

Welcome to this workgroup meeting for the

EAST FORK SAN JACINTO RIVER WATERSHED PARTNERSHIP



Agriculture, Wildlife, and Invasives Workgroup
May 2, 2023



MEETING OUTLINE



- Introductions and Background
- Bacteria Source Model Review
- Discussion



BACKGROUND



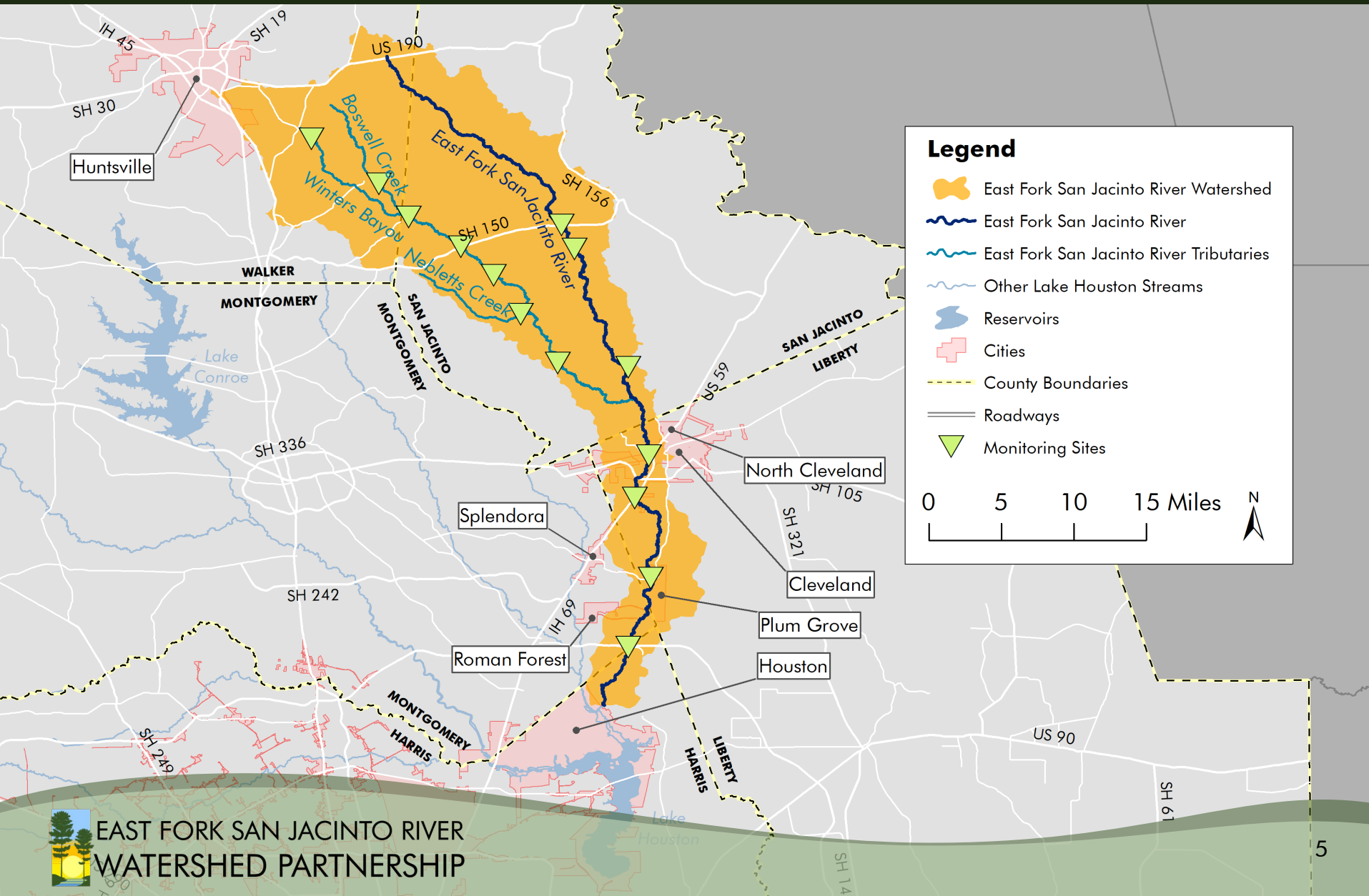
ASSESSING WATER QUALITY



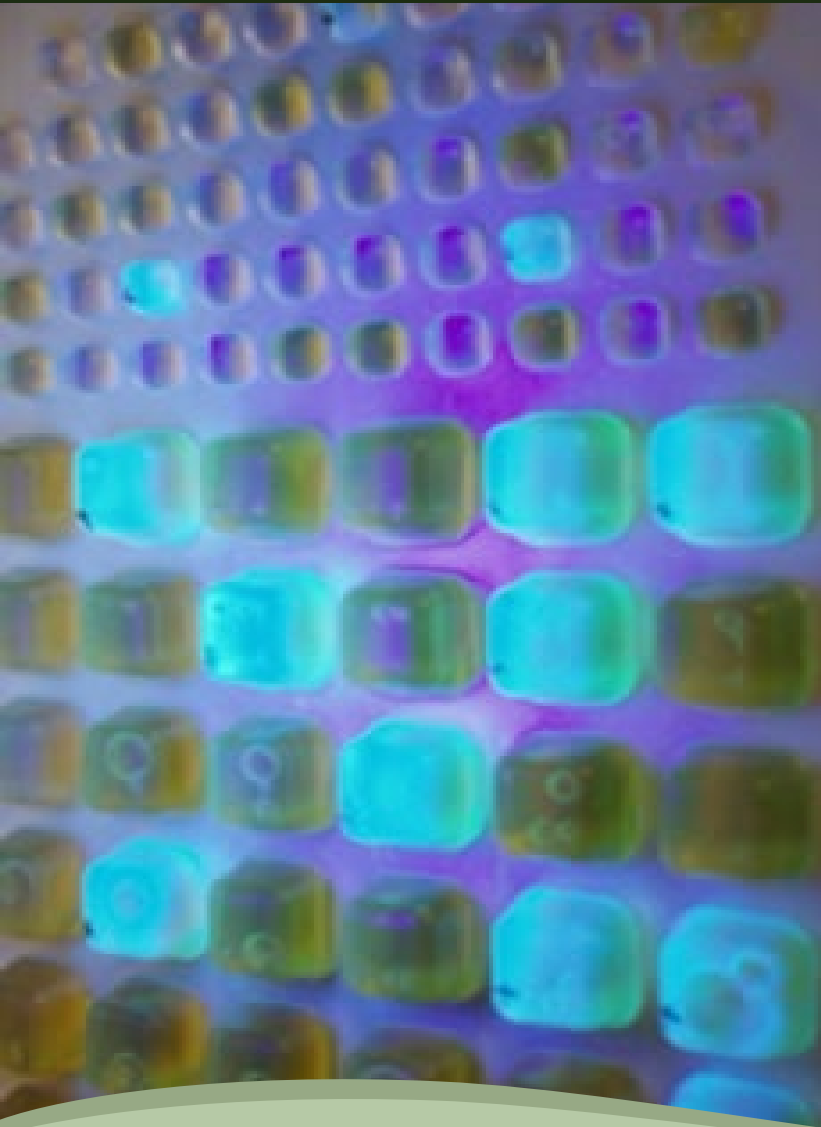
- Statewide monitoring
- TCEQ produces integrated report of results every two years
- Waterways exceeding standards are **impaired**



MONITORING IN THE WATERSHED



STATUS OF EAST FORK SAN JACINTO RIVER



- The East Fork San Jacinto River and Winters Bayou are **impaired** for contact recreation
- Recreation use **concern** in Boswell Creek
- High levels of bacteria *Escherichia coli* (*E. coli*) indicate pollution from fecal waste



