MISSION AND ARANSAS RIVERS IMPLEMENTATION PLAN UPDATE

Allen Berthold- Texas Water Resources Institute

August 15, 2018

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Agenda

- Total Maximum Daily Load (TMDL) and Total Maximum Daily Load Implementation Plan (I-Plan) Recap
- Implementation Update
- Water Quality Update
- Discussion

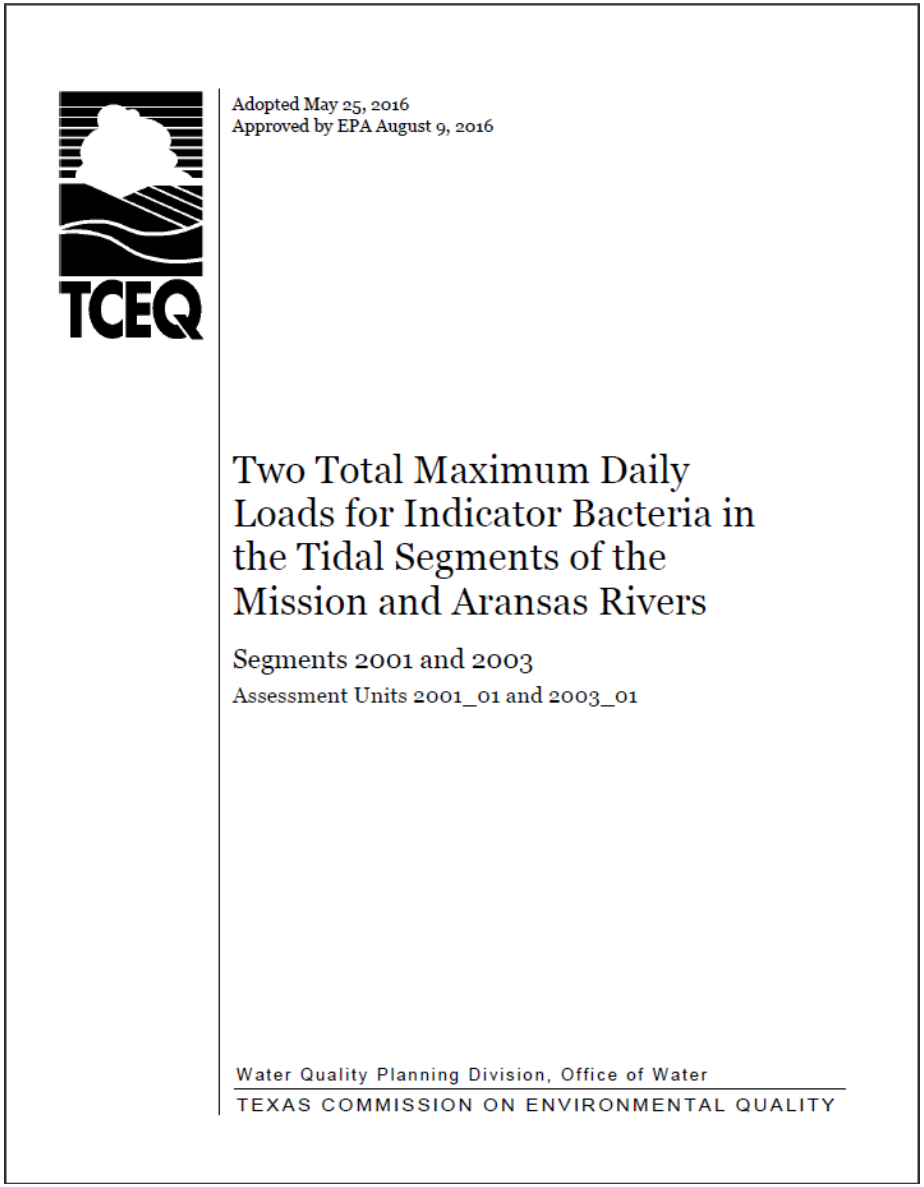
TMDL Recap

Defines the “pollution” budget for the waterbody.

Identifies pollutant of concern, sources, and allowable load.

Adopted in 2016 by TCEQ.

Updated in 2017 to include Load Allocations for Aransas River Above Tidal and Poesta Creek.



TCEQ

Adopted May 25, 2016
Approved by EPA August 9, 2016

Two Total Maximum Daily Loads for Indicator Bacteria in the Tidal Segments of the Mission and Aransas Rivers

Segments 2001 and 2003

Assessment Units 2001_01 and 2003_01

Water Quality Planning Division, Office of Water

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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1
TMDL
Load Allocation + Waste Load Allocation +
Margin of Safety + Future Growth
2
Load Allocation
Non-regulated or non-permitted sources
Runoff from the landscape
3
Waste Load Allocation
Municipal Wastewater
Industrial Wastewater
Regulated Stormwater
4
Future Growth
Loadings associated
with future growth
from permitted
facilities

Load Allocations

AU	TMDL	WLA_{wwtf}	WLA_{sw}	LA	MOS
2001_01 (Mission River Tidal)[1]	370.543	1.291	0.213	350.512	18.527
2003_01 (Aransas RiverTidal)[1]	150.321	10.081	0.050	132.674	7.516
2004_02 (Aransas Above Tidal)[2]	319.170	28.500	0.206	274.505	15.959
2004B_02 (Poesta Creek)[2]	63.89	15.183	0.066	45.447	3.195

[1] Units are billion MPN/Day Enterococcus bacteria (35 MPN/100 mL standard)
[2] Units are billion MPN/Day *E. coli* bacteria (126 MPN/100 mL standard)

I-Plan Recap

- Developed with stakeholders
- Nine Voluntary Management Measures
- Two point source Control Actions.

