

Nolan Creek/South Nolan Creek

Assessment of Water Quality and Watershed Based Planning

Texas Institute for Applied Environmental Research

Stephenville, Texas

&

City of Killeen



TEXAS INSTITUTE FOR APPLIED ENVIRONMENTAL RESEARCH



Tarleton State University
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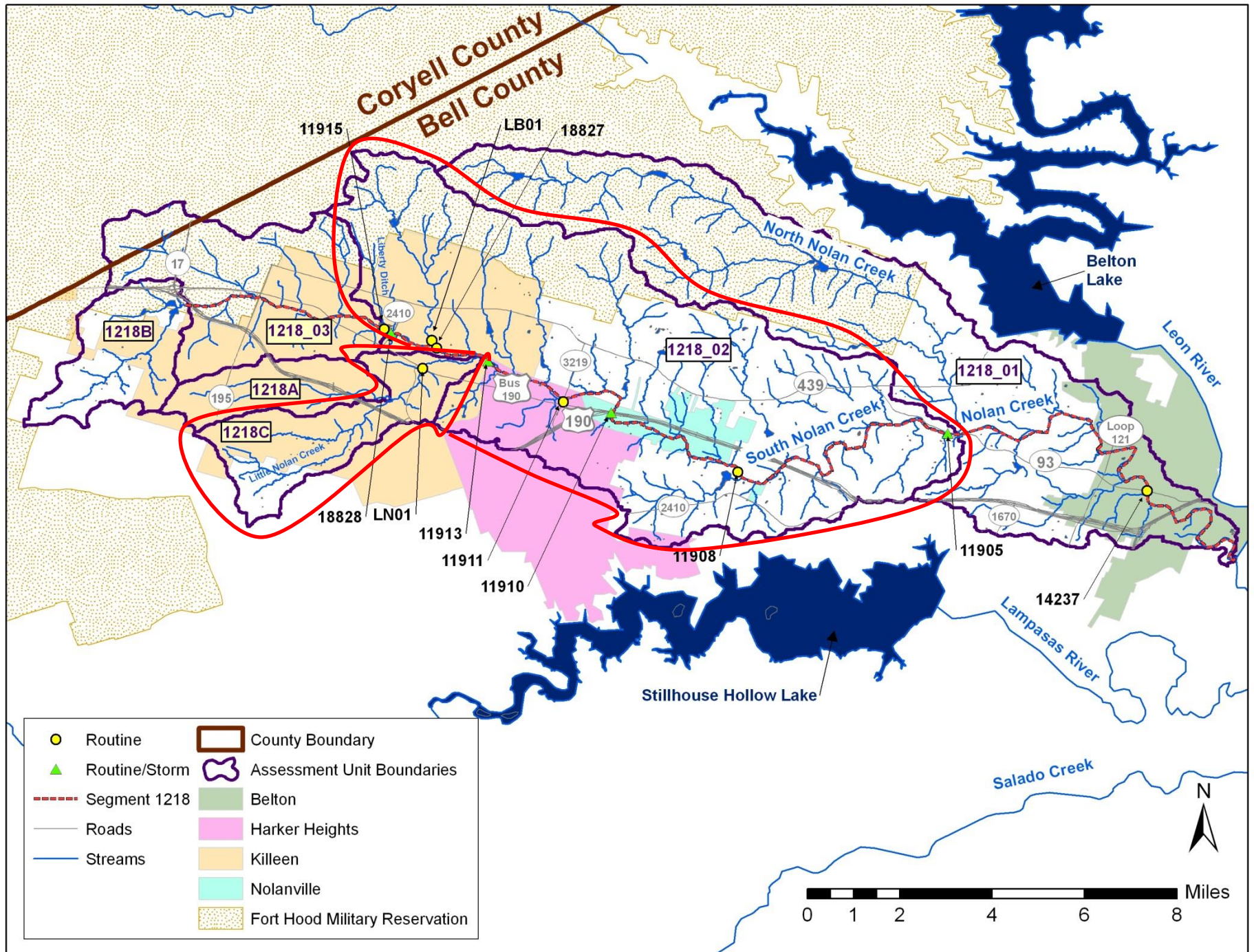
Segment 1218

