac
Virtual	50	Mac
Virtual	42	Mac
Virtual	12	Mac
Virtual	2	Mac
Virtual	13	Mac
Virtual	10	Mac
Virtual	3	Mac
Virtual	15	Mac
Online	15	Jeff
Virtual	3	Mac
Virtual	9	Mac
Virtual	10	Mac
Virtual	20	Mac
Virtual	2	Mac
Zoom	20	Sarah
Virtual	20	Mac
Virtual	10	Mac
Virtual	112	Lori, Mac, Donna, Jeff
Virtual	5	Mac
Virtual	15	Shane, Hughes(?)
Virtual	8	Mac
Virtual	3	Mac
Virtual	8	Mac
Virtual	50	Mac
Virtual	3	Mac
McKinney Greens	8	Mac
Virtual	4	Mac

Online	23	Jeff
Online	19	Jeff
Virtual	7	Mac
Virtual	2	Mac
Zoom	13	Donna
Virtual	186	Mac, Donna
Virtual	16	Mac
Virtual	22	Mac
Virtual	2	Mac
Virtual	13	Mac
Virtual	8	Mac
Virtual	3	Mac
Virtual	50	Mac
Virtual	20	Mac
Virtual	7	Mac
Virtual	25	Mac
Virtual	55	Mac
Virtual	50	Mac
Virtual	3	Mac
Virtual	4	Mac
Virtual	3	Mac
Virtual	3	Mac
Virtual	45	Mac
Virtual	10	Mac
Virtual	3	Mac
Virtual	10	Mac
Houston	6	Mac
Virtual	20	Mac
Virtual	50	Mac
Houston	7	Mac
Virtual	2	Mac
Virtual	15	Mac
Virtual	4	Mac
Virtual	10	Mac



Virtual	30	Mac
Virtual	20	Mac
Virtual	20	Mac
Virtual	10	Mac
Virtual	12	Mac
Virtual	3	Mac
Virtual	30	Mac
Virtual	18	Mac
Virtual	3	Mac
Virtual	14	Mac
Virtual	2	Mac
Virtual	2	Mac
Virtual	15	Mac
TFA, Lufkin; and virtual	20	Donna
Virtual	15	Mac
Virtual	7	Donna
Virtual	30	Mac
Virtual	10	Mac
Virtual	8	Mac
Virtual	2	Mac
Virtual	30	Mac
Virtual	17	Mac
Virtual	2	Mac
Virtual	2	Mac
Virtual	7	Mac
Alief, TX	7	Mac
Virtual	5	Mac
Virtual	8	Mac
Virtual	2	Mac
Virtual	2	Mac
Houston	5	Mac
Virtual	12	Mac
Virtual	15	Mac
Virtual	3	Mac

Houston,TX	4	Mac	
Virtual	6	Mac	
Virtual	2	Mac	
Virtual	15	Mac	This was kind of a presentation, but was done in the public speaking minutes. Not sure where it sh
Virtual	10	Mac	
Virtual	8	Mac	
Virtual	3	Mac	
Virtual	20	Mac	
Virtual	10	Mac	
Virtual	12	Mac	
Virtual	3	Mac	
Virtual	2	Mac	
Virtual	14	Mac	
Virtual	20	Mac	
Virtual	11	Mac	
Virtual	22	Mac	
Virtual	2	Mac	
Houston	6	Mac	
Virtual	10	Mac	
Virtual	20	Mac	
Virtual	20	Mac	
Virtual	4	Mac	
Virtual	5	Mac	
Virtual	60	Mac	
	65	Shane	
Virtual	20	Mac	
Stow-Away Marina, Willis	20	Donna	
Virtual	6	Mac	
McKinney Greens	2	Mac	
McKinney Greens	10	Mac	
Virtual	2	Mac	
Virtual	55	Shane	gave presentation? Not on Agenda.
Virtual	13	Mac	
Virtual	20	Mac	

Virtual	4	Mac
Virtual	20	Mac
Virtual	2	Mac
Virtual	3	Mac
Virtual	30	Mac
Virtual	20	Mac
Virtual	8	Mac
Virtual	10	Mac
Virtual	2	Mac
Virtual	15	Mac
Virtual	5	Mac
Virtual	25	Mac
Virtual	5	Mac
Overton	40	Donna
Nacogdoches	15	Tyler
La Marque, TX	20	Cassidy
Virtual	20	Cassidy
Lufkin, TX	30	Cassidy
Virtual	20	Cassidy
The Woodlands, TX	20	Cassidy
Houston, TX	30	Cassidy

Date	Title of Meeting	Group
10/3/2018	State Technical Forestry Sub-committee	Committee Members
10/29-30/18	Texas State Soil & Water Conservation Board Annual Mtg	Various
11/29/2018	Urban Stream Processes and Restoration Program	Various
12/5/2018	3rd Annual Hill Country Water Summit	Guadalupe Basin Coalition/GBRA
12/10/2018	Texas State BMP/Wetland Coordinating Committee	Coordinating Committee
12/17/2018	Watershed Protection Plan Implementation Course	TWRI
1/18/2019	Frio River Study Partner's Meeting	TPWD
1/31/2019	Watershed Coordinator's Roundtable	TSSWB/TWRI
2/12/2019	Staff Meeting	TFS Water Resources Program Staff
2/19/2019	Big Elm Creek Watershed Stakeholders Meeting	TWRI
2/27-3/1/2019	Urban Riparian Symposium	TRA
2019	TFS participated in a SGSF WRC webinar on erosion and sedimenta	SGST WRC
2019	SGSF Water Resources Committee Winter Meeting	SGSF WRC
3/1/2019	Urban Riparian Symposium	TRA; TFS; multiple
4/16/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
5/21/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
5/30/2019	Nolan Creek Watershed Protection Plan meeting	Stakeholders
6/14/2019	Texas Forest Landowners Council Meeting	Texas Forest Landowner Council
6/18/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
6/18/2019	Quarterly Meeting	SFI Implmentation Committee Meeting
7/1/2019	Water Resoucrs Staff Meeting	Water Resoucre Program TFS
8/6/2019	Watershed Coordinators Roundtable Meeting	Watershed Coordinators
8/7/2019	TWDB Flood Implementation Stakeholder Workshop	TWDB
8/13/2019	State Flood Planning Mtg	TWDB
9/24/2019	Quarterly Meeting	SFI Implmentation Committee Meeting
10/22/2019	Big Elm Creek Watershed Protection Plan meeting	TWRI & Stakeholders
10/29-10/30/2019	Annual Mtg TSSWCB District Managers (set up booth for 8 hrs on k	TSSWCB
10/31/2019	i-tree (i-hydro webinar)	USFS
11/22/2019	Middle Neches Water Quality Meeting	TWRI
12/3/2019	River Road Riparian Restoration	SARA & USACE
12/13/2019	Water Resources Program Mtg	TFS
Januray 2020	Water Resources Committee meeting	Southern Group of State Foresters
3/23/2020	Board Meeting & Annual Meeting Planning	TRA

4/4/2020	Gavelston Bay Estuary Program Water Quality and Sedimentation	Multiple Agencies & NGOs
4/14/2020	Cypress Creek WPP I-Tree Hyrdo Trends Meeting	TFS, HGAC
4/15/2020	Intro to Watershed Modeling	TWRI
4/16/2020	Bacteria Implementation Group Stakeholder Session	TFS, HGAC
4/23/2020	Watershed Coordinators Meeting	TWRI
4/30/2020	Texas Flooding Challenges Webinar	Texas Water Journal
5/12/2020	NRCS Water Resources Meeting	Multiple Agencies & NGOs
5/20/2020	Joint Regulatory Plan Stakeholder Review	Harris-Galveston Subsidence District
5/28/2020	Annual Membership & Board Meeting	TRA
5/28/2020	Cypress Creek WPP Public Stakholder Meeting	HGAC, TCEQ
5/28/2020	Bacteria Implementation Group Meeting	HGAC, Multiple Agencies
6/1/2020	Spring Creek Watershed Protection Plan	TFS, HGAC
6/2/2020	Bacteria Implementation Group Public Meeting	Multiple Agencies & NGOs
6/4/2020	Principles of Riverscape Restoration	SER
6/4/2020	NRCS Source Water Protection & Farm Bill Funds	NRCS
6/9/2020	Source Water Protection Committee Meeting	Multiple Agencies & NGOs
6/10/2020	Gavelston Bay Estuary Program Water Quality and Sedimentation	Multiple Agencies & NGOs
6/10/2020	Texas Forest and Drinking Water Partnership	Southeastern Partnership for Forests and Dr
6/11/2020	“Trees Are the Answer: The Role of a Healthy Urban Canopy in an I	NCTCOG
6/18/2020	Texas Riparian Association Workday	TRA
6/22/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
6/23/2020	Big Creek Watershed Protection	H-GAC
6/30/2020	Oyster Creek Coordination Committee	H-GAC, TFS, Other agencies
7/1/2020	Kiolbassa Fish Kill Investigation - San Pedro Creek	SARA personnel
7/14/2020	Texas Forest and Drinking Water and Harris Galveston Subsidence	TFS,HGSD
7/21/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/22/2020	Geospatial Watershed Assessment	TFS
7/24/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/24/2020	F2D-Source Water Protection	Multiple Agencies
7/28/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/28/2020	Bacteria Implementation Group Agriculture Workgroup	H-GAC, TFS other agencies
7/29/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
7/29/2020	Spring Creek Watershed Partnership Meeting	H-GAC, TFS other agencies
7/30/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs

7/31/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
8/4/2020	Source Water Protection Sub-Committee Meeting	Multiple Agencies & NGOs
8/5/2020	How to Engage in Houston-area Flood Mitigation Webinar	National Wildlife Federation, Bayou City Wa
8/5/2020	Cypress Creek Watershed Protection Plan Meeting	H-GAC, TFS other agencies and Municipalitie
8/6/2020	Joint Meeting to discuss GLO Green Infrastructure grant proposal	TFS, HPARD, DWO Sourcewater Protection
8/6/2020	Texas Riparian Association Workday	TWRI, Agrilife, TFS, other agencies
8/6/2020	Urban Riparian Symposium Planning Meeting	TRA Planning Committee
8/10/2020	Tree Planting and Watershed Partnership Study	Harris County Flood Control, TFD
8/13/2020	Chocolate Bay TMDL Stakeholder Meeting	H-GAC, TFS other agencies
8/13/2020	San Jacinto Regional Watershed Master Drainage Plan	San Jacinto River Authority, other agencies
8/14/2020	Neches Tidal and Hillebrandt TMDL	Agrilife, TWRI,
8/14/2020	GLO Green Infrastructure Grant Conference Call	Harris County Precinct 1, TFS
8/19/2020	BMP/Wetlands Coordinating Committee	TFS, NRCS, Other agencies
8/20/2020	Cotton Bayou Watershed TMDL	H-GAC, other agencies
8/26/2020	Oyster Creek TMDL Meeting	H-GAC, other agencies
8/28/2020	Forest and Drinking Water Partnership	TFS, F&DWP, other agencies
9/1/2020	GLO Grant Stormwater Wetlands Site Visit	TFS, Harris County Precinct 1, HCFC
9/1/2020	Internal Cross-Training Planning Meeting	TFS, COH Sourcewater Protection
9/2/2020	Stream Corridor Restoration Committee Meeting	Bayou Preservation Association, TFS, other :
9/9/2020	Galveston Bay Estuary Program (GBEP) Water Quality and Sedimer	GPEB, TFS, other agencies
9/15/2020	GLO Grant Stormwater Wetlands Budget Discussion	TFS, HCP1
9/16/2020	Urban Forestry and Green Infrastructure in Schools	The Nature Conservancy, TFS
9/17/2020	Texas Riparian Association Board Workday	TRA
9/17/2020	Urban Riparian Symposium Planning Meeting - Virt Team	TRA Planning Committee
9/24/2020	Post Fire Treatments Efficacy & Stream sedimentation	Multiple Agencies & NGOs
9/29/2020	Assessing Watersheds/Firesheds for pre & post fire treatments	Multiple Agencies & NGOs
9/30/2020	Houston Galveston Subsidence District Joint Regulatory Plan Review	Houston Galveston Subsidence District
10/6-7/20	Restoring the West - Dryland Watersheds & Soil Erosion	Multiple Agencies & NGOs
10/7/2020	Rainscape Project Meeting	SMCS Officials & Other Partners
10/19/2020	TWRI & Partners	Attoyac Bayou Watershed - Riparian & Strea
10/21/2020	Watershed Coordinator Roundtable Mtg	Watershed Coordinators
10/21/2020	Rainscape Project Meeting	SMCS Officials & Other Partners
10/29/2020	Urban Riparian Symposium Planning Meeting - Virt Team	TRA Planning Committee
11/18/2020	NRCS Water Resources Subcommittee Mtg	Multiple Agencies & NGOs

11/30/2020	Tributaries of the Neches below Lake Palestine	Texas Water Resources Institute
12/1/2020	Bacteria Implementation Group Annual Meeting	HGAC, TFS, COH, BPA, Public Stakeholders ar
12/3/2020	Post Fire Water Impacts	Multiple Agencies & NGOs
12/4/2021	Riparian Restoration Partnership Meeting	TFS, Heard Nature Museum, Blackland Prair
12/7/2021	Riparian Species Selection Discussion	TFS
12/8/2020	San Antonio Area Watersheds - Riparian & Streams Ecosystems W	TWRI & Partners
12/9/2020	Water Sedimentation and Quality Committee	GBEP, TFS, TSSWCB, HGAC and others
12/10/2020	Joint Regulatory Plan Review Stakeholder Meeting	Houston-Gavleston Subsidence District
12/10/2020	Secret is in the Soil: Understanding the Critical Key to Water Mana	Davey Tree Company
12/10/2020	Spring Creek Watershed Protection Plan	HGAC, TFS, HCP4, BPA, BLC
12/11/2020	Riparian Restoration Partnership Meeting	TFS, NTMWD
1/5/2021	State Water Implementation Fund Presentation	TWDB
1/7/2021	Urban Riparian Symposium Abstract Reviews	TWRI, TFS, TPWD and others
1/11/2021	Lavon Lake Watershed Meeting	TFS, NTMWD, BEF
1/19/2021	Texas Forest and Drinking Water Partnership Meeting	TFS, Southeastern Partnership for Forests an
1/20 - 22/2021	3-day Advanced Urban Stream Restoration	TWRI
1/25/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF
1/27/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, City of McKinney, Heard Natu
1/28/2021	Clean Coast Texas	The Meadows Center for Water and the Env
1/28/2021	Clean Rivers Program Basin Steering Committee	HGAC
2/2/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD
2/8/2021	Sandy Creek	TWRI/TCEQ
2/8/2021	Spring Creek Watershed Protection Plan Human Sources Workgrou	HGAC, TFS, Other agencies
2/9/2021	Spring Creek WPP Forestry and Ag Workgroup	HGAC, TFS, TSSWCB other agencies
2/10-12/2021	Urban Riparian Symposium	TWRI & Partners
2/12/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD
Feb. 2021	Southern Group of State Foresters Water Resources Committee	TFS, others
3/2/2021	Spring Creek WPP Forestry and Ag Workgroup	HGAC, TFS, TSSWCB other agencies
3/5/2021	Houston Corporate Sustainability Meeting	TFS, BLC, COH DWO
3/9/2021	Texas Forest and Drinking Water Partnership Brainstorm Meeting	TFS, Southeastern Partnership for Forests an
3/10/2021	Benefits of Forests and Drinking Water Webinar	Association of State Drinking Water Adminis
3/12/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF
3/13/2021	McKinney Sourcewater Protection Project Site Visit	TFS, NTMWD, MPF, Heard Nature Museum,
3/18/2021	Riparian Restoration Partnership Meeting	TFS, NTMWD, BEF, MPF

3/19/2021	Using Vegetation to Manage Stormwater and Protect Water Quality	Stormwater Journal
3/23/2021	Stakeholder Meeting	Upper San Marcos River PP
3/23/2021	Texas Forest and Drinking Water Partnership Brainstorm Meeting	TFS, Southeastern Partnership for Forests and
3/25/2021	Spring Creek WPP Forestry Review Meeting	HGAC, TFS
3/25/2021	Tributaries of the Neches River below Lake Palestine (Middle Nech	TWRI/TCEQ
3/31/2021	Healthy Creeks and Waterways: Vegetation and the Flow of Health	NTCCOG/Upper Trinity Water District
4/7/2021	NRCS Water Resources STAC	NRCS, TFS, TPWD, Other Water Districts
4/8/2021	San Jacinto Regional Flood Planning Group	TWDB, HCFCD other agencies
4/8/2021	Corporate Sustainability Partnership (CSP) Site Meeting W/	HCFCD TFS,HCFCD
4/9/2021	Houston CSP Partnership Meeting	TFS, Trees for Houston, BLC, COH Parks and
4/13/2021	Understanding 319 Grants Webinar	EPA
4/13/2021	Bonneville Environmental Foundation McKinney Meeting	TFS,NTMWD, BEF
4/15/2021	Catawamba-Wateree Initiative - A Case Study for Forests and Drink	Southeastern Partnership for Forests and W
4/20/2021	Texas Forests and Drinking Water Partners Meeting	TFS, SEPF&DW, AWWA,
4/20/2021	Intro to Base Level Engineering	TWDB
5/7/2021	Integrated Stormwater Management	NCTCOG, Other agencies
4/21/2021	2021 Central Texas Water Conservation Symposium	Central Texas Water Efficiency Network
4/22/2021	Texas Watershed Coordinator Roundtable	TWRI other water agencies
4/23/2021	Cypress Creek Site Evaluation	TFS, Cypress Creek Flood Coalition
4/23/2021	CSP Harris County Precinct 4 Discussion	TFS, HCP4
4/26/2021	McKinney Parks Foundation Agreement	TFS, NTMWD, McKinney Parks Foundation
4/28/2021	Houston CSP Financial and Logistics Meeting	TFS,Trees for Houston
5/3/2021	Investigating the Stormwater: Quantity and Quality Impacts of Urb	USFS
5/5/2021	McKinney CSP Restoration Meeting	TFS,NTMWD, BEF and others
5/7/2021	Detention Basin Study Watershed Modeling Meeting	TFS, HCP1, Houston Parks Board
5/12/2021	Alief ISD Early Childhood Center- Resilience Restoration	PBK, TNC, Trees for Houston TFS
5/12/2021	Houston CSP Site Visits	TFS,BLC H-GAC, HCP4, Simfero and more
5/13/2021	TMDL Wastewater Technical Subcommittee	NCTCOG, Other agencies
5/13/2021	Utilities in Action Webinar	Source Water Collaborative Forestry
5/14/2021	Houston CSP Site Visits	TFS,TFH,HCP4, COH DWO
5/18/2021	Multi-Use Detention Basins	TFS, Houston Arboretum
5/18/2021	Chocolate Bay TMDL Stakeholder Committee	HGAC
5/19/2021	Texas Tree Foundation Meeting for McKinney CSP	TTF,TFS
5/19/2021	Regional Stormwater Management Coordinating Council	NCTCOG



5/19/2021	Urban Prairie Resilience Project Convening	COH Mayors Office, TNC, Asakura Robinson
5/19/2021	Texas Watershed Quarterly Team Meeting	NRCS
5/20/2021	Rowlett Creek Watershed Characterization Meeting	Agrilife , NCTCOG other agencies
5/20/2021	Stream Corridor Restoration Committee Meeting	TFS, BPA, BLC, HCFCD, KPC
5/20/2021	Bacteria Implementation Group Coordination and Policy Workgroup	HGAC, TFS, BPA, COH, CEC
5/25/2021	CSP Houston Site Discussion with TFH	TFS,TFH
5/25/2021	Bacteria Implementation Group Spring Meeting	HGAC
5/26/2021	Kickoff Meeting for CSP McKinney	TFS,NTMWD, City of McKinney
5/26/2021	West Houston Association Meeting	TFS,HGAC, WHA
5/26/2021	Houston CSP Meeting	TFS
6/1/2021	Houston CSP HCFCD Meeting	TFS,HCFCD
6/2/2021	EPA Cypress Creek Canopy Estimation and Modeling discussion	TFS, EPA
6/2/2021	Clean Rivers Basin Steering Committee	HGAC
6/3/2021	SFI Implementation Committee meeting	SFI Implmentation Committee Meeting
6/4/2021	NRCS Water Resources STAC	NRCS, TFS, TPWD, Other Water Districts
6/7/2021	Middle Neches I-Plan Coordination Committee Meeting	Texas Water Resources Institute
6/9/2021	GBEP Water and Sedimentation Quality Subcommittee	GBEP, TSSWCB, Other agencies
6/10/2021	Texas Forests and Drinking Water Partners Meeting	TFS,SEPF&DW, Others
6/10/2021	Opportunities for Engagement with NRCS New NWQI Watersheds	NRCS
6/10/2021	Houston CSP Funding Meeting	TFS,BEF
6/11/2021	Flood Management Task Force	NCTCOG
6/11/2021	McKinney CSP Restoration Meeting	TFS,NTMWD, Otheres
6/15/2021	West Houston MUD Drainage Basin Discussion	TFS, TAMU Department of Landscape Archit
6/15/2021	Tree Planting Small Funding App Discussion	TFS,BLC
6/15/2021	Houston CSP Reforestation Workgroup Meeting	TFS,TFH, COH Parks, Simefero, HCP4
6/15/2021	Alief ISD Early Childhood Center- Resilience Restoration Site Visit	TFS, PBK,TFH, Green Star
6/22/2021	Houston CSP Site Prep and Logisitcs Meeting	TFS,TFH, BLC,HGAC
6/23/2021	NRCS Sourcewater Protection Taskforce Meeting	NRCS, TFS, TPWD, Other Water Districts
6/24/2021	TFS-Repsol Introductory Funding Meeting for CSP	TFS, Repsol
6/24/2021	Wastewater Permitting Discussion	TFS,NTMWD
6/29/2021	Zube Park Detention Basin GSI Site Visit	Houston Public Health, TFS, HGAC
6/30/2021	Stream Corridor Restoration Committee Meeting	TFS, BPA, BLC, HCFCD, KPC
7/1/2021	TMDL Coordination Committee	NCTCOG,TAMFS, Municipalities
7/1/2021	Pillot Gully Planting Planning Meeting	TAMFS, HCFCD,Trees for Houston

7/2/2021	Buffalo Bend Tree Planting Site Inspection	TAMFS,TFH
7/2/2021	Wilson Creek Planning Committee Meeting	TAMFS,NTMWD,COM,MPF
7/5/2021	Microforest Basin Planting Discussion	TAMFS AJL Lindsay Environmental Engineeri
7/7/2021	Houston Corporate Sustainability Project Expansion into MUD 468	MUD 468 Board
7/8/2021	Texas Riparian Association Workday	TRA,TWRI, TAMFS,TRWD, Others
7/8/2021	Texas Forest and Drinking Water Partnership Houston Meeting	TAMFS, SEP, BLC,COH, Others
7/8/2021	Repsol Funding Meeting for future CSP Planting	TAMFS, Repsol
7/13/2021	Wastewater Treatment Education Roundtable	NCTCOG, Other agencies
7/13/2021	Cotton Bayou Watershed TMDL	H-GAC, TAMFS, TSSWCB, Others
7/15/2021	Assessing State of Knowledge and Research Needs for Stormwater	TCEQ
7/19/2021	Future Funding as Strategy Meeting for CSP	TAMFS, TFH
7/19/2021	Trees as Wastewater Treatment Introductory Meeting	TAMFS, Harris County Engineering
7/19/2021	CSP July Partnership Meeting	TAMFS, Others
7/20/2021	Texas Forest and Drinking Water State Meeting	TAMFS, SEP, Others
7/20/2021	Spring Creek Steering Committee Target Reduction Meeting	HGAC, TAMFS, TSSWCB, Others
7/21/2021	Regional Flood Management Committee	HGAC, TAMFS, Several Municipalities and W
7/21/2021	Wilson Creek Site Planning Call	TAMFS, NTMWD
7/23/2021	Zube Park Detention Basin Tree Evaluation and Planning	COH-PH, HCFCD, TAMFS
7/23/2021	Upper Oyster Creek TMDL Meeting	HGAC
7/27/2021	Intermediate/Advanced Dry Weather Workshop	NCTCOG
7/27/2021	Big Creek TMDL Stakeholder Meeting	HGAC, TCEQ, City of Richmond, TAMFS
7/28/2021	Wastewater Tree Planting Pilot Project Desgin	HCENG,TAMFS, TFH
7/29/2021	Wilson Creek Day of Planting Committee Meeting	TAMFS, NTMWD, COH, MPF
7/29/2021	Annual Elected Official and CRS Users Floodplain Seminar	NCTCOG
7/30/2021	Southeastern Partnership for Forests and Water Leadership meeting	
8/3/2021	Spring Creek Watershed Protection Plan Stakeholder Meeting	HGAC, TAMFS Others
8/3/2021	Aquatic plant planting / lake shore restoration at Lake Conroe	TPWD, SJRA, TMN, Bass Club, SHSU, TFS+Co
8/4/2021	Wilson Creek Site Prep Committee Meeting	TAMFS, NTMWD, COM, MPF
8/4/2021	Wilson Creek Site Visit Prep Meeting	TAMFS, NTMWD
8/5/2021	Wilson Creek Site Evaluation	TAMFS, NTMWD, COM, MPF, Heard Museu
8/6/2021	Pepsi-Frito Lay CSP Future Funding Meeting	TAMFS, Pepsi-Frito Lay
8/10-11/2021	TCEQ Online Public Drinking Water Conference	
8/11/2021	Stream Corridor Restoration Committee Meeting	BPA, BLC, COH-PH, KPC,TAMFS, HCFCD, COH
8/12/2021	Region 6 San Jacinto RFPG Meeting	TWDB Several agencies

8/12/2021	Pilot Gulley Planting Planning Meeting	TAMFS, HCFCF, TFH,HCP4
8/13/2021	Flood Management Task Force	NCTCOG,TAMFS, Municipalities
8/13/2021	Texan by Nature Introductory Meeting to Join TxWAC	TxN, TAMFS
8/16/2021	Houston CSP Funder Connector Meeting	TAMFS, BEF, TFH
8/17/2021	Upper Trinity River Basin Coordinating Committee	NCTCOG, TAMFS, Other Municipalities and \
8/18/2021	Regional Stormwater Management Coordinating Council	NCTCOG, TAMFS, Other Municipalities and \
8/18/2021	CSP Site Prep, Logistics and Outreach Committee Meeting	TAMFS, BLC, HCP4, HGAC, COH-SWP, TFH
8/19/2021	NRCS Sourcewater Protection Taskforce Meeting	TPWD, AWWA, NRCS, TAMFS, TRWD, Other
8/20/2021	Pepsi-Frito Lay CSP Future Funding Meeting	TAMFS, Pepsi-Frito Lay
8/23/2021	Region 6 San Jacinto RFPG Technical Committee Meeting	TWDB, HCFCF other agencies
8/24/2021	Wilson Creek Tree Planting Outreach Committee	TAMFS, NTMWD, MPF, COH
8/26/2021	Clean Waters Initiative Workshop	HGAC
8/27/2021	Wilson Creek Day of Planting Committee Meeting	TAMFS, NTMWD, MPF, COH
9/7/2021	Northeast Texas Conservation Delivery Network Field Day	TAMFS, ABC, TPWD, USFWS, LMVJV, ETX Na
2/16/2022	Lanana Bayou Watershed Protection Plan Meeting	TWRI
2/22/2022	Riparian and Stream Ecosystems	TWRI
2/23/2022	Texas Forest and Drinking Water Partnership	TAMFS
2/25/2022	Pro Loggers Training	TFA and TAMFS
3/3/2022	Clear Creek Watersehd Partnership	HGAC
3/24/2022	Urban Riparian and Stream Restoration	TWRI
3/30/2022	HGAC Celebration of Conservation	HGAC