BACTERIA SOURCES



Human Waste

- Wastewater
- Septic/Aerobic Systems
- Illicit Sewage

Domestic Animal Waste

- Pets
- Livestock

Wildlife and Invasive Species Waste

- Deer and Other Wildlife
- Feral Hogs



BACTERIA SOURCE MODEL REVIEW

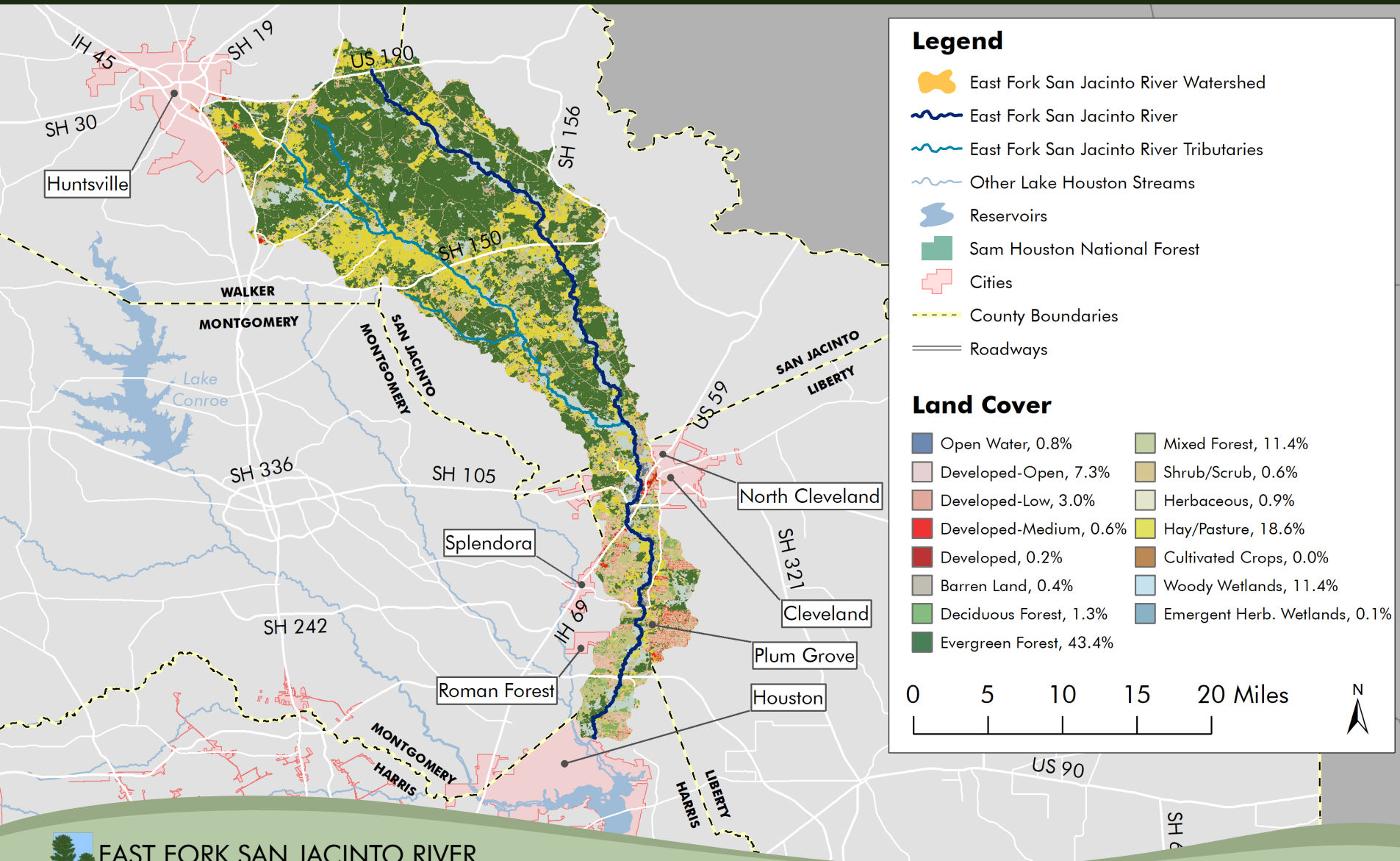


SELECT MODELS

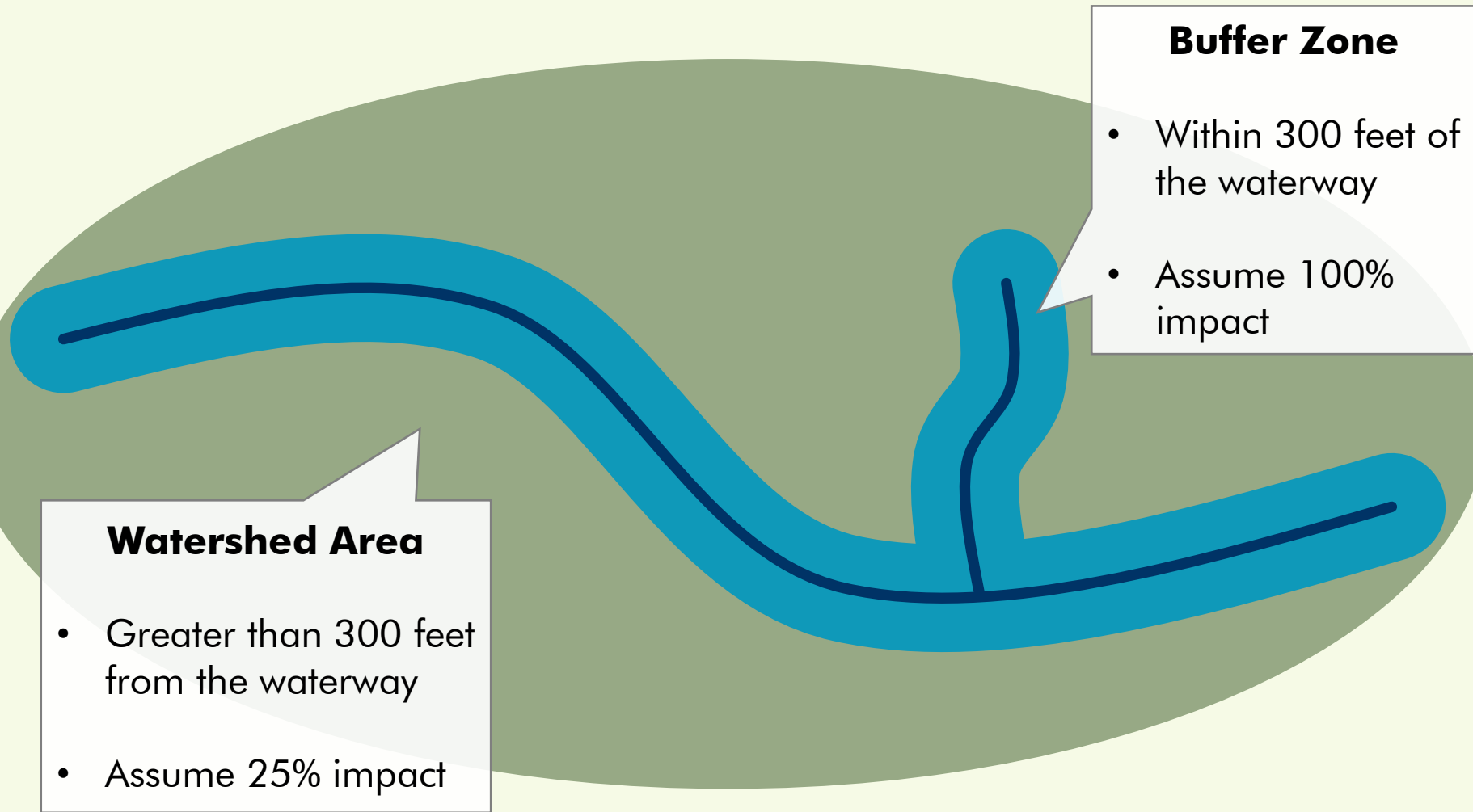
- Spatial estimate of total potential daily load from all fecal waste sources
- Based on land cover, known data, and assumptions from literature values
- Modified to estimate loading changes over time in 5-year increments
- Modified to weight source load estimates based on distance from waterways