2010 & 2012 Texas Integrated Report

Impaired due to elevated bacteria in two Assessment Units (AUs)

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

Concerns for elevated nutrients based on screening levels in AU 1218_02



E. coli Assessment

2012 303(d) List	Criteria <i>E. coli</i> (colonies/ 100 mL)	Geometric Mean <i>E. coli</i> (colonies/ 100 mL)	Number of Samples Assessed
1218_02 South Nolan Creek	126	188	80
1218C Little Nolan Creek	126	164	14

Nutrient Concerns 1218_02

2012 Report	Screening Level (mg/L)	Mean of Exceed (mg/L)	Number Samples Assessed	Number Samples Exceed	Percent Exceed
Nitrate	1.95	8.09	35	33	94%
Ortho-P	0.37	1.45	36	33	92%
Total-P	0.69	2.10	23	13	57%

Nolan Creek/South Nolan Creek Project

- **Funded through TCEQ Nonpoint Source 319 Program**
- **Total project cost**
 - Federal - \$275,651 (60%)
 - Local Match - \$183,767 (40%)
 - Total - \$459,418
- **Builds upon FY04 319(h) Grant Project**
 - Focused on upper 6.9 miles of 1218
- **Current project focuses on impaired Assessment Units 1218_02 and 1218C**

Timeframe: October 2012 – August 2015

Goals: Provide Stakeholders Watershed Information through

- Building Partnerships**
- Water Quality Monitoring**
- GIS & Data Inventory**
- Modeling (SELECT & LDCs)**
- Education/Outreach Activities**
- Public Meetings for Project Updates & Stakeholder Input**

Progress to Date

- **Building Partnerships**
 - Various meeting with stakeholders & admin groups
- **Water Quality Monitoring**
 - Initiated in May 2013 with approval of QAPP
- **GIS & Data Inventory**
 - On going, draft completed April 2014
- **Modeling (SELECT & LDCs)**
 - Forthcoming, QAPP approved May 2013

Progress to Date

○ Education/Outreach Activities

- Watershed Stewards Workshop - October 2013
- Texas Stream Team Training - Sep. 14, 2013 and upcoming on May 17, 2014
- Speakers at Public Meetings – Tiffany Morgan, BRA spoke on status of nutrient criteria
- Project website
<http://www.killeentexas.gov/nolancreekwatershed>

Progress to Date

- **Public Meetings for Project Updates & Stakeholder Input**
 - **Public Participation Plan completed March 2013**
 - **Fact Sheets Developed**
 - **Public Meetings held**
 - **July 31, 2013 – Killeen**
 - **Sep. 5, 2013 – Harker Heights**
 - **Jan. 15, 2014 - Killeen**

Outreach – Activity and Event Updates

Assessment of Water Quality & Watershed Based Planning for Nolan Creek



Why Nolan Creek?

Portions of Nolan Creek/South Nolan Creek currently do not support its designated uses and needs improving. Cleaner water allows for recreational use such as swimming, fishing, wading, and canoeing. Recreational use of Nolan Creek/South Nolan Creek promotes a stronger economy and healthier lifestyle for area residents.

Here's How YOU can get involved!

Upcoming Events

March 22 & 23: Rainwater Harvesting
Seminar (Killeen, Texas)

Upcoming Training Opportunities

May 17: Texas Stream Team Training
(Killeen, Texas)

Community Involvement

Nolan Creek Recreational Improvement Project

Contact Information:

Nikki Jackson

TIAER Project Manager

(254) 968-1902; njackson@tiaer.tarleton.edu

Website: www.killeentexas.gov/nolancreekwatershed

Goals for Nolan Creek

To restore good water quality
throughout Nolan Creek/South
Nolan Creek Watershed and to
involve and educate residents
on healthy water conservation
of their watershed.