TCEQ

Approved May 25, 2016

Implementation Plan for Two Total Maximum Daily Loads for Indicator Bacteria in the Tidal Segments of the Mission and Aransas Rivers

Segments 2001 and 2003

Assessment Units 2001_01 and 2003_01

Produced by the Mission and Aransas Rivers TMDL Stakeholders

In cooperation with the Texas Water Resources Institute and the TMDL Team, Water Quality Planning Division, Texas Commission on Environmental Quality

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I-Plan Summary

	Description	# in Mission River	# in Aransas River
MM #1	Promote Voluntary Conservation Plans	81	122
MM #2	Tax Exemption Evaluation	NA	NA
MM #3	Feral Hog Control	745	598
MM #4	Reduce Illicit Dumping	NA	NA
MM #5	Increase Septic System Compliance	76	486
MM #6	Promote Urban Stormwater BMPs	74	517
MM #7	Reduce UnauthorizedDischarges	15%	15%
MM #8	Voluntary Adoption of Half Bacteria Limits by WWTFs	0	4
MM #9	Expand Monitoring	NA	NA
CA #1	Increase WWTF Effluent Monitoring	NA	NA
CA #2	Upgrade WWTFs	0	2

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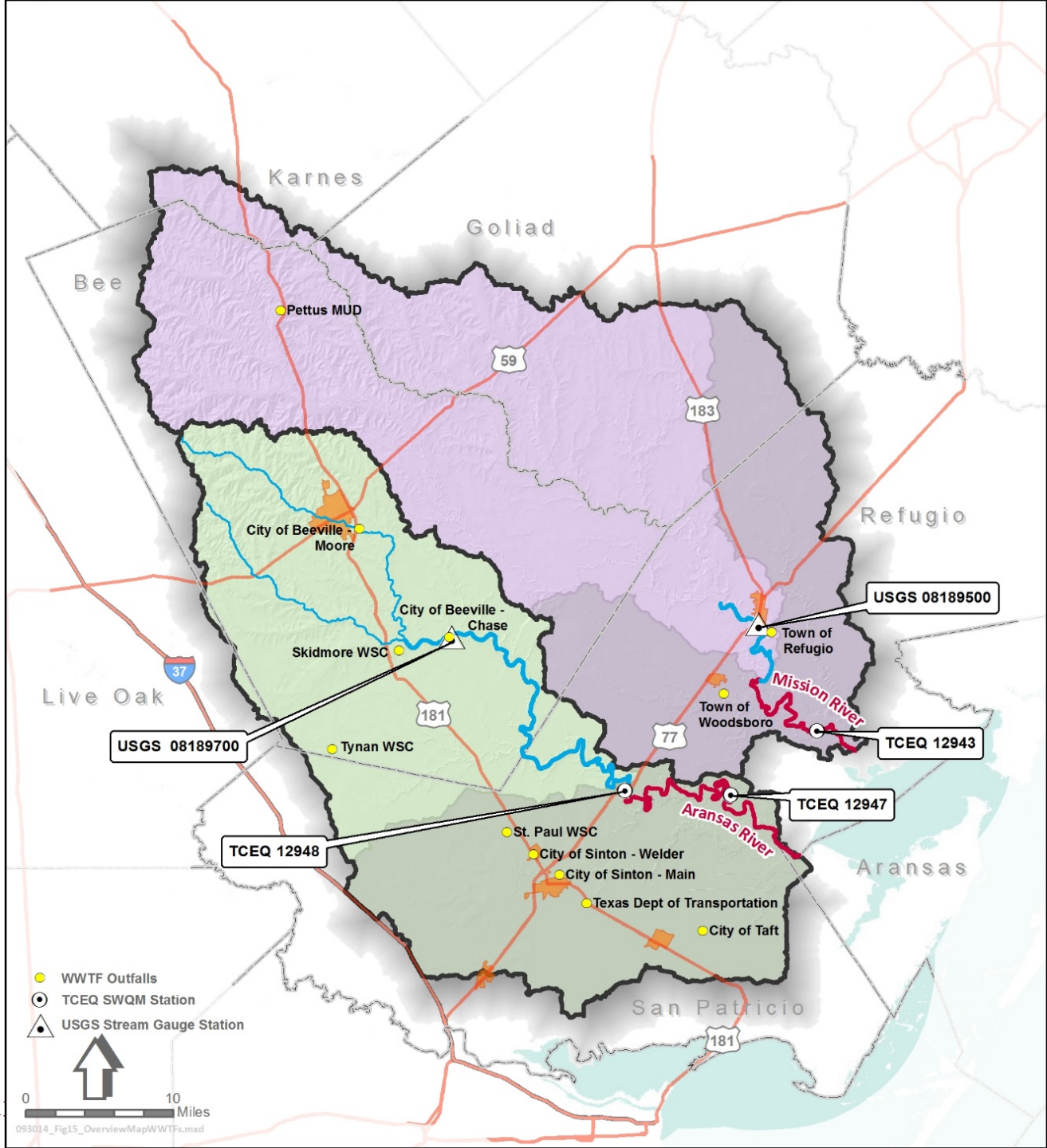
IMPLEMENTATION UPDATE

