# Mid and Lower Cibolo Creek Watershed Meeting Overview

*Clare Entwistle Escamilla*
*Texas Water Resources Institute*

TEXAS STATE Soil & Water CONSERVATION BOARD

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# Online Stakeholder Meeting Housekeeping

- We will be recording this session and will make it available to all participants following the meeting.
- Please stay muted during presentations
  - Can ask questions through the chat function and they will be addressed at the end of the presentation or during the discussion.
- Keep video off
- Sign in Sheet

# Topics for Today

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SAN ANTONIO RIVER AUTHORITY
Leaders in Watershed Solutions

## Agenda

### Mid and Lower Cibolo Creek Watershed Planning

Tuesday, November 10, 2020

Online Zoom Meeting

10:00 AM – 11:30 AM

**10:00 – 10:15 Welcome and Sign-In**
*Clare Escamilla, Texas Water Resources Institute*

**10:15 – 10:45 Discouraging Wildlife Feeding**
*Mark Enders, City of New Braunfels*
*Jessica Alderson, Texas Parks & Wildlife*

**10:45 - 11:15 Update of Watershed Protection Plan and Upcoming Events**
*Clare Escamilla, Texas Water Resources Institute*

**11:15 – 11:30 Open Discussion and Questions**

# Update on Watershed Protection Plan

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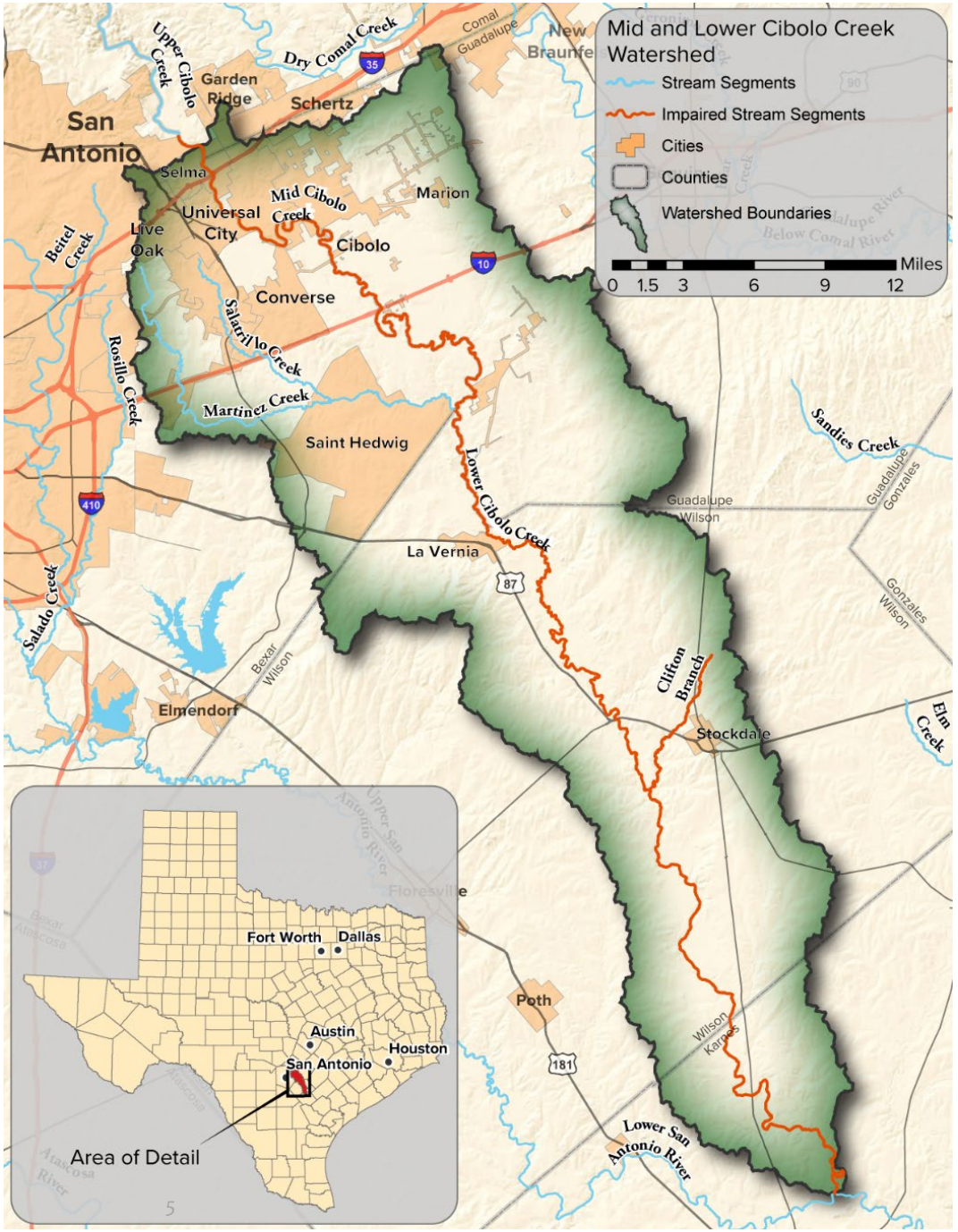
# Watershed Waterbodies