LAND COVER



BUFFER APPROACH



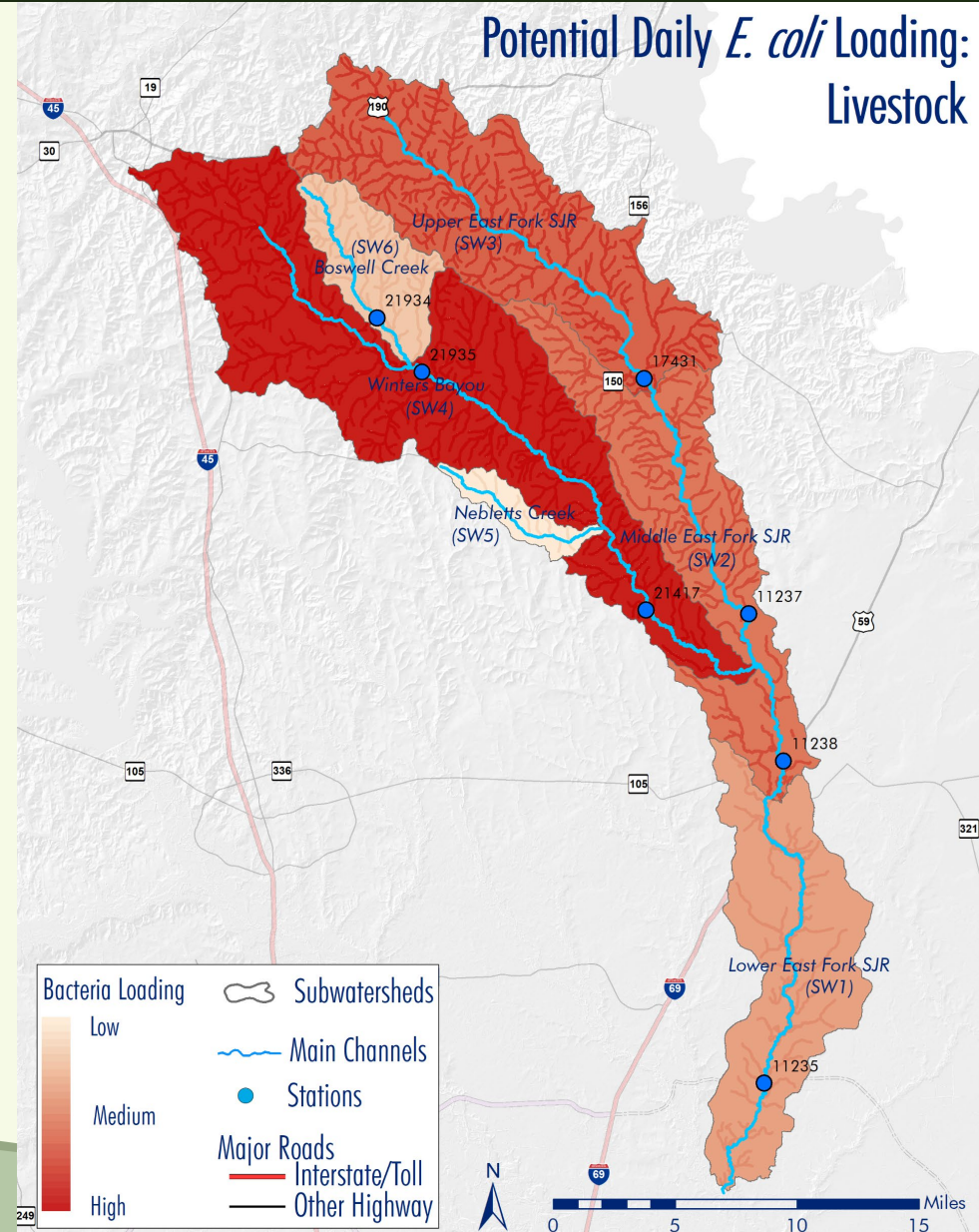
LIVESTOCK WASTE

Methods:

- County agricultural census data and suitable land cover adjusted by watershed area ratio
- Includes cattle, horses, sheep and goats

Findings:

- Highest relative loads occur in the Winters bayou subwatershed
- Expected to increase slightly over time
- Major contribution to total load