General Land Office Implementation Grant

- Communications (Education Flyers, direct mailing, etc.)
- Grant Writing
  - Monitoring
  - Targeted Education
  - Stormwater Education
- Public Meetings
  - Twice annually
- Education and Outreach (still need Septic, LSHS, Feral Hog)
  - Riparian Education – Goliad, April 25
  - Texas Watershed Stewards – Beeville, July 17
  - Texas Well Owner Network – Beeville, October 18
- Progress Tracking since 2016
  - Mission (81) – 53 (145) Conservation Plans, 1 (51) WQMPs – Total = 54
  - Aransas (122) – 51 (153) Conservation Plans, 2 (79) WQMPs – Total = 53

Water Quality Monitoring Grant

- Quality Assurance
- 18 months of monitoring
- Begin September
- 3 sites, monthly
- Final Report



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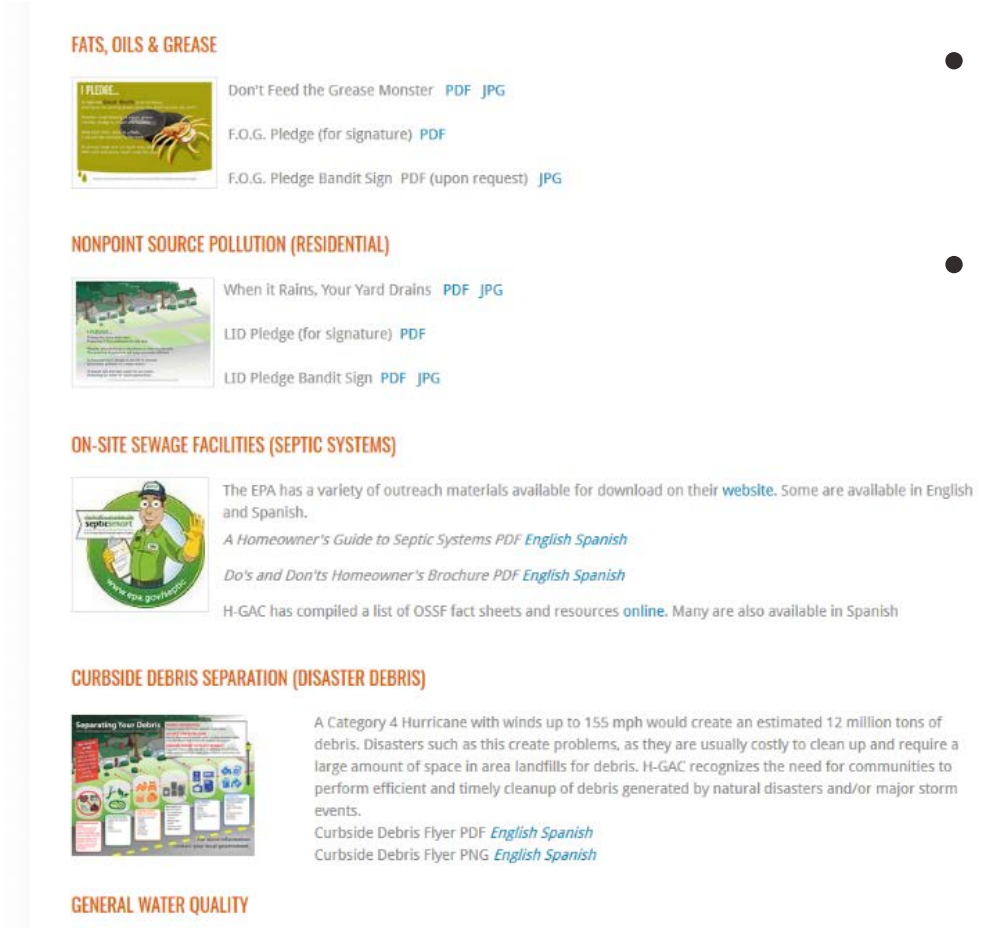
Grant Writing

- Targeted Education
- Expand municipal stormwater education programs
- Other Ideas?
  - Small Acreage Landowner
- Other Funding Sources?



FATS, OILS & GREASE

Don't Feed the Grease Monster PDF JPG

F.O.G. Pledge (for signature) PDF

F.O.G. Pledge Bandit Sign PDF (upon request) JPG

NONPOINT SOURCE POLLUTION (RESIDENTIAL)

When it Rains, Your Yard Drains PDF JPG

LID Pledge (for signature) PDF

LID Pledge Bandit Sign PDF JPG

ON-SITE SEWAGE FACILITIES (SEPTIC SYSTEMS)

The EPA has a variety of outreach materials available for download on their website. Some are available in English and Spanish.