► **Note: These are meetings you attended but did not give a presentation.**

Location	Number of Attendees	Attended By
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October 2018 - September 2021 - extension into 2022

Lufkin	12	Lori
Ft. Worth	105	Lori
Belton	30	Lori
New Braunfels	75	Jeff
College Station	22	Jeff, Lori, Donna, Todd T., Shane
College Station	32	Jeff, Lori
San Marcos	13	Jeff
Waco	124	Jeff
College Station	6	All
Rogers	9	Lori
Grapevine	103	Jeff
Webinar	65	Hughes
Biloxi, MS	16	Hughes
Grapevine	102	Lori
Rogers	10	Lori
Rogers	17	Lori
Killeen	22	Lori
TFA, Lufkin	15	Thomas
Rogers	16	Lori
TFA, Lufkin	20	Thomas
College Station	7	Thomas, Lori, Mac, Shane, Donna
Dallas	63	Lori
Tyler	40	Thomas, Donna
Kerrville, TX	120	Jeff
TFA, Lufkin	20	Thomas
Rogers	10	Lori
San Antonio	510	Jeff <i>Put on Display Subtask 2.4</i>
Online	11	Jeff
Lufkin	22	Thomas
San Antonio	65	Jeff
College Station	8	Jeff, Lori, Mac, Shane, Hughes, Thomas, Donna, Sam
Auburn, Alabama	15	Hughes
Conference Call	11	Lori

Conference Call	27	Mac
Teams Meeting	3	Mac
WebEx Class	62	Lori, Jeff
Teams Meeting	2	Mac
Zoom Meeting	48	Lori, Mac, Shane
WebEx	33	Mac
Conference Call	15	Lori
GoToWebinar	34	Mac
Web Meeting	52	Lori, Donna, Mac, Jeff
GoToWebinar	42	Mac
GoToWebinar	18	Mac
Teams Meeting	3	Mac
GoToWebinar	43	Mac
WebEx Webinar	57	Lori
WebEx Webinar	58	Lori
Conference Call	15	Lori
Teams Meeting	26	Mac
Zoom Meeting	20+	Mac , Hughes, Shane
Webinar	60	Mac
Virtual	17	Mac
Conference Call	11	Lori
Virtual	16	Mac
Virtual	13	Mac
San Pedro Creek	5	Mac
Virtual	6	Mac
Conference Call	11	Lori
Conference Call	3	Lori
Conference Call	11	Lori
Conference Call	6	Lori
Conference Call	11	Lori
Virtual	12	Mac
Conference Call	11	Lori
Virtual	21	Mac
Conference Call	11	Lori

Conference Call	11	Lori
Conference Call	11	Lori
Virtual	22	Mac
Virtual	23	Mac
Virtual	3	Mac
Virtual	12	Mac
Conference Call	18	Lori
Virtual	12	Mac
Virtual	17	Mac
Virtual	15	Mac
Virtual	21	Mac
On Phone	2	Mac
Virtual	33	Mac, Shane, Hughes, Lori, Jeff, Sarah, Donna
Virtual	10	Mac
Virtual	11	Mac
Virtual	16	Mac
Tom Bass Regional Park	9	Mac
Virtual	3	Mac
Virtual	13	Mac
Virtual	23	Mac
Virtual	2	Mac
Virtual	3	Mac
Virtual	16	Mac
Conference Call	10	Lori
Conference Call	20	Lori
Conference Call	30	Lori
Virtual	21	Mac
Zoom	100	Lori
Conference Call	5	Lori
Virtual	31	Lori
Virtual	42	Lori
School Grounds	4	Lori
Conference Call	11	Lori
Conference Call	29	Lori

Zoom	12	Sarah, Donna
Virtual	40	Mac
Virtual	68	Lori
Virtual	4	Mac
Virtual	3	Mac
Virtual	30	Lori
Virtual	40	Mac
Virtual	50	Mac
Virtual	42	Mac
Virtual	12	Mac
Virtual	2	Mac
Virtual	13	Mac
Virtual	10	Mac
Virtual	3	Mac
Virtual	15	Mac
Online	15	Jeff
Virtual	3	Mac
Virtual	9	Mac
Virtual	10	Mac
Virtual	20	Mac
Virtual	2	Mac
Zoom	20	Sarah
Virtual	20	Mac
Virtual	10	Mac
Virtual	112	Lori, Mac, Donna, Jeff
Virtual	5	Mac
Virtual	15	Shane, Hughes(?)
Virtual	8	Mac
Virtual	3	Mac
Virtual	8	Mac
Virtual	50	Mac
Virtual	3	Mac
McKinney Greens	8	Mac
Virtual	4	Mac

Online	23	Jeff
Online	19	Jeff
Virtual	7	Mac
Virtual	2	Mac
Zoom	13	Donna
Virtual	186	Mac, Donna
Virtual	16	Mac
Virtual	22	Mac
Virtual	2	Mac
Virtual	13	Mac
Virtual	8	Mac
Virtual	3	Mac
Virtual	50	Mac
Virtual	20	Mac
Virtual	7	Mac
Virtual	25	Mac
Virtual	55	Mac
Virtual	50	Mac
Virtual	3	Mac
Virtual	4	Mac
Virtual	3	Mac
Virtual	3	Mac
Virtual	45	Mac
Virtual	10	Mac
Virtual	3	Mac
Virtual	10	Mac
Houston	6	Mac
Virtual	20	Mac
Virtual	50	Mac
Houston	7	Mac
Virtual	2	Mac
Virtual	15	Mac
Virtual	4	Mac
Virtual	10	Mac



Virtual	30	Mac
Virtual	20	Mac
Virtual	20	Mac
Virtual	10	Mac
Virtual	12	Mac
Virtual	3	Mac
Virtual	30	Mac
Virtual	18	Mac
Virtual	3	Mac
Virtual	14	Mac
Virtual	2	Mac
Virtual	2	Mac
Virtual	15	Mac
TFA, Lufkin; and virtual	20	Donna
Virtual	15	Mac
Virtual	7	Donna
Virtual	30	Mac
Virtual	10	Mac
Virtual	8	Mac
Virtual	2	Mac
Virtual	30	Mac
Virtual	17	Mac
Virtual	2	Mac
Virtual	2	Mac
Virtual	7	Mac
Alief, TX	7	Mac
Virtual	5	Mac
Virtual	8	Mac
Virtual	2	Mac
Virtual	2	Mac
Houston	5	Mac
Virtual	12	Mac
Virtual	15	Mac
Virtual	3	Mac

Houston,TX	4	Mac	
Virtual	6	Mac	
Virtual	2	Mac	
Virtual	15	Mac	This was kind of a presentation, but was done in the public speaking minutes. Not sure where it sh
Virtual	10	Mac	
Virtual	8	Mac	
Virtual	3	Mac	
Virtual	20	Mac	
Virtual	10	Mac	
Virtual	12	Mac	
Virtual	3	Mac	
Virtual	2	Mac	
Virtual	14	Mac	
Virtual	20	Mac	
Virtual	11	Mac	
Virtual	22	Mac	
Virtual	2	Mac	
Houston	6	Mac	
Virtual	10	Mac	
Virtual	20	Mac	
Virtual	20	Mac	
Virtual	4	Mac	
Virtual	5	Mac	
Virtual	60	Mac	
	65	Shane	
Virtual	20	Mac	
Stow-Away Marina, Willis	20	Donna	
Virtual	6	Mac	
McKinney Greens	2	Mac	
McKinney Greens	10	Mac	
Virtual	2	Mac	
Virtual	55	Shane	gave presentation? Not on Agenda.
Virtual	13	Mac	
Virtual	20	Mac	

Virtual	4	Mac
Virtual	20	Mac
Virtual	2	Mac
Virtual	3	Mac
Virtual	30	Mac
Virtual	20	Mac
Virtual	8	Mac
Virtual	10	Mac
Virtual	2	Mac
Virtual	15	Mac
Virtual	5	Mac
Virtual	25	Mac
Virtual	5	Mac
Overton	40	Donna
Nacogdoches	15	Tyler
La Marque, TX	20	Cassidy
Virtual	20	Cassidy
Lufkin, TX	30	Cassidy
Virtual	20	Cassidy
The Woodlands, TX	20	Cassidy
Houston, TX	30	Cassidy

Date	Association or Group
10/23/2018	TAMU Agrilife/TWRI/Lampasas River Watershed
11/6/2018	TAMU Agrilife/TWRI/Medina River Watershed
3/6/2019	TAMU Agrilife/TWRI/Bandera County Watershed
4/16/2019	TAMU Agrilife/TWRI/Baffin Bay Watershed
5/1/2019	TAMU Agrilife/TWRI/Double Bayou/Cedar Bayou Watersheds
10/15/2019	TAMU Agrilife/TWRI/Plum Creek Watershed
10/23/2019	TAMU Agrilife/TWRI/Upper Colorado/Llano River Watersheds
11/13/2019	TAMU Agrilife/TWRI/Big Elm Creek Watershed
2/27/2020	TAMU Agrilife/TWRI/Lavaca River Watershed
10/19/2020	TAMU Agrilife/TWRI/ Attoyac Bayou Watershed
12/8/2020	TAMU Agrilife/TWRI/San Antonio Area Watersheds
4/20/2021	TWRI Stream and Riparian Ecosystem Workshop for Joe Pool Lake
9/7/2021	TWRI Stream and Riparian Ecosystem Workshop for Leon River Watershed
9/22/2021	TWRI Stream and Riparian Ecosystem Workshop for Angelina River Watershed
10/1/2021	TWRI Stream and Riparian Ecosystem Workshop for Mill Creek Watershed
10/13/2021	TWRI - Lampasas Watershed PP
11/2/2021	TWRI - Comal River Watershed PP
2/22/2022	TWRI Stream and Riparian Ecosystem Workshop for Bastrop, Dickinson, Highland, and Jarbo Bayou
3/8/2022	TWRI/Alligator-Geronimo Creek WPP

**TOTALS:**

► **Note: These are meetings you gave a presentation; TWRI Riparian Workshops only.**

Topic	Location	Number of Attendees	Length of Session/ Presentation	Presenter(s)	
Roles of Forests and Trees in Watershed Protection	Marion	42	1 hr	Jeff	
Roles of Forests and Trees in Watershed Protection	San Antonio	33	1 hr	Jeff	
Roles of Forests and Trees in Watershed Protection	Bandera	47	1 hr	Jeff	
Roles of Forests and Trees in Watershed Protection	Kingsville	32	1 hr	Jeff	
Roles of Forests and Trees in Watershed Protection	Baytown	26	1 hr	Donna	
Roles of Forests and Trees in Watershed Protection	Lockhart	39	40 min	Hazel	
Roles of Forests and Trees in Watershed Protection	Junction	19	40 min	Hazel	
Roles of Forests and Trees in Watershed Protection	Temple	44	40 min	Hazel	
Roles of Forests and Trees in Watershed Protection	Edna	29	30 min	Mac Martin presented, with Lori	
Roles of Forests and Trees in Watershed Protection	Virtual	26	2 Hours	Mac Martin, Lori Hazel	
Panel Discussion	Virtual	40	90 min	TFS (Mac Martin, Jeff McFall), TWRI,	
Role of Forests and Trees in Watershed Protection	Virtual	21	2 Hours	Mac Martin, Lori Hazel	
Role of Forests and Trees in Watershed Protection	Gatesville	22	1 hr	Lori	
Role of Forests and Trees in Watershed Protection	Tyler	13	30 min.	Donna	7 LOs + 6 agency pers
Role of Forests and Trees in Watershed Protection	Sealy	33	45 minutes	Shane	
Role of Trees and Forests in Watershed Protection	Lampasas	30	1 hr	Jeff McFall	
Role of Trees and Forests in Watershed Protection	New Braunfels	35	1 hr	Jeff McFall	
Role of Trees and Forests in Watershed Protection	LaMarque	25	40 min.	Donna	
Role of Forest & Trees in Watershed Protection	Seguin, TX	35	45 minutes	Jeff McFall	

October 20

# Texas Riparian & Stream Ecosystem Training



## Geronimo & Alligator Creeks Watershed Partnership Seguin, TX ~ Agenda ~ March 8, 2022

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Travis Fanke, Guadalupe County AgriLife Extension
- 8:30 Program Overview, Watershed Management and Water Quality
- Lucas Gregory, Texas Water Resources Institute
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department / TRA Board
- 10:10 Break
- 10:25 Riparian Vegetation
- Ricky Linex, Retired USDA NRCS
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Lucas Gregory, Texas Water Resources Institute
- 12:00 Catered Lunch
- 12:20 Lunch time Presentation: WPP Implementation Highlights
- Evgenia Spears – Geronimo & Alligator Creeks Watershed Coordinator
- 12:50 Role of Forests and Trees in Watershed Protection
- Jeff McFall, Texas A&M Forest Service
- 1:30 Trip to Geronimo Creek (Lead by NRCS, TPWD, and TWRI)
- Stream Walk
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resources Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Angelina River Watershed: Tyler, TX Agenda ~ September 22, 2021

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Clint Perkins, Smith County AgriLife Extension
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 9:20 How Creeks Function & Bear Creek Example
- Ricky Linex, Retired USDA Natural Resources Conservation Service (NRCS)
- 10:10 Break
- 10:25 Riparian Vegetation
- Ricky Linex, Retired USDA NRCS
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 12:00 Lunch
- 12:20 Lunch time Presentation: Angelina River Watershed Update
- Anna Gitter, Texas Water Resources Institute
  - Carla Ethridge, Angelina Neches River Authority
- 12:50 Role of Forests and Trees in Watershed Protection
- Donna Work, Texas A&M Forest Service
- 1:30 Trip to the River (Lead by NRCS, TPWD, and TWRI)
- Stream Walk
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resources Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Attoyac Bayou Watershed - Online Agenda ~ October 19, 2020

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### 10:00 Welcome & Introductions

- Ricky Thompson, Nacogdoches County AgriLife Extension
- Clare Escamilla, Texas Water Resources Institute (TWRI)

### 10:30 Local Watershed Update: Attoyac Bayou Watershed

- Emily Monroe, TWRI
- Carla Ethridge, Angelina & Neches River Authority, CRP Coordinator

### 11:00 Open Discussion & Questions about Online Riparian Course

- All Instructors – Texas Parks & Wildlife Department, TWRI, USDA Natural Resources and Conservation Service, Texas A&M Forest Service, Natural Resource Institute

### 12:00 Conclusion

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# Texas Riparian & Stream Ecosystem Training



## Comal River Agenda New Braunfels, TX ~ November 2, 2021

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department / TRA Board
- 10:10 Break
- 10:25 Riparian Vegetation
- Ricky Linex, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 12:00 Lunch
- 12:20 Lunch time Presentation: Dry Comal Creek and Comal River Watershed Protection Plan Overview
- Phillip Quast, City of New Braunfels
- 12:50 Role of Forests and Trees in Watershed Protection
- Jeff Martin, Texas A&M Forest Service
- 1:30 Trip to the River (Led by NRCS, TPWD, and TWRI)
- River Walk & Lane's Balance Demonstration Activity
  - Agricultural Nonpoint Source Incentive Programs: Kathryn Brady, NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resources Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training

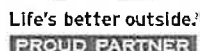


## Double Bayou/ Cedar Bayou Watershed

Agenda ~ May 1, 2019

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Shannon Dietz, AgriLife County Extension Agent
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle, Texas Water Resources Institute (TWRI)
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department (TPWD)
- 10:10 Break
- 10:25 Riparian Vegetation
- Frank Baca, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle, TWRI
- 12:05 Lunch
- 12:20 Lunchtime Presentation: Local Presentations
- Justin Bower, Houston-Galveston Area Council
  - Ryan Bare, Houston Advanced Research Center
- 12:50 Roles of Forests and Trees in Watershed Protection
- Donna Work, Texas A&M Forest Service
- 1:20 Trip to the Creek (Lead by TWRI, NRCS and TPWD)
- Creek Walk & Lane's Balance Demonstration Activity
  - Agricultural Nonpoint Source Program: Kyle Wright, USDA NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resource Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Joe Pool Lake Watershed - Online Agenda ~ April 20, 2021

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### 10:00 Welcome, Introductions & Upcoming Events

- Clare Escamilla, Texas Water Resources Institute (TWRI)
- Elizabeth Rudd, AgriLife Extension Office in Dallas County

### 10:30 Local Watershed Update: Joe Pool Lake Watershed

- Heather Finn, Trinity River Authority

### 11:00 Open Discussion & Questions about Online Riparian Course

- All Instructors – Texas Parks & Wildlife Department, TWRI, USDA Natural Resources and Conservation Service, Texas A&M Forest Service, Natural Resource Institute

### 12:00 Conclusion

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# Texas Riparian & Stream Ecosystem Training



## Galveston Bay Coalition of Watersheds: La Marque, TX ~ Agenda ~ February 22, 2022

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Phoenix Rogers, Galveston County AgriLife Extension
- 8:30 Program Overview, Watershed Management and Water Quality
- Lucas Gregory, Texas Water Resources Institute
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department / TRA Board
- 10:10 Break
- 10:25 Riparian Vegetation
- Ricky Linex, Retired USDA NRCS
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Lucas Gregory, Texas Water Resources Institute
- 12:00 Catered Lunch – Sponsored by the Texas Water Resources Institute
- 12:20 Lunch time Presentation: Conveyance Channel Improvements Using Natural Stable Channel Design
- Roberto Vega III, Harris County Flood Control District
- 12:50 Role of Forests and Trees in Watershed Protection
- Donna Work, Texas A&M Forest Service
- 1:30 Trip to Marchand Bayou (Lead by NRCS, TPWD, and TWRI)
- Stream Walk
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resources Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Lampasas River Watershed: Lampasas, TX Agenda ~ October 13, 2021

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Heath Lusty, Lampasas County AgriLife Extension
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department / TRA Board
- 10:10 Break
- 10:25 Riparian Vegetation
- Ricky Linex, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 12:00 Lunch
- 12:20 Lunch time Presentation: Leon Watershed Protection Plan Overview
- Lisa Prcin, Texas A&M AgriLife Research
- 12:50 Role of Forests and Trees in Watershed Protection
- Lori Hazel, Texas A&M Forest Service / TRA Board
- 1:30 Trip to the River (Lead by NRCS, TPWD, and TWRI)
- Stream Walk
  - Agricultural Nonpoint Source Incentive Programs: Kathryn Brady, NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resources Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Leon River Watershed: Gatesville, TX Agenda ~ September 7, 2021

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Andy James, Texas A&M Natural Resources Institute
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department / TRA Board
- 10:10 Break
- 10:25 Riparian Vegetation
- Ricky Linex, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 12:00 Lunch
- 12:20 Lunch time Presentation: Leon Watershed Protection Plan Overview
- Andy James, Texas A&M Natural Resources Institute
- 12:50 Role of Forests and Trees in Watershed Protection
- Mac Martin, Texas A&M Forest Service / TRA Board
- 1:30 Trip to the River (Lead by NRCS, TPWD, and TWRI)
- Stream Walk
  - Agricultural Nonpoint Source Incentive Programs: Kyle Wright, NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resources Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Medina River Agenda ~ November 6, 2018

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Aarin Teague, San Antonio River Authority
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle, Texas Water Resources Institute (TWRI)
- 9:20 How Creeks Function & Bear Creek Example
- Melissa Parker, Texas Parks and Wildlife Department (TPWD)
- 10:10 Break
- 10:25 Riparian Vegetation
- Matt Kraus USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle, TWRI
- 12:05 Lunch
- 12:20 Luncheon Presentation: Stream Restoration in San Antonio River Basin
- Aarin Teague, San Antonio River Authority
- 12:50 Roles of Forests and Trees in Watershed Protection
- Jeff McFall, Texas A&M Forest Service
- 1:20 Trip to the Creek (Lead by TWRI, NRCS and TPWD)
- Creek Walk & Lane's Balance Demonstration Activity
  - Agricultural Nonpoint Source Program: Kathryn Brady, NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resource Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Mill Creek Agenda Sealy, TX ~ October 1, 2021

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Stacie Villarreal, Austin County AgriLife Extension
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department / TRA Board
- 10:10 Break
- 10:25 Riparian Vegetation
- Ricky Linex, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 12:00 Lunch
- 12:20 Lunch time Presentation: Mill Creek Watershed Plan Overview
- Evgenia Spears, TAMU Soil and Crop Sciences
- 12:50 Role of Forests and Trees in Watershed Protection
- Mac Martin, Texas A&M Forest Service / TRA Board
- 1:30 Trip to the River (Lead by NRCS, TPWD, and TWRI)
- River Walk & Lane's Balance Demonstration Activity
  - Agricultural Nonpoint Source Incentive Programs: Kyle Wright, NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resources Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## San Antonio Area Watersheds - Online Agenda ~ December 8, 2020

---

### 10:00 Welcome & Introductions

- Clare Escamilla, Texas Water Resources Institute (TWRI)

### 10:30 Local Watershed Update: San Antonio Area Watersheds

- Aarin Teague, San Antonio River Authority
- Clare Escamilla, TWRI

### 11:00 Open Discussion & Questions about Online Riparian Course

- All Instructors – Texas Parks & Wildlife Department, TWRI, USDA Natural Resources and Conservation Service, Texas A&M Forest Service, Natural Resource Institute

### 12:00 Conclusion

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# Texas Riparian & Stream Ecosystem Training



## Baffin Bay Watershed Agenda ~ April 16, 2019 ~ Kingsville, TX

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Francisco Escobedo, Kleberg-Kenedy County AgriLife Extension Office
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle, Texas Water Resources Institute (TWRI)
- 9:20 How Creeks Function & Bear Creek Example
- Melissa Parker, Texas Parks and Wildlife Department (TPWD)
- 10:10 Break
- 10:25 Riparian Vegetation
- James Rogers, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle, TWRI
- 12:05 Lunch
- 12:20 Lunchtime Presentation: Local Presentations
- Rocky Freund, Nueces River Authority
  - Rae Mooney, Coastal Bend Bays and Estuaries Program
- 12:50 Roles of Forests and Trees in Watershed Protection
- Jeff McFall, Texas A&M Forest Service
- 1:20 Trip to the Creek (Lead by TWRI, NRCS and TPWD)
- Creek Walk & Lane's Balance Demonstration Activity
  - Agricultural Nonpoint Source Program: Kyle Wright, USDA NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resource Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Bandera County Watersheds Agenda ~ March 6, 2019

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Michael Haynes, Bandera County AgriLife Extension Office
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle, Texas Water Resources Institute (TWRI)
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department (TPWD)
- 10:10 Break
- 10:25 Riparian Vegetation
- Kason Haby, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle, TWRI
- 12:05 Lunch
- 12:20 Lunchtime Presentation: Stream Restoration in San Antonio River Basin
- Levi Sparks, Bandera County River Authority and Groundwater District
- 12:50 Roles of Forests and Trees in Watershed Protection
- Jeff McFall, Texas A&M Forest Service
- 1:20 Trip to the Creek (Lead by TWRI, NRCS and TPWD)
- Creek Walk & Lane's Balance Demonstration Activity
  - Agricultural Nonpoint Source Program: Kathryn Brady, NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resource Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Big Elm Creek

Agenda ~ November 13, 2019

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Whitney Grantham, Bell County AgriLife Extension
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle, Texas Water Resources Institute (TWRI)
- 9:20 How Creeks Function & Bear Creek Example
- Melissa Parker, Texas Parks and Wildlife Department (TPWD)
- 10:10 Break
- 10:25 Riparian Vegetation
- Ricky Linnex, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle, TWRI
- 12:05 Lunch
- 12:20 Lunchtime Presentation: Big Elm Creek Watershed Protection Plan
- Ed Rhodes, Texas Water Resources Institute
- 12:50 Roles of Forests and Trees in Watershed Protection
- Lori Hazel, Texas A&M Forest Service
- 1:20 Trip to the Creek (Lead by TWRI, NRCS and TPWD)
- Creek Walk & Lane's Balance Demonstration Activity
  - Agricultural Nonpoint Source Program: Kyle Wright, NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resource Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Llano River Watershed Agenda ~ October 23, 2019

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Taryn Titsworth, Kimble County AgriLife County Extension
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle, Texas Water Resources Institute (TWRI)
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department (TPWD)
- 10:10 Break
- 10:25 Riparian Vegetation
- Kason Haby, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle, TWRI
- 12:05 Lunch
- 12:20 Luncheon Presentation: Local Presentations
- Tom Arsuffi, Texas Tech Llano River Field Station
- 12:50 Roles of Forests and Trees in Watershed Protection
- Lori Hazel, Texas A&M Forest Service
- 1:20 Trip to the Creek (Lead by TWRI, NRCS and TPWD)
- Creek Walk & Lane's Balance Demonstration Activity
  - Agricultural Nonpoint Source Program: Kyle Wright, USDA NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resource Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Plum Creek Agenda ~ October 15, 2019

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- 8:30 Program Overview, Watershed Management and Water Quality  
- Clare Entwistle, Texas Water Resources Institute (TWRI)
- 9:20 How Creeks Function & Bear Creek Example  
- Melissa Parker, Texas Parks and Wildlife Department (TPWD)
- 10:10 Break
- 10:25 Riparian Vegetation  
- Jim Rogers, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams  
- Clare Entwistle, TWRI
- 12:05 Lunch
- 12:20 Lunchtime Presentation: Plum Creek Watershed Partnership  
- Stephen Ringer, Plum Creek Watershed Partnership
- 12:50 Roles of Forests and Trees in Watershed Protection  
- Lori Hazel, Texas A&M Forest Service
- 1:20 Trip to the Creek (Lead by TWRI, NRCS and TPWD)  
- Creek Walk & Lane's Balance Demonstration Activity  
- Agricultural Nonpoint Source Program: Kathryn Brady, NRCS  
- Feral Hog Education: Josh Helcel, Texas A&M Natural Resource Institute
- 4:30 Wrap up and Head for Home!

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# Texas Riparian & Stream Ecosystem Training



## Lampasas River Watershed: Lampasas, TX Agenda ~ October 13, 2021

- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Heath Lusty, Lampasas County AgriLife Extension
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 9:20 How Creeks Function & Bear Creek Example
- Ryan McGillicuddy, Texas Parks and Wildlife Department / TRA Board
- 10:10 Break
- 10:25 Riparian Vegetation
- Ricky Linex, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Entwistle Escamilla, Texas Water Resources Institute / TRA Board
- 12:00 Lunch
- 12:20 Lunch time Presentation: Leon Watershed Protection Plan Overview
- Lisa Prcin, Texas A&M AgriLife Research
- 12:50 Role of Forests and Trees in Watershed Protection
- Lori Hazel, Texas A&M Forest Service / TRA Board
- 1:30 Trip to the River (Lead by NRCS, TPWD, and TWRI)
- Stream Walk
  - Agricultural Nonpoint Source Incentive Programs: Kathryn Brady, NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resources Institute
- 4:30 Wrap up and Head for Home!