Killeen, Texas

Official Website for the City of Killeen, Texas

City Departments ★ Public Works ★ Drainage
Utility ★ Nolan Creek Watershed Partnership

[Share](#) | [Search](#) | [Sitemap](#)

Departments

Newcomers

Residents

Commercial

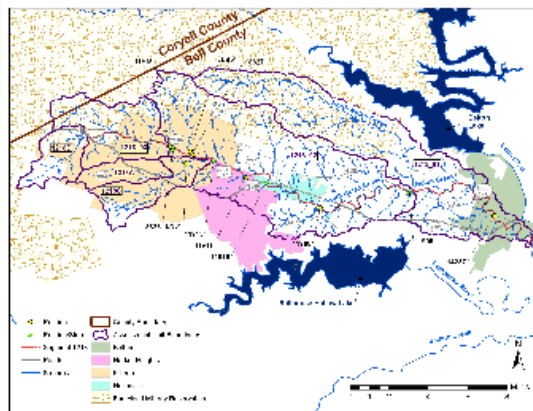
Government

Online Services

Nolan Creek Watershed Partnership

Background

[Nolan Creek Watershed Fact Sheet](#)



[QAAP Basemap](#)

Publications

Newsletters
Annual Reports
FY 2014 Quarter 1 Report
FY 2013 Quarter 4 Report
FY 2013 Quarter 3 Report

News

Home Chemical Collection Event

Home Chemical Collection Event on February 15, 2014:

[Event information](#)
[Read More](#)

Next Meeting

Save the Date: The next Nolan Creek Partnership meeting is tentatively scheduled for late April. Please check the website for details after April 1, 2014.

[Read More](#)

Showing 1-2 of 2

Stream Team Core (Basic) Training

May 17, 2014
Bob Gilmore Senior Center
10:00 a.m. - 3:30 p.m.

[Event information](#)

Contact Information

Nikki Jackson

Senior Project & Policy Director, TIAER

[✉ Nikki Jackson](#)
(254) 968-1902

Join Mailing List

If you would like to receive updates about the progress of the Nolan Creek Watershed Partnership, please email the following information to [Nikki Jackson](#):

- First and last name
- Entity
- Email address
- Phone number
- Street address
- State
- Zip code

Your contact information will not be sold or shared and will only be used to convey Partnership information.