A Homeowner's Guide to Septic Systems PDF English Spanish

Do's and Don'ts Homeowner's Brochure PDF English Spanish

H-GAC has compiled a list of OSSF fact sheets and resources online. Many are also available in Spanish

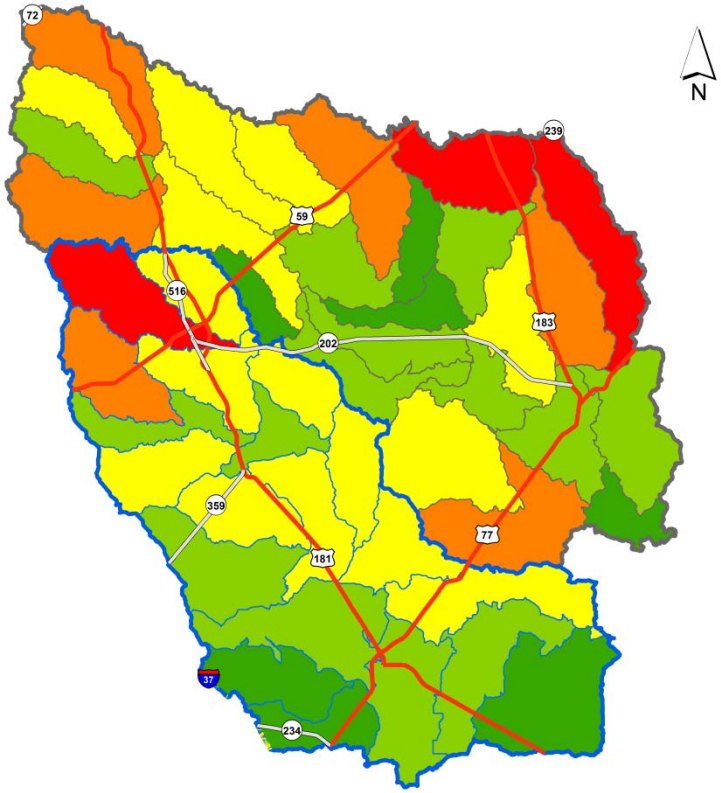
CURBSIDE DEBRIS SEPARATION (DISASTER DEBRIS)

A Category 4 Hurricane with winds up to 155 mph would create an estimated 12 million tons of debris. Disasters such as this create problems, as they are usually costly to clean up and require a large amount of space in area landfills for debris. H-GAC recognizes the need for communities to perform efficient and timely cleanup of debris generated by natural disasters and/or major storm events.

Curbside Debris Flyer PDF *English Spanish*

Curbside Debris Flyer PNG *English Spanish*

GENERAL WATER QUALITY



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WATER QUALITY UPDATE

Mission River Tidal – 2001_01

	Assessed Value
2014 Report (12/2005-11/2012)	71.06
2016 Draft Report (12/2007-11/2014)	68.51

Aransas River Tidal – 2003_01

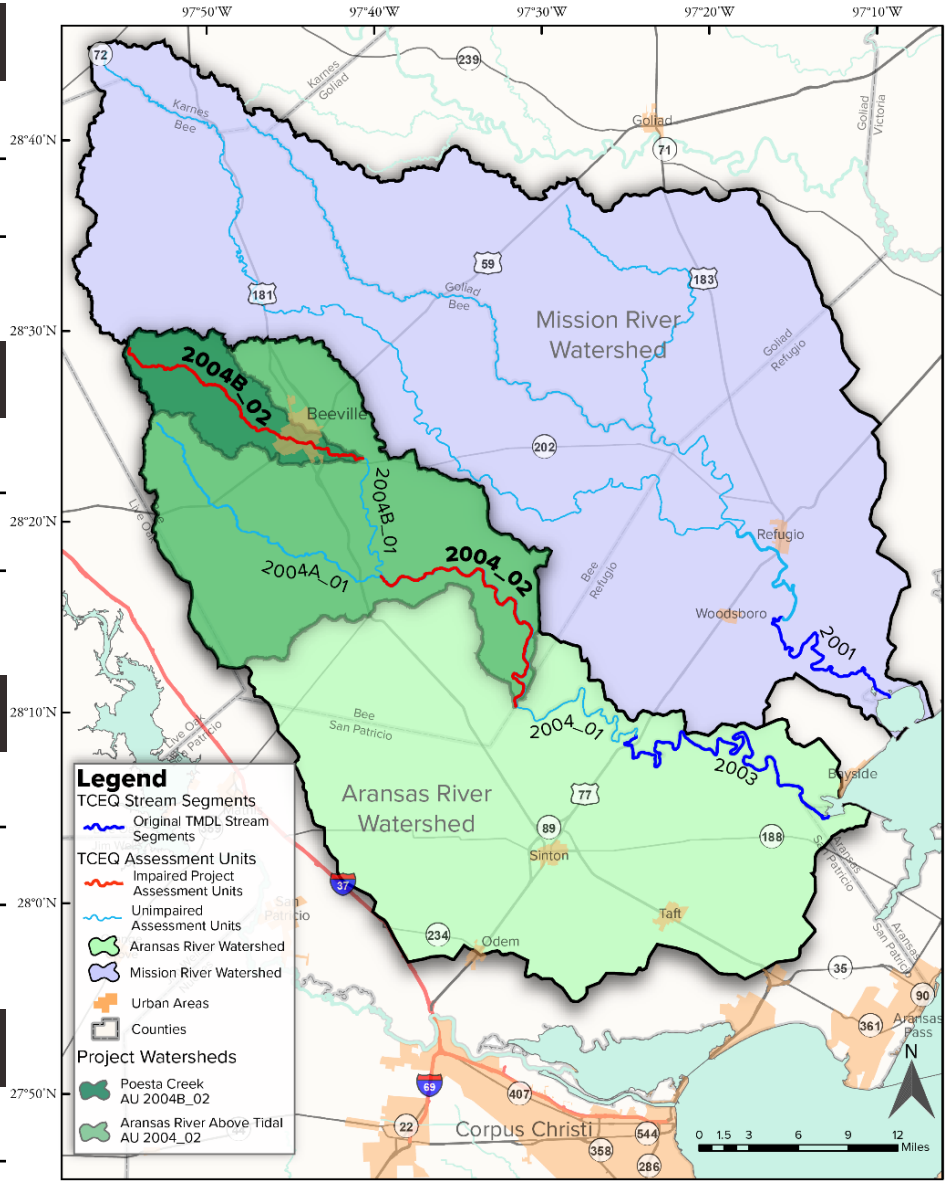
	Assessed Value
2014 Report (12/2005-11/2012)	64.29
2016 Draft Report (12/2007-11/2014)	90.61