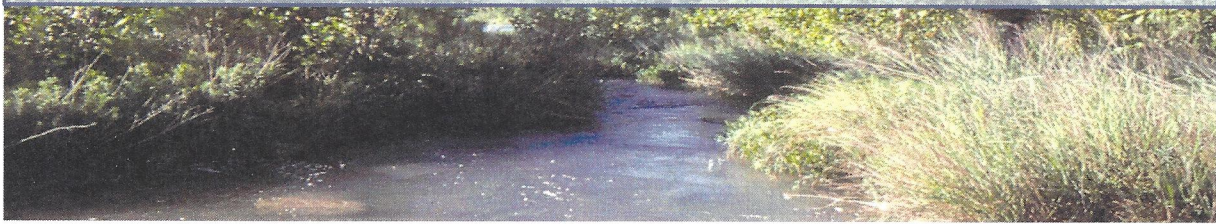
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# Texas Riparian & Stream Ecosystem Training



## Lavaca River Watershed Agenda ~ February 27, 2020

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- 8:00 Meeting Registration
- 8:15 Welcome & Introductions
- Mike Hiller, Jackson County AgriLife Extension
- 8:30 Program Overview, Watershed Management and Water Quality
- Clare Escamilla, Texas Water Resources Institute (TWRI)
- 9:20 How Creeks Function & Bear Creek Example
- Melissa Parker, Texas Parks and Wildlife Department (TPWD)
- 10:10 Break
- 10:25 Riparian Vegetation
- Matt Machacek, USDA Natural Resources Conservation Service (NRCS)
- 11:15 Management Practices, Local Resources and Photo Monitoring of Streams
- Clare Escamilla, TWRI
- 12:05 Lunch
- 12:20 Lunchtime Presentation: Lavaca River Watershed Protection Plan
- Emily Monroe, TWRI
- 12:50 Roles of Forests and Trees in Watershed Protection
- Lori Hazel, Texas A&M Forest Service
- 1:20 Trip to the Creek
- Creek Walk: Lead by NRCS and TPWD
  - Agricultural Nonpoint Source Program: Kyle Wright, NRCS
  - Feral Hog Education: Josh Helcel, Texas A&M Natural Resource Institute
- 4:30 Wrap up and Head for Home!

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## *Middle Neches Water Quality Meeting Agenda*

November 22, 2019

10:00 am

Texas Forestry Service Building

1903 Atkinson Dr.

Lufkin, TX

Welcome and Introductions

### **Introduction to Water Quality in Texas**

Dania Grundmann – Texas Commission on Environmental Quality

### **Watershed Characteristics of tributaries to the Neches River in Angelina County**

Anna Gitter – Texas Water Resources Institute

### **Historical Water Quality**

Carla Ethridge – Angelina & Neches River Authority

### **Next Steps: Developing a Technical Support Document**

Anna Gitter – Texas Water Resources Institute

### **Approaches to Address Water Quality and Stakeholder Involvement**

Lucas Gregory – Texas Water Resources Institute

# The Role of Forests and Trees in Watershed Protection

Presented by Donna Work  
Biologist  
Texas A&M Forest Service

- Water Resources Program -





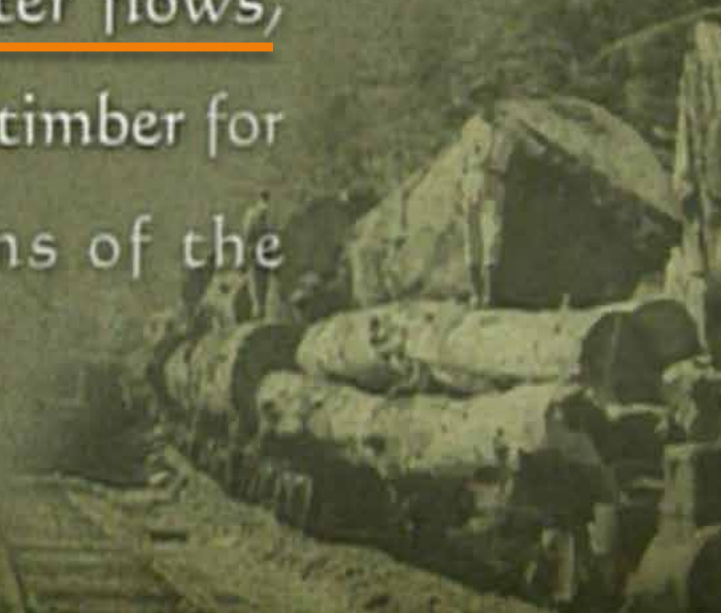


**Forests provide the cleanest water of any land use**

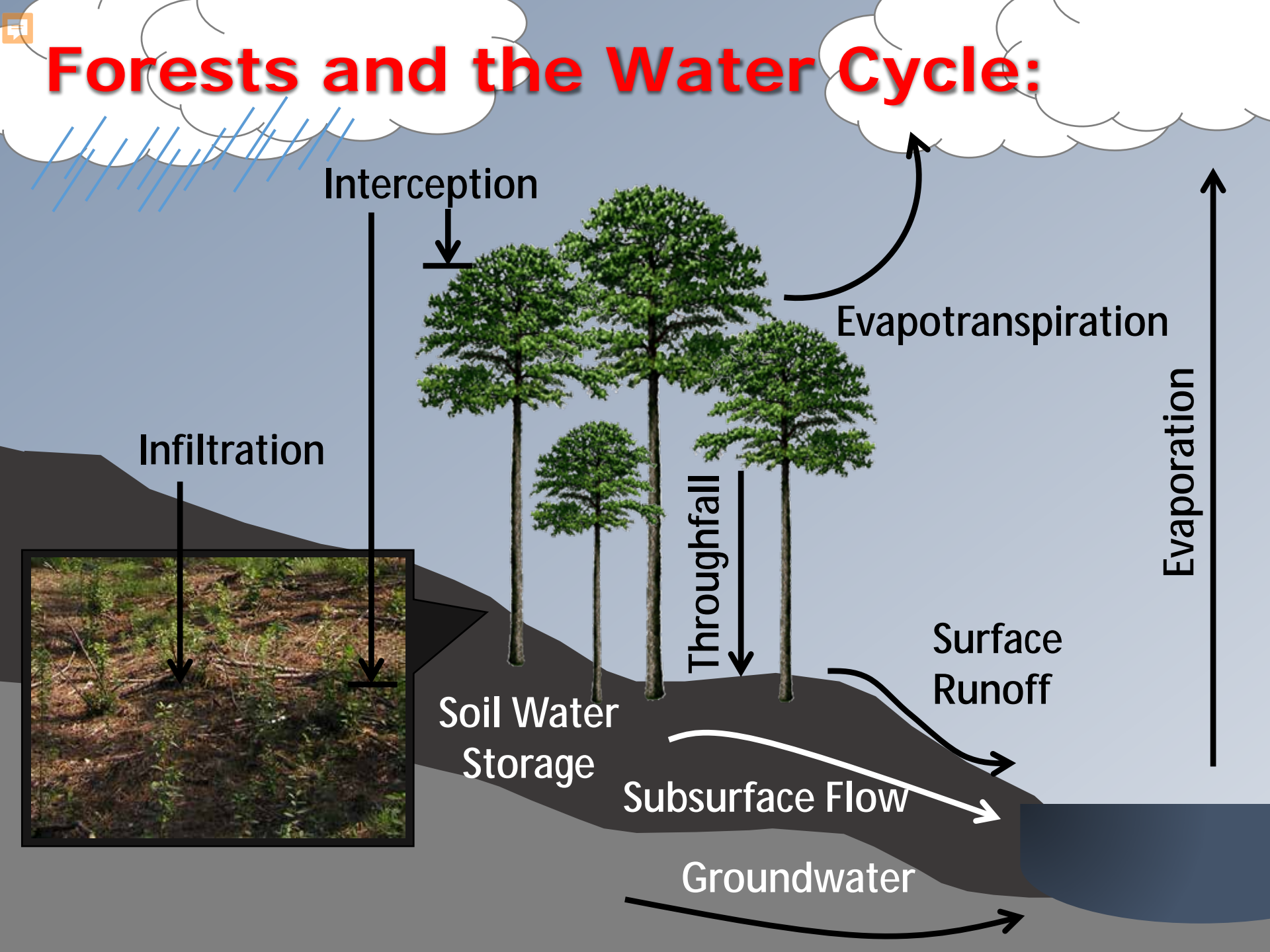


# ORGANIC ACT OF 1897

No public forest reservation shall be established, except to improve and protect the forest within the reservation, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States



# Forests and the Water Cycle:





# Forest / Water Relationship

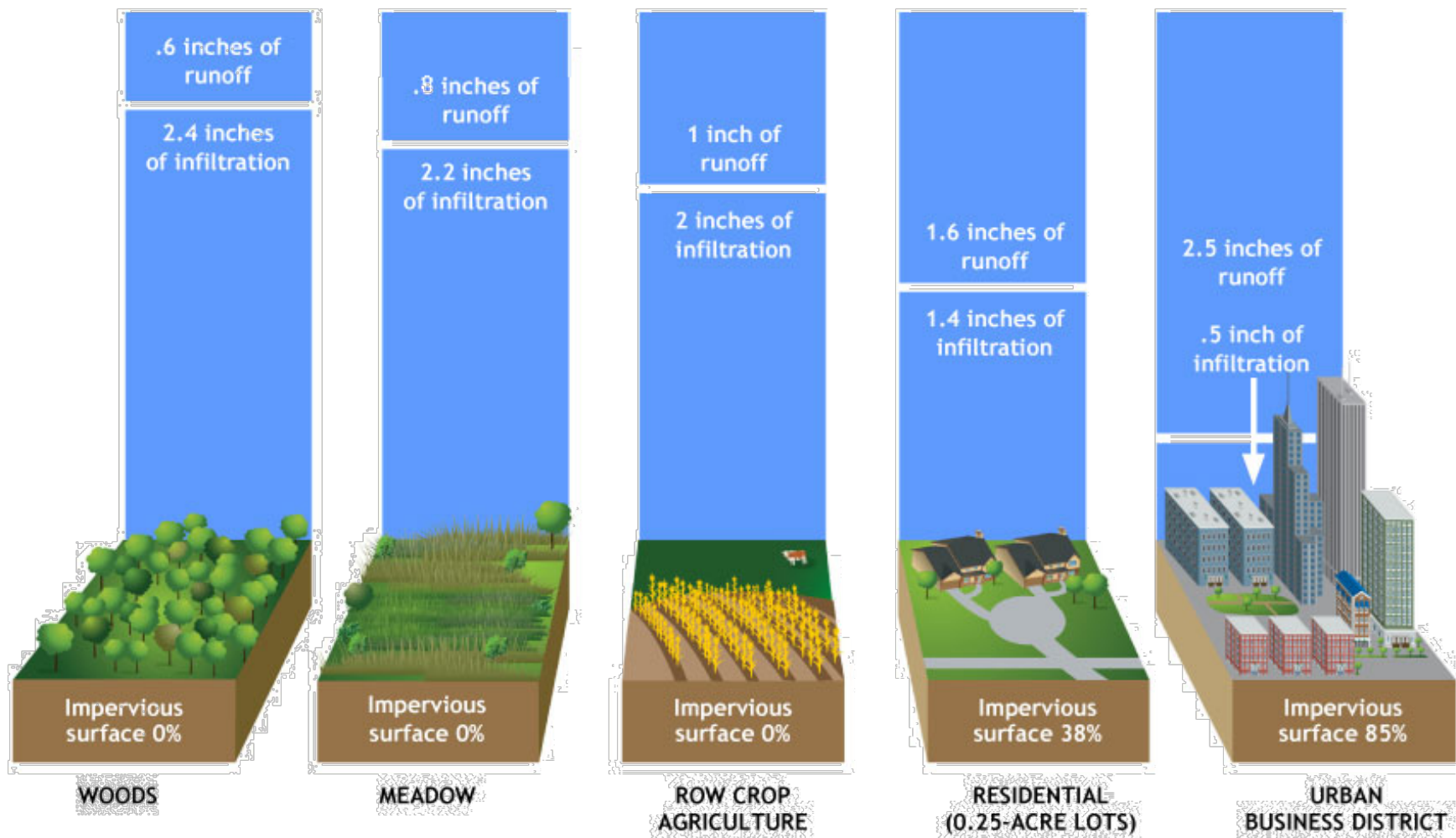
- Slow down runoff
- Stabilize soils
- Reduce erosion
- Maintain stream temperatures
- Prevent/Reduce flood impacts
- Filter/Trap pollutants





# **Increased Runoff Leads To:**

- Increased frequency and severity of flooding**
- Reduced ground water recharge**
- Decreased base flow in streams**
- Increased erosion**
- Reduced natural filtration of the water**
- Negative impact on stream health**







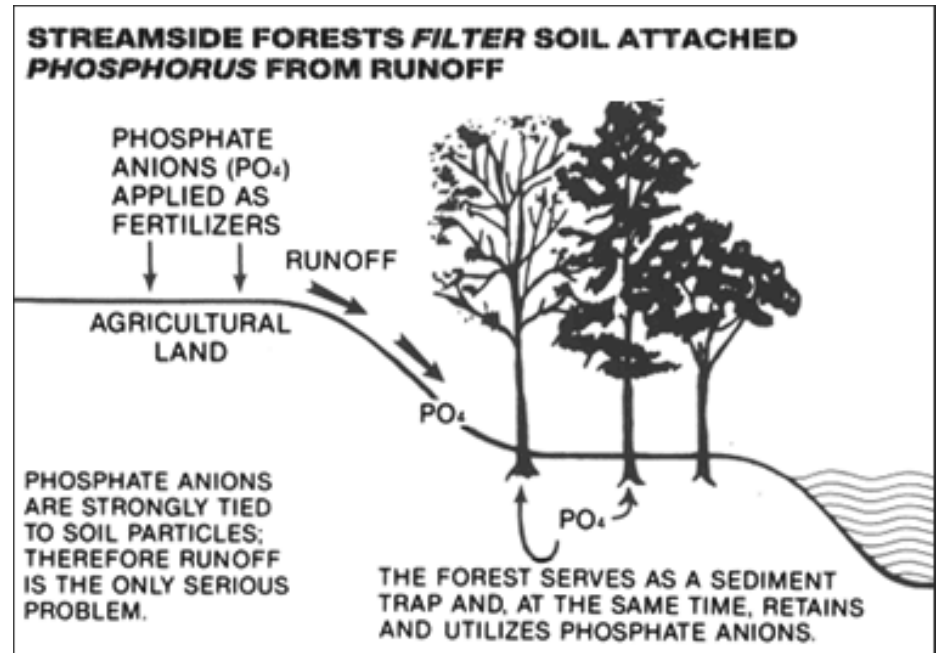
# Polluted Runoff:

## “Nonpoint Source Pollution”

- Excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas
- Oil, grease, and toxic chemicals from urban runoff and energy production
- Sediment from improperly managed construction sites, crop and forest lands, and eroding streambanks
- Salt from irrigation practices and acid drainage from abandoned mines
- Bacteria and nutrients from livestock, pet waste, and faulty septic systems

# Forests Act as Pollutant Filters:

- Riparian vegetation can remove metals, nutrients, and other chemicals from runoff via plant uptake, and by facilitating bacterial transformation.



Reference: Maryland Department of Natural Resources

- Studies have shown that buffers along streams can reduce Nitrogen and Phosphorous pollution by 80-90%

# Effects on Water Temperature:

- **Trees shade streams lowering water temperatures**
  - **Very important for aquatic species**
  - **Maintains higher dissolved oxygen**
- **Infiltrated water enters streams at lower temperatures than surface runoff from paved areas**



# Watershed Protection

## Best Management Practices

- Landowner level
  - Farm
  - Ranch
  - Forest
- Large or small acreage
- We can all make a difference!
  - Big and small efforts: All make up a piece of the pie!



# PLANNING



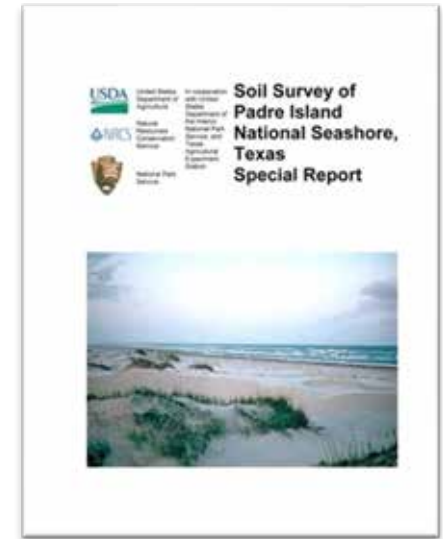
# Planning around Streams and Riparian Areas



**Aerial Photos**



**Topographic Maps**



**USDA Soil Surveys**



**Field Reconnaissance**



**Landowner Maps**



**Weather Reports**



# Texasforestinfo.com



Texas Forest Information Portal

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Show All

Forest Management

Forest Products

Special Trees and Forests

Community Forestry

Landowner Tools

Featured Apps

Landowner Tools



## TreeMD

This app will help you find the root of your tree's problem. It will help you search by species or symptoms and filter by types of pests, or search pest records, list of symptoms and affected trees.

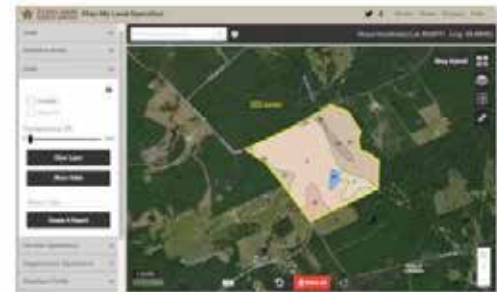
Landowner Tools



## Map My Property

Map My Property provides landowners and other interested users a quick and simple tool for making a map of their property that can be shared with others.

Landowner Tools



## Plan My Land Operation

This app allows users to map their project area, identify sensitive areas, determine operational characteristics of mapped soil types and calculate the watershed area.

Landowner Tools



## Economic Impact



## Got Land?



## Texas Scenic Views

# Map My Property

Search

Draw

- Area
- Circle
- Line
- Point of Interest
- Text

Color  Style

Width

0 5 10

Transparency

0% 25% 50% 75% 100%

AREA

Area Labels

CLEAR

Load/Save

Themes

Export to PDF

26.2 acres

1645

1:9,028

0 300 600ft

bing

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# Plan My Land Operation

The screenshot displays the 'Plan My Land Operation' web application. At the top left is the Texas A&M Forest Service logo and the title 'Plan My Land Operation'. The top right contains social media icons for Twitter and Facebook, and navigation links for Home, About, Contact, and Help. Below the header is a search bar with the placeholder text 'Find address or place'. The main area is a satellite map showing a large, irregularly shaped area outlined in yellow, labeled 'Uncle Joe's Tree Stand' with a yellow triangle marker and '142.4 acres' below it. The map is bounded by County Road 1520 on the left and County Road 1550 on the right. A left-hand sidebar contains a 'Draw' section with a search icon, a 'Select a drawing tool' section with icons for rectangle, circle, line, point, and text, and a checked 'Area/Distance labels' option. Below this are several menu items: Sensitive Areas, Soils, Operational Considerations, Regeneration, Elevation Profile, Culvert Size, Import | Export, and Export Map to PDF. The bottom of the map shows a scale of 1:9,026, a 'Credits All' button, and a 'Powered by Esri' logo.

# Plan My Land Operation

**TEXAS A&M FOREST SERVICE** Plan My Land Operation

Draw

Find address or place

Sensitive Areas

Transparency: 50%

0 100

- Streams
- SMZ (50 ft)
- Slopes (>8%)
- Wet Areas

Clear Layer

Report Title

Create a Report

Soils

Operational Considerations

Regeneration

Elevation Profile

Culvert Size

Import | Export

Export Map to PDF

1:9,028

600 ft

County Road 3366

County Road 3564

County Road 3520

County Road 3366

County Road 3564

County Road 3520

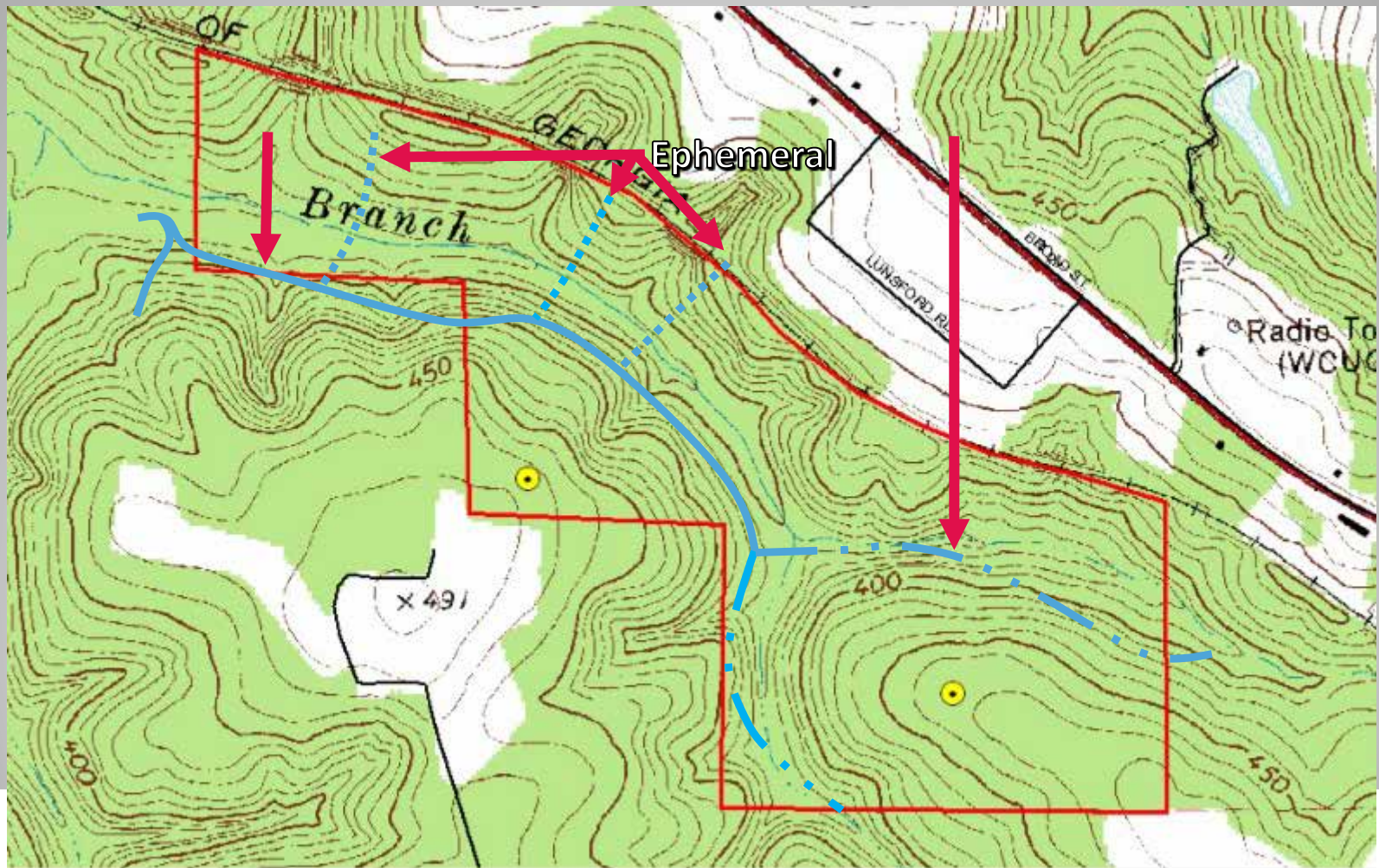
Uncle Joe's Tree Stand

142.4 acres

Delete All



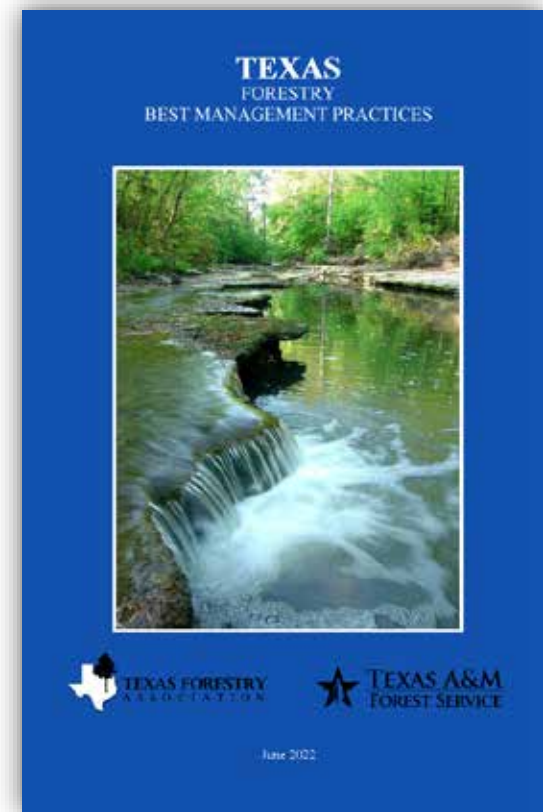
# USGS Topographic Maps



# Forestry Best Management Practices (BMPs)

Conservation practices implemented to protect water quality from nonpoint source (NPS) pollution

- Sediment
- Organic Material
- Herbicide/Fertilizer Chemicals
- Thermal Changes



# Riparian Forest Buffers

- ∅ **Maintain riparian forest buffers along perennial and intermittent streams**
- ∅ **Minimize disturbance within these zones**
- ∅ **Avoid stream crossings if possible**
- ∅ **Don't push debris into stream**
- ∅ **Keep roads outside RFBs**











