

Smart Growth Workshop

March 25, 2014



Ward Ling

Texas A&M AgriLife Extension

A photograph of a rural landscape under a cloudy sky. In the foreground, a wooden fence with several posts is visible. A white sign is attached to one of the posts. The sign has the words "KEEP ROSANKY RURAL" written in black marker, and "DONT MOVE HERE" written in red marker below it. The background shows a green field and a line of trees in the distance.

KEEP
ROSANKY
RURAL
DONT MOVE HERE





What does stormwater contain?

- Sediment
- Nutrients
- Toxic chemicals
- Bacteria



Bacteria impairment



Dissolved oxygen impairment

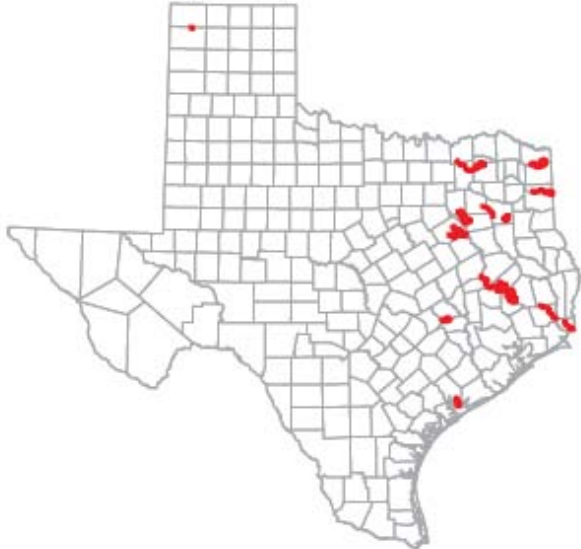


Toxicity impairment

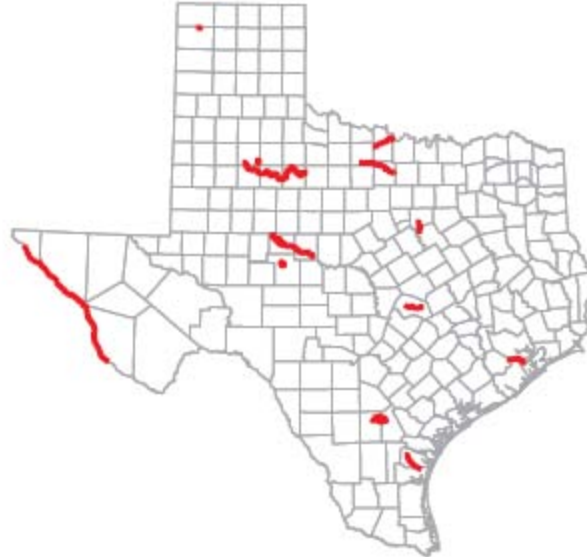


WATER QUALITY IMPAIRMENTS IN TEXAS

pH impairment



Dissolved solids impairment