Aransas River Above Tidal – 2004_02

	Assessed Value
2014 Report (12/2005-11/2012)	166.41
2016 Draft Report (12/2007-11/2014)	181.13

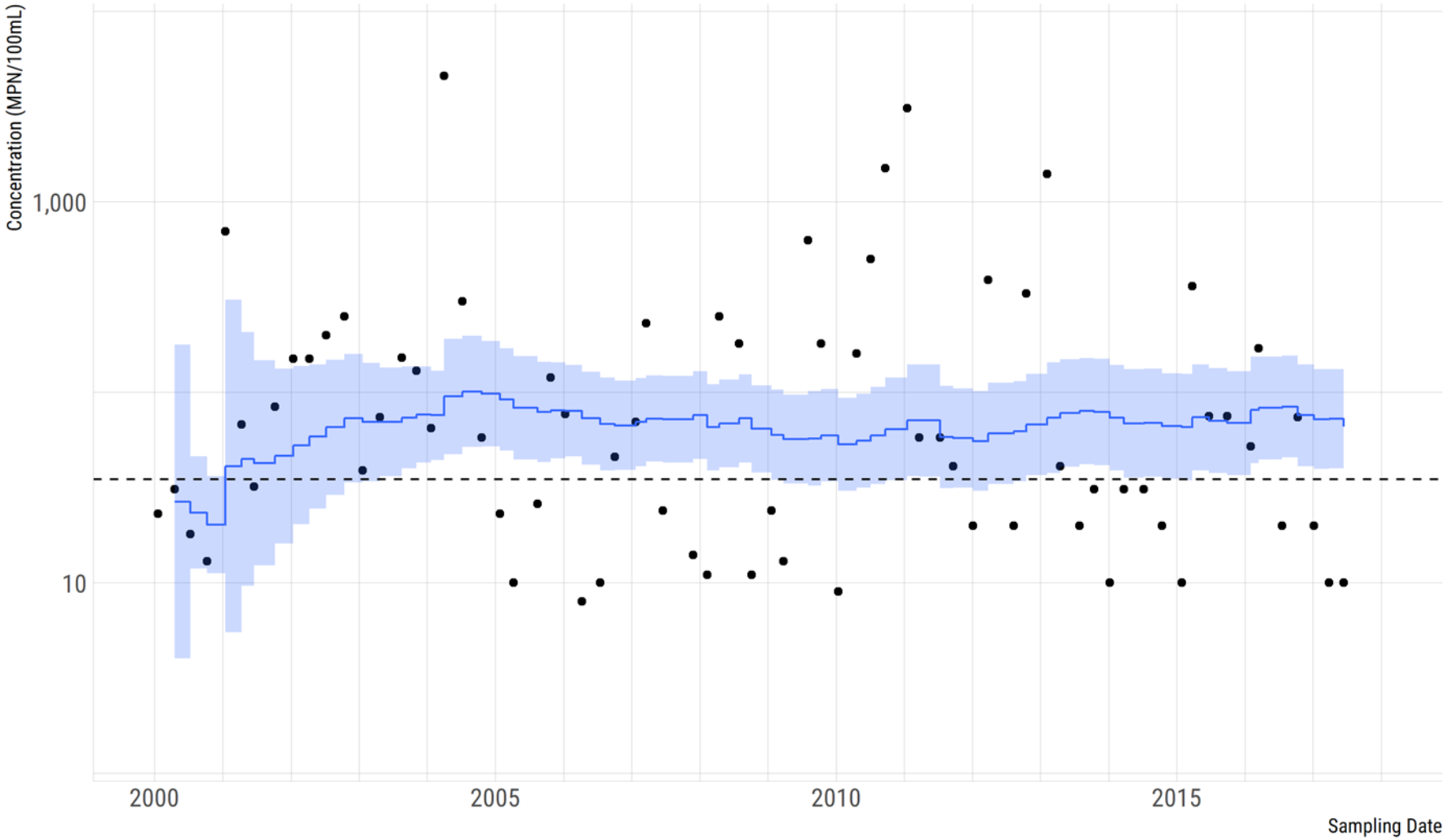
Poesta Creek – 2004B_02

	Assessed Value
2014 Report (12/2005-11/2012)	310.76
2016 Draft Report (12/2007-11/2014)	306.54