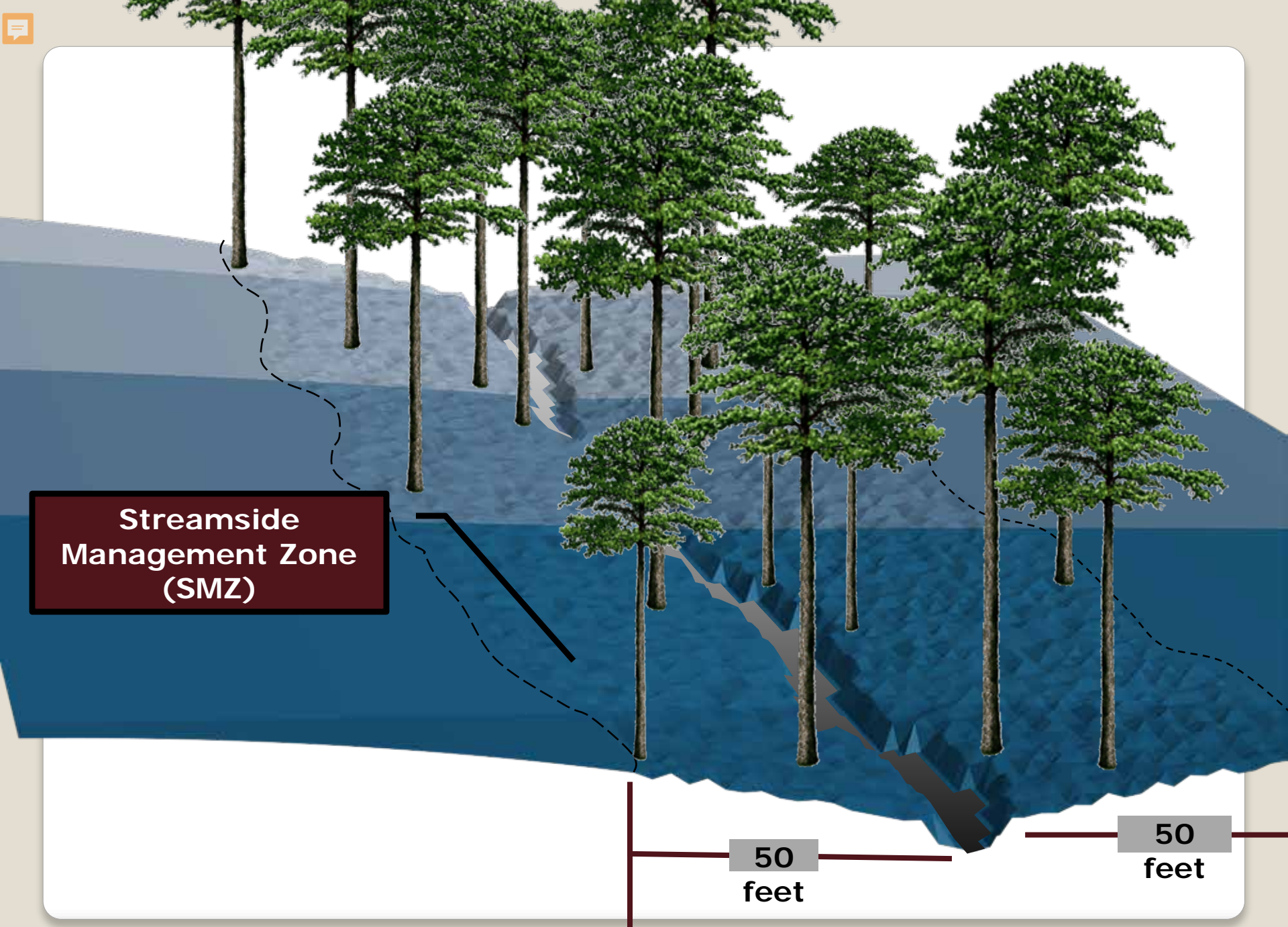












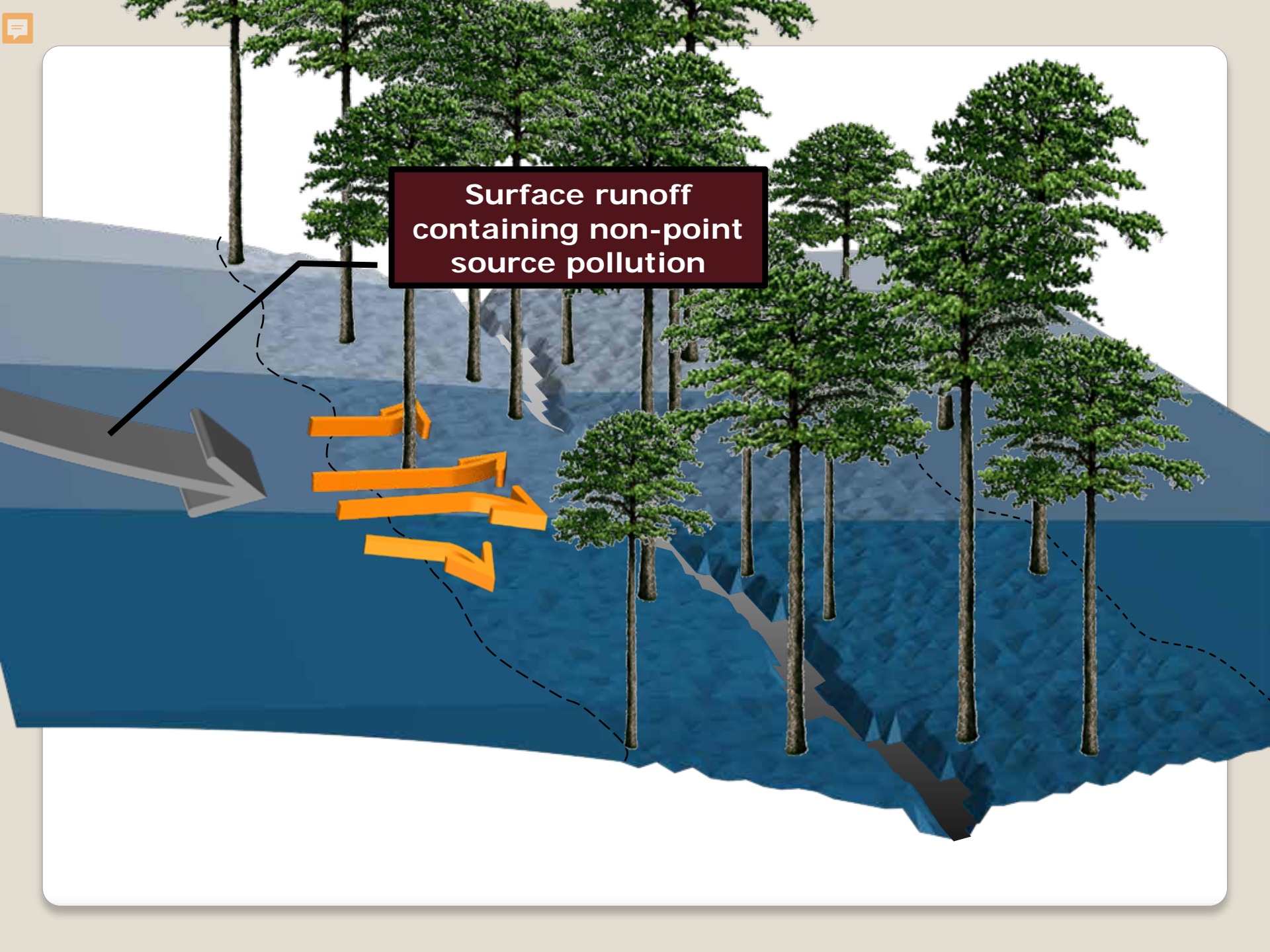
**Streamside  
Management Zone  
(SMZ)**

**50  
feet**

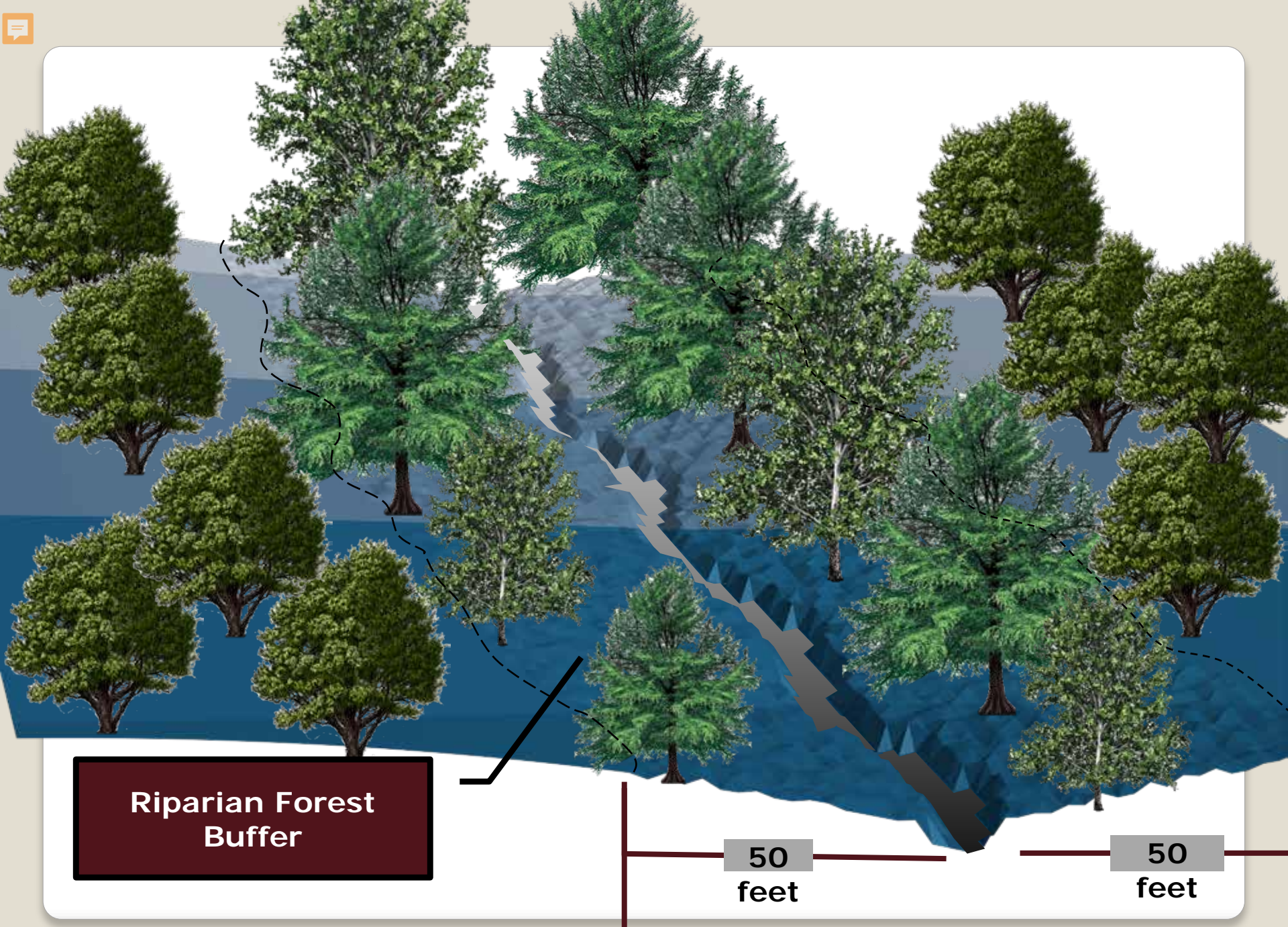
**50  
feet**



Surface runoff  
containing non-point  
source pollution





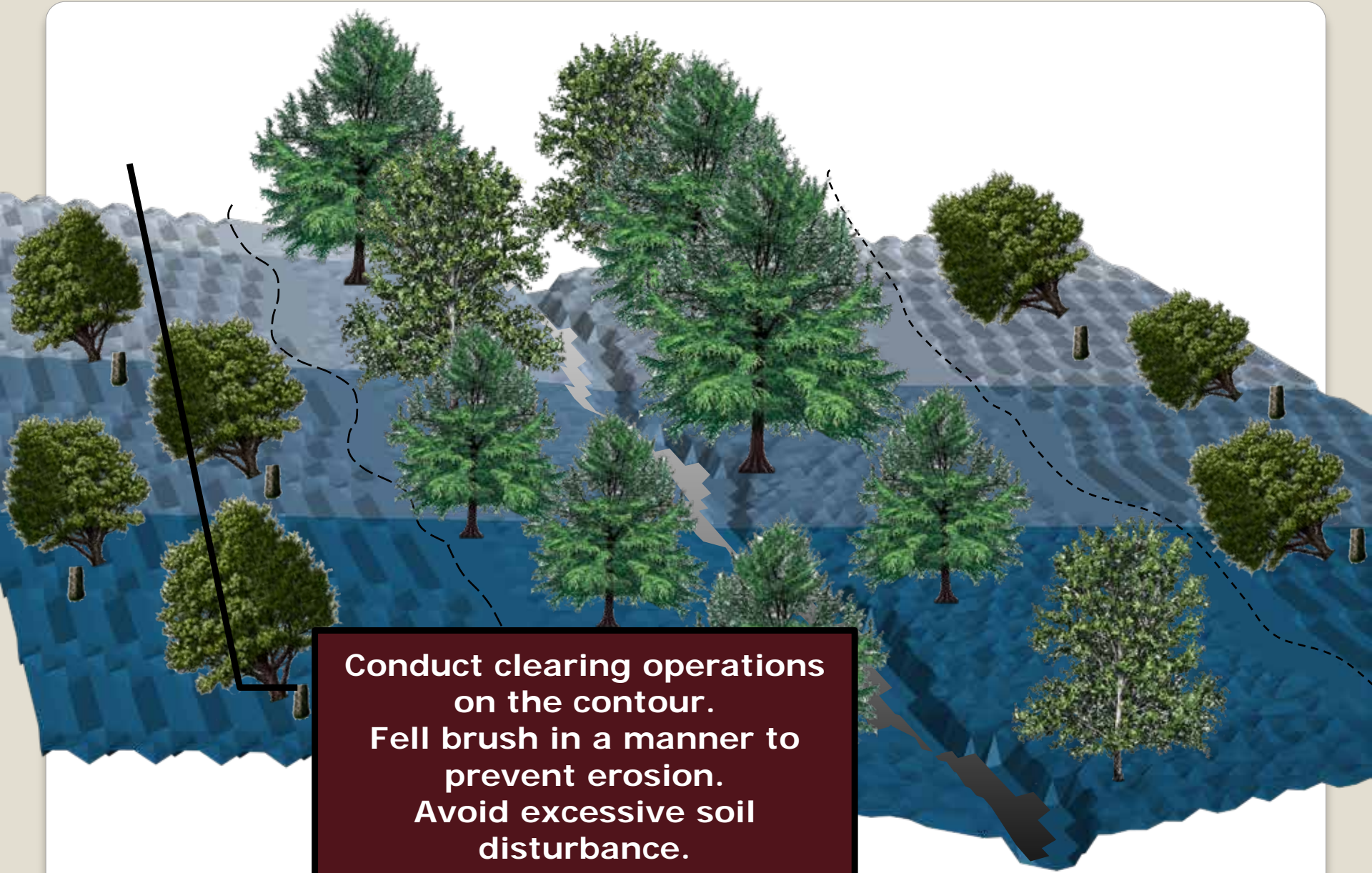


**Riparian Forest  
Buffer**

**50  
feet**

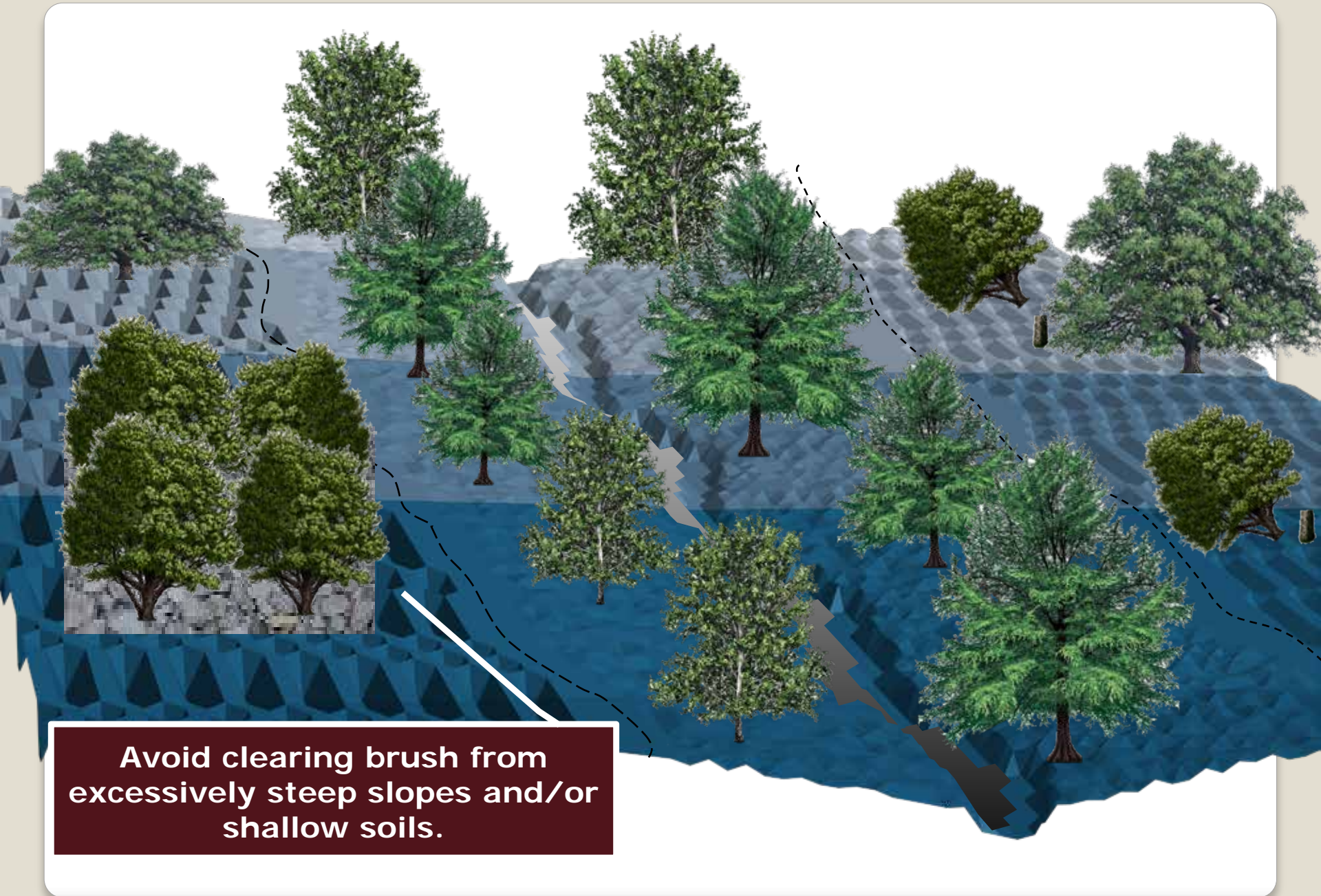
**50  
feet**





**Conduct clearing operations  
on the contour.  
Fell brush in a manner to  
prevent erosion.  
Avoid excessive soil  
disturbance.  
Maintain Riparian Buffer.**





**Avoid clearing brush from excessively steep slopes and/or shallow soils.**



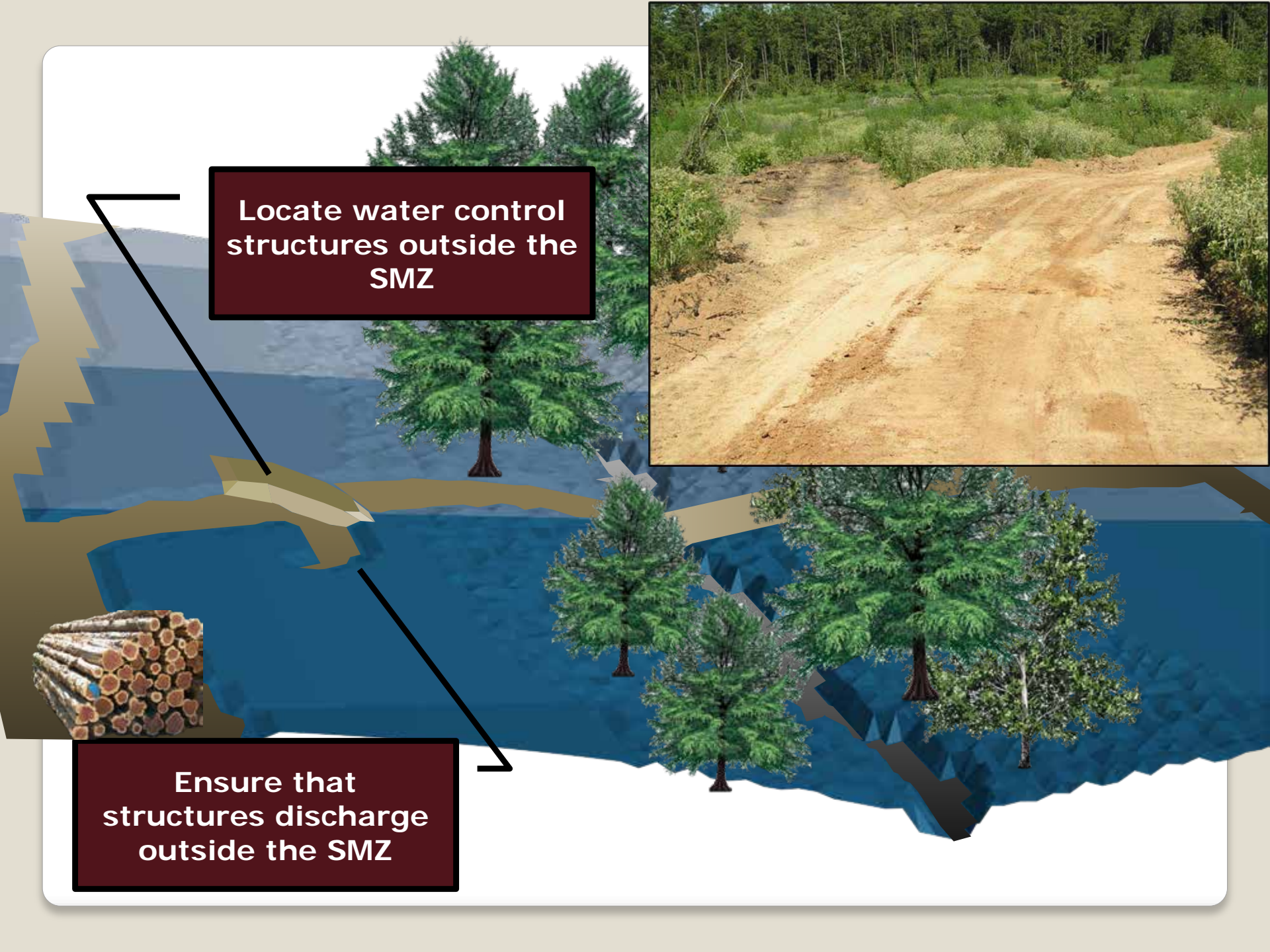


Locate roads  
outside of the  
SMZ



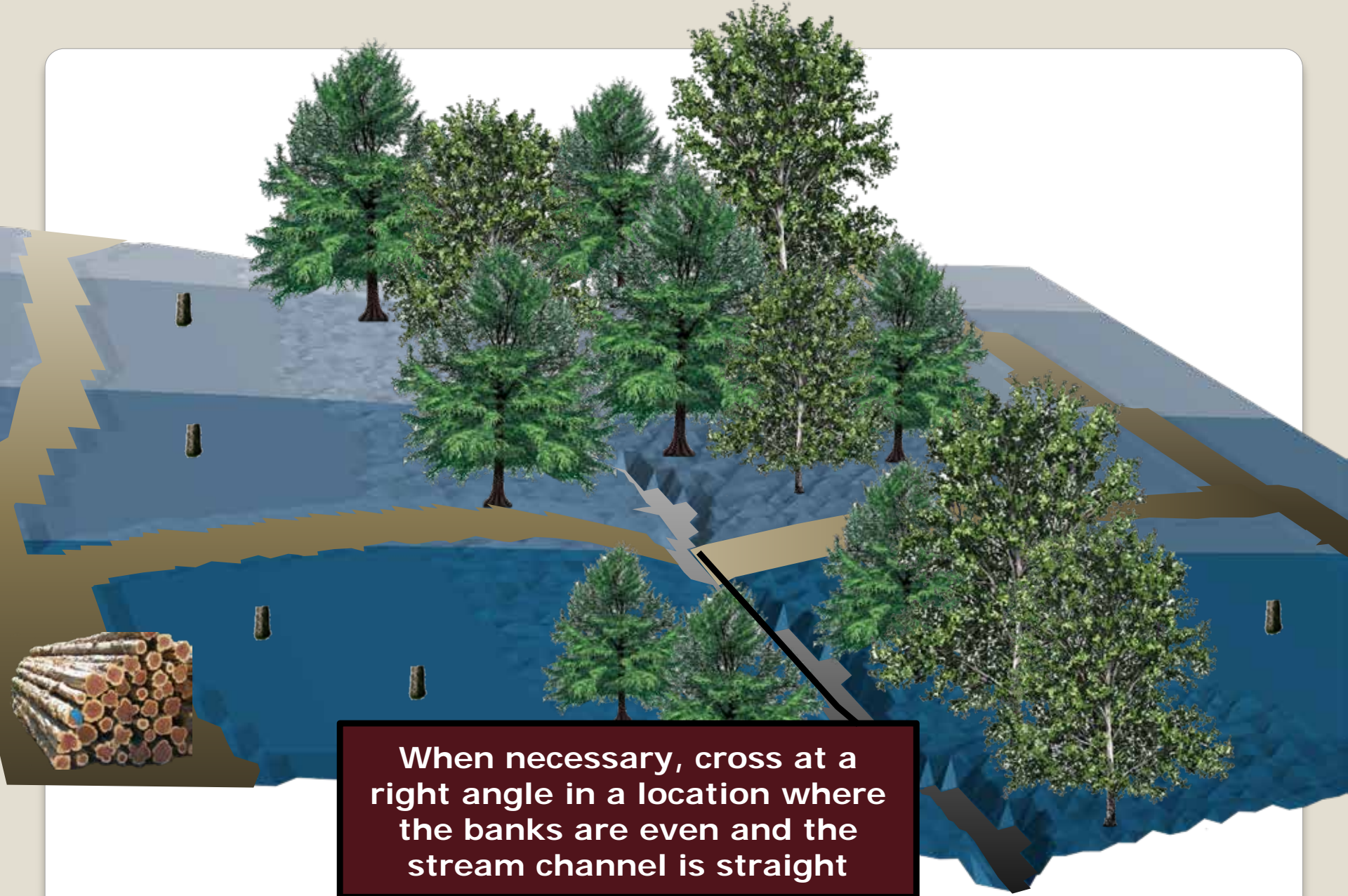


**Locate water control structures outside the SMZ**



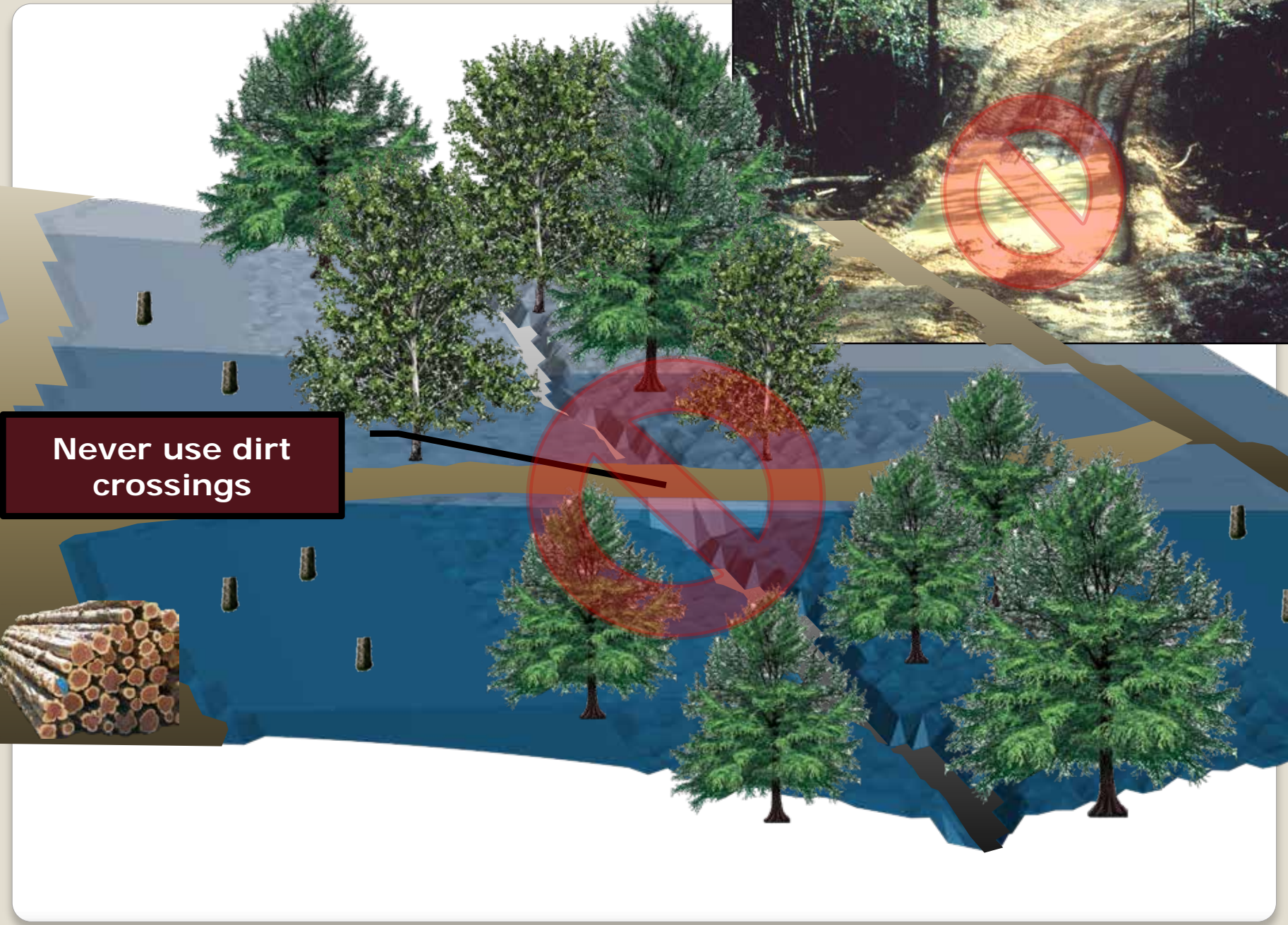
**Ensure that structures discharge outside the SMZ**