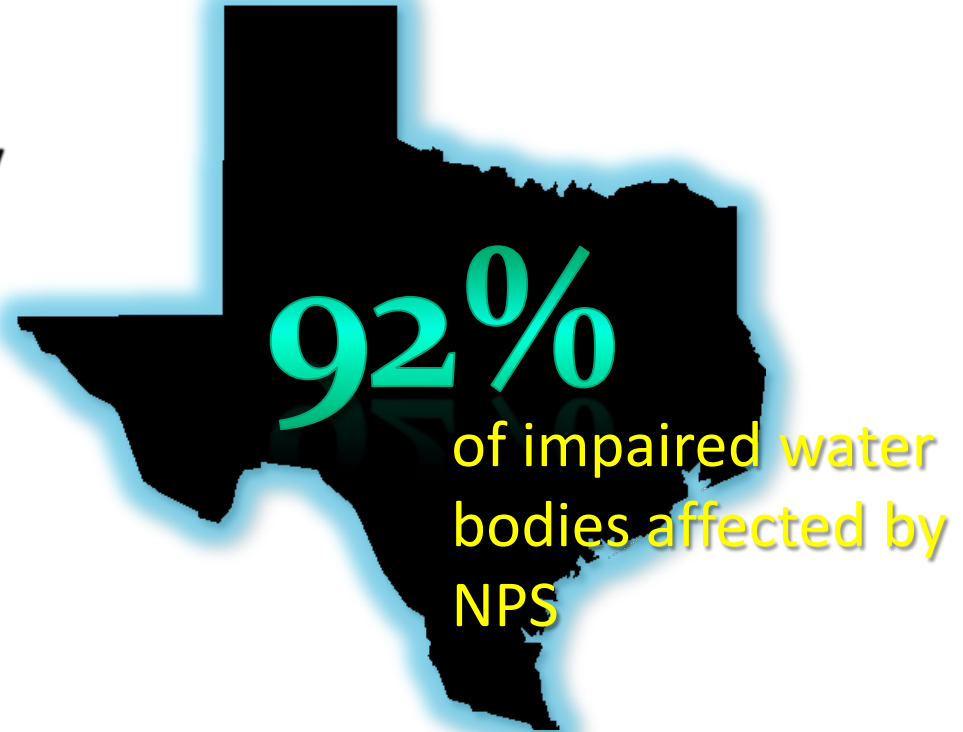


Nitrate and nitrite impairment

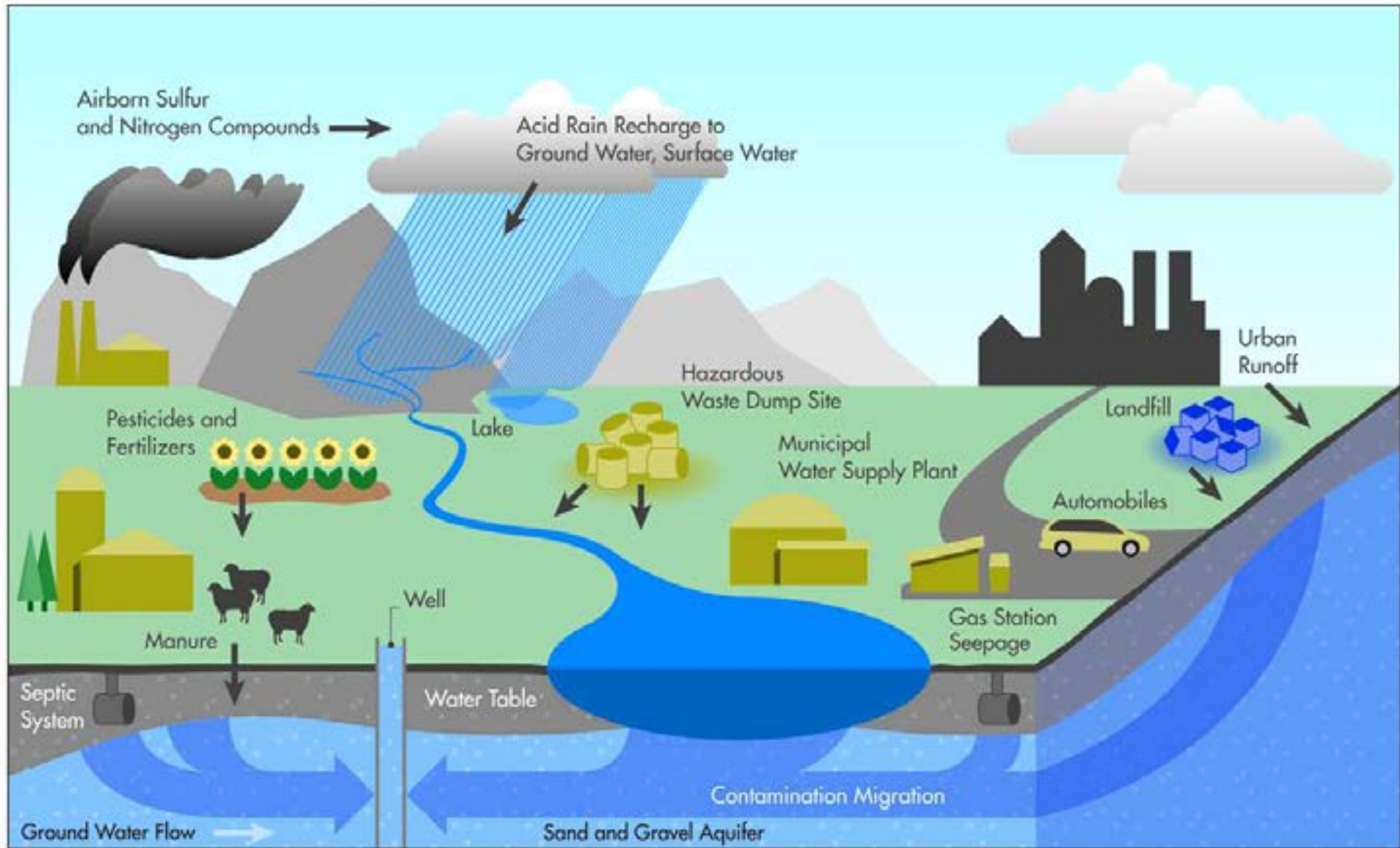


Point and Nonpoint Source Pollution

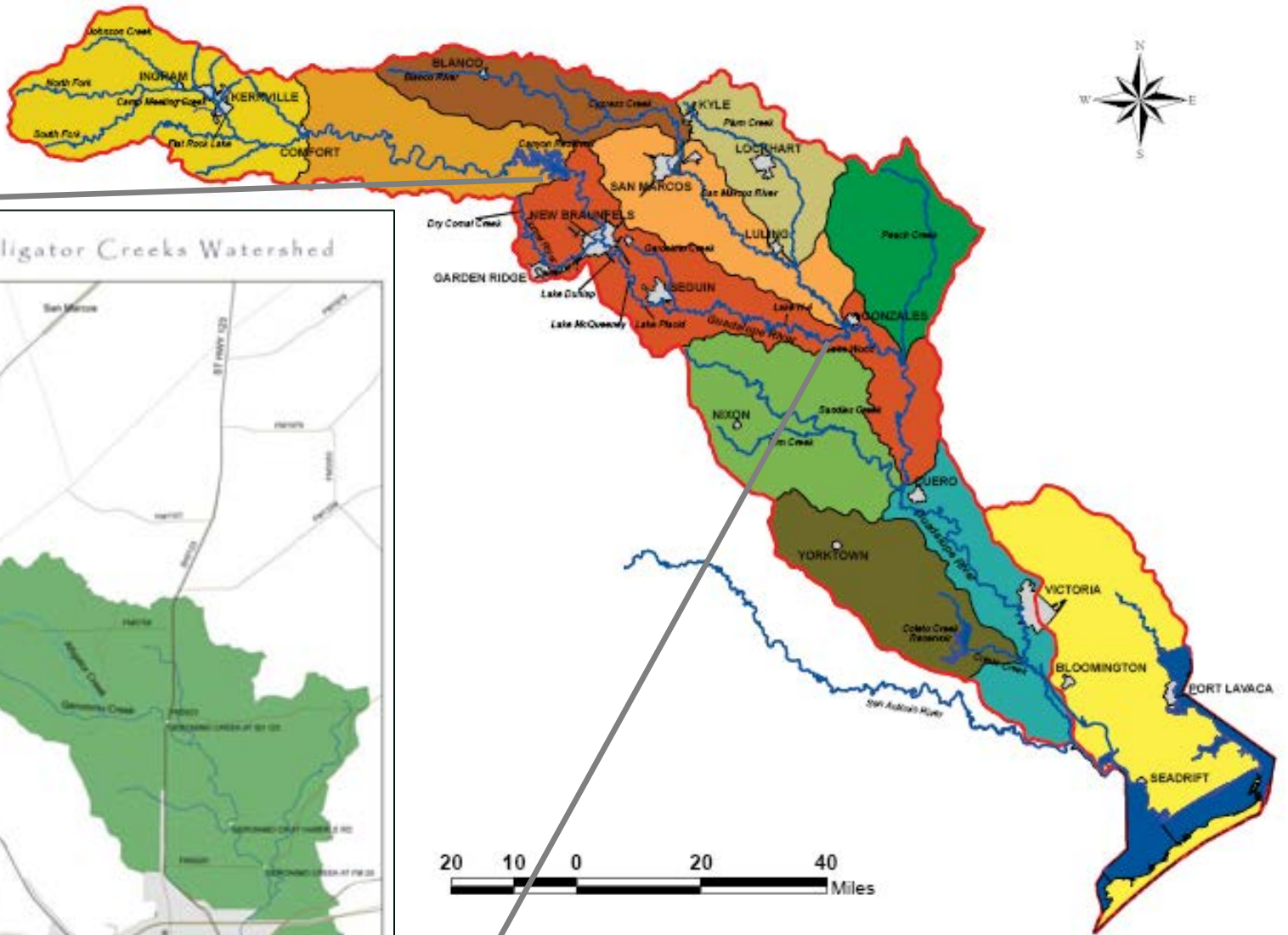
- ALL of Texas' river and coastal basins, estuaries, coastal wetlands, and bays have been impacted by point and/or nonpoint source pollution.
- Nonpoint source pollution is the primary cause of water quality problems in Texas!