Enterococcus Bacteria Concentrations

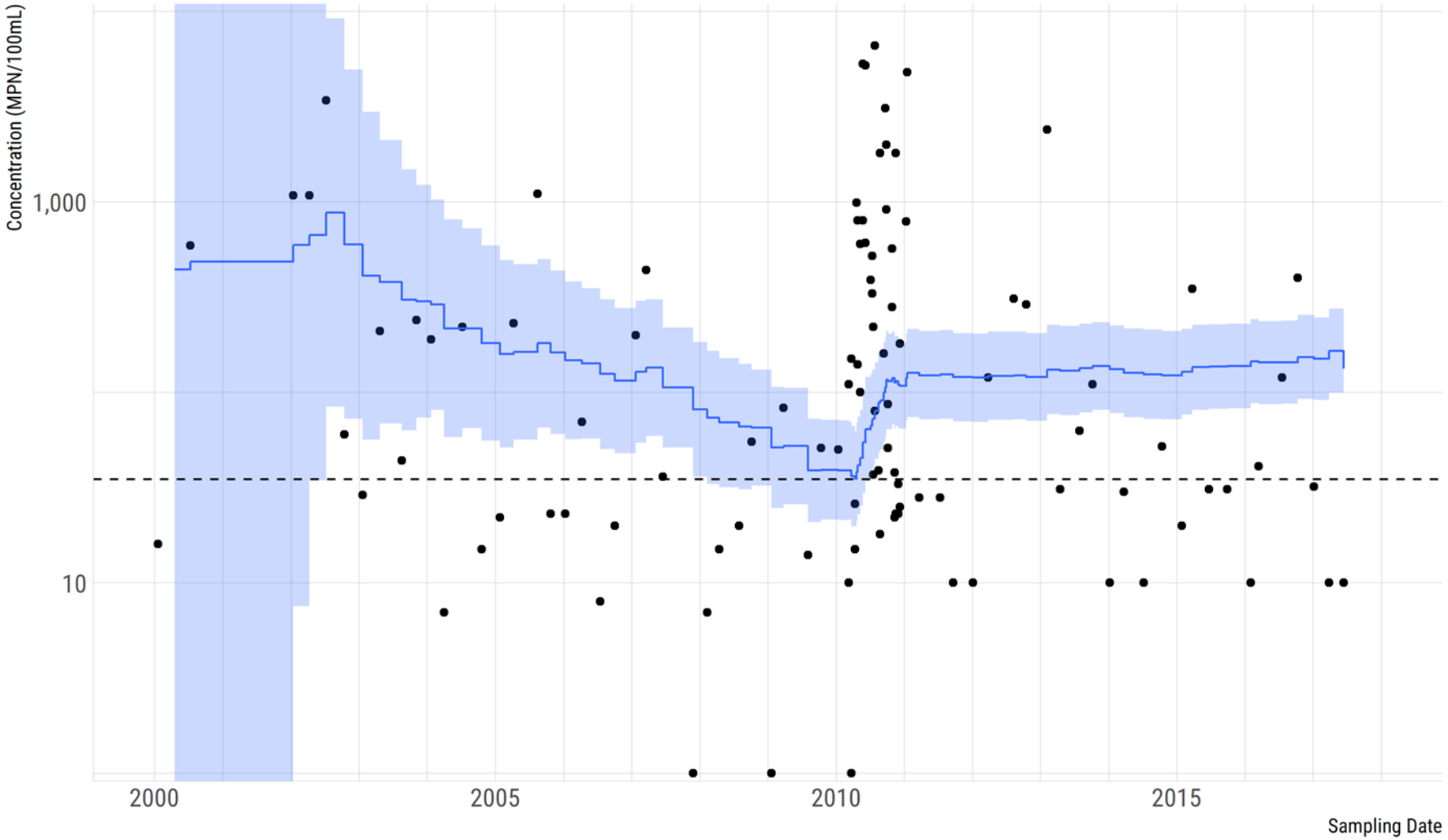
2001_01 Mission River Tidal (January 2000 - December 2017)



Source: TCEQ CRP Data Tool
Solid Blue Line == 7-yr Rolling Geometric Mean,
Shaded Area == 95% Confidence Interval,
Dotted Line == Water Quality Standard (35 MPN/100mL).