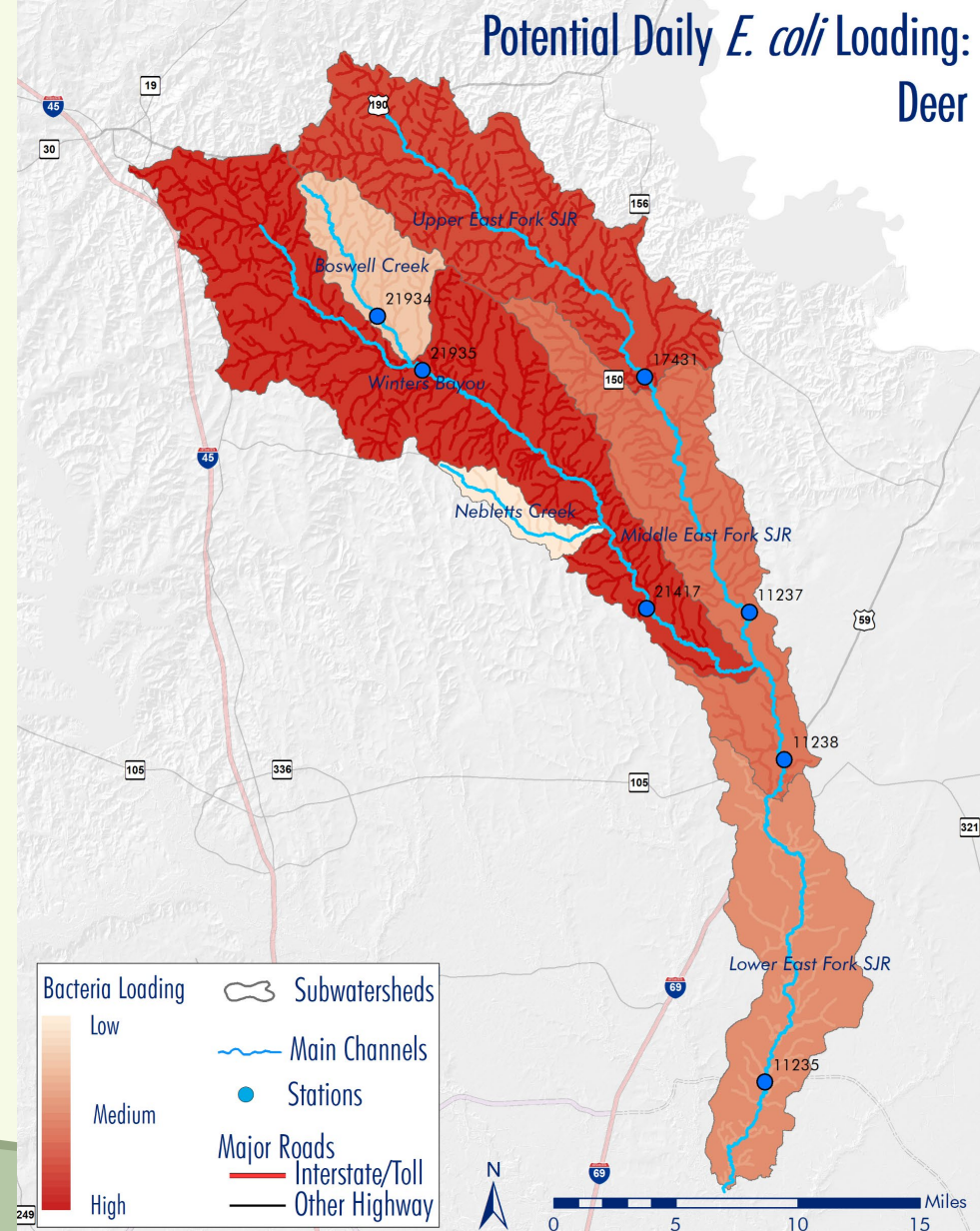
DEER WASTE

Methods:

- Used Texas Parks and Wildlife population density data based on ecoregion
- Density assumptions adjusted for land cover type

Findings:

- Highest relative loads occur in the Winters Bayou and Upper East Fork subwatersheds
- Expected to decrease slightly over time
- Minor contribution to total load