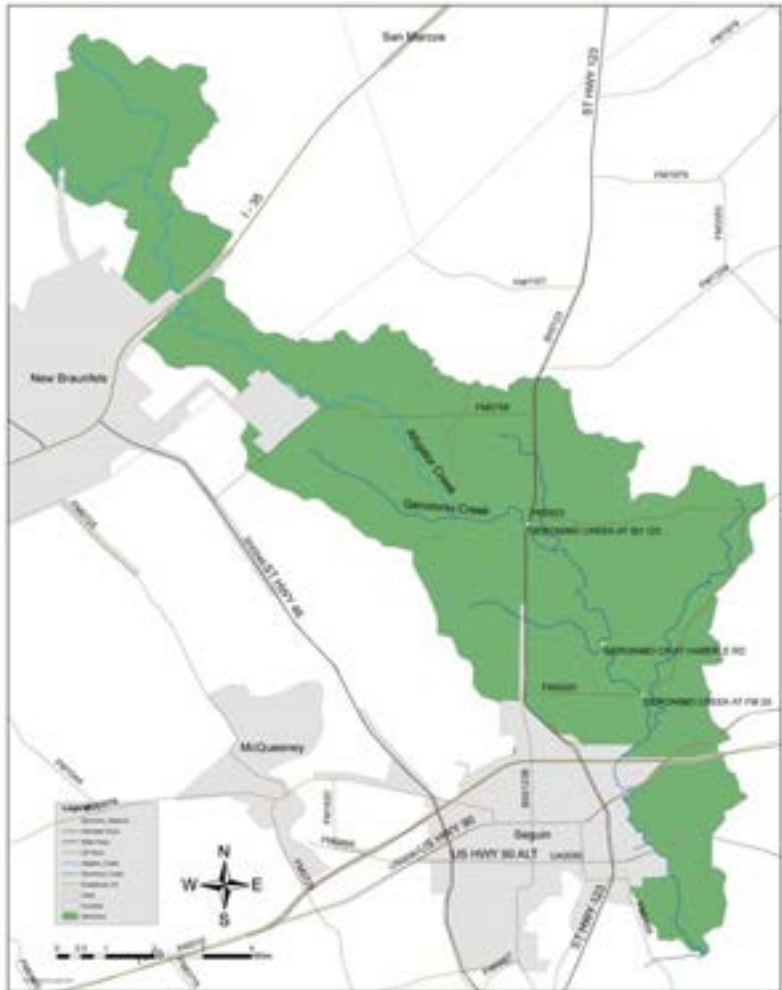
Human Activities Can Impair WQ



GUADALUPE RIVER BASIN WATERSHEDS



Geronimo and Alligator Creeks Watershed



Water Quality

- Geronimo Creek was listed on the 2006 303(d) list for not supporting its contact recreation use
- Geronimo Creek was first listed in 2000 for concern for nutrient enrichment



What is the Geronimo and Alligator Creeks Watershed Protection Plan?