**When necessary, cross at a right angle in a location where the banks are even and the stream channel is straight**





**Never use dirt crossings**





# Stream Crossings





# Stream Crossings





# Stream Crossings





# Stream Crossings





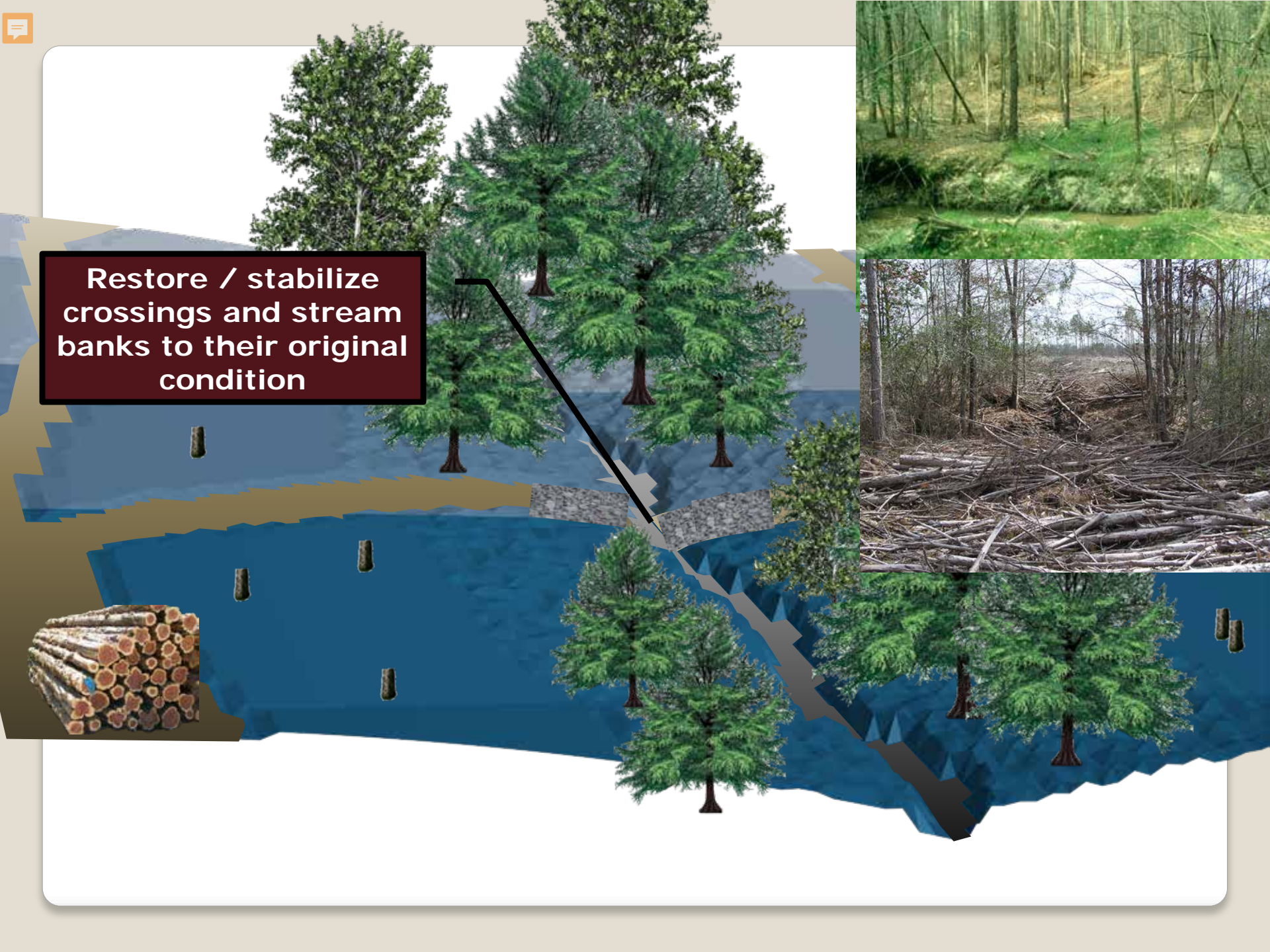
# Stream Crossings



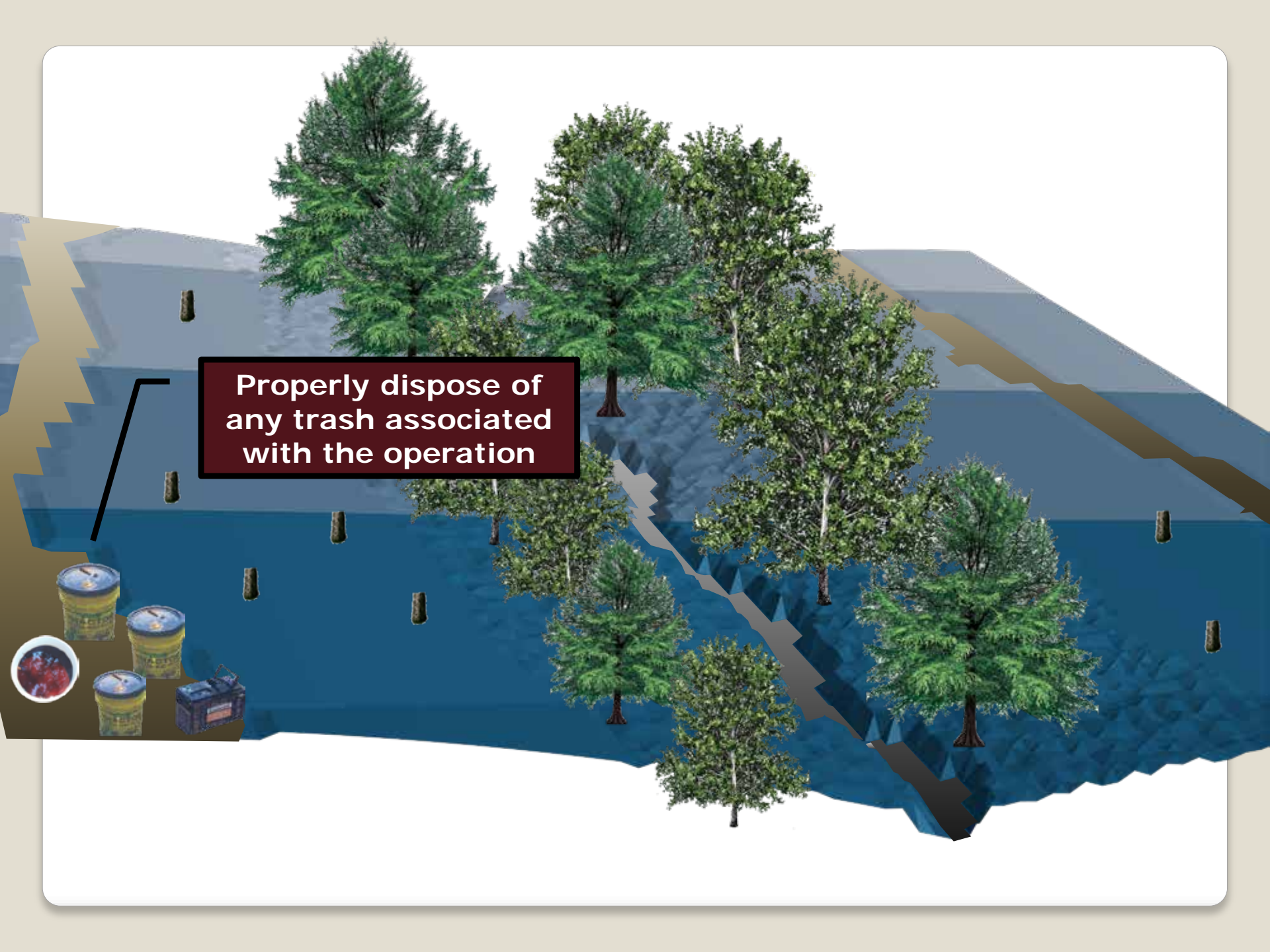




**Restore / stabilize crossings and stream banks to their original condition**





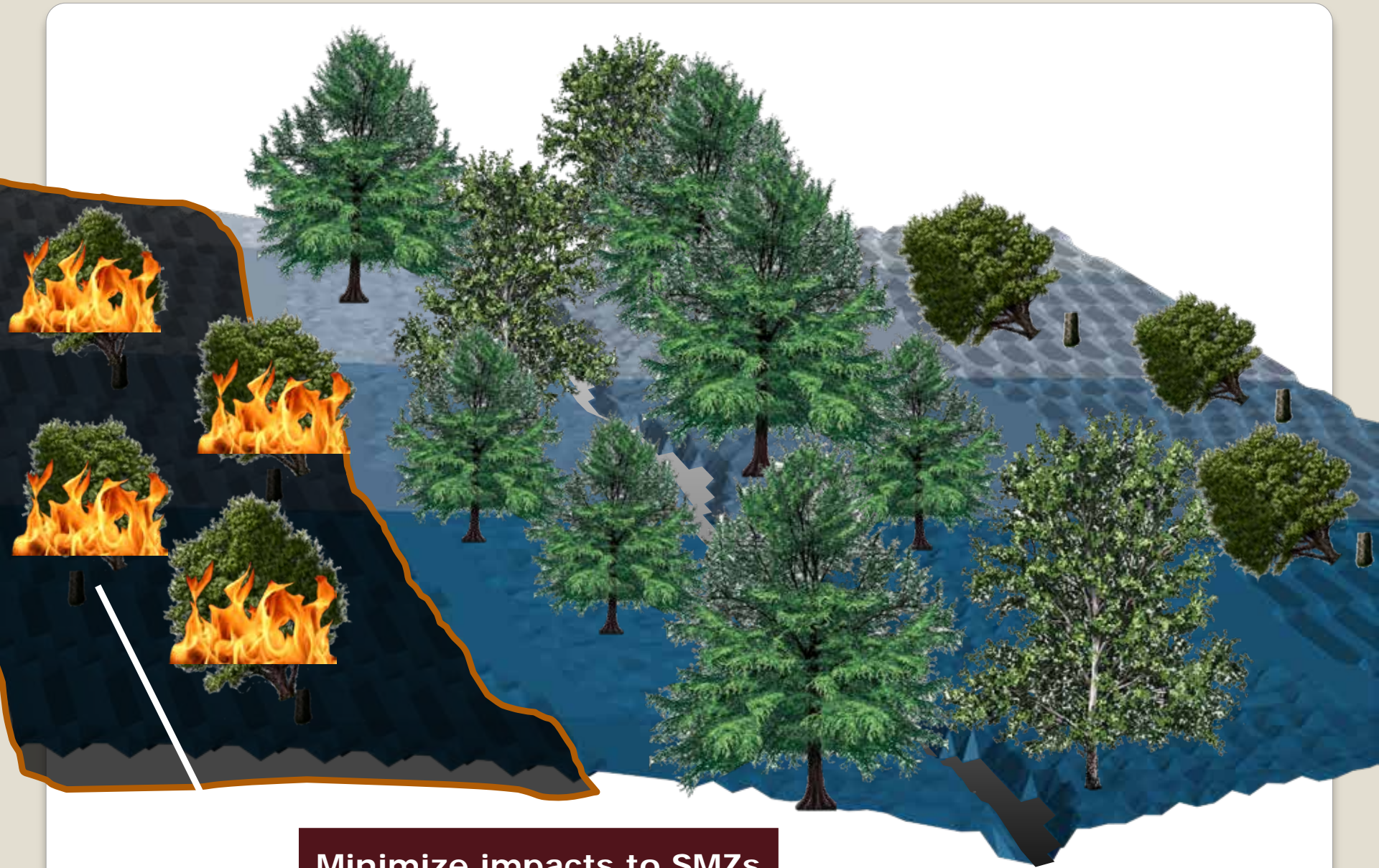


**Properly dispose of  
any trash associated  
with the operation**



**Take special care to avoid chemicals entering streams**





**Minimize impacts to SMZs  
when prescribed burning**



**Don't operate in saturated soils**

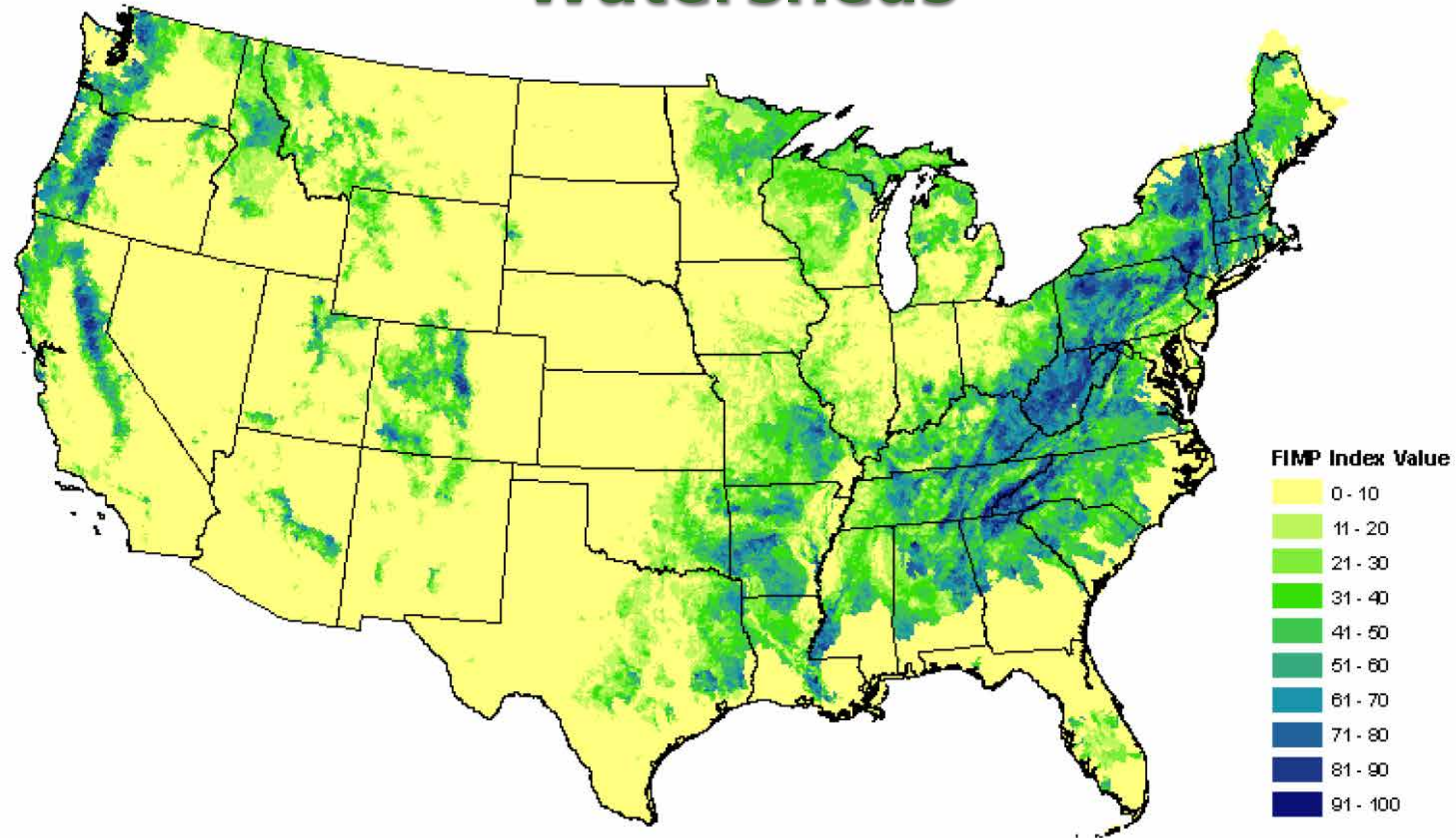


# SHIFTING GEARS





# Forests to Faucets – Key Forested Watersheds

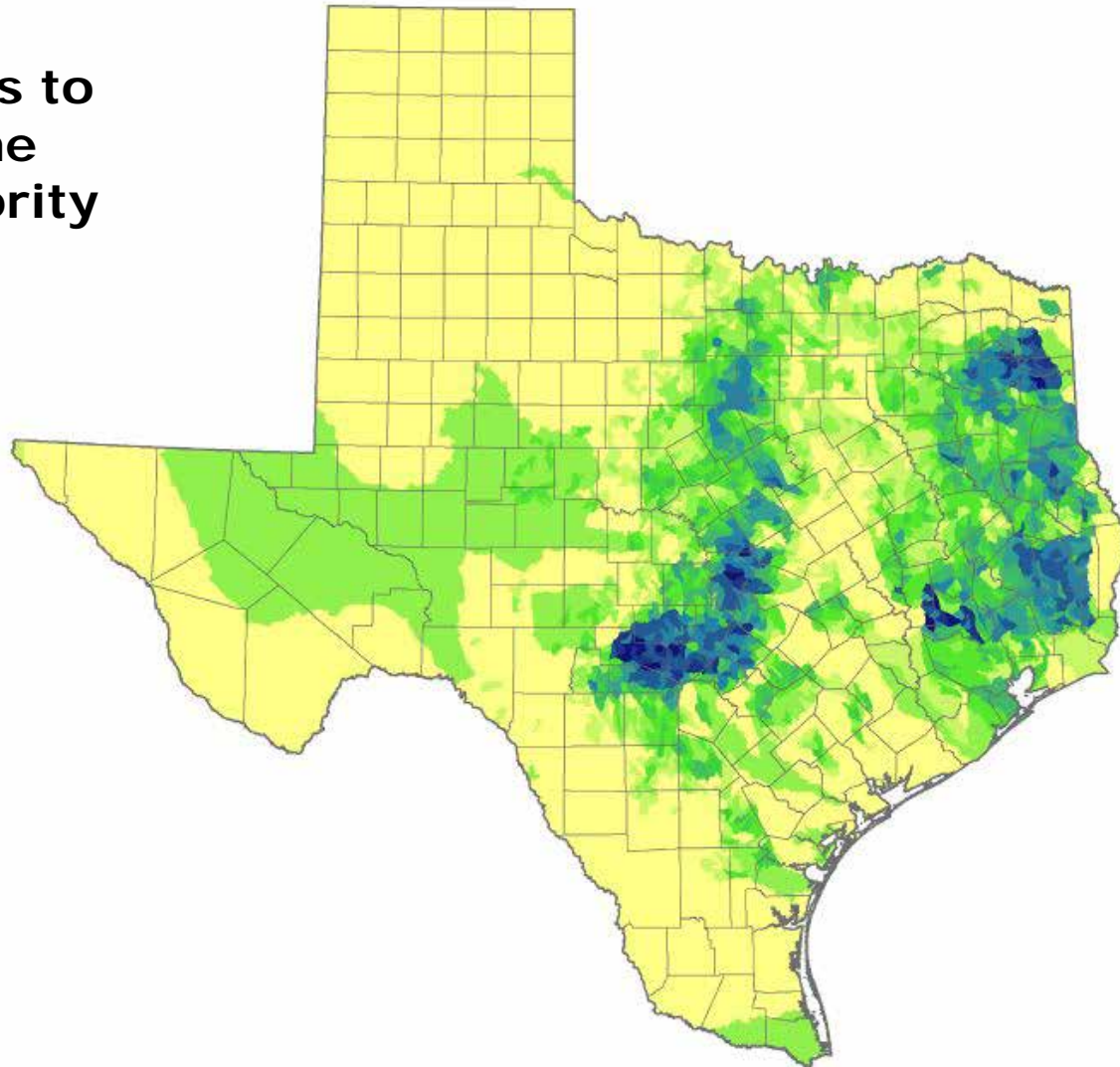




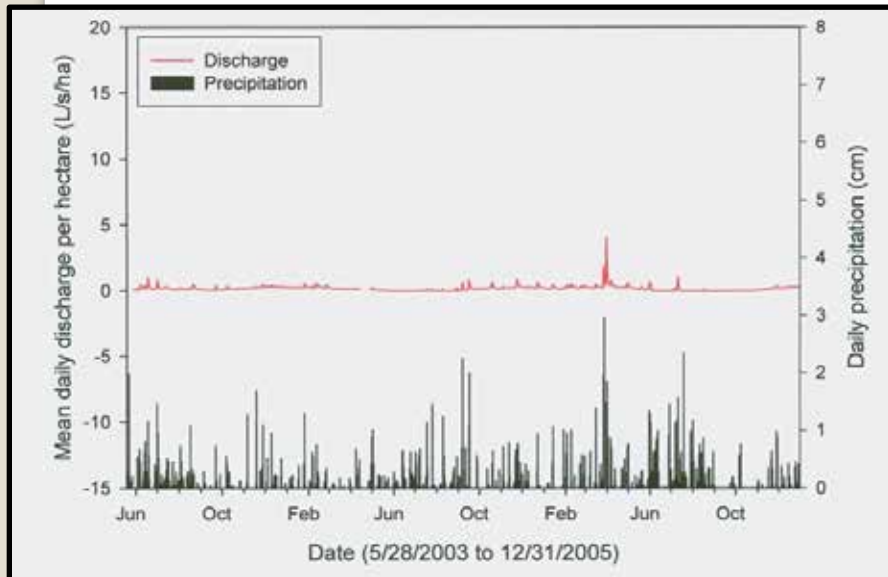
## Geospatial Watershed Assessment Priority Map

Using WPPs to determine overall priority

Priority

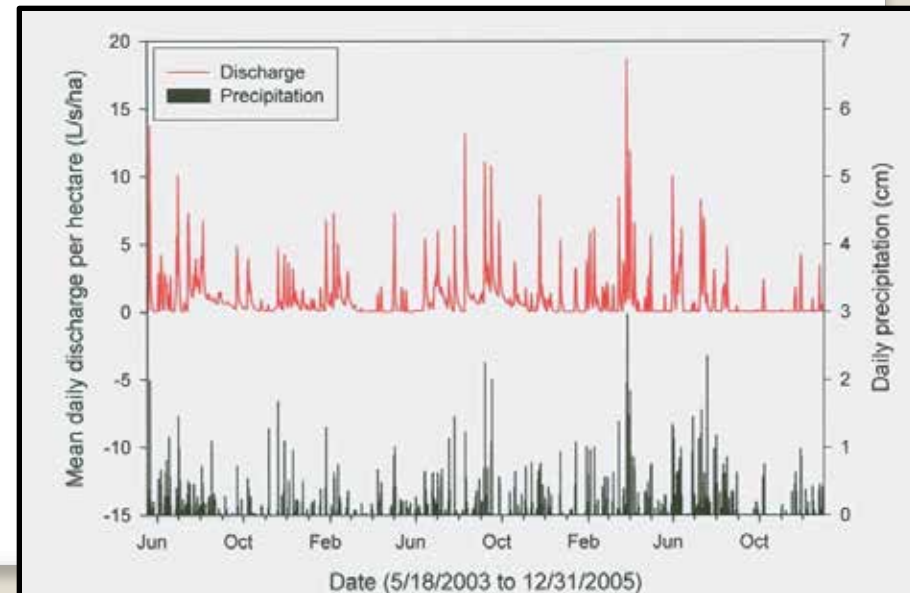


# Changes in land use alter the forest-water relationship



**Forested  
Watershed**

**Urban  
Watershed**





# Unplanned urbanization threatens the health of the watershed

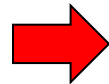
- Increased Flooding
- Lower Groundwater Recharge
- Impacts to Water Quality, Aquatic Life
- Human Health
- Costly restoration



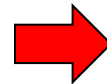
**In urban watersheds, when it rains,  
a large amount of water . . .**



