

Lampasas River Watershed Partnership

Wastewater Infrastructure and Urban/ Suburban Issues Work Group

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Past Business

Work Group Collaborations

- ▶ Wastewater Infrastructure and Urban/Suburban Issues Work Groups have decided to join together
- ▶ Topics to include discussion of:
 - Ineffective, improperly maintained or aging OSSFs
 - Aging WWTF infrastructure
 - Stormwater runoff from paved surfaces
 - Pet and other domestic animal (non-livestock) waste
 - Urban growth and development

Work Group Collaborations

- ▶ Work Group collaborations will not be final until the Steering Committee votes and approves this change
- ▶ Need new Work Group name
 - Wastewater Infrastructure and Urban Nonpoint Source
 - Urban Nonpoint Source
 - Urban Issues
 - Other suggestions?

April Work Group Meetings

- ▶ **Wastewater Infrastructure Work Group**
 - Stakeholder Concerns:
 - Aging sewer pipes that may crack or bust with age
 - Improper maintenance of OSSF – application of too much or too little Chlorine
 - Concentration of domestic animals into small areas with little ground cover
 - Possible Solutions
 - City of Killeen and City of Harker Heights both have programs available for homeowners with OSSFs to connect to the city sewer lines
 - City of Harker Heights – Community Development Block Grant
 - City of Killeen – Septic Tank Elimination Program

April Work Group Meetings

▶ Urban/ Suburban Issues Work Group

- Stakeholder Concerns
 - How is the a river determined to be a “navigable river”
 - Texas Parks and Wildlife Department can make this distinction on a case by case basis
 - Regulations on rock and topsoil quarries
 - Operators sells topsoil and then deeper soils for roadbase
 - Because of changes in hydrology, some homes are now in danger of flooding
 - Clyde Bohmfalk (TCEQ) will provide more information on rules and regulations
- Discussed Solutions
 - Educational signage at public access points for recreational users
 - Parks and Wildlife have some publications that may possibly be put in stores and areas where recreational equipment is purchased i.e. kayaks
 - Using the color “purple” in signs – Purple means NO TRESSPASSING
 - “Leave it cleaner than you found it...” on signs possibly tweaked for this area
- Population Estimates – Dogs
 - Use household census for numbers
 - Group voted to use one (1) dog per household

Wastewater Permitting for Rock Quarries

In response to questions raised at the April Urban/ Suburban WG meeting

Generally speaking any quarry that has a discharge of stormwater is subject to a TPDES Multi-Sector Stormwater permit

Storm Water Discharges from Industrial Facilities: Am I Regulated?

Identifies sectors of industry that may obtain coverage under the industrial storm water general permit for storm water runoff. The general permit includes coverage for storm water runoff from manufacturing, processing, material storage, and waste material disposal areas.

If you discharge [storm water associated with an industrial activity](#) into one of the following:

gutters, streets, channels, ditches or other storm water conveyances that are part of a [municipal separate storm water sewer system](#) (MS4),

or [surface water in the state](#)

And your business activity fits into one of the regulated [industrial sectors](#), meaning that your industrial activity fits under one or more of the Standard Industrial Classification (SIC) Codes or Industrial Activity Codes to be found in "[SIC Codes Subject to TPDES Multi-Sector General Permit](#),"

Then you will be required to obtain coverage under General Permit [TXR050000](#).

If all industrial activities and materials are isolated from rain, snow, snowmelt, and/or runoff by storm resistant shelters, you may be eligible for a [conditional no exposure exclusion](#) from permitting requirements.

Otherwise, the general permit requires you to [obtain coverage](#), which includes submitting a notice of intent (NOI) form.

If you don't qualify for coverage under this general permit, you may need to obtain an [individual permit](#) for any discharges to water in the state.