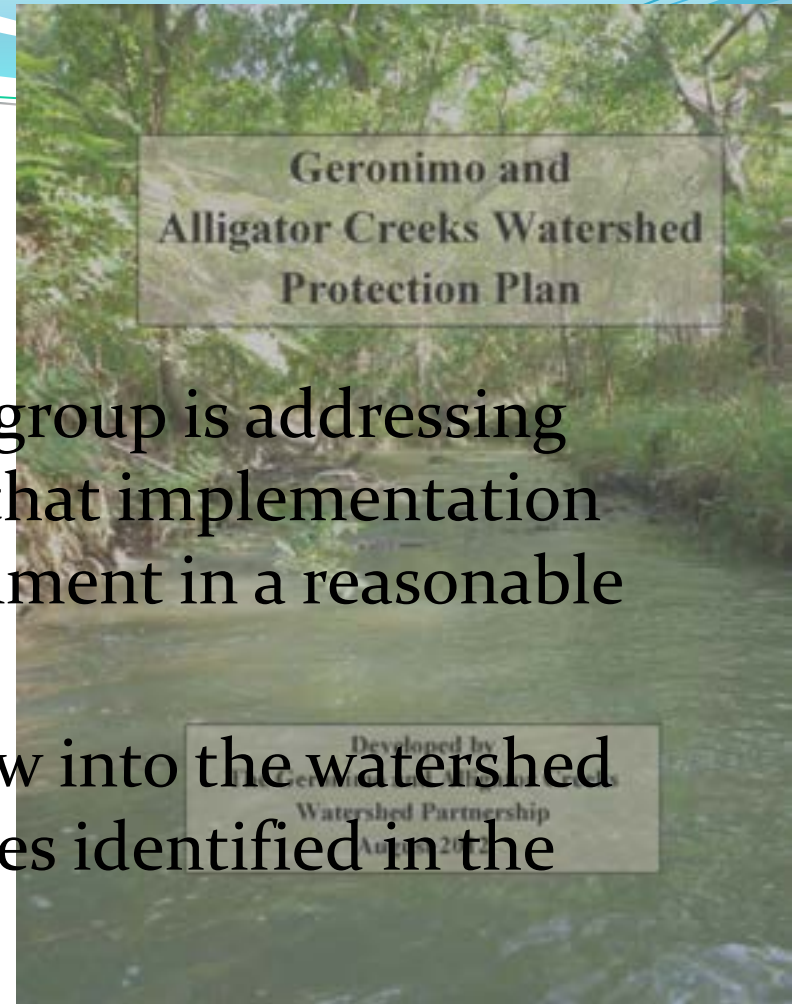
- A community-driven management plan that uses the watershed approach to solve complex water quality problems
- The purpose is to restore and protect the creeks
- It was developed and managed through partnerships among federal, state, county and local groups and organizations
- It relies heavily on stakeholder involvement at the local level

“Steak holder”



EPA Acceptance

- Satisfies EPA that a stakeholder group is addressing the local watershed issues, and that implementation should result in standards attainment in a reasonable length of time
- Allows for federal funding to flow into the watershed to support management measures identified in the plan



Where is it coming from?

- The impairment is the result of loading from nonpoint sources:
 - Urban: dogs, urban runoff
 - Agricultural: livestock, feral hogs, wildlife
 - Wastewater: septic systems