Links

<http://www.killeentexas.gov/nolancreekwatershed>

Project Monitoring

Monthly Routine

- **11 Stations**

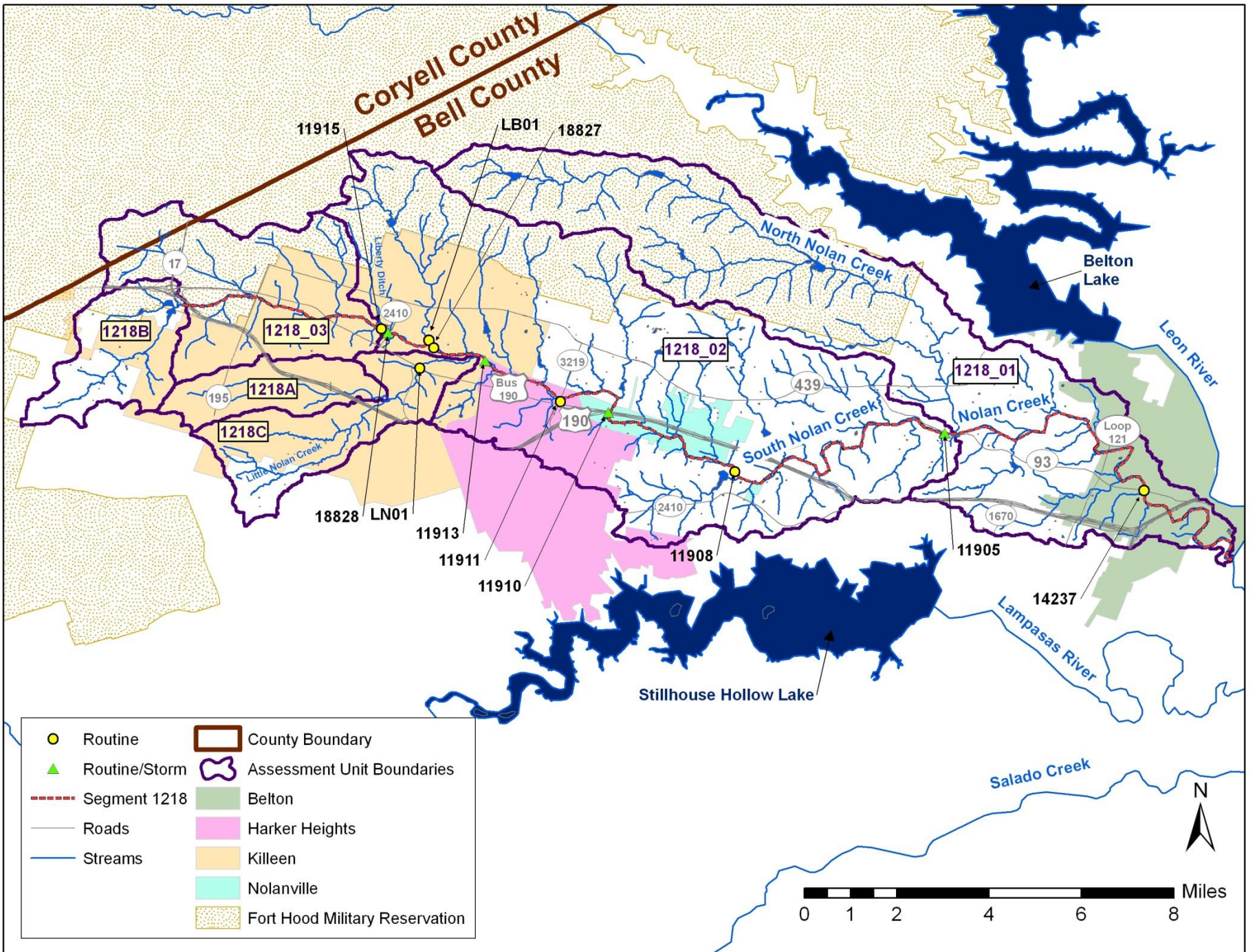
Quarterly Storm

- **4 Stations**

Presenting Preliminary Data -

May through October 2013

Routine (6 events) & Storm (2 events)



Monthly Routine Monitoring

Field Parameters

- **Flow**
 - **Dissolved Oxygen (DO)**
 - **Water Temperature**
 - **Specific Conductance**
 - **pH**
-

Monthly Routine Monitoring

Laboratory Parameters

- Bacteria as *E. coli*
 - Nitrite-Nitrogen + Nitrate-Nitrogen
($\text{NO}_2\text{-N} + \text{NO}_3\text{-N}$)
 - Orthophosphate-Phosphorus ($\text{PO}_4\text{-P}$)
 - Total Phosphorus (TP)
 - Total Kjeldahl Nitrogen (TKN)
 - Total Suspended Solids (TSS)
-