If you conduct an activity related to [oil and gas](#) (See [Texas Railroad Commission](#)), then you may need to obtain coverage under the U.S. Environmental Protection Agency's (EPA's) [Storm Water Discharges Associated with Industrial Activities](#).

http://www.tceq.state.tx.us/permitting/water_quality/stormwater/TXR05_AIR.html

2010 Integrated Report

- ▶ Public Comment Period ended March 8th, 2010
- ▶ Surface Water Quality Monitoring staff has reviewed and incorporated comments
- ▶ DRAFT 2010 Texas Integrated Report will be presented to the TCEQ Commission for its consideration to approve the IR and submit to the EPA at the August 25th agenda.
- ▶ Final draft and responses to public comments will be posted on the following web site upon Commissioner approval: <http://www.tceq.state.tx.us/compliance/monitoring/water/quality/data/10twqi/10twqi>

Preliminary SELECT Results

Kyna McKee
R. Karthikeyan
Biological and Agricultural Engineering

What is SELECT

- ▶ Estimates the potential *E. coli* load from various sources in the watershed
- ▶ Helps to determine what sources are most likely contributing and where in the watershed

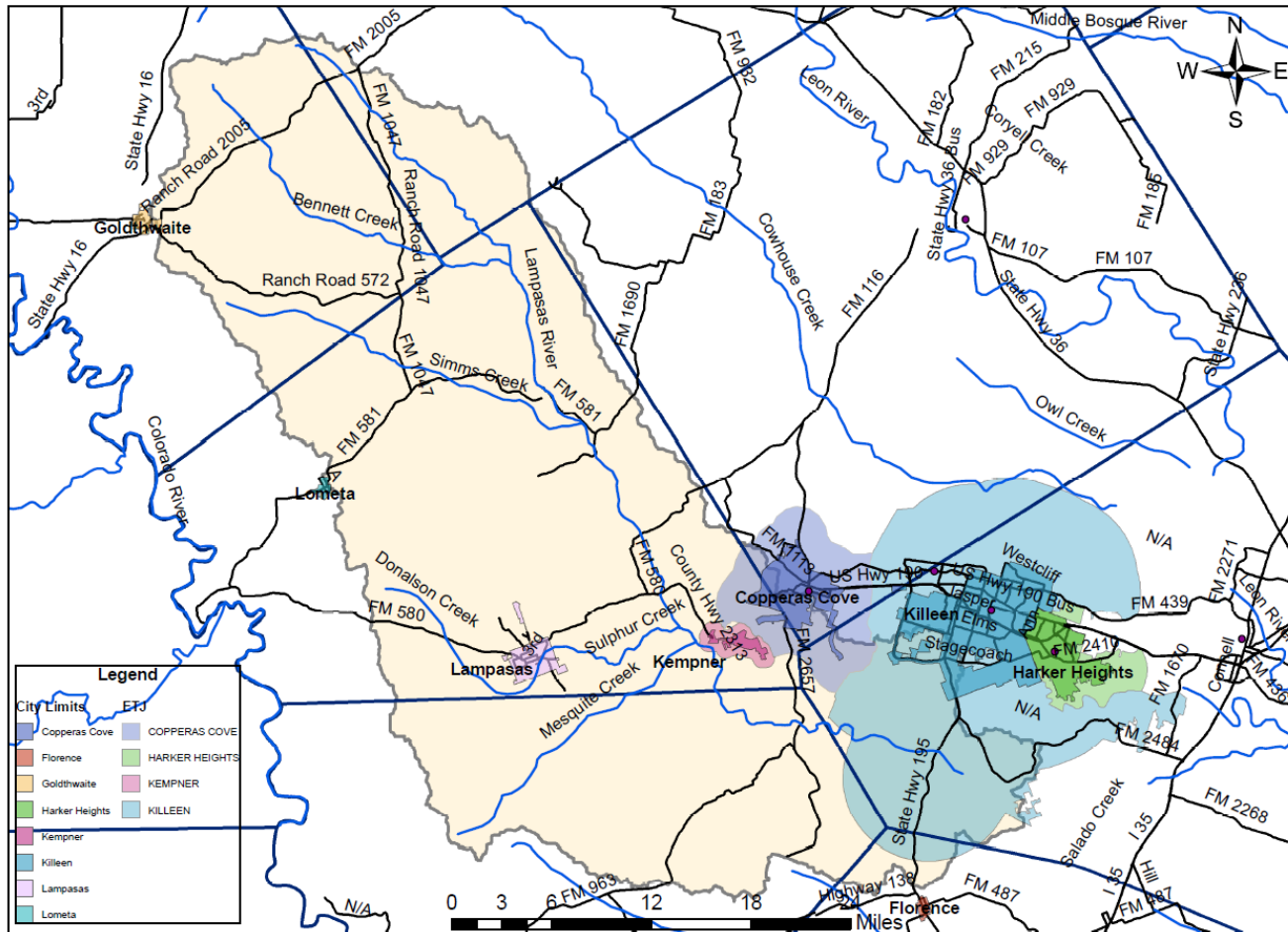
Urban influences modeled in SELECT

- ▶ Septic Systems
- ▶ Dogs
- ▶ Wastewater Treatment Facilities

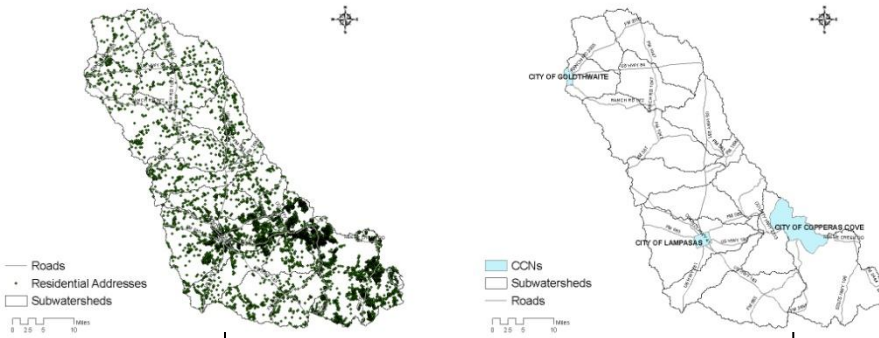
Data layers Needed for SELECT

- Land use
- Hydrography (stream network)
- Urban areas
- Watershed boundary
- County boundary
- Soils
- Wastewater treatment plants
- Census
- CCN
- 911 addresses

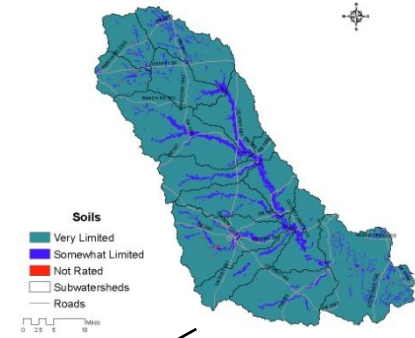
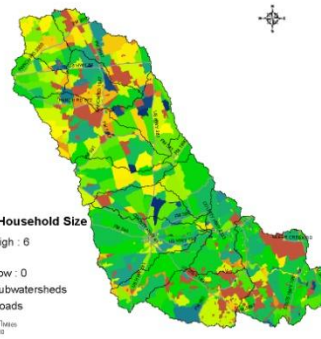
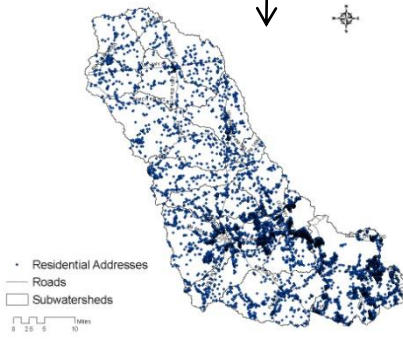
Urban Areas



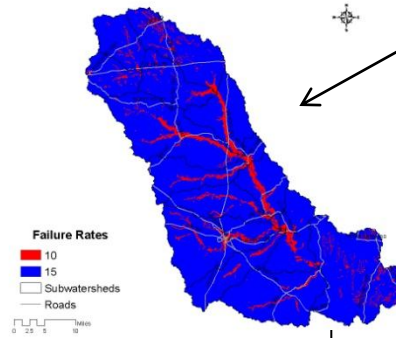
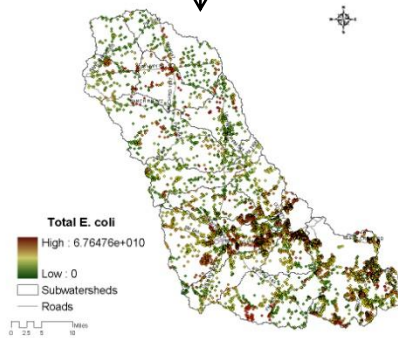
Septic System



