



Buck Creek Monitoring Project

Clean Water Act §319(h) Nonpoint Source Grant provided by TSSWCB

**Buck Creek Watershed Partnership
Stakeholder Meeting
August 25, 2011
Wellington, TX**

How we got here:

- Every 5 years Clean Rivers Program tests public access sites. Red River Authority of Texas, USGS, and TCEQ do much of the testing. Areas are rotated every 5 years.
- Buck Creek was tested from 1996 to 2001. 21 samples were taken at the Hwy 83 bridge. Sampling once per quarter. (During a lengthy drought)
- Buck Creek failed to meet E. coli standards with a geometric mean of more than 126 cfu's.
- Buck Creek was listed as Bacterially impaired by TCEQ
- Local SWCD's wanted more data.
- Texas AgriLife Research was approached and proposed the first monitoring study in 2003.

Water Quality Assessment

- Beginning in May 2004, water quality data were collected by Texas AgriLife Research-Vernon Water Quality Lab through TSSWCB Project 03-07
- Sampling continued in November 2007 through TSSWCB Project 06-11 and concluded in July 2009
- Sampling illustrated that bacteria levels in the creek were within the state's standard, but still periodically elevated
- As a result, the development of the Buck Creek WPP has continued

Purpose of Interim Monitoring

- To provide additional water quality monitoring data in support of future WPP implementation
- Provides a baseline of data to assess future WPP implementation success
- Provide data illustrating that groundwater is the primary source of nitrate in Buck Creek

Project Overview

- Texas AgriLife Research-Vernon Water Quality Lab: currently monitors 7 sites in watershed once per month
- Each 100 mL sample is checked for E.coli & Nitrates-currently on the list of concerns
- Maintain interaction with members of the Buck Creek Watershed Partnership

Historical Sampling

| Year | # Samples | Geo. Mean | Criteria |
|----------------|-----------|-----------|----------------------------|
| <i>E. coli</i> | | | 126 cfu/100mL |
| 2002 | 14 | 156 | NS |
| 2004 | 18 | 309 | NS |
| 2010_01 | 257* | 97.6 | MEETS |
| 2010_02 | 192* | 44.2 | MEETS |
| | | | |
| Nitrate | | Average | Screening Level: 1.95 mg/L |
| 2010 | 9 | 3.86 | CS |

*Samples collected 12/01/01-11/30/08

Why Worry with Nitrates?

- Nitrate screening level in surface water is 1.95 mg/L
- State is very likely to create nutrient standards within next 3 years; this will include nitrates
- Buck Creek watershed overlays the Blaine and Seymour Aquifers- noted for high Nitrate levels
- Nitrates can also come from fertilizers, rain- esp. during lightning storms, decaying humus