**Runs off of  
impervious  
surfaces**



**Enters the  
storm drain  
system**

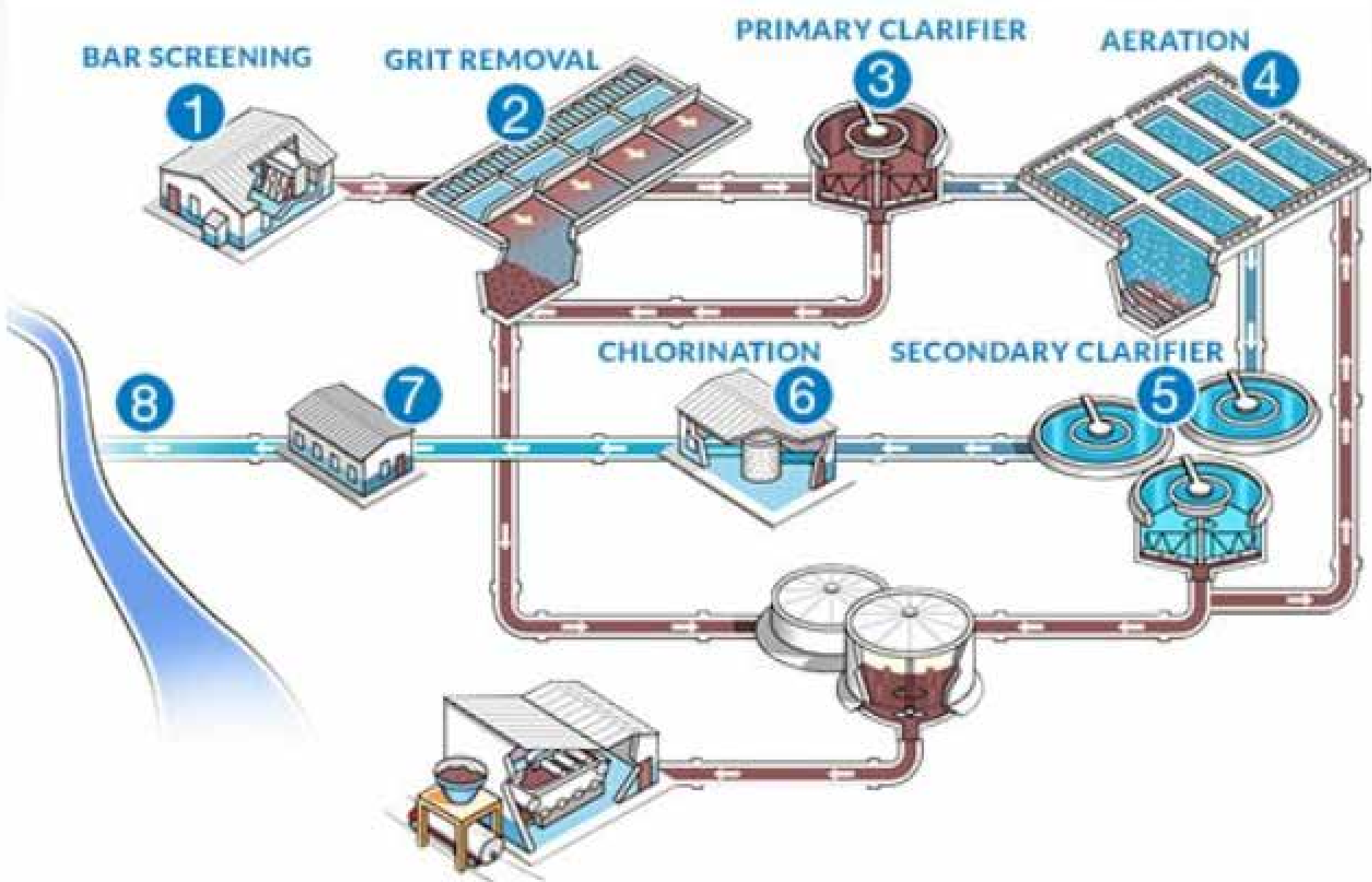


**Is directed  
straight to the  
stream**



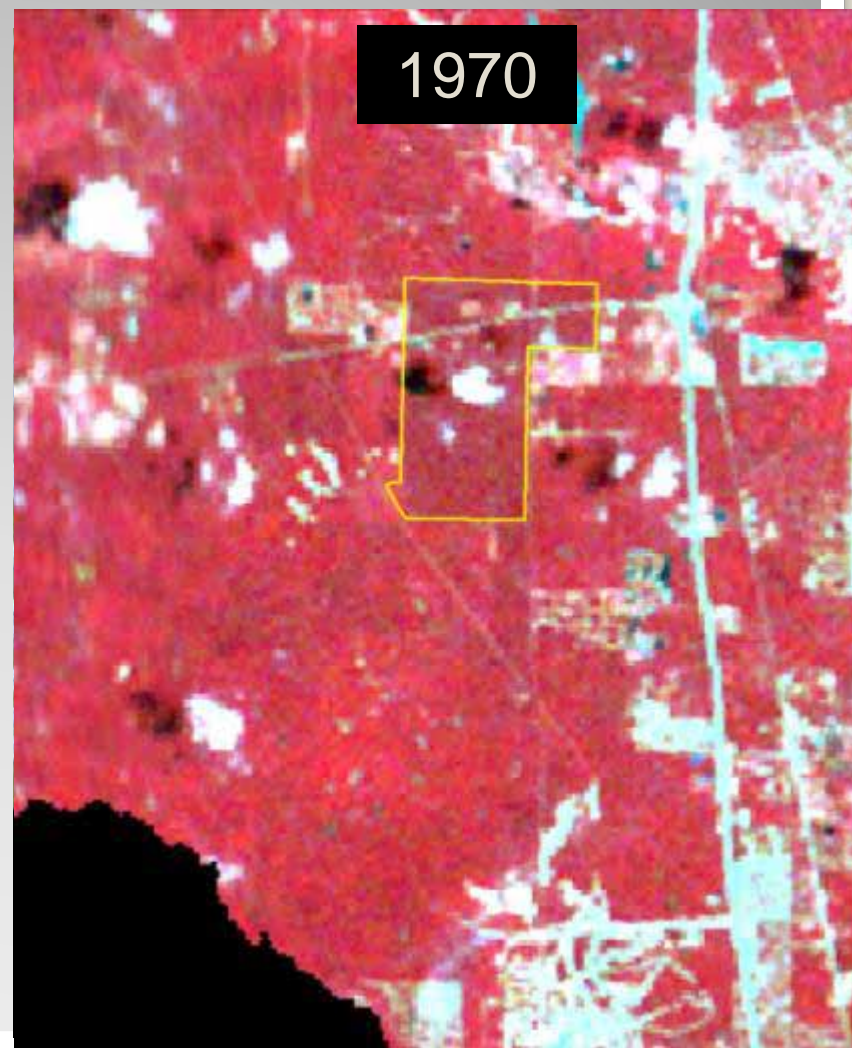
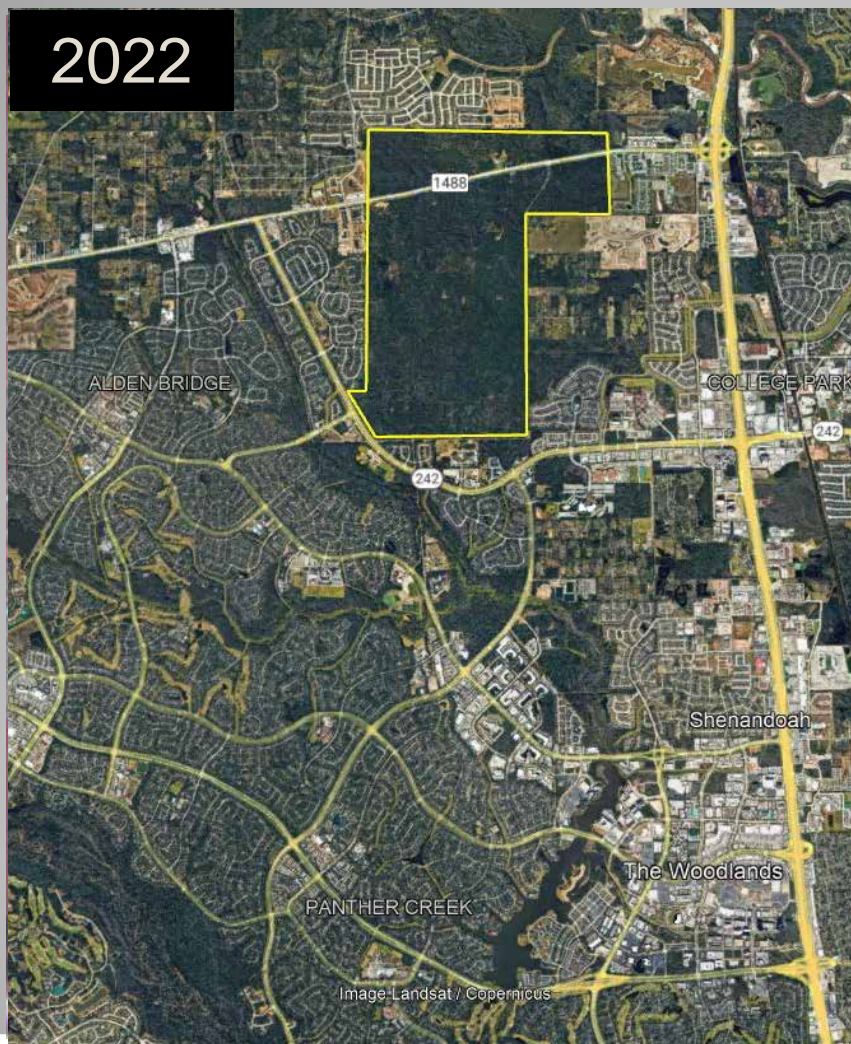
# Where does your water go?







# Texas Land Trends



**W. G. Jones State Forest, Conroe, Texas**





# Urbanizing area - stream changes flow in W.G. Jones State Forest



# Strategies to Protect Water Resources in Developing Areas

- **Watershed Protection Plan**
- **Land Conservation**
  - Acquisition / Easements
  - Restoration
  - Private Land Stewardship
- **NPS Management**
  - Best Management Practices
  - Low Impact Development
  - Urban Forest Canopy





# NPS Management

## BMPs / Low Impact Development (LID)

- Landowner
- Developer
- Construction
- Homeowners



**We can all make a difference!**

**- Big and small efforts: All make up a piece of the pie!**

# Riparian Buffers

- ∅ **Maintain vegetative buffers along streams**
- ∅ **Minimize disturbance within these zones**
- ∅ **Careful management**



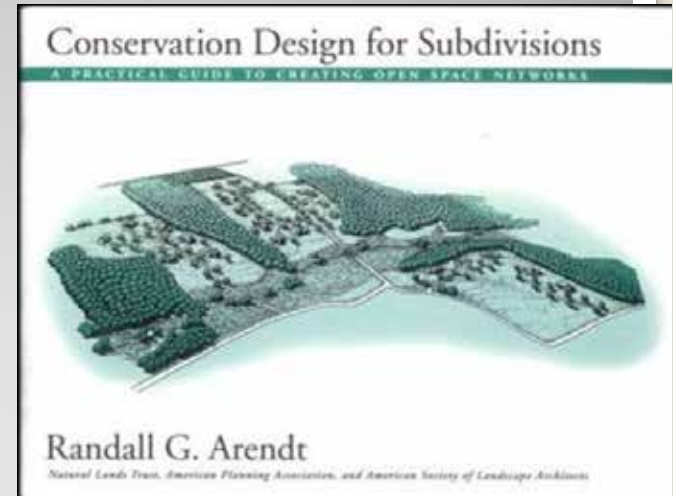
# Developer BMPS

## LID

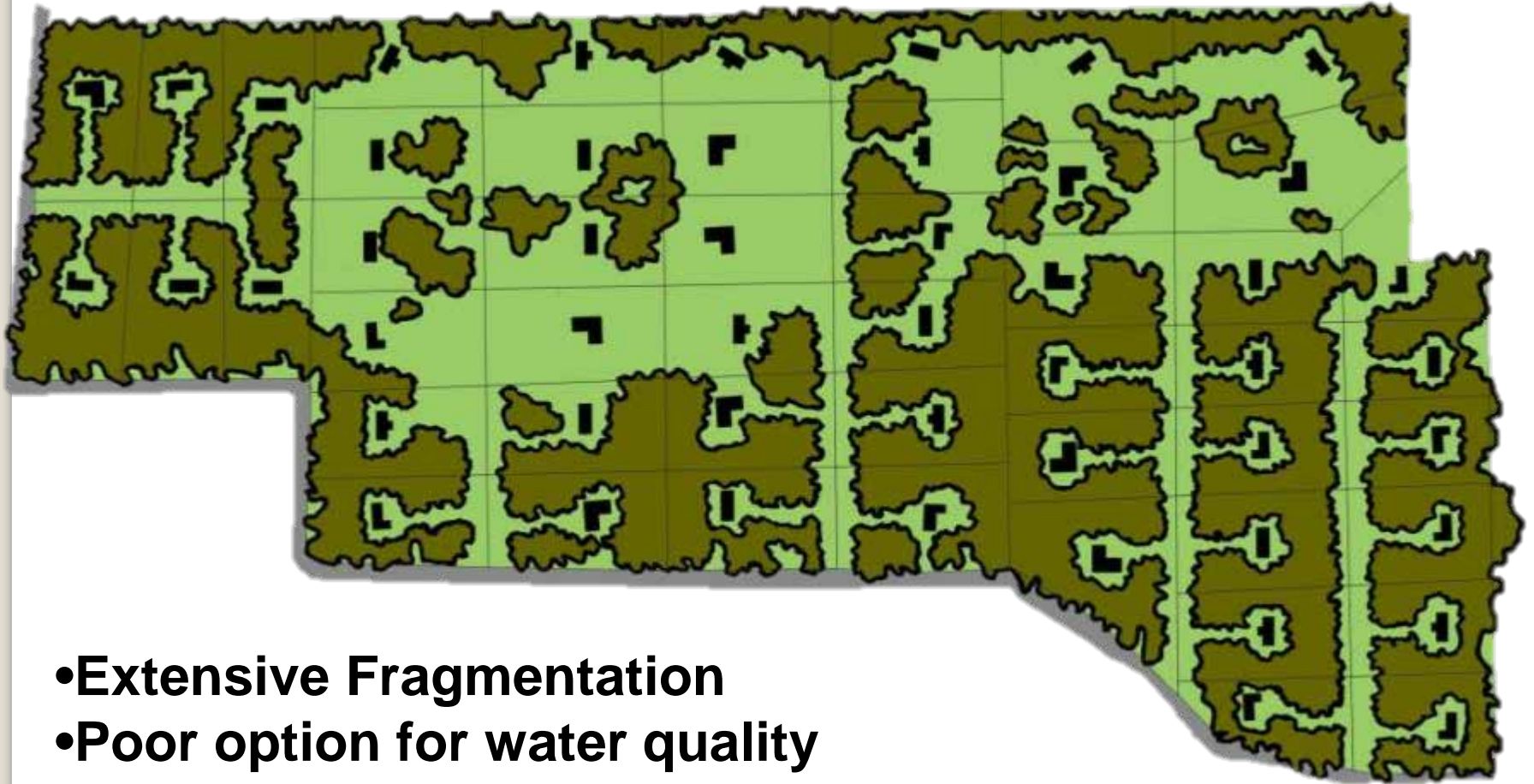
- Treat water where it falls
- Vegetated rooftops

## Conservation Design

- Incorporate green space



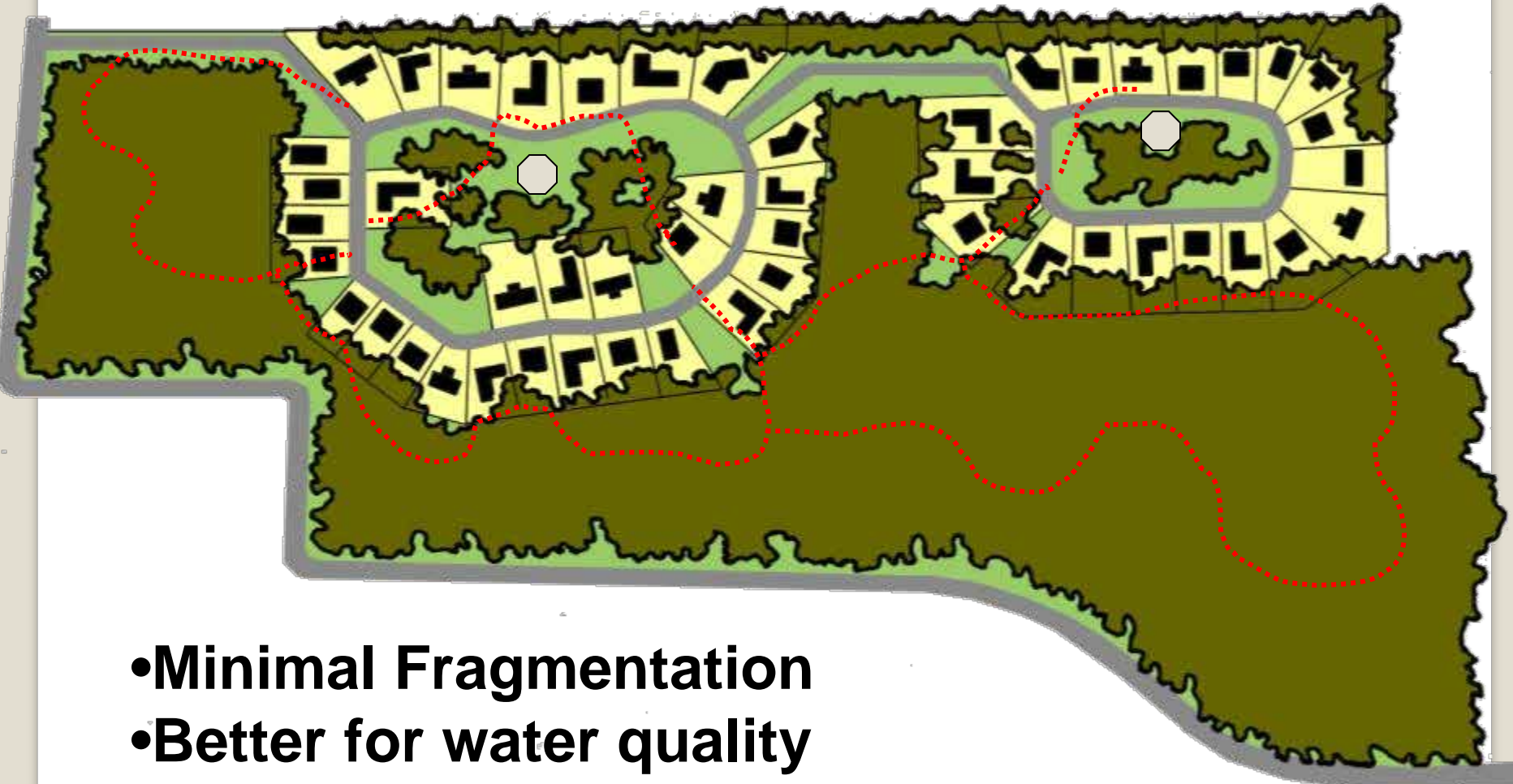
## 2-Acre “Large Lot” Development



- Extensive Fragmentation
- Poor option for water quality
- Maintain 2 Acres, Access 2 Acres



# 1/2 Acre Conservation Development (Still 50 Lots... All with a Premium)



- Minimal Fragmentation
- Better for water quality
- Maintain 1/2 Acre, Access 75.5 Acres

# Construction BMPS

**Minimize Paved Surfaces**

**Protect Residual trees**

**Manage Stormwater**



# Stormwater BMPs



[www.lowimpactdevelopment.org](http://www.lowimpactdevelopment.org)



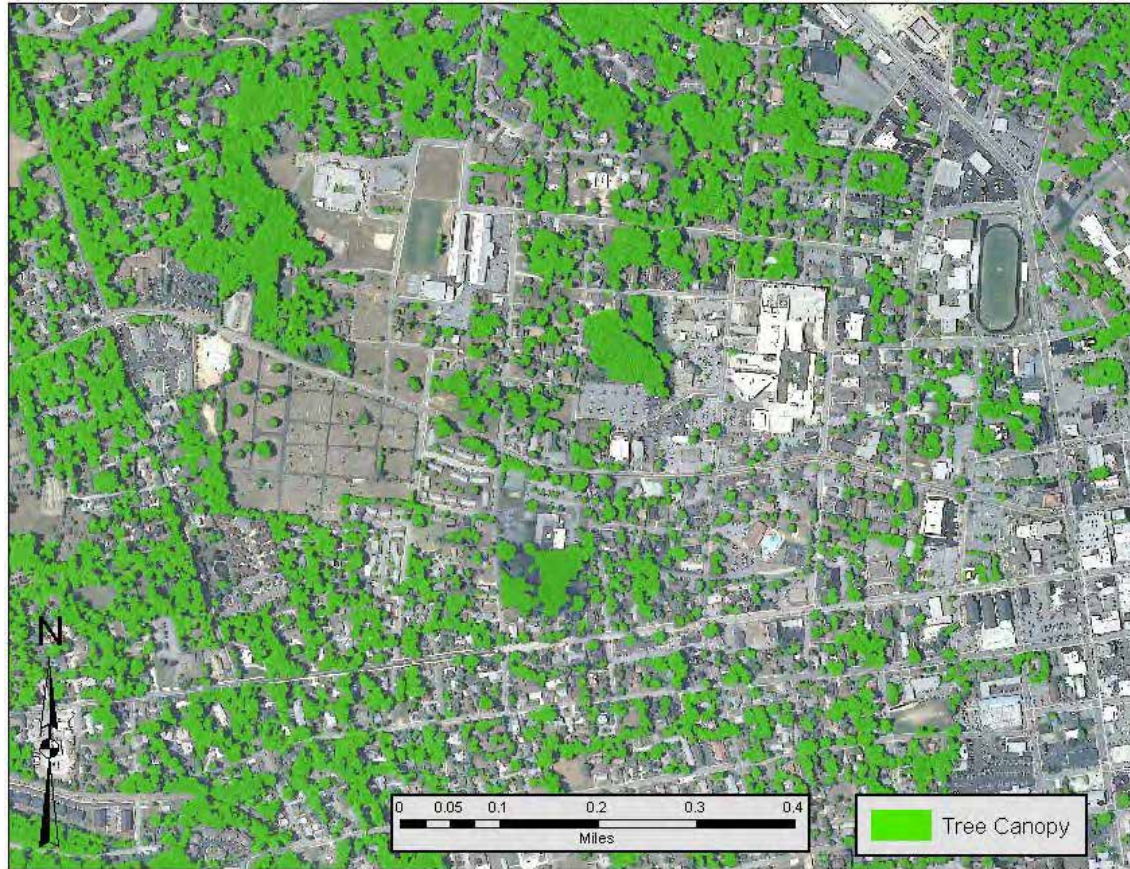
**Detention pond**



**Infiltration zones**



# Stormwater Reduction



**For every 5% increase in canopy, stormwater drainage is reduced by 2%**

# TPL and AWWA Study

- 27 water suppliers surveyed
  - For every 10% **↑** in forest cover, treatment costs 20% **↓**
  - 50–55% variation in treatment costs explained by % forest cover





# Increasing Urban Forest Cover



# Urban Forest Cover

- Ø Stormwater Reduction
- Ø Water Quality Improvement
- Ø Energy Savings
- Ø Air Quality
- Ø Other co-benefits



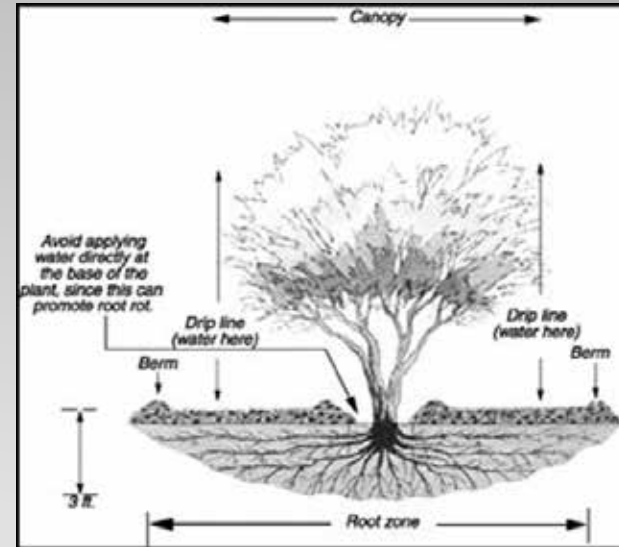
i-Tree™

[www.itreetools.org](http://www.itreetools.org)



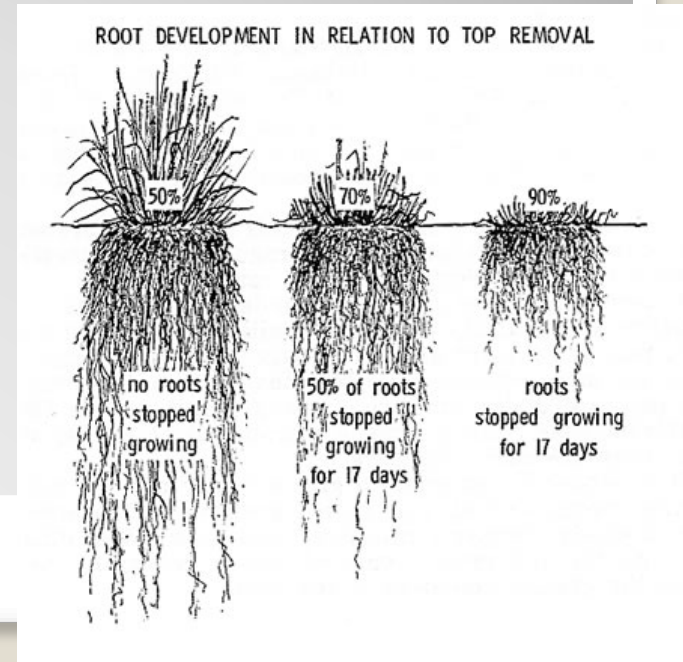
# Caring for Urban Trees

- Plan installing utility lines / digging trenches
- Avoid compaction to soil in tree drip zone
- **NO mulch Volcanos!**



# Homeowner BMPs

- Avoid mowing close to creek or drainage area
  - Mow high if you must mow close to creek
  - Aerate compacted soil to promote water filtration and root growth
- Right Plant, Right Place
  - Species requirements



# Homeowner Pollution Sources

- **Yard clippings/tree limbs or brush in creek = Physical pollution + clogs storm drains**
- **Fertilizers/Herbicides/Pest Control Supplies = Chemical pollution**
- **Dumping cleaning supplies/paint cans etc. near trees or down storm drains**



# Summary

- **Forests provide numerous benefits (oxygen, clean water, sequester carbon, wildlife habitat, products (fruits and nuts, firewood, lumber, paper products, etc.) and much more....**
- **Forests provide sustainable flows of water for longer durations of the year, stabilizing base flows, while also reducing the severity of floods.**

# Summary

- **Forestry Best Management Practices are proven conservation techniques to protect these vital rural water resources.**
- **Urban Best Management Practices / LID / Urban Forest Cover can be used to manage NPS and protect water resources in developing areas.**
- **The more forests, woodlands, and trees in the watershed the greater the benefits.**

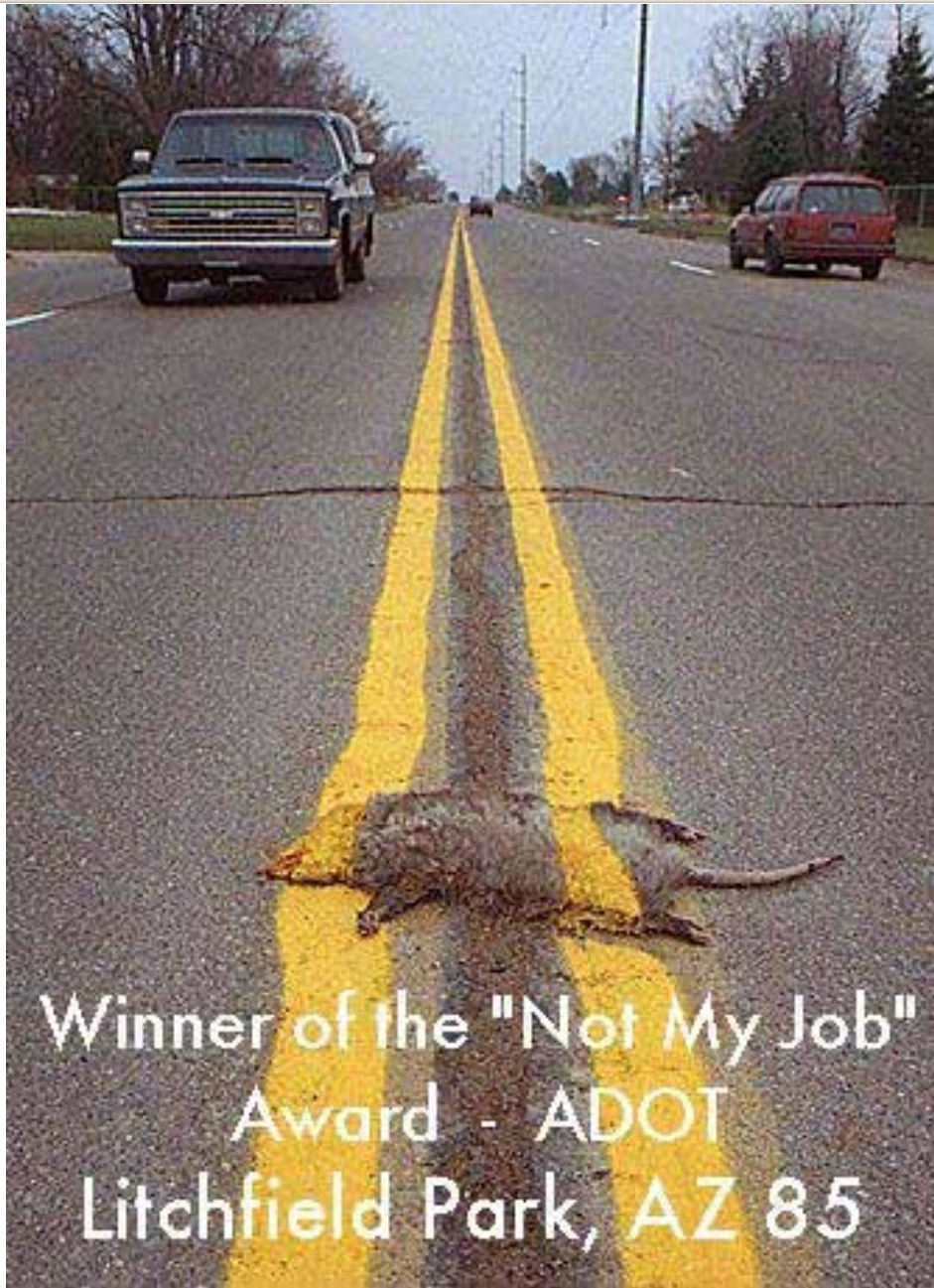




**NO DUMPING!!**







Winner of the "Not My Job"  
Award - ADOT  
Litchfield Park, AZ 85



# Information Sources:

- <http://texasforestinfo.com>
- <https://websoilsurvey.sc.egov.usda.gov>
- <http://texastreeplanting.tamu.edu>
- <http://tfsweb.tamu.edu/BMP>
- Google Earth





*Questions?*



# Texas Forests and Drinking Water Partnership Meeting Final Report February 18, 2019



On February 5<sup>th</sup> and 6<sup>th</sup>, 75 leaders and stakeholders from Texas forestry, drinking water, and conservation communities (Attachment A) convened at Bastrop State Park (for a tour on the 5<sup>th</sup>) and McKinney Roughs Nature Area on the 6<sup>th</sup> for the Texas Forests and Drinking Water Partnership Meeting. The purpose of the meeting was to explore the connections between forests and drinking water in Texas, and to brainstorm specific ways to collaborate to continue to sustain these two very important and interdependent resources.