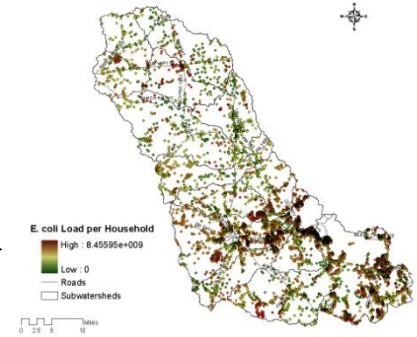
Remove CCNs from Residential Addresses



Multiply E. coli per person, residential addresses, and average household size



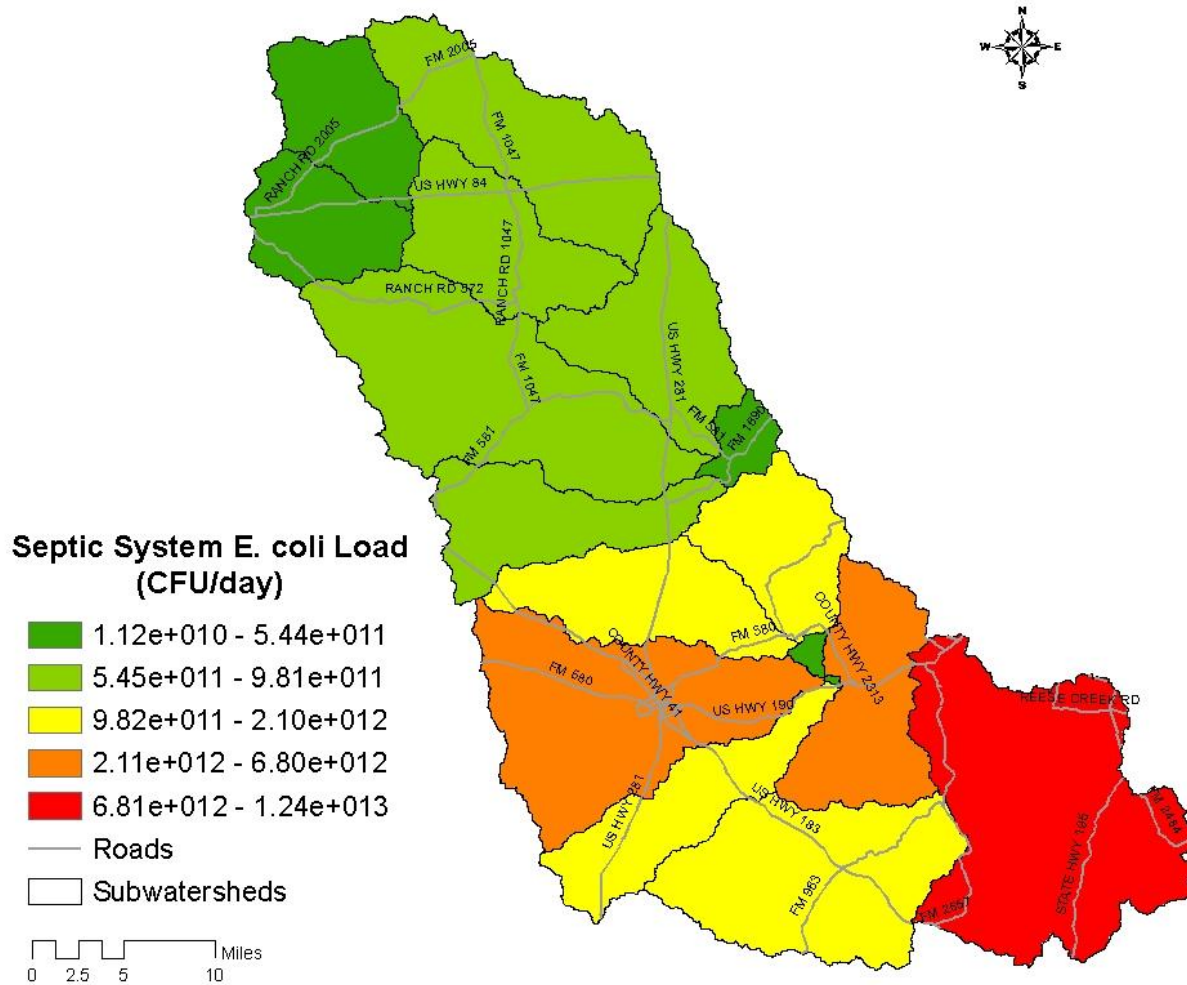
Multiply total E. coli by failure rates



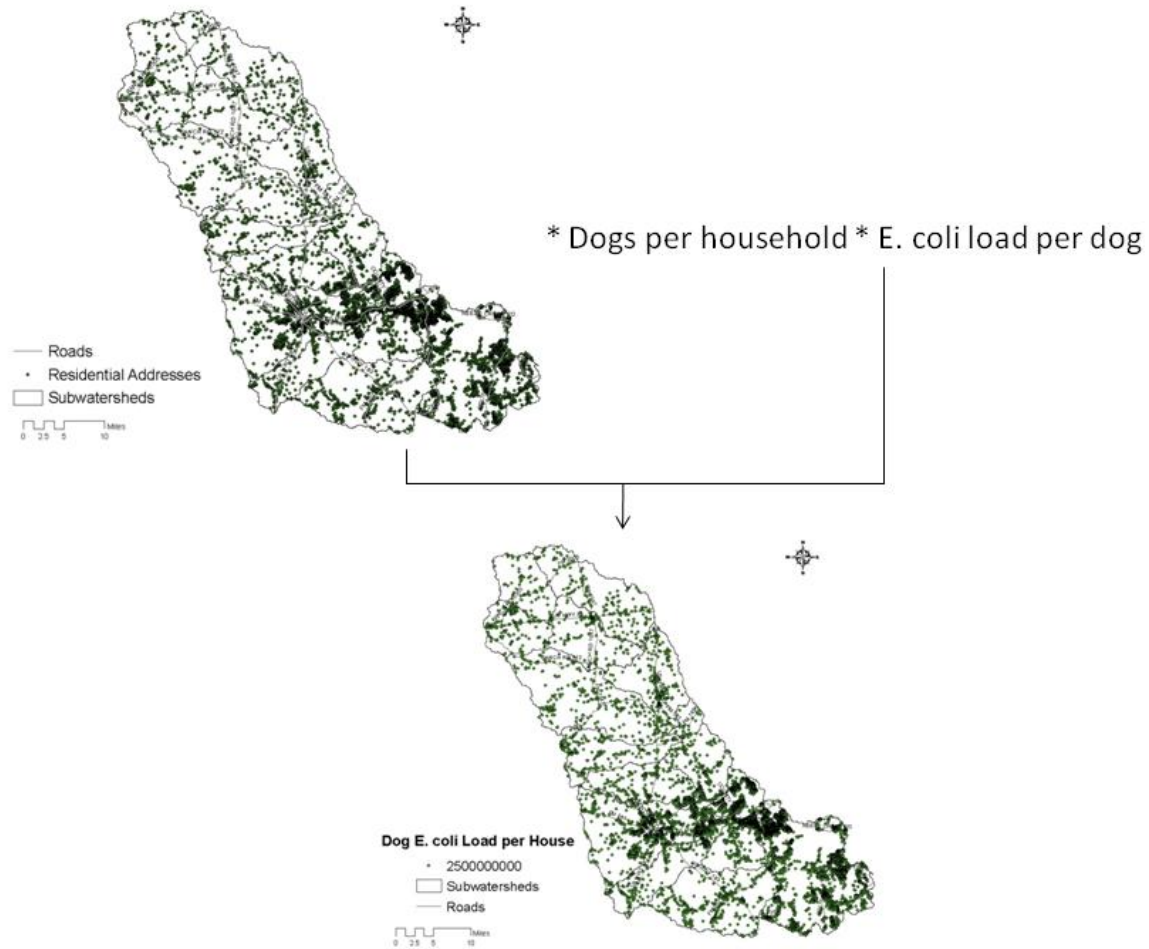
Septic System

- ▶ $E. coli$ Load = Number of Systems * Failure Rate * People/home * Concentration * Discharge * Conversion Factors
 - Number of Systems:
 - Number of homes from 911 addresses that are classified as residential
 - Remove homes within CCN boundary
 - Failure Rate
 - Septic Drainfield Limitation Class – SSURGO soil
 - Very Limited (15%), Somewhat Limited (10%), Not Rated (15%)
 - People per Home
 - 2000 Census Blocks: Average Household Size
 - Concentration
 - Fecal Coliform $10 \times 10^6 / 100 \text{ mL} = 5 \times 10^6 \text{ E. coli} / 100 \text{ mL}$
 - Discharge
 - 60 gallons/person/day