Enterococcus Bacteria Concentrations

2001_01 Aransas River Tidal (January 2000 - December 2017)



Source: TCEQ CRP Data Tool
Solid Blue Line == 7-yr Rolling Geometric Mean,
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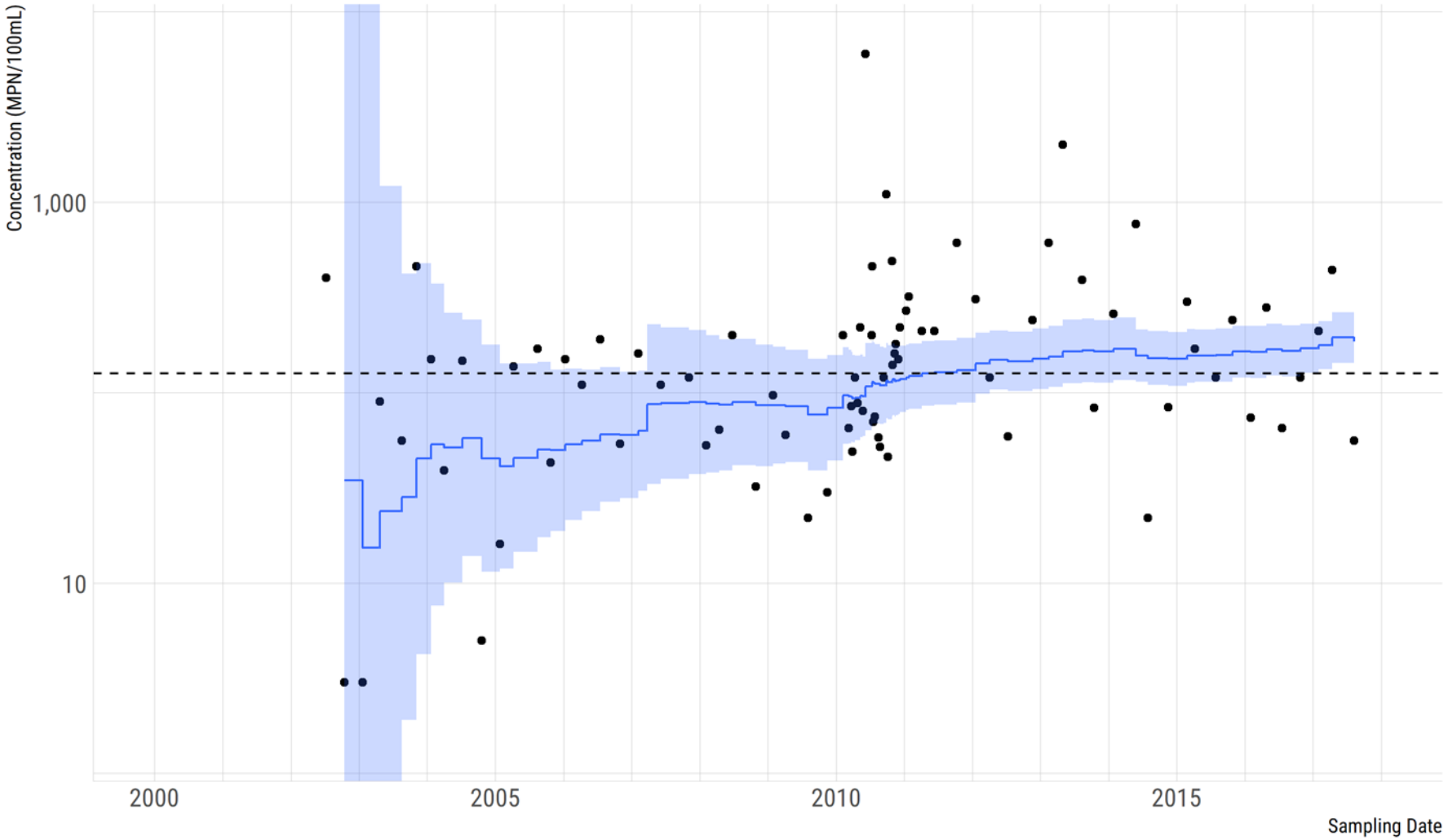
E. coli Bacteria Concentrations

