



Fate and Transport of *E. coli* in Rural Texas Landscapes and Streams

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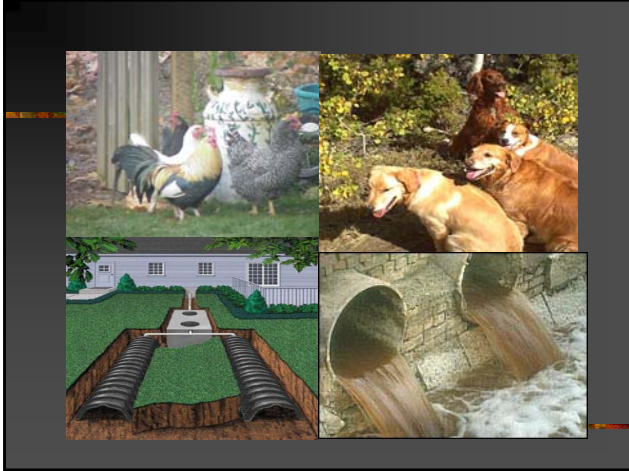
Introduction

- Where do bacteria come from and how do they get into water bodies?

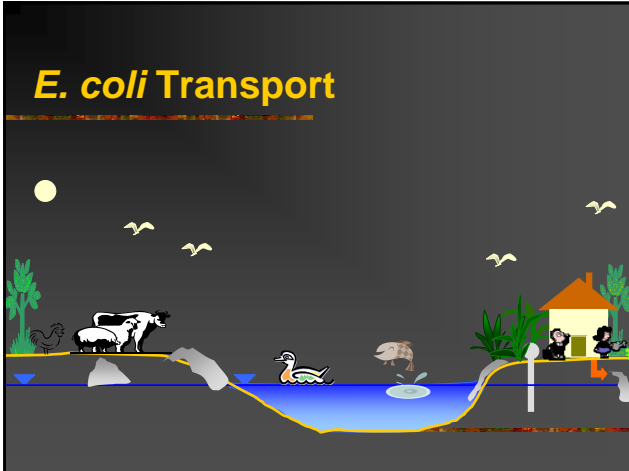


What are the potential sources?





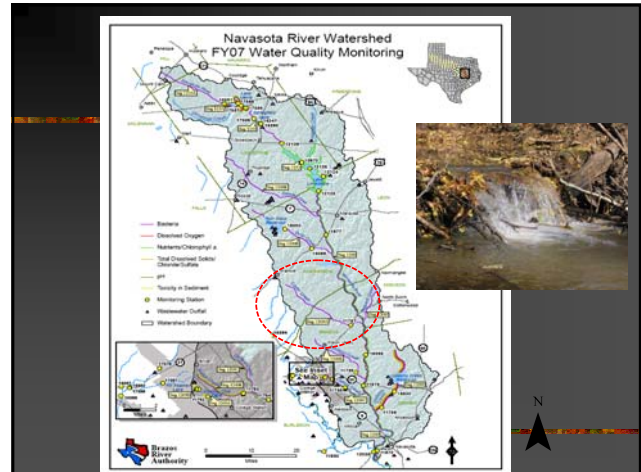
Transport Watershed & surface water



Impaired Water Bodies in Texas

303(d) list (2008)

- 827 total impairments
- 295 due to bacteria
 - 79 in the Brazos River Basin
 - 13 in Navasota watershed
 - Cedar Creek



Cedar Creek - 319(h) Project

- Perennial stream
 - Robertson and Brazos county
 - Rural watershed
 - Cattle, wildlife, and agricultural runoff
- TMDL taskforce recommendations
- Monitoring and demonstration project
- Stakeholder education

Cedar Creek - Objectives

- Identify, characterize, and quantify *E. coli* loads
 - Sanitary survey
 - Collection of fecal samples from sources
- Survival, growth, re-growth, and die-off of *E. coli*
 - Different environmental conditions
 - moisture, temperature, pH

Resley Creek - Objectives

- Continuous monitoring
 - Collects samples from natural rainfall events
- Re-suspension demonstration
 - A natural stream disturbance will be created
 - Water samples will be collected before and after disturbance and the presence of bacteria will be compared

Project Outcomes

- Identification of dominant sources
- Quantification of *E. coli* loads from sources
- Influence of environmental factors
- Fate and transport processes
 - Growth
 - Re-growth
 - Die-off
 - Re-suspension
- Stakeholder education

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<http://bft.tamu.edu>

