NOLAN CREEK

Watershed Protection Plan

Project Sponsored by

Texas Commission on Environmental Quality (TCEQ) and

U.S. Environmental Protection Agency



Clean Water Act

Protects quality of surface waters <u>Purpose</u>:

... to reduce pollution in all U.S. waters to "restore and maintain the <u>chemical</u>, <u>physical</u>, and <u>biological integrity</u> of our nation's waters."

Clean Water Act Goals

"zero discharge of pollutants into navigable waters" and "fishable and swimmable waters"





Clean Water Act

Requires -



- 1. States to set <u>water quality standards</u> for surface waters
- 2. Public & private facilities to acquire a <u>permit</u> <u>for discharging wastewater</u>



Surface Water Quality Standards

• TCEQ – has the regulatory responsibility for establishing water quality standards for Texas

Texas Administrative Code

TITLE 30ENVIRONMENTAL QUALITYPART 1TEXAS COMMISSION ON ENVIRONMENTAL QUALITYCHAPTER 307TEXAS SURFACE WATER QUALITY STANDARDS

Rules

<u>§307.1</u>	General Policy Statement
<u>§307.2</u>	Description of Standards
§307.3	Definitions and Abbreviations
<u>§307.4</u>	General Criteria
§307.5	Antidegradation
<u>§307.6</u>	Toxic Materials
§307.7	Site-Specific Uses and Criteria
§307.8	Application of Standards
§307.9	Determination of Standards Attainment
§307.10	Appendices A - G

HOME I TEXAS REGISTER I TEXAS ADMINISTRATIVE CODE I OPEN MEETINGS I HELP I

http://texreg.sos.state.tx.us/public/readtac\$ext.ViewTAC?tac_view=3&ti=30&pt=1



Illustration by Jennifer Peterson with the Texas Lone Star Healthy Streams Program

Texas Integrated Report om Surface Water Quality

Section 305(b) Report	Section 303(d)
 Describes status of all	 Lists impaired water
surface water bodies in	bodies not meeting
Texas	standards

Data used to assess water quality -

- Largely provided through Clean Rivers Program
- Routine monitoring representing snapshot of conditions over 7-10 yrs (2014 Report Dec2005-Nov2012)
- Every 2 yrs TCEQ must report on the state's water quality

2014 Texas Integrated Report

2014 Texas 303(d) List Summary

- > 589 Impairments
 - \circ 43% due to elevated bacteria
 - \circ 16% due to depressed dissolved oxygen
 - 19% due to elevated organics in fish tissue

CWA 303(d) List

What happens to an "impaired" water body?

- More monitoring, if data considered insufficient
- Standards review, if designated use is possibly inappropriate
- Development & implementation of a Watershed Protection Plan (WPP)
- Establish a Total Maximum Daily Load (TMDL)

WPP vs TMDL

Watershed Protection Plan

- Voluntary
- Stakeholder driven
- Holistic focusing on all potential pollutants
- Waterbody *usually* (not always) on 303(d) list

Gives communities a way to restore water quality without regulatory action, focus often on NPS

Total Maximum Daily Loads

- Regulatory
- Agency driven
- Focuses on impairment pollutant
- Waterbody <u>always</u> on 303(d) list as impaired
- Likely lead to regulatory limits on point source permits

Both identify management practices to improve and protect water quality and watershed health

What determines the route (WPP or TMDL)?

Stakeholder Driven -

- WPP may be more viable approach (particularly when nonpoint rather than point sources are considered the primary impairment source)
- WPPs may restore a water body allowing removal from the 303(d) list avoiding a regulatory TMDL



Watershed Protection Plan

- Watershed Protection Plans
 - Voluntary
 - Stakeholder driven
 - Embraces adaptive management focusing on NPS contributions

Gives communities a way to restore water quality without regulatory action



Designing a WPP (9 Elements)

- a) Identification of pollutant sources
- b) Estimates of needed load reductions
- c) Description of management measures
- d) Estimates of resources needed to implement plan
- e) Education & outreach program
- f) Implementation schedule for management measures
- g) Interim, measurable milestones for implementation of management measures
- h) Criteria for evaluating plan success
- i) Monitoring to evaluate plan effectiveness