The Texas Forests and Drinking Water Partnership Meeting was convened with the knowledge that forests and drinking water are strongly connected and dependent on each other. Southeastern forests that are actively managed can help protect and increase drinking water supplies while also providing economic benefits. The **meeting's primary goals and objectives included:**

### **Goals:**

- Learn about watershed funding and how to be successful
- Learn how to expand your stakeholder base and engage new partners
- Network and develop relationships with landowners, utilities, conservation groups, etc.
- Learn about national, regional, and Texas watershed efforts and models



### **Objectives:**






- Discuss priority watershed issues and programs
- Generate support for watershed-specific projects that show proof of concept
- Share how to create long term sustainable funding for watershed stewardship
- Highlight benefits of land conservation/forestland conservation
- Enhance landowner-utility partner engagement
- Strengthen strategic partnerships and collaboration

### **Background and History**

The Texas Forests and Drinking Water Partnership Meeting was the third such meeting in four years, all of which were initiated and supported by the Southeastern Partnership for Forests and Water, an initiative funded by the US Forest Service and the US Endowment for Forestry and Communities to strengthen regional, state and local watershed collaboration focused on the connection between forests and drinking water. Key planning partners and financial sponsors are listed in Attachments B and C.

The Southeastern Partnership for Forests and Water initiative recognizes that healthy forests benefit drinking water quality and quantity. Stewarding, enhancing and maintaining healthy forests in key Southeastern drinking water source watersheds is necessary due to increasing population growth and urbanization in the Southeast, which is resulting in forest fragmentation, forest losses (conversion to other land uses), and a decline in forest health. The overall purpose of the Partnership is to maintain healthy watersheds that provide safe, reliable drinking water, healthy forests, and strong local and regional economies. Ultimately, the goals are for drinking water utilities/customers, the forestry sector, businesses and corporations to value forest landowners and forest lands for source water protection, and for forestry, drinking water and conservation sectors to collaborate on long-term watershed stewardship throughout the region.



The goals of the Southeastern Partnership for Forests and Water are to:





-  Help maintain or expand healthy forests in drinking water source watersheds;
-  Maintain and improve water quality and quantity through healthy forest retention and stewardship;
-  Initiate and develop working relationships among water utilities, the forestry sector, state and local agencies, Rural Water Associations, and conservation groups;
-  Identify watersheds and initiatives that have high potential for cooperative forest conservation and long-term stewardship;
-  Explore pilot projects to implement creative long-term stewardship strategies such as Payment for Watershed Services and forestry best management practices that demonstrate the interdependence of healthy forests and drinking water.

### **Forum Follow Up Actions**









Participants identified the following specific follow-up actions in three breakout groups to continue momentum towards enhanced watershed stewardship and protection in key Texas forested drinking water watersheds:

#### **Austin/Hill Country Watershed:**








-  **Perform cost-benefit study on green vs. grey infrastructure** for source water protection/treatment – similar to Beaver Water District’s Triple Bottom Line study)
-  **Create a Regional Watershed Cooperative and regional watershed protection plan** that includes commitment to developing sustainable funding/financing

-  **Develop sustainable local funding/financing approaches**
-  **Focused project on land stewardship and reforestation in the Pedernales Basin**
-  **Create focus group to address wastewater discharge issues** throughout Hill Country watershed
-  **Improve connections and partnerships with staff at Councils of Governments**

### **Houston/San Jacinto/Lake Conroe Watershed:**

-  **Create and facilitate Houston Watershed Group** focused on partnerships, collaboration, funding and action. This group should meet regularly (monthly calls, online forum, periodic meetings)
  - Houston-Galveston Area Council and City of Houston can support the group with venue and staff
  - Texas A&M Forest Service may have funding for a potential staff position to support the Texas Forests and Drinking Water Partnership and that staff person can also help
  - Expand partners to invite/include = Water Institute for the Gulf, US Forest Service Southern Research Station, regional celebrities (such as Laura Bush)
-  **HGAC, HARC and Texas A&M Forest Service: use existing data and analysis tools to tell story of Houston region's source watershed and forests** – focus on return on investment for protecting green infrastructure (for both source water protection and flood prevention/mitigation)
-  **Research project – to learn from City of Austin** how they raised public awareness about their drinking water supply, importance of watershed stewardship/protection
-  **Use existing outreach mechanisms to teach public about Houston's source watershed** – including city's drinking water Consumer Confidence Report and website; teach water customer about how source water protection might impact their rates and water availability
-  **Strengthen City of Houston's (and the region's) Source Water Protection Program** and ultimately update Source Water Protection Plans. Connect source water protection to flood prevention/mitigation
-  **Houston-Galveston Area Council with other partners - create a directory of programs and funding** that support (or could potentially support) Houston watershed efforts
-  **Conduct forest landowner survey** - to ask them about barriers/challenges to doing top five flood mitigation practices
-  **Lay the groundwork of political and public support to adopt a local bond for natural infrastructure stewardship/protection/conservation** (similar to recent City of Houston \$2.5 million bond for flood mitigation)

### **Other Follow-Up Ideas:**

-  Create incentives for low-income land owners to retain their forests/ag lands – especially in areas where land base is smaller. Perhaps create a co-op of some kind to provide incentives (use Eugene Water and Electric Board in Oregon as example of how to do this)
-  Educate “heir” and new land owners to become stewards of their lands (good model is South Carolina's Center for Heirs Property Preservation: <https://www.heirsproperty.org>)
-  Use “White Hat” approach with oil and gas industry - figure out a way to tap into oil and gas funding for watershed protection/stewardship to help the industry with their public image (partner with Tom Staples – get contact info)
-  Lower Colorado River Authority has a huge model creekside protection program which can be replicated in other areas
-  Explore utility use of rates and fees to generate local, sustainable watershed funding
-  Explore purchasing land for protection to help keep forests as forests and private land in private ownership
-  Communicate with landowners about importance of protecting source water

- 🌿 Example of new development near Weston Ranch diverting their effluent to Weston Ranch to be treated naturally by a wetland before re-entering the water system
- 🌿 Identify programs to fund conservation easements in rural areas with smaller tax base – using message of “No Land, No Water”
- 🌿 Texas Forest Foundation – look into partnering with this organization, and replicating their successes
- 🌿 Explore ways to involve breweries like Miller/Coors in providing payments/incentives to landowners for watershed stewardship (Coca Cola might be a good example of how to do this)
- 🌿 Partner with the many Wildlife Cooperatives in Texas (Matt Wagner will connect with Ana Gonzales to learn about this)
- 🌿 Identify priority forest restoration needs in the face of deforestation and erosion
- 🌿 Collaborate with those seeking funding for other purposes in the watershed (recreation, wildlife/habitat, agricultural preservation, etc. – which opens up other funding sources)
- 🌿 Explore ways to encourage the agricultural sector to adopt Best Management Practices the way the forestry sector does

### **Forum Presentations, Discussion, Ideas and Messages**


















For the Forum Program, see Attachment D. Lightning Talk summaries, Conservation Finance Panel and Breakout Session notes, as well as all Forum presentations and materials (including the tour packet) are available online at: <https://sites.google.com/a/scrwa.org/south-east-water-quality-collaborative/home?pli=1> (click on Documents folder and page down to “2019 Texas Forests and Drinking Water Partnership Meeting” folder).

The Forum included a half-day field tour the afternoon of February 5<sup>th</sup> at Bastrop State Park, focused on restoration and management of the Lost Pines after the 2012 Bastrop Complex Wildfire which destroyed much of the rare Lost Pines forest. The tour was led by Jamie Creasy, Superintendent of Bastrop State Park, along with presentations from Bobby Humphrey, Susan Meckel, and Marshall Trigg with Lower Colorado River Authority. The tour consisted of an initial tour introduction, followed by four stops to view, learn about and discuss the Bastrop Complex/Lost Pines Wildfire; forestry recovery efforts on state and private lands in the area; active forest management approaches and techniques including prescribed burn, thinning, pine breeding (natural regeneration vs. hand planted seedlings); water quality and flow impacts, water quality monitoring and riparian conservation of the Lower Colorado River.

### **Key Partnership Meeting Messages:**

- 🌿 Source water protection is focused on preventing contamination of water supply and is more economically efficient/viable than addressing contamination after the fact
- 🌿 Texas CEQ and Texas Rural Water Association assist drinking water utilities with source water protection planning and plan implementation – Corpus Christi example
- 🌿 Effective source water protection is dependent on strong stakeholder involvement and partnerships, public and landowner education, and implementing best management practices on the land
- 🌿 Surface water is more vulnerable to contamination than ground water
- 🌿 Drinking water treatment plants are constructed to treat contaminants like turbidity and nutrients in a specific range of contamination – once that range is exceeded, the drinking water treatment plant is shut down and that constitutes a drinking water emergency
- 🌿 Water treatment costs go up in a curvilinear fashion as forest cover decreases in a watershed
- 🌿 There are 220 million acres of forest in the south. The Southern Forests Futures Report is showing net loss of forests in the future.

- 🌿 Forests will be lost in the future to conversion, disease, and fire if nothing is done to prevent these losses.
- 🌿 Healthy forests are beneficial to drinking water, and forests are a preferred land use in drinking water source watersheds.
- 🌿 Forests are an important part of the hydrologic cycle, acting as a filter to remove contaminants from water.
- 🌿 Other benefits from forests and clean water include water-dependent businesses like breweries and tourism.
- 🌿 Working forests benefit the economy.
- 🌿 It is critical to maintain healthy, working, managed forests for watershed and drinking water health.
- 🌿 Forestry is the most cost-effective land use for providing quality water, and forested watersheds are much more affordable than drinking water treatment
- 🌿 To produce superior water quality, forests must be managed
- 🌿 Forest landowner challenges:
  - Urban society, newcomers owning forested lands, absentee landowners, silo living.
  - Newcomers and absentee landowners have little knowledge of forestry and no historical perspective
  - Plantation farming has risks
  - Competition species
- 🌿 Forestry education and the business model for consulting foresters is not conservation focused
- 🌿 There is a lack of incentive for conservation forestry – need more financial incentives for forest landowners to keep their lands in forest
- 🌿 Pecan farming practices include metering/monitoring for water use, and cautious use of fertilizer and pesticides
- 🌿 Most forest lands are privately owned in Texas – this should influence the approach used to keep forests as forests and implement BMP's. It's very important to reach out to private landowners for clean drinking water.
- 🌿 Forestry best management practices (BMP's) are effective tools for ensuring water quality and quantity on forest lands.
- 🌿 Texas Forest Service and Texas Forestry Association provide guidance to forest landowners on forest management
- 🌿 Forest management requires funding
- 🌿 State & federal cost-share funding programs can assist forest landowners with BMP's
- 🌿 **Funding exists for stewarding and protecting forested watersheds**, including USFS Forest Legacy Program and Landscape Scale Conservation Program; Healthy Watersheds Consortium Grant Program, NRCS Resource Conservation Partnership Program (RCPP) and other NRCS funding programs, Green Bonds, Clean Water Act Section 319 funds, Clean Water and Drinking Water State Revolving Funds, to name a few.
- 🌿 **Making an economic case for investing in forested watershed stewardship and protection can help the public and other stakeholders understand the value of creating a local funding source:**
  - This can be done using Triple Bottom Line Analysis factors in economic, social, and environmental benefits and costs of certain activities
  - Some analyses show avoided costs are a big element of watershed stewardship and protection
  - In Beaver Watershed, AR – for every \$1 spent on watershed stewardship and protection, the analysis showed there are \$7 achieved in benefits (including reduced treatment costs).
- 🌿 Consider including breweries and recreational groups as stakeholders/partners in watershed stewardship and protection













-  Watershed prioritization studies are helpful for understanding the future of the watershed (including the future of forests and water quality) and determining priority areas for stewardship and protection.
-  Some examples in the southeast where watershed prioritizations studies are being used effectively include:
  - Raleigh's Upper Neuse Clean Water Initiative Land Conservation Strategy developed with the Conservation Fund and other land trusts in 2015
  - Catawba-Wateree Watershed, NC/SC (RTI study = quite expensive GIS modelling effort)
  - Savannah River Watershed, GA/SC & Pee Dee-Winyah Basin, SC (Univ. of Mass. model)
-  USDA, NRCS is an agency that prides itself on working with local landowners and they are always looking for new partners
-  NRCS programs are backed up by science and research; work with landowners to implement 400 conservation practices that are proven to work
-  NRCS financial & technical assistance programs include Resource Conservation Partnership Program (RCPP) & Environmental Quality Incentives Program (EQIP)
-  The new Farm Bill guarantees NRCS \$10 billion for source watershed protection assistance programs
-  Great new American Water Works Association guidebook explains how to work with NRCS (see SE Partnership Google Share Drive at <https://sites.google.com/a/scrwa.org/south-east-water-quality-collaborative/home?pli=1>)
-  In Texas, 12 million of 65 million forestland acres are in productive forests
-  Texas Forestry Association has 3,000 members:
  - Landowners with 10 acres to a million acres
  - Professional foresters, harvest contractors etc.
-  Texas Forestry Association focus on logger training, BMPs and providing landowner certification through Sustainable Forestry Initiative (SFI) and American Tree Farm
-  Land trusts use a strategic process to identify willing landowners and help them develop and implement land stewardship plans
-  95% of TX is private land - really rely on landowners to manage land to benefit watershed
-  Factors that play into the division/conversion of forest land:
  - Development potential
  - Infrastructure: pipelines, highways
  - Grandkids don't always want to take on the responsibility of land management
-  To keep forested lands, need: diverse partnerships; funding and economic incentives (such as Clean Water State Revolving Fund, NRCS/Farm Bill, beneficiary pays approach, including breweries, recreation, water customers/rates, bonds, etc.); technical resources/guidance to landowners; succession planning
-  Conservation easements = paid agreement with willing landowners to permanently protect land; allows for many uses of the land by landowner, but also preserves resources to protect watershed on that property.
-  Texas Parks and Wildlife video highlighting work of one landowner in cooperation with local, state and federal entities: <https://youtu.be/m9ONuChfxE4> - this landowner gets it, he realizes the importance his land plays in the quality of drinking water, and the Parks and Wildlife biologists listened to what the landowner wanted to do and found ways to help facilitate those goals while providing him with good information and guidance about the overall goal of protecting water quality
-  Texas Farm and Ranchlands Conservation Program = \$2 million one-time investment that results in \$12 million annually in benefits to state and tax-payers

- 🌿 San Marcos example = can be replicated elsewhere. San Marcos River Foundation knew land would be developed which threatened their drinking water supply. They worked with The Conservation Fund to apply for three million dollars of Texas SRF funding for land protection/conservation - 25% of the SRF loan qualified for principal forgiveness (which is essentially a grant).
- 🌿 Austin Municipal Utility District owns and manages 43,000 acres of land for drinking water quality protection and endangered species habitat protection
- 🌿 \$65 million bond won approval for land protection/conservation and land management (including best management practices like prescribed burns)
- 🌿 Woodland tree cover is critical to filtration to ensure drinking water is pure/clean, so City of Austin works to address threats to forests
- 🌿 Austin residents really value the surrounding countryside, their water resources and specifically Barton Springs - their program has widespread citizen support
- 🌿 Houston-Galveston Area Council is a Council of Governments for 13 county region around Houston – serve as a regional facilitator and resource for locally-led approach to watershed protection
- 🌿 Challenge in Houston watersheds = teaching people to value the land, and the value of watershed conservation efforts
- 🌿 Need to get Houston watershed foresters involved in watershed protection - dense urban forests can be actively managed
- 🌿 Texas Water Development Board is the state agency managing many watershed stewardship/protection funding sources (including the SRF's and Section 319)
- 🌿 New legislative directive allows Texas Clean Water and Drinking Water State Revolving Funds to be used for watershed protection/stewardship
- 🌿 SRF's in Texas have low- to no-interest options depending on your project and community income levels (March 1<sup>st</sup> is deadline each year for submitting application to determine principal forgiveness)
- 🌿 San Antonio is a model Texas program of a successful watershed stewardship/protection fund benefiting local drinking water and endangered species, paid for with local sales tax generating \$135 million, with broad taxpayer support. Program is focused on land management through best management practices, as well as conservation easements
- 🌿 Summary of Texas water utilities that are good examples for using existing funding and developing new local funding for forested source watershed protection include: City of Austin, City of San Marcos, City of San Antonio

**Key Conservation Finance Panel Messages:**

- 🌿 The Conservation Fund focuses on land conservation paired with economic development – valuing the ecosystem services provided by “green infrastructure”
- 🌿 The Conservation Fund has a program called Working Forest Fund:
  - Working to acquire critical forest land
  - Deployed about \$400 million dollars for forest conservation in the US in 17 states
  - Capturing, filtering, and storing about 7 million gallons of rainfall per year on their properties
- 🌿 The Conservation Fund is starting to use the State Revolving Funds as low-cost capital for watershed protection activities in Georgia and other states = Borrowed \$25 million in 2006 from SRF's
- 🌿 Use of SRF versus other mechanisms (like bonds) can provide millions in savings over the life of loan due to principal forgiveness (such as \$18 million saved in the Ohio example). SRF is an untapped and unrecognized funding source - \$550 million dollars is available through this fund
- 🌿 There is a great need to figure out the next generation of water infrastructure protection focused on green infrastructure for source water protection
- 🌿 Texas Water Trade = a new organization that uses markets to provide supplies of sustainable water



-  California example that can easily be replicated in Texas = Tree people worked with Los Angeles Power and Water to install smart cisterns in people's backyard. They're all interconnected by WIFI and cellular network. Some cisterns were above ground, some below ground etc. They pull data from the weather service to pull down levels right before big rainfall events
-  US Forest Service is interested in conservation finance because they manage 193 million acres across the US and 80 million of those acres need restoration, which is estimated to cost \$80 billion
-  USDA Forest Service is implementing the Forest Resilience Bond (FRB) with World Resources Institute (WRI), Blue Forest Conservation and a host of investors. This model is being applied to accelerated forest restoration in California to address wildfires, but there is a lot of application on the east coast beyond wildfire risk reduction. Funds are directed towards restoration on Forest Service lands in collaboration with the National Forests Foundation. Projects ultimately deliver water quality and flow benefits. The FRB is setup to help save 20 percent on projects. For some projects, the FRB is being augmented with state grants and local utility funding, achieving additional savings and speeding up projects.
-  Early examples: direct partnership with Denver water provider benefiting source water (breweries opt out surcharge; wildland authority; public funding for land conservation); Santa Fe established a shared fund and a watershed protection plan after a wildfire disaster; Tahoe National Forest: took investments from 4 different players and are using it to prevent wildfires which is then paid back; Flagstaff watershed protection effort = 2012 ballot referendum, where citizens voted to continue a tax which was going to expire, took revenue to cross-boundary forest stewardship (public funding option example)
-  Other examples:
  -  Rio Grande Water Fund with TNC – 2000 Santa Fe fire damaging 40k acres that shut down the municipal drinking water system for a couple days. After fire, partnership was formed to address this issue. In 2011 there was a larger fire, which cost \$250 million in total impacts/damages. Partners identified and quantified impacts from lack of preparedness/protection and used this as a business case to start a fund that restores forests in the source watershed - multiple funders contribute, and funding goes into research, training and capacity building. Focused on implementation in high risk areas, could be public or private land. Collaborative, multi-partner models that create conditions that allow to go from funding to finance
  -  Blue Forest Conservation example – created bond for hazards reduction in forest land. Took loans to direct treatment on forestland to prevent wildfires. The Yuba River Water Utility is paying a certain amount based on anticipated benefits of 15,000 acre forest restoration project to their bottom line for source water protection/drinking water treatment. Multiple entities help to re-pay the original investment.
-  Success is achieved through collaborative multi-partner models that allows to move from funding to finance to accelerate watershed protection
-  Importance of quantitative success measures - those paying for preventative measures are going to want quantitative measurements
-  Municipalities are comfortable using bonds to pay for grey infrastructure (infrastructure like water mains and treatment plants), but don't use bonds to pay for source water protection. Green bonds for source watershed protection and stewardship could fill that gap.
-  Cities aren't built to do bonding for just green infrastructure because the transaction costs are high so need to consider "hybrid" (green and grey) infrastructure projects,
-  For bond issuances with green infrastructure added to grey, this sometimes leads to lower interest rates with more investors and diverse investors. The investment community indicates there are billions of dollars on the sidelines looking to be placed in green infrastructure and environmental



projects but when they look at what is claiming to be investment-ready, the projects usually aren't. They're either not big enough or haven't thought through what investment-readiness looks like.

- 💧 The criteria for suitable green bonds and private conservation finance landscapes are:
  - Deal of at least \$5 million (ideally \$10 million or more)
  - Investments would be made in the next 36 months
  - Process to start engaging landowners has already started
  - Have money to cover time of people in the finance stuff
  - Need to have a champion and capacity
- 💧 Conservation finance mechanisms like Forest Resilience Bond and others offer potential because they can capture the full suite of benefits (drinking water, recreation, habitat, etc.). These mechanisms are large enough financially that they can open doors for land conservation and stewardship in communities pursuing economic development over green infrastructure.
- 💧 It is critical to make a compelling business case when trying to sell the concept of green infrastructure/conservation finance – you have to be able to articulate the return on investment to show your leadership/decision makers and investors why this is financially savvy.
- 💧 Business case/cost benefit analysis should be as targeted as possible to the major beneficiaries. Simply valuing ecosystem services and how they relate to the costs of the work won't necessarily get people to pay. You must show how that affects their bottom line and how it saves them money. It is vital to figure out the risks and what they care about.
- 💧 For successful conservation finance, blended solutions (multiple benefits and partners), and diverse investors are key.
- 💧 Forest landowner needs should be factored into conservation finance - to engage small private landowners in watershed protection, you have to remember that water quality may not be the most important thing if you cannot put food on the table or buy medicine.
- 💧 The appetite for water infrastructure projects is there but it comes down to having a champion. You need someone in a position of power to take a risk and take it up the flagpole or across to another sector. When you don't have someone standing up to take it on during the first meeting – it could be a waste of time to pursue it. Figure out who that person is and what their incentive structure is – put the right information in their hands at the right time.
- 💧 Three types of conservation finance investments: grant funding; program related investment with below market rate return and principal; and market rate investors. There is a role for each over the lifecycle of the project.
- 💧 Need to move the idea of green and natural infrastructure from where they are now (something special, additional, not core to water utility management of water resources) to the forefront.