Potential *E. coli* Load Resulting From Septic Systems



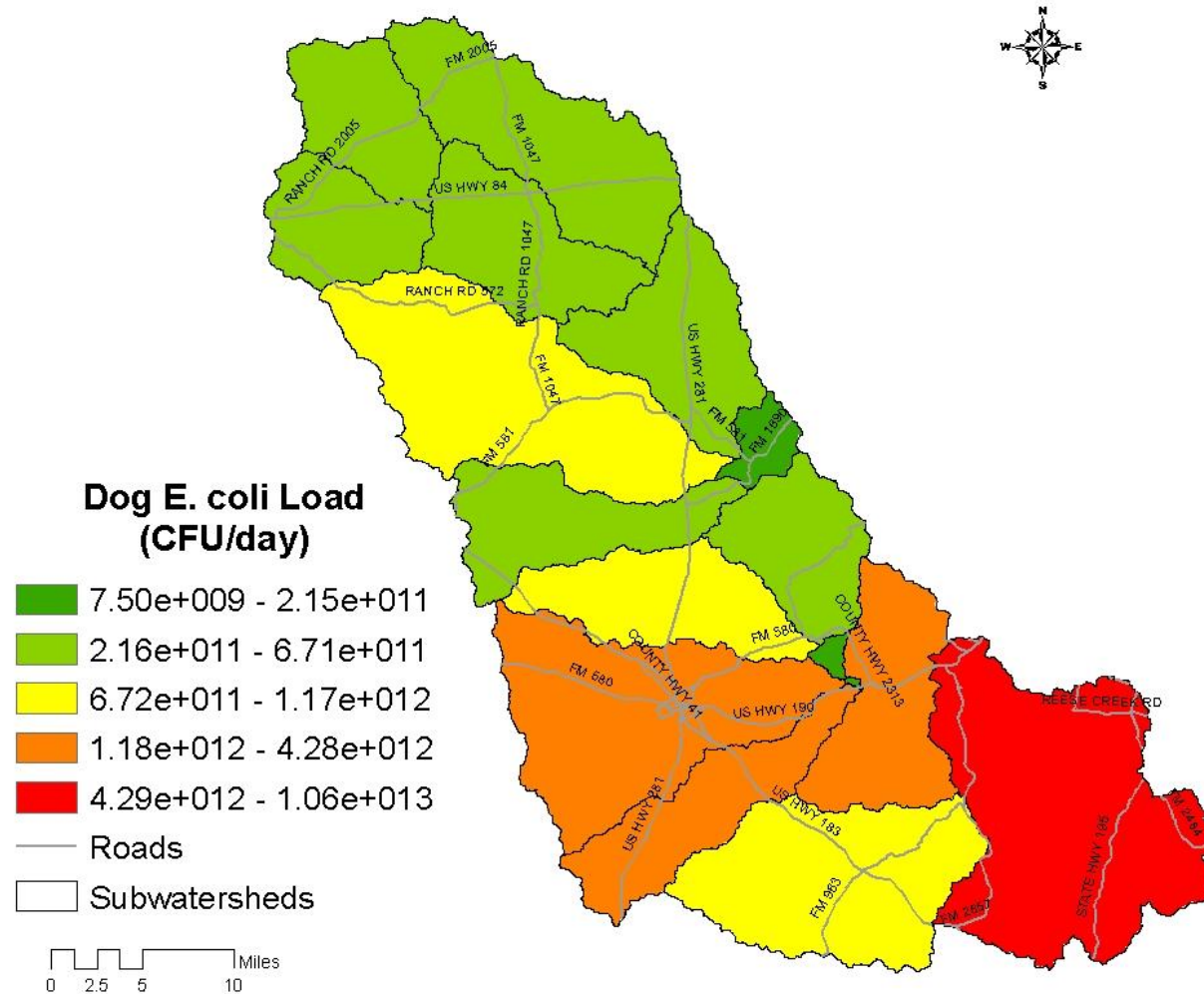
Dogs



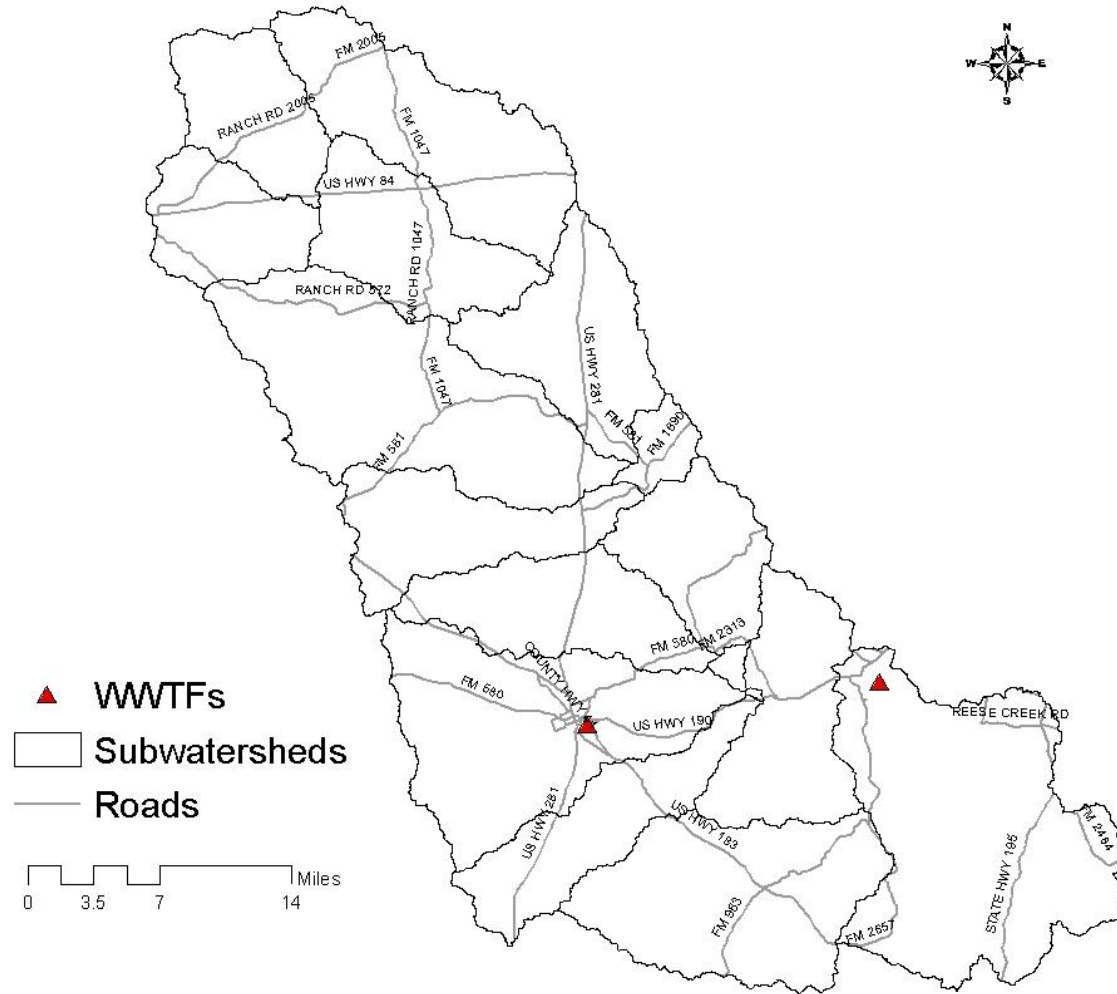
Dogs

- ▶ 1 dog per household
- ▶ Estimated Population: 10,775
 - From 911 addresses classified as residential
- ▶ *E. coli* Load per Dog
 - 5.0×10^9 Fecal Coliform = 2.5×10^9 *E. coli*