Nolan Creek/South Nolan Creek Segment 1218

Impaired due to elevated bacteria

- 1218_02 South Nolan from Liberty Ditch to confluence with North Nolan/Nolan Creek
- 1218C_01 Little Nolan Creek

Concerns for elevated nutrients in 1218_02



WPP Steps

- Build Partnerships
- Characterize Watershed
- Set Goals and Identify Solutions
- Design Implementation Program
- Implement Watershed Plan
- Measure Progress & Make Adjustments

or Beveloping

Watershed Partnership Structure



Watershed Partnership Structure

Technical Advisory Group

- Representatives from state & federal agencies that specialize in natural resources
- Provide general technical guidance
- Provide guidance to Stakeholder Group on specific topics, as requested

Watershed Partnership Structure

Stakeholder Committee

- Local individuals who are affected or have the ability to assist with implementing decisions
- Offer insights, suggestions and concerns from a community, environmental or public interest perspective

Nolan Creek Watershed Partnership

Representatives from:

- Cities of Belton, Nolanville, Harker Heights & Killeen
- Bell County
- Fort Hood
- Individual Citizens
- Also involving CTCOG, Cen-Tex & other interested groups in the watershed





Regulated Sources -Wastewater Treatment Facility (WWTF) Discharges

Note: Service area for WWTF discharges extends beyond the watershed largely following municipal boundaries



Regulated Sources -Wastewater Treatment Facility (WWTF) Discharges







Regulated Source -Municipal Separate Storm Sewer System (MS4)



Developed Land as a Source







Source Survey

Visual Assessment

- Streambank erosion
- Pipe outfalls
- Livestock (near or with stream access)
- Wildlife (e.g., swallows on bridges or large populations of waterfowl)

Deer Pellets

Visual Source Survey

Livestock

Raccoon Tracks

Swallows under Bridges

Ducks & Geese on the water

Sources ?? Local Knowledge Needed to Identify



Illegal discharges?

Clean Water? Or Poop Soup!

Pet Waste Pollutes Our Waterways! Scoop The Poop, Don't Pollute!

Pet-waste?

Sources of Bacteria

Wastewater –

- Wastewater treatment facility discharges & SSOs
- Industrial discharges
- Stormwater
 - Urbanized areas (MS4)
 - Rural nonpoint source runoff
- Pets primarily dogs in urban areas
- Livestock horses & cattle, some in urban areas
- On-Site Sewage Treatment Systems within and outside municipal areas

WPP Steps

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Hambook for Beveloping

otect Our Waters

Setting Goals - needed Load Reductions

• Defined using Load Duration Curves



Identifying Solutions

Management Measures

Review - What is already in place?

What could be implemented, need to identify:

- Targeted Source
- Estimated Load Reduction
- Responsible Parties (Who will implement?)
- Schedule (When? timing)
- Estimated Costs (\$\$s)
- Financial & Technical Assistance Needs
- Progress indicator (How will implementation be tracked?)

Designing Implementation Program

Education & Outreach - Should be addressed with each management measure

- Goal
 - To enhance public understanding of water quality issues and
 - Encourage implementation of practices to reduce bacteria contributions

Program Evaluation of Progress

Evaluation -

- Continuation of stream monitoring Assessment of goal attainment Further source identification Evaluation of practice efficacy
- Tracking of implementation practices

WPPs Involve Adaptive Management -

• Review of implementation strategies by stakeholders over time for changes, additions or deletions

Next Steps

Moving towards Watershed Protection Planning & Improvements

Nolan Creek at Backstrom Crossing (station 11905) taken on May 21, 2015

Nolan Creek/South Nolan Creek WPP Timeline



August 31, 2016

WPPs -

- Provide a voluntary approach to restoration
- Help leverage resources for implementation
- Require coordination with a diversity of watershed partners
- Are adaptive allowing modification
- Need volunteers to drive decision-making for planning & implementation

Stakeholder Committee

• All stakeholder committee meetings are open to the public

Next meeting tentatively scheduled for March 6, 2017 at 10:30 am, place TBD

Questions?

Project Website:

http://www.nolancreekwpp.com/

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PREPARED IN COOPERATION WITH THE TEXAS COMMISSION OF ENVIRONMENTAL QUALITY AND U.S. ENVIRONMENTAL PROTECTION AGENCY

Station 11913 South Nolan Creek at Roy Reynolds Rd taken on June 4, 2013