## Attachment A Texas Forests and Drinking Water Partnership Meeting Participants

Alexatos	Andreina	Reforestation Director	Tree Folks	713-252-7528	ina@treefolks.org
Bare	Ryan	Research Associate	Houston Advanced Research Center	(281) 364-6050	rbare@harc.edu
Benter	Tammy	Director, Water Utility Regulation	Public Utility Commission of Texas	(512) 936-7165	Tammy.Benter@puc.texas.gov
Boggus	Tom	State Forester & Director	Texas A&M Forest Service	(979) 458-6608	alewis@tfs.tamu.edu
Boullion	Jill	Executive Director	Bayou Land Conservancy	(281) 576-1634	jboullion@bayouland.org
Bower	Justin	Senior Environmental Planner	Houston-Galveston Area Council	(713) 499-6653	justin.bower@h-gac.com
Britt	Travis	Chief Horticulturist & Nursery Manager	Pecan Grove Farms & Nursery	(512) 308-7777	travis@pecangrovetfarms.com
Brown	Phyllis	Environmental Specialist	Communities Unlimited	(512) 461-9671	Phyllis.Brown@communitiesu.org
Buchner	Brian	Principal Consultant & Landowner	Brian Buchner	(512) 517-6801	email@brianbuchner.com
Burden	Jenny	Program Manager	Texan by Nature	(512) 284-7482	jenny@texanbynature.org
Carraway	Burl	Division Chief Operating Officer	Texas A&M Forest Service	(979) 458-6632	bcarraway@tfs.tamu.edu
Clark	Darren	State Wetland Reserve Coordinator	USDA Natural Resources Conservation Service	(254) 742-9947	darren.clark@tx.usda.gov
Clement	John	Environmental Program Coordinator	City of Austin - Watershed Protection Dept.	(512) 974-1475	john.clement@austintexas.gov
Cook	Ernest	Principal	Land/Water Associates	(617) 697-7758	landwaterassoc@gmail.com
Creacy	Jamie	Superintendent	Bastrop State Park	(512) 321-2101	Jamie.Creacy@tpwd.texas.gov
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**Attachment A (continued)**  
**Texas Forests and Drinking Partnership Meeting Participants**








<b>LAST NAME</b>	<b>FIRST NAME</b>	<b>TITLE</b>	<b>ORGANIZATION</b>	<b>PHONE</b>	<b>EMAIL</b>
Hartfield	Richard	Staff	American Youth Works	(512) 744-1900	rghatfield@yahoo.com
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**Attachment A (continued)**  
**Texas Forests and Drinking Water Partnership Meeting Participants**

<b>LAST NAME</b>	<b>FIRST NAME</b>	<b>TITLE</b>	<b>ORGANIZATION</b>	<b>PHONE</b>	<b>EMAIL</b>
Oates	Bill	Associate Director	Texas A&M Forest Service	(979) 458-6608	alewis@tfs.tamu.edu
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Trigg	Marshall	Natural Resource Conservation Coordinator	Lower Colorado River Authority	(830) 596-7239	Marshall.Trigg@LCRA.org
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Walker	Jenna	Program Manager	The Meadows Center for Water & the Environment	(512) 245-9148	Jwalker@txstate.edu
Weisman	Kitty	Coordinator	Southeastern Partnership for Forests & Water	(360) 481-2544	Kitty.Weisman@cloud.com
Wilson	Jennifer	Supervisory Hydrologist	USGS Texas Water Science Center	(512) 589-5538	jenwilso@usgs.gov
Wood	Rusty	District 6 Leader	Texas Parks and Wildlife Department	(409) 383-8065	rusty.wood@tpwd.texas.gov
Wright	Kyle	State Water Quality Specialist	USDA Natural Resources Conservation Service	(254) 742-9865	kyle.wright@tx.usda.gov
Young	David	Hydrologist	Texas Parks & Wildlife Department	(512) 389-8188	david.young@tpwd.texas.gov










## **Attachment B Meeting Planning Team**

*Thank you to the following people and their organizations for generously contributing their time and expertise to plan this meeting:*

-  Justin Bower, Houston-Galveston Area Council
-  Ernest Cook, Land/Water Associates
-  Frank Davis, Hill Country Conservancy
-  Amanda Haralson, Forest Conservation Landowner
-  Rob Hughes, Texas Forestry Association
-  Nahal Ipakchi, Southeastern Partnership for Forests and Water
-  Deborah McMullan, Texas Rural Water Association
-  Mason Miller, Texas Commission on Environmental Quality
-  Drew Molly, City of Houston
-  Lauren Ray, US EPA Region 6
-  Hughes Simpson, Texas A&M Forest Service
-  Daryl Slusher, City of Austin
-  Kitty Weisman, Southeastern Partnership for Forests and Water

## Attachment C Meeting Sponsors

*We would like to thank the following Forum Sponsors for their generous contributions that made this event possible:*

-  American Water Works Association – Texas Section
-  Hill Country Conservancy
-  Southeastern Partnership for Forests and Water
-  Texas A&M Forest Service
-  Texas Commission on Environmental Quality
-  Texas Forestry Association
-  Texas Rural Water Association
-  US Endowment for Forestry and Communities
-  USDA Forest Service

# Attachment D

## Texas Forests & Drinking Water Partnership Meeting

February 5<sup>th</sup> and 6<sup>th</sup>, 2019

McKinney Roughs Nature Park, Wildflower Hall  
1884 State Highway 71 W  
Cedar Creek, TX 78612  
(512) 578-2314

<https://www.lcra.org/parks/Pages/mckinney-roughs-nature-park.aspx>

### February 5

- 1:00 pm **MEET** at Bastrop State Park Refectory located at 100 Park Road 1A, Bastrop, TX 78602. To get to the Refectory, enter the main entrance of Bastrop State Park on Hwy 21, stop at the Park Gate, and let the attendant know you are with the "TFS Group Tour." Continue straight on Park Road 1 A and you will arrive at a "T" intersection. The parking area will be to the left and the Refectory (stone building) will be to the right.
- 1:30 pm **FIELD TOUR** – Emphasizing benefits of managed forest lands for watershed stewardship. After a short overview, we will load in vans/SUVs to tour the Park to observe/discuss:
- Wildfire damage
  - Forest Restoration
  - Impacts to park infrastructure (culverts, roads, lake dam)
  - Water Quality Impacts
  - Land stewardship programs to protect drinking water
- 4:00 pm **TOUR CONCLUDES**
- 5:00 pm **NETWORKING SOCIAL** at Hampton Inn – Bastrop located at 240 Hasler Road, Bastrop, TX 78602. Refreshments including hors d'oeuvres will be served. Social concludes at 7pm and dinner will be on your own.

### February 6

- 8:15 am **REGISTRATION, NETWORKING & CONTINENTAL BREAKFAST** – McKinney Roughs Nature Park, Wildflower Hall (see address above)
- 8:30 am **WELCOME; FORUM GOALS & OBJECTIVES** – Tom Boggus, Director – Texas A&M Forest Service
- 8:45 am **LIGHTNING TALKS – Brief Reports on Drinking Water, Forestry, Land Conservation, & Watershed Health Issues & Programs – 5 min each**

#### Forestry/Landowner Perspectives and Watershed Connections:

- Benefits of Forests for Drinking Water & Watershed Health; Current Research on the Forest/Water Connection – Dr. Matthew McBroom, Texas A&M Forest Service
- Forest Landowner Perspectives – Amanda Haralson & Travis Britt, Forest Landowners
- NRCS Land Management and Cost Share Programs – Kyle Wright, NRCS



## Attachment D (continued)

- Private Land Management Options & Approaches; Forest Certification; Forestry Programs & Tools – Rob Hughes
- Conservation Groups and How They Make Decisions; Conservation Easements 101 – Frank Davis, Hill Country Conservancy

### Utilities, Source Water Protection, and Stormwater/Flood Mitigation:

- Source Water Protection 101 – Deborah McMullan
- Texas Source Water Protection Program – Mason Miller
- History of Austin's Source Water Protection Program – Daryl Slusher, City of Austin
- Houston – Galveston Area Watershed Initiatives – Justin Bower, Houston-Galveston Area Council

### Funding/Financing/Economics:

- Available Funding for Watershed Protection & Stewardship – Kitty Weisman, Southeastern Partnership for Forests and Water
- San Antonio Water Fund – Lily Verdone, The Nature Conservancy Texas Chapter
- Hill Country Healthy Watersheds Consortium Grant; Land Conservation Bonds in the Texas Hill Country – Frank Davis, Hill Country Conservancy
- Texas Watershed Funding Programs – Tom Entsminger, Texas Water Development Board
- Triple Bottom Line Ecosystem Services Valuation – Bob Morgan, AR Forests & Drinking Water Collaborative

10:00 am     **BREAK**

10:15 am     **PANEL & DISCUSSION – Innovative Watershed Investment & Conservation Finance – Research & Lessons**  
*Reggie Hall, The Conservation Fund*  
*Sharlene Leurig, Texas Water Trade*  
*Tommie Herbert, Conservation Finance Lead – US Forest Service*

NOON pm     **CATERED LUNCH**

1:15 pm     **WATERSHED FOCUSED BREAKOUT GROUPS** – Houston/San Jacinto, Austin/Hill Country, and Other Texas Watersheds (facilitated)  
FIRST HOUR – Review/Discuss Issues and Needs  
SECOND HOUR – Brainstorm Projects and Funding

3:15 pm     **BREAK**

3:30 pm     **BREAKOUT GROUPS REPORT OUT**

4:00 pm     **WRAP UP** – Overview of Forum Highlights & Next Steps





# URBAN PRAIRIE RESILIENCE PROJECT

CONCEPT DEVELOPMENT

CONVENING MAY, 2021

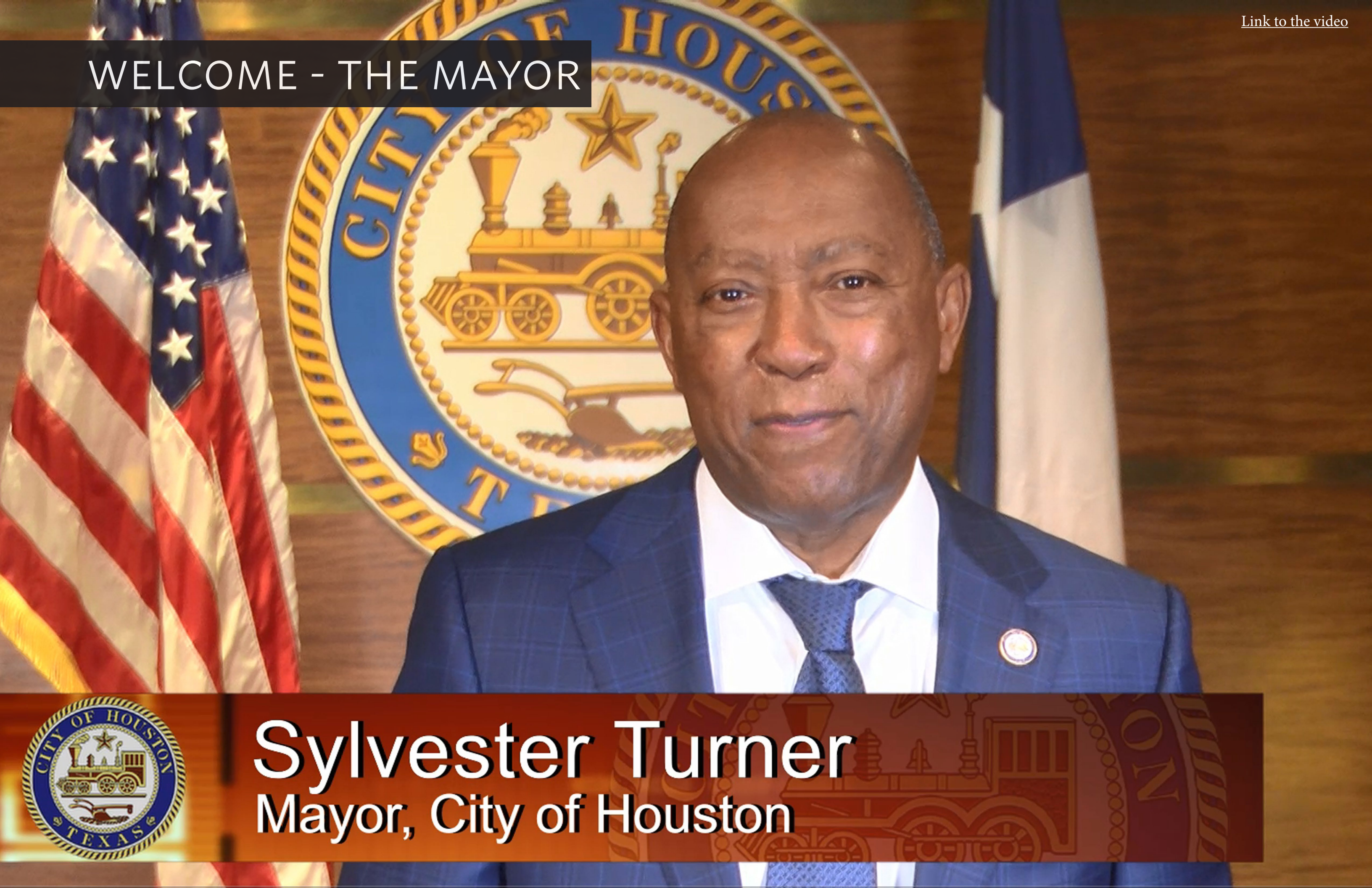


# WELCOME & INTRODUCTION

*Marissa Aho*



WELCOME - THE MAYOR



**Sylvester Turner**  
Mayor, City of Houston



The background features a repeating pattern of light green, rounded geometric shapes, including triangles and trapezoids, arranged in a radial pattern. A dark horizontal bar is positioned across the middle of the image, containing the text.

# WELCOME & THANKS

*Joy Horak-Brown and Hank Rush*

# EXPECTATIONS FOR TODAY

PROJECT SUMMARY

CONCEPT PLAN

BREAKOUT SESSIONS

WRAP UP



# WHAT HAVE WE HEARD SO FAR

*Katie Coyne*



# ENGAGEMENT SUMMARY

## KEY THEMES + GUIDING PRINCIPLES

BALANCE

COMMUNITY SUPPORT

YOUTH INVOLVEMENT +  
FAMILY PROGRAMMING

ECONOMIC  
OPPORTUNITY

ADAPTIVE/  
FLEXIBLE

EDUCATIONAL



# FOCUS GROUPS

## URBAN AGRICULTURE

1. Maintenance and coordination
2. Community champion
3. Community buy-in
4. Opportunity to build skills

## WORKFORCE DEVELOPMENT

1. A broader effort
2. Receiving training and logistics
3. Skills set identification
4. Building partnerships
5. Develop youth opportunities

## URBAN PRAIRIE

1. Assessing existing conditions
2. Biologist/ecologist consultant
3. Develop management plans
4. Community inclusion
5. Educational programming
6. Integrating urban wildlife

## GREEN INFRASTRUCTURE

1. Clarify maintenance needs
2. Understanding GSI options
3. Pilot program
4. Educational programming
5. Training opportunities



# ENGAGEMENT PACKET RESPONSES

**87.5 %** *of respondents regularly spend time outside or in nature*

**61 %** *of respondents meet their neighbors through programming offered by Star of Hope/ New Hope*

**MANY** *respondents are not comfortable in tall grasses*

**MAJORITY** *of kids who responded to the activity prioritized **playing, running, eating, and listening**. Some kids wrote that they would like to fish or go on weekend field trips.*

**MAJORITY** *of youth who responded to the activity prioritized **biodiversity, fitness equipment, and gathering spaces**.*

**44 %** *of respondents cite a lack of programming activities as the primary reason for not enjoying outdoor spaces*

**51 %** *of respondents leave the Cornerstone Campus to participate in parties, educational programs, or events/festivals.*

**74 %** *of respondents often use the outdoor spaces for walks*



What **most excites you** about what you've seen in the **feedback results**?

What is **missing** from the **feedback** we've gathered so far?



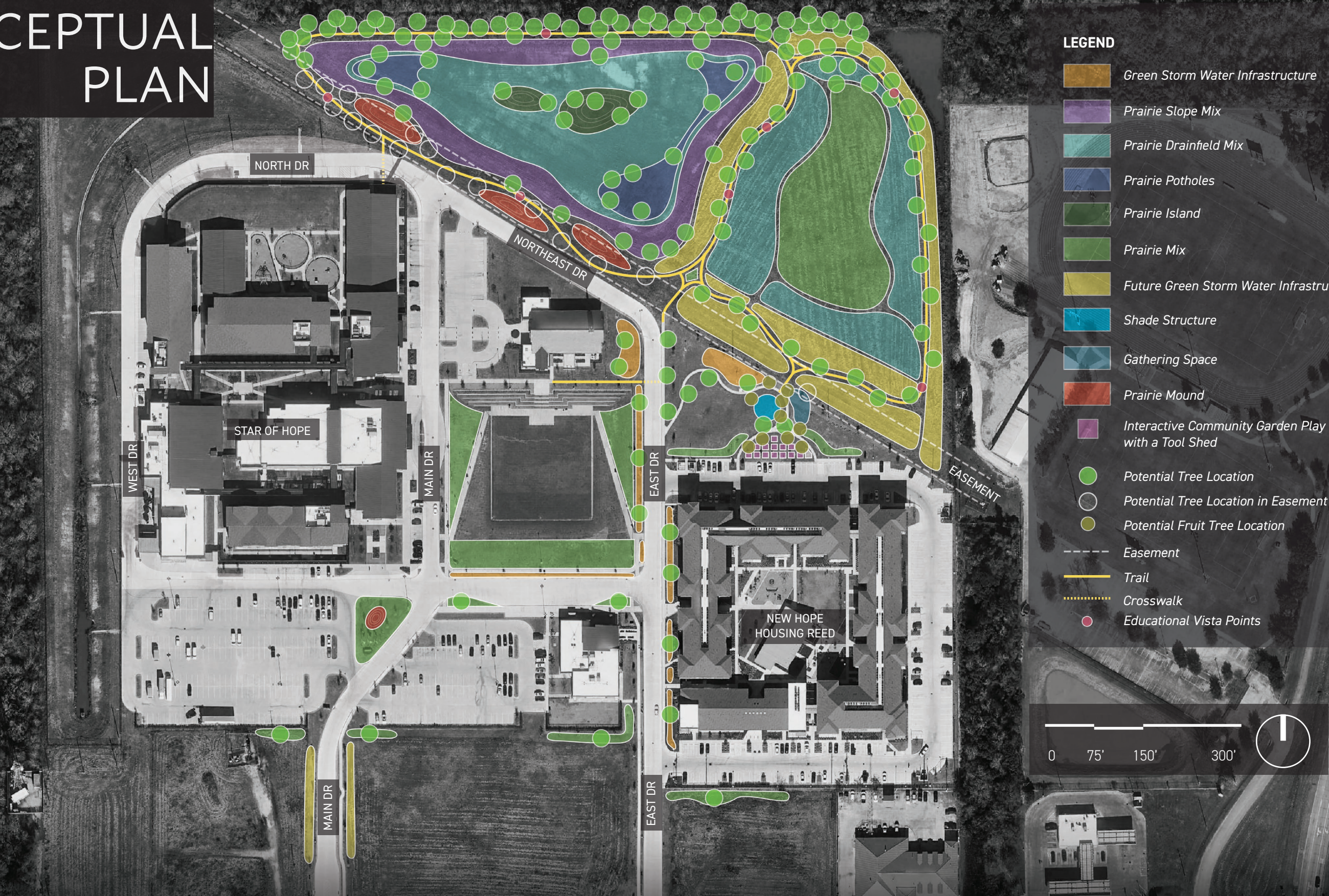
The background is a solid teal color with a pattern of overlapping, semi-transparent, light teal geometric shapes. These shapes include triangles, trapezoids, and irregular polygons, some pointing towards the center and others pointing outwards, creating a dynamic, starburst-like effect.

# CONCEPT PLAN

*Peter Caldwell*



# CONCEPTUAL PLAN



- LEGEND**
- Green Storm Water Infrastructure
  - Prairie Slope Mix
  - Prairie Drainfield Mix
  - Prairie Potholes
  - Prairie Island
  - Prairie Mix
  - Future Green Storm Water Infrastructure
  - Shade Structure
  - Gathering Space
  - Prairie Mound
  - Interactive Community Garden Play with a Tool Shed
  - Potential Tree Location
  - Potential Tree Location in Easement
  - Potential Fruit Tree Location
  - Easement
  - Trail
  - Crosswalk
  - Educational Vista Points





# DETENTION BASIN



Prairie Slope Mix



Educational Vista Points



Trails



Future Green Storm Water Infrastructure



Prairie Plaza



Prairie Mounds



Prairie Drainfield Mix



Prairie Islands



Prairie Potholes





# REED PARK



Potential Fruit Tree Locations



Prairie Mix



Green Storm Water Infrastructure



Fabric Shade Structure



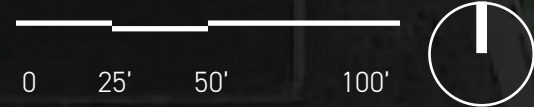
Gazebo Shade Structure



Gathering Space



Interactive Community Garden  
Play with a Tool Shed





# MAIN CAMPUS



*Prairie Mound*



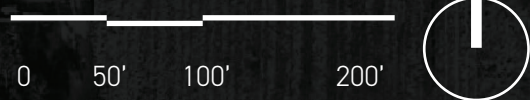
*Future Green Storm Water Infrastructure*



*Green Storm Water Infrastructure*



*Prairie Buffer*





# FUTURE HOUSING DEVELOPMENT AREA



Prairie Drainfield Mix



Prairie Mix



Trails



Educational Vista Points



Future Green Storm Water Infrastructure

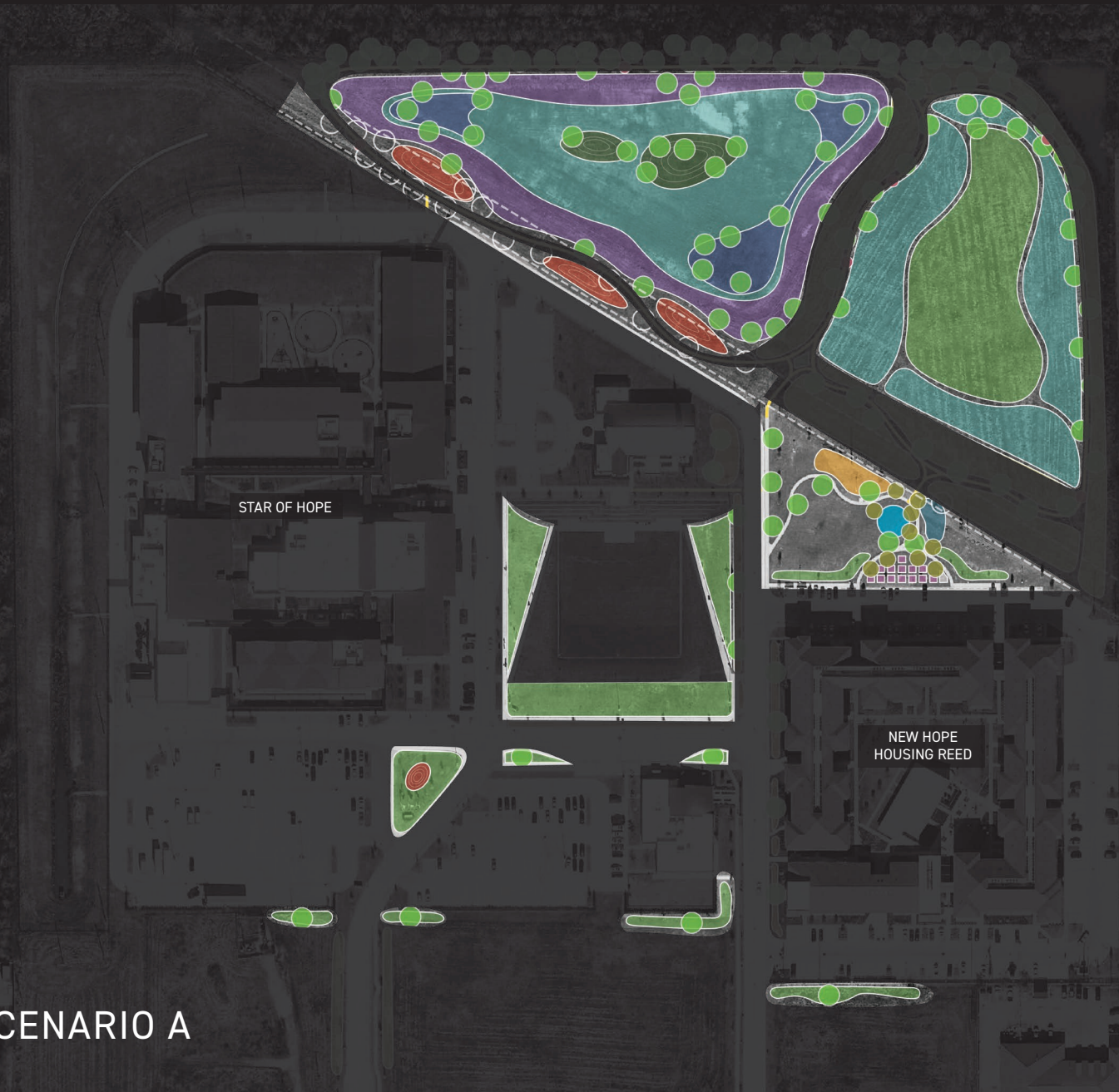


Mowed Pathways





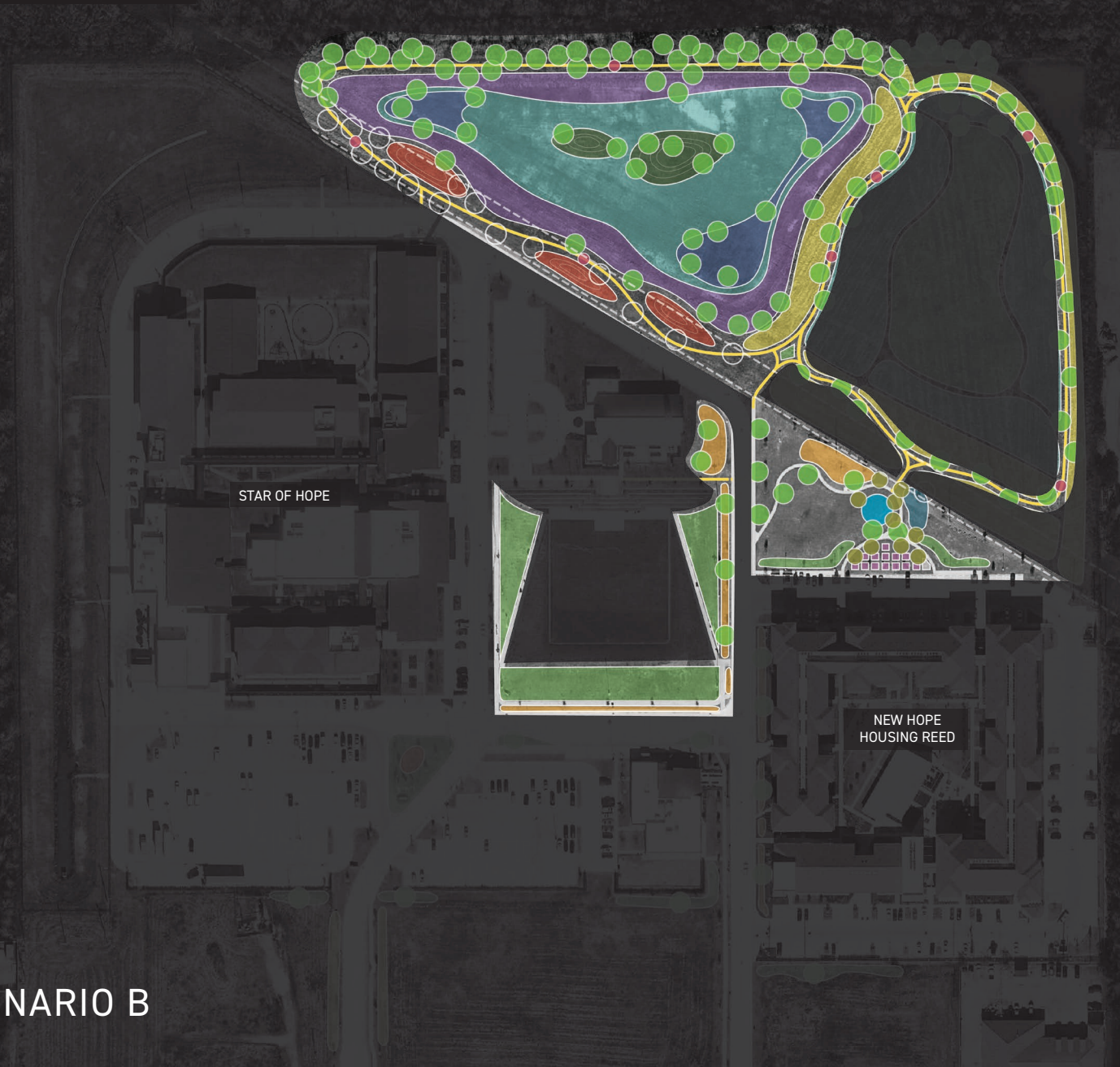
# POSSIBLE PRIORITY PROJECT SCENARIOS



SCENARIO A

**SCENARIO CONSIDERATIONS:**

- *Prioritize prairie plantings throughout the site*
- *Update Reed Park portion with new amenities*
- *Exclude trail and future green stormwater infrastructure*



SCENARIO B

**SCENARIO CONSIDERATIONS:**

- *Prioritize detention area and trails*
- *Update Reed Park portion with new amenities*
- *Include green infrastructure near Amphitheatre and park*







# BREAKOUT SESSIONS

*Peter Caldwell*

The background is a solid teal color with a pattern of overlapping, semi-transparent, light teal geometric shapes. These shapes include triangles, trapezoids, and irregular polygons, some pointing towards the center and others pointing outwards, creating a dynamic, starburst-like effect.

# BREAKOUT SUMMARIES

*Katie Coyne*



# NEXT STEPS IN DESIGN DEVELOPMENT

*Peter Caldwell*



# PARTNER SUPPORT

Laura Patino



New Hope Housing  
Building Communities, Restoring Lives



Ending homelessness...  
one life, one family at a time.



NFWF

WELLS  
FARGO



ASAKURA  
ROBINSON

AGCM  
INC.

A Professional Project Management Firm



# THANK YOU!

*Joy Horak-Brown and Hank Rush*