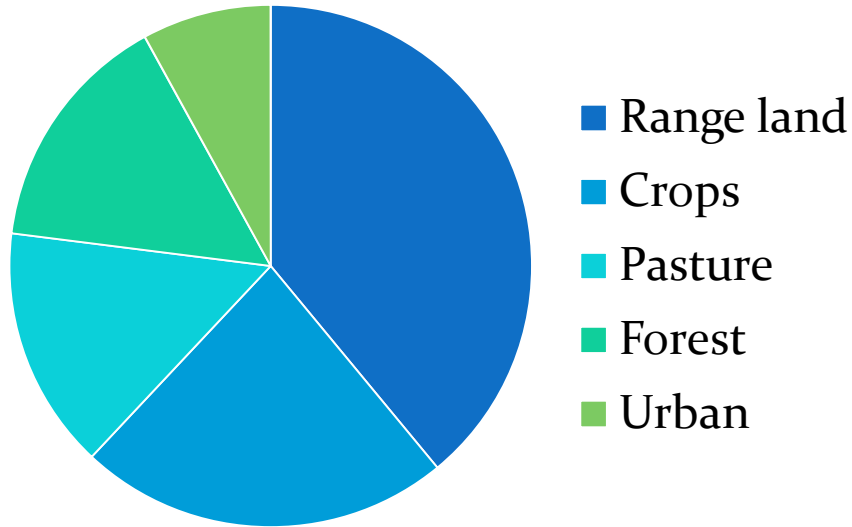
Wastewater Sources

Agricultural Nonpoint Sources

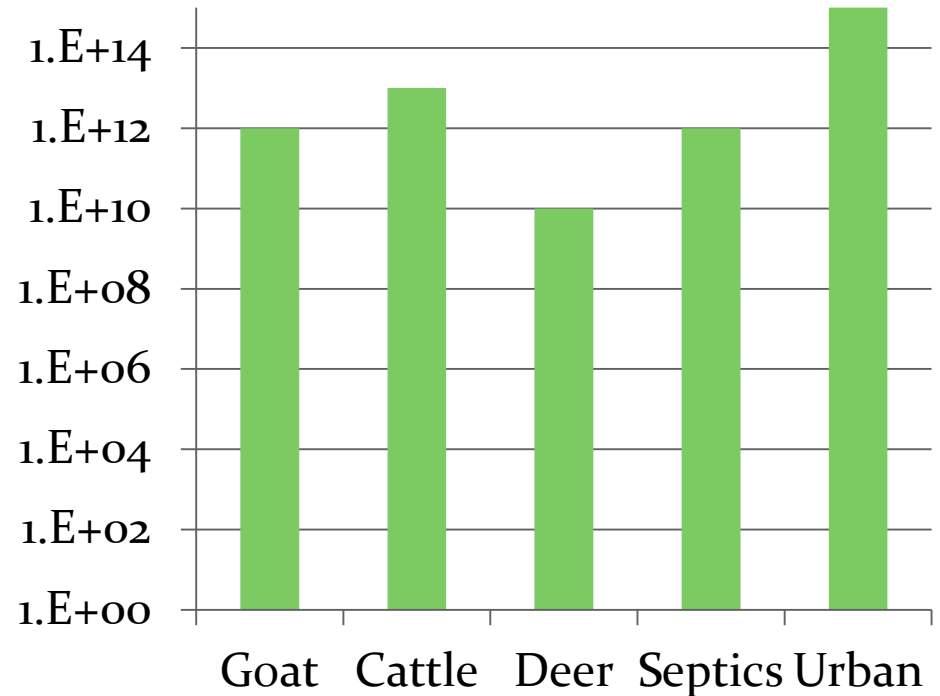
Urban Nonpoint Sources



Land Use



E. coli Loading



- In terms of loading, urban runoff was higher than all the other sources.

Decommissioning Project

- Fund decommissioning costs that the homeowners in OVN would have been responsible for
- Estimated average cost of \$1,500 to decommission a septic system
 - Pump contents of septic tank
 - Remove the tank cover
 - Fill tank with sand/gravel
- Decommissioning is a state requirement



Irma Lewis Seguin Outdoor Learning Center

- “An aggressive outreach and education program will be vital to successful engagement of watershed stakeholders”
- Collaboration between GBRA, Texas A&M AgriLife, and the Irma Lewis Seguin Outdoor Learning Center
- Combines technology with on-the-ground demonstrations and outdoor education

LID Structures

- Rainwater Harvesting System
- Rain Garden
- Vegetated Swale
- Pervious Pavement




Creek Clean Up Event

- Established the first event in 2013 on the first weekend in April
- Over 100 volunteers removed almost 3,000 pounds
- This year's event was bigger and better



Educational Opportunities

- Texas Watershed Steward Workshops
- Texas Well Owner Network Workshops
- Lone Star Healthy Streams Program
- Soil Testing Campaigns
- Bacteria, nutrient, and pesticide management programs
- Smart Growth Workshops
- Master Gardener and Naturalist training
- Septic System Maintenance Classes



“Consumers like the idea that they live in a green community. Not everyone gets the science behind green stormwater management, but they get the walking trails, trees, and open spaces.”

Thank You!

Questions and comments



Contact Information

Ward Ling

Extension Program Specialist

College Station, TX

Phone: 979-845-6980

wling@tamu.edu









RAINWATER HARVESTING

El agua de lluvia es una fuente de agua dulce que puede ser utilizada para riego, lavado de autos, limpieza y otros usos. El agua de lluvia es una fuente de agua dulce que puede ser utilizada para riego, lavado de autos, limpieza y otros usos.

El agua de lluvia es una fuente de agua dulce que puede ser utilizada para riego, lavado de autos, limpieza y otros usos. El agua de lluvia es una fuente de agua dulce que puede ser utilizada para riego, lavado de autos, limpieza y otros usos.



El agua de lluvia es una fuente de agua dulce que puede ser utilizada para riego, lavado de autos, limpieza y otros usos. El agua de lluvia es una fuente de agua dulce que puede ser utilizada para riego, lavado de autos, limpieza y otros usos.

