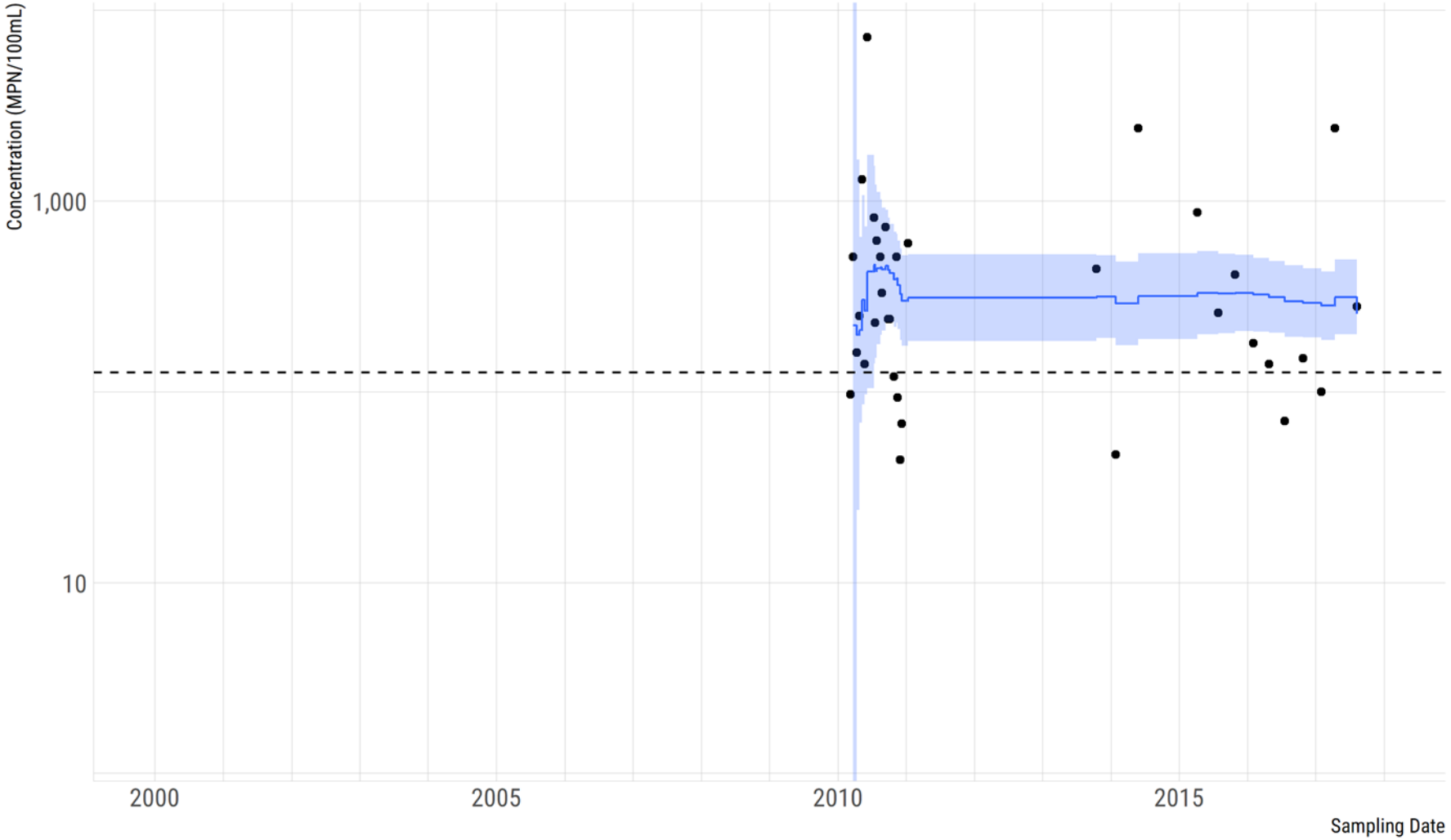
2004_02 Aransas River Above Tidal (January 2000 - December 2017)



Source: TCEQ CRP Data Tool
Solid Blue Line == 7-yr Rolling Geometric Mean,
Shaded Area == 95% Confidence Interval,
Dotted Line == Water Quality Standard (126 MPN/100mL).

E. coli Bacteria Concentrations

2004B_02 Poesta Creek (January 2000 - December 2017)



Source: TCEQ CRP Data Tool
Solid Blue Line == 7-yr Rolling Geometric Mean,
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NEXT STEPS

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Next Steps

Tres Palacios Watershed Protection Plan

Healthy Livestock Practices

These practices not only help improve livestock and crop production, but they also help improve the water quality in ponds, streams, and rivers in your area!

Cross Fencing

Fences installed inside a perimeter fence to divide a grazing area into separate paddocks

Benefits

- Help facilitate a prescribed grazing system through livestock movement
- Eliminate access to unsafe areas
- Allow non-grazed pastures time to recover

Prescribed Grazing

Managing vegetation harvest with grazing and/or browsing animals

Benefits

- Improves or maintains quantity/quality of forage for grazing animal productivity
- Improves or maintains species composition and vigor of plant communities

Feed, Salt, and Mineral Locations

The placement of feed, salt, or mineral locations off-stream as an attempt to improve grazing distribution and encourage livestock to move away from sensitive riparian areas

Benefits

- Decreases herd injuries associated with cattle climbing steep and unstable stream banks
- Increases grazing distribution
- Increases overall herd gain

Heavy Use Area Protection

The stabilization of areas frequently and intensively used by people, animals, or vehicles by establishing vegetation cover, surfacing with suitable materials, and/or installing needed structures

Benefits

- Reduces herd health risks associated with livestock standing in muddy areas, such as foot disease and injuries due to unstable footing
- Reduces accelerated soil erosion and maintains or improves soil condition

- Develop educational materials
- Develop newsletter and distribute via email
- Continue grant writing
  - Small acreage landowner grant
  - Targeted education to TSSWCB
- Continue tracking implementation
  - Reach out to municipalities
- Host education programs
  - Lone Star Healthy Steams, Septic, Feral Hog
- Next public meeting – Spring 2019

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DISCUSSION

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