Potential *E. coli* loads resulting from Dogs



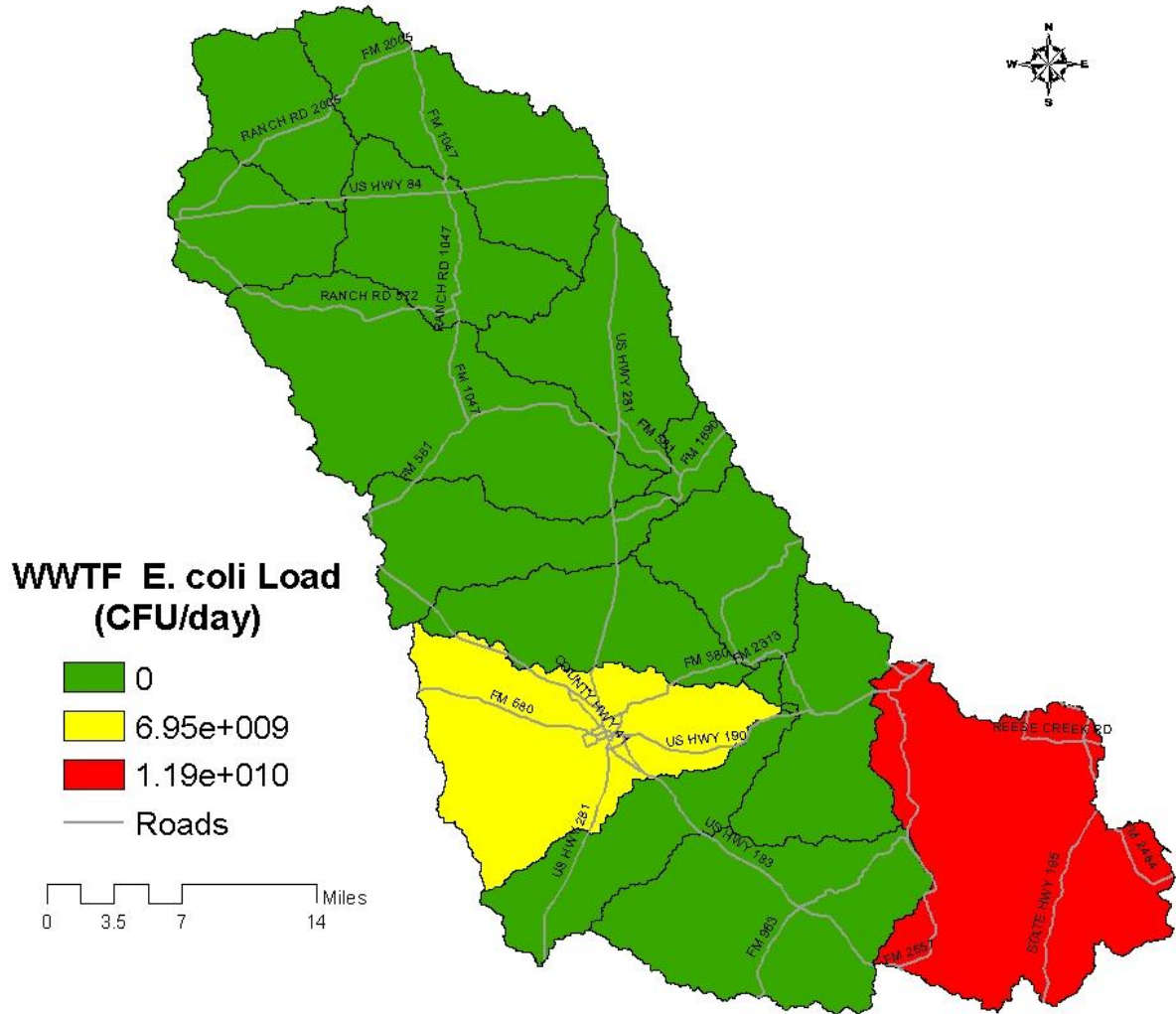
Wastewater Treatment Facilities



Wastewater Treatment Facilities

- ▶ Assume 126 CFU/100 mL
- ▶ Permitted Discharge
 - City of Lampasas: 1.457 MGD
 - City of Copperas Cove: 2.5 MGD

Potential *E. coli* loads resulting from Wastewater Treatment Facilities



Open Discussion

Next Steps

Upcoming Business

- ▶ Possible dates for July Steering Committee meeting
 - Thursday, July 8th
 - Thursday, July 15th
- ▶ Tentative items for discussion
 - Sampling location recommendations for upcoming Bacterial Source Tracking project
 - Steering Committee approval of initial SELECT analysis
 - Discussion of bacterial load reductions based on LDC analysis
- ▶ NRCS Riparian Function Workshop
 - Is there any interest in organizing one for stakeholders