Quarterly Storm Monitoring

Laboratory Parameters

- Same as for Routine Monitoring

Field Parameters

- Flow if safety allows
-



Automated Sampling Station

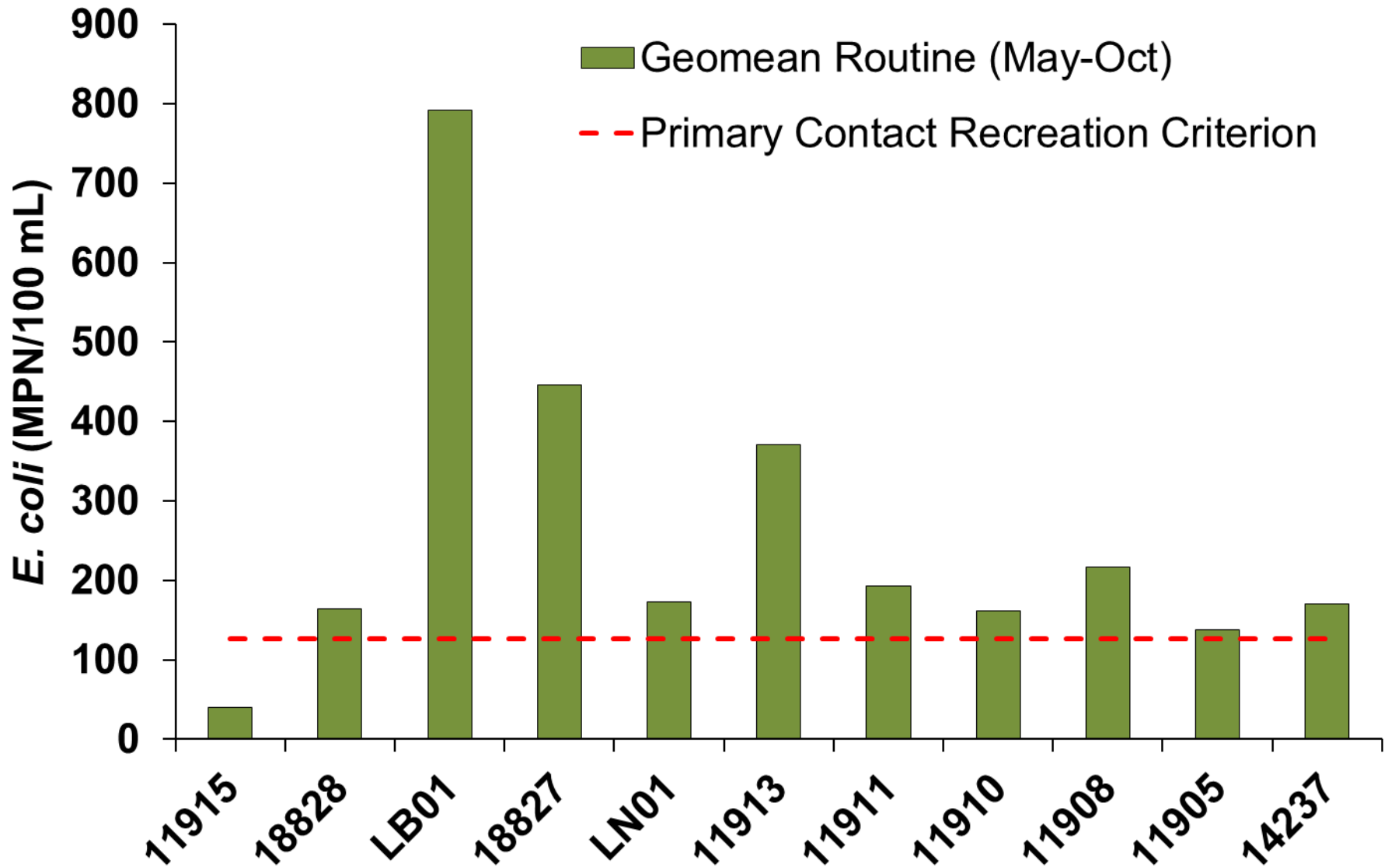
- 18828 – South Nolan at 38th St





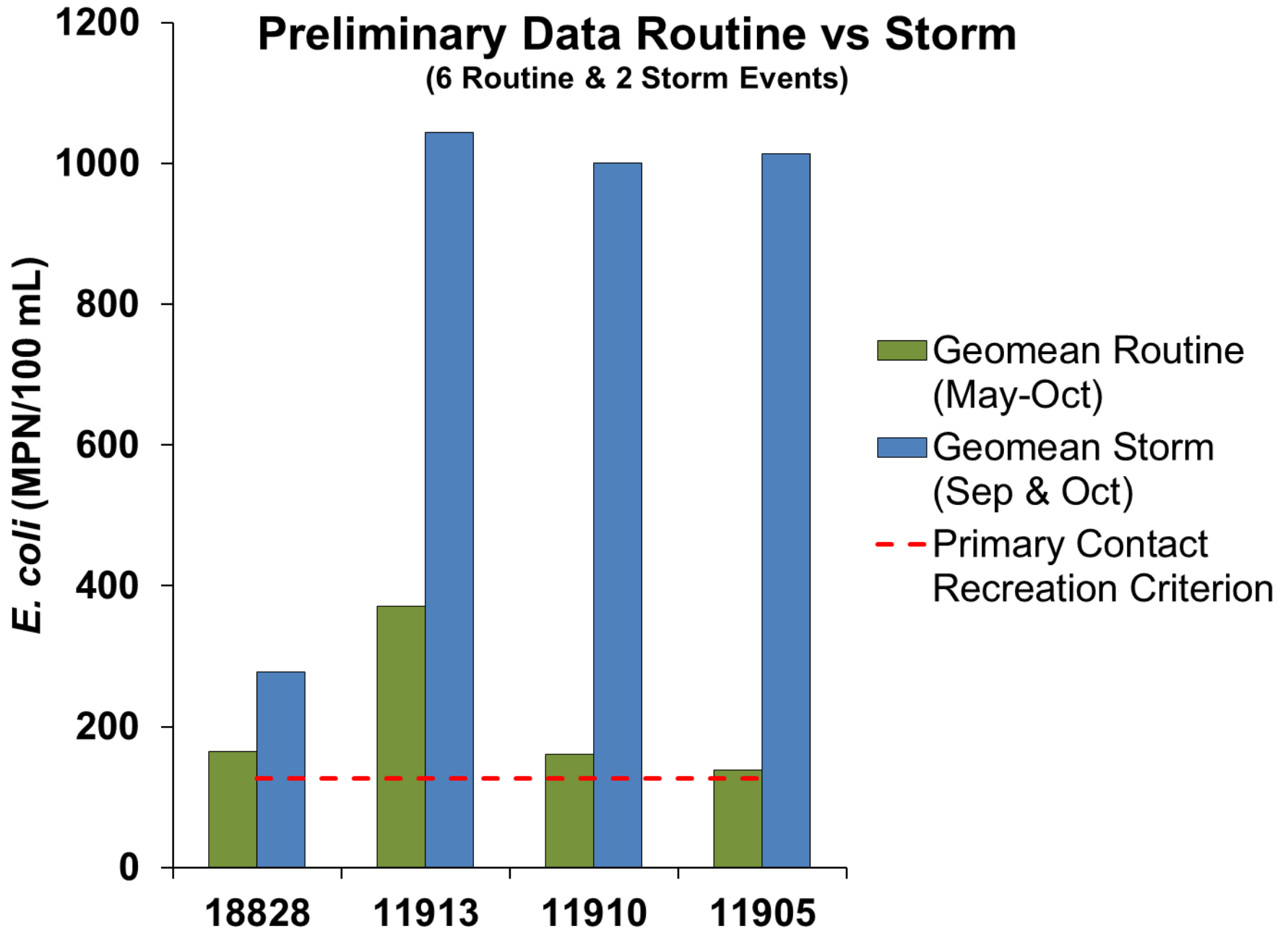
Preliminary Routine Data

(6 Monthly Events)



Preliminary Data Routine vs Storm

(6 Routine & 2 Storm Events)



Project Goal

**Provide the data needed to
remove Nolan Creek/South
Nolan Creek from the 303(d) List
or allow development of a WPP
or TMDL to address the
impairment**