- Mid-Lower Cibolo Creek (~92 miles)
- Martinez Creek (~26 miles)
- Salitrillo Creek (~11 miles)
- Clifton Branch (~8 miles)



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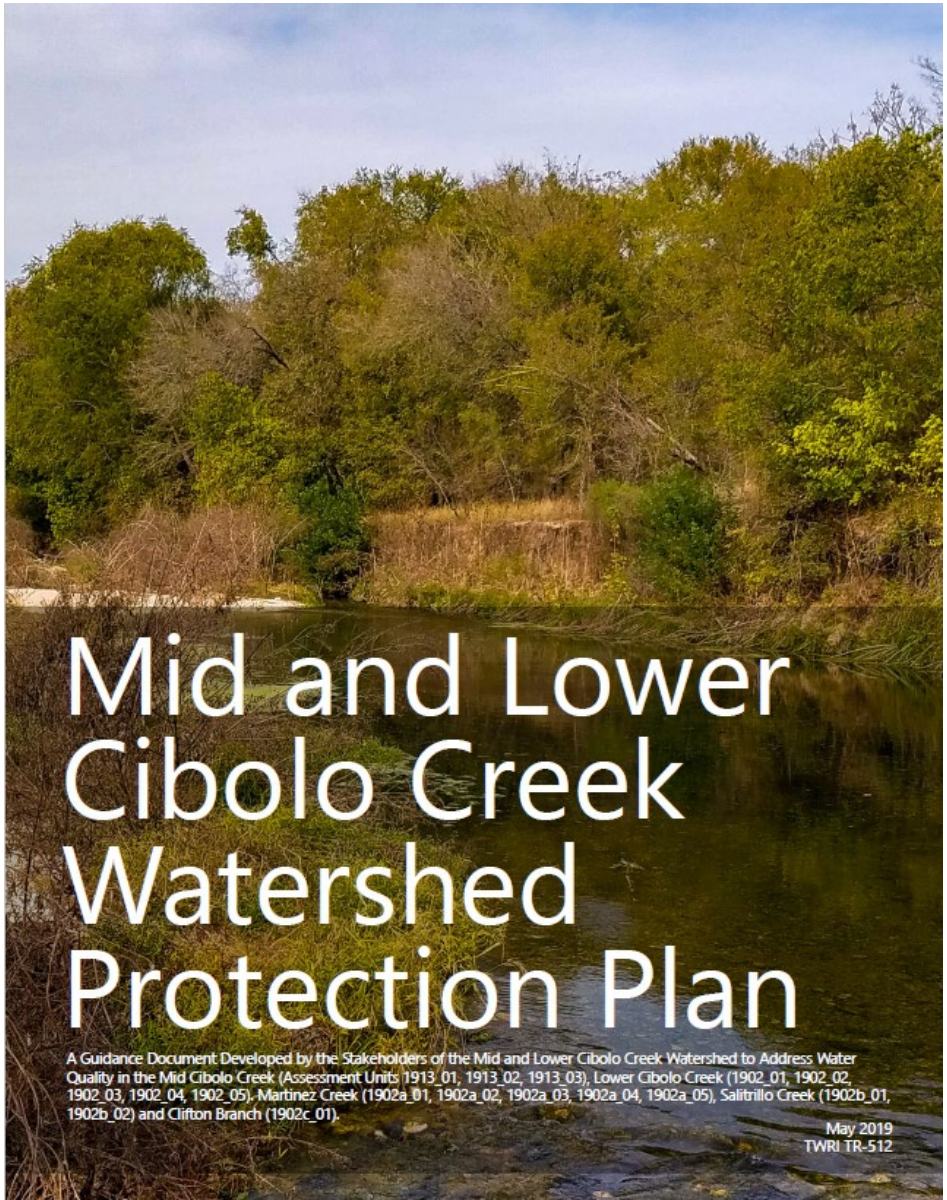
# What is a Watershed Protection Plan?