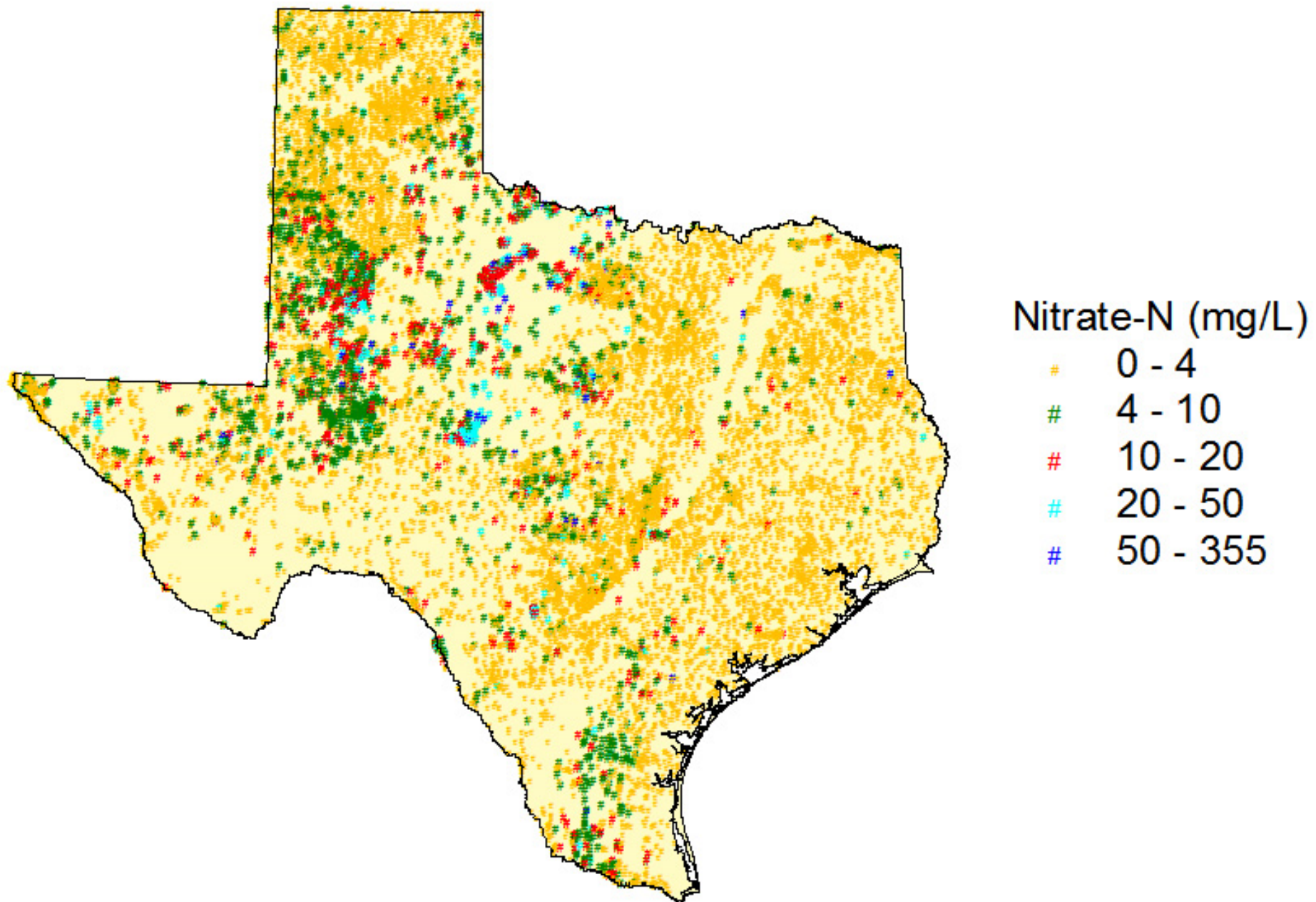


Figure 1. Distribution of $\text{NO}_3\text{-N}$ in groundwater in Texas (TWDB Data).

What's Next for Buck Creek?

- Continue monitoring: currently planned through June 2012
- Nitrate data from TWDB, Well data, sampling of creek to request variance for Buck Creek
- Finish WPP: Lucas will talk about this next
- Continue connection with Stakeholders
- Final Report that summarizes monitoring results

What can YOU do?

- Work with us to finish the Buck Creek WPP
- Keep Buck Creek off the list in upcoming years by voluntarily implementing the WPP
 - Report illegal dumping of Wastes
 - Reduce the feral hog population
 - Upgrade septic systems
- Keep up the good work!!!!
 - Remain involved in the Buck Creek Watershed Partnership
 - Attend a Watershed Stewards Class near you!

Cooperating Agencies:

- TSSWCB: Clean Water Act §319(h) Nonpoint Source Grant
- Donley County SWCD
- Hall-Childress SWCD
- Salt Fork SWCD
- Red River Authority of Texas
- USDA-APHIS: Canyon, Austin
- Texas Water Resources Institute (TWRI)
- Texas Parks and Wildlife Dept.
- Texas AgriLife Extension: Collingsworth Co, Vernon
- Texas AgriLife Research: Vernon, El Paso, Amarillo
- Texas Water Development Board
- Mesquite GCD