- Watershed Protection Plans (WPP) address complex water quality issues across multiple jurisdictions
- The goal is to improve, restore or maintain good water quality within a particular watershed
- WPPs are tools to better leverage the resources of local governments, state and federal agencies, and non governmental organizations
- WPPs are a voluntary, proactive approach to integrating activities and prioritizing BMP implementation

# Key Elements of Watershed Plans

- Identification of Sources of Bacteria
- Estimated Loading Reductions Needed
- Description of Management Measures
- Education and Outreach Needed
- Schedule for Implementation
- Implementation Milestones
- Possible Sources of Financial Assistance and Estimated Costs
- Measures of Success (i.e. indicators to measure reductions)
- Monitoring plan to evaluate effectiveness

# Mid & Lower Cibolo Creek WPP Acceptance




- Review process with TSSWCB, TCEQ, and EPA.
- Accepted by EPA – August 2020.

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# MANAGEMENT MEASURES & IMPLEMENTATION SCHEDULE

# MM 1: Developing and Implementing Water Quality Management Plans or Conservation Plans

- Work with landowners to develop property-specific CPs and WQMPs (40 over 10 years)
- Develop funding to hire WQMP technician
- Deliver education and outreach programs and workshops for landowners

| MM 1 | Estimated Unit Cost | # Implemented (year 1-3) | # Implemented (year 4-6) | # Implemented (year 7-10) | Estimated Total Cost |
|---|---|---|---|---|---|
| Develop WQMPs and CPs | $15,000 per plan | 10 | 10 | 20 | $600,000 |
| Deliver O/E | NA | 1 | 1 | 1 | NA |

# MM 2: Promote technical and direct operational assistance to landowners for feral hog control

- Work with landowners to reduce feral hog populations by 15%
  - Voluntarily construct fencing around deer feeders
  - Voluntarily trap/remove/shoot feral hogs
- Provide education and outreach to stakeholders
- Develop and implement wildlife management plans and wildlife management practices

| MM 2 | Estimated Unit Cost | # Implemented (year 1-3) | # Implemented (year 4-6) | # Implemented (year 7-10) | Estimated Total Cost |
|---|---|---|---|---|---|
| Construct Feeders | $200 per feeder | As many as possible | | | NA |
| Trap/Remove/Shoot feral hogs | NA | 1,587 hogs per year (15% reduction) | | | NA |
| Feral Hog Education | $3,000 each | 1 | 1 | 1 | $9,000 |

# MM 3: Identify and repair or replace failing on-site sewage systems

- Inspect failing OSSFs in the watershed and secure funding to promote OSSF repairs
- Repair or replace OSSFs (50 over the 10 years)
- Educate homeowners on proper maintenance

| MM 3 | Estimated Unit Cost | # Implemented (year 1-3) | # Implemented (year 4-6) | # Implemented (year 7-10) | Estimated Total Cost |
|---|---|---|---|---|---|
| Identify, inspect, repair/replace OSSFs, as funding allows | $8,000-10,000 | 10 | 20 | 20 | $400,000 - $800,000 |
| Deliver O/E | $3,500 | 1 | 1 | 1 | $10,500 |

# MM 4 - Increase proper pet waste management

- Expend education and outreach messaging on disposal of pet waste
- Install and maintain pet waste stations in public areas (50 stations over the 10 years)

| MM 4 | Estimated Unit Cost | # Implemented (year 1-3) | # Implemented (year 4-6) | # Implemented (year 7-10) | Estimated Total Cost |
|---|---|---|---|---|---|
| Pet waste stations | $500 per station | 10 | 20 | 20 | $25,000 |
| Pet waste education materials | NA | 1 | 1 | 1 | NA |

# MM 5 – Implement and expand urban and impervious surface stormwater runoff management

- Education and Demonstration sites to inform residents about stormwater BMPs (Green Stormwater Infrastructure)
- Identify and Install stormwater BMP sites, stream restoration projects

| MM 5 | Estimated Unit Cost | # Implemented (year 1-3) | # Implemented (year 4-6) | # Implemented (year 7-10) | Estimated Total Cost |
|---|---|---|---|---|---|
| Identify and Install stormwater BMPs | $4,000 - $45,000 per acre | As many as possible | | | NA |
| Deliver O/E | NA | 1 | 0 | 1 | NA |

# MM6 – Manage SSOs and Unauthorized Discharges

- Reduce unauthorized discharges and SSOs
- Replace and Repair infrastructure where problems have been identified
- Develop and Deliver education material to resident and property owners
  - Proper Disposal Fats, Oils and Grease and unflushables

| MM 6 | Estimated Unit Cost | # Implemented (year 1-3) | # Implemented (year 4-6) | # Implemented (year 7-10) | Estimated Total Cost |
|---|---|---|---|---|---|
| Identify and replace pipes / Infrastructure contributing to problems | $3,000 - $20,000 per site | As identified/needed | | | |
| Deliver O/E | NA | 1 | 1 | 1 | NA |

# MM 7 – Planning and Implementation of Wastewater Reuse

- Identify sites within Mid and Lower Cibolo Creek watershed with high potential for wastewater reuse
  - Irrigation on city properties

| MM 7 | Estimated Unit Cost | # Implemented (year 1-3) | # Implemented (year 4-6) | # Implemented (year 7-10) | Estimated Total Cost |
|---|---|---|---|---|---|
| Inventory, Identify, and prioritize sites within the watershed that could use wastewater reuse | N/A | As needed | | | N/A |

# MM 8 – Reduce Illicit Dumping

- Increase awareness of proper disposal techniques and reduce illicit dumping of waste and animal carcasses
  - Develop and deliver educational and outreach materials to residents
  - Hazardous Waste Collection events watershed-wide (Annually).

| MM 1 | Estimated Unit Cost | # Implemented (year 1-3) | # Implemented (year 4-6) | # Implemented (year 7-10) | Estimated Total Cost |
|---|---|---|---|---|---|
| Hazardous waste collection events | $35,000 - $60,000 per event | 3 | 3 | 3 | $315,000 - $540,000 |
| Deliver O/E | $7,000 | 1 | 1 | 1 | $21,000 |

# Next Steps and Upcoming Events

*Clare Entwistle Escamilla*
*Research Specialist II*
*Texas Water Resources Institute*

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# Next Steps

- Print and distribute copies of the completed WPP
  - Bring to upcoming meetings or drop off at local SWCDs or AgriLife Extension Offices
- Identify areas for WPP implementation around the watershed
- Upcoming Educational Events

# Upcoming Events

- Texas Riparian & Stream Ecosystem Online Training
  - Virtual 2 part event
    - Dec. 8: 10 AM – Noon
  - Free
- Healthy Lawn Healthy Waters
  - In-person or online
    - March 26th – 10AM – 2:30 PM
  - Free

# Questions?

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*"This effort was funded through a State Nonpoint Source grant from the Texas State Soil and Water Conservation Board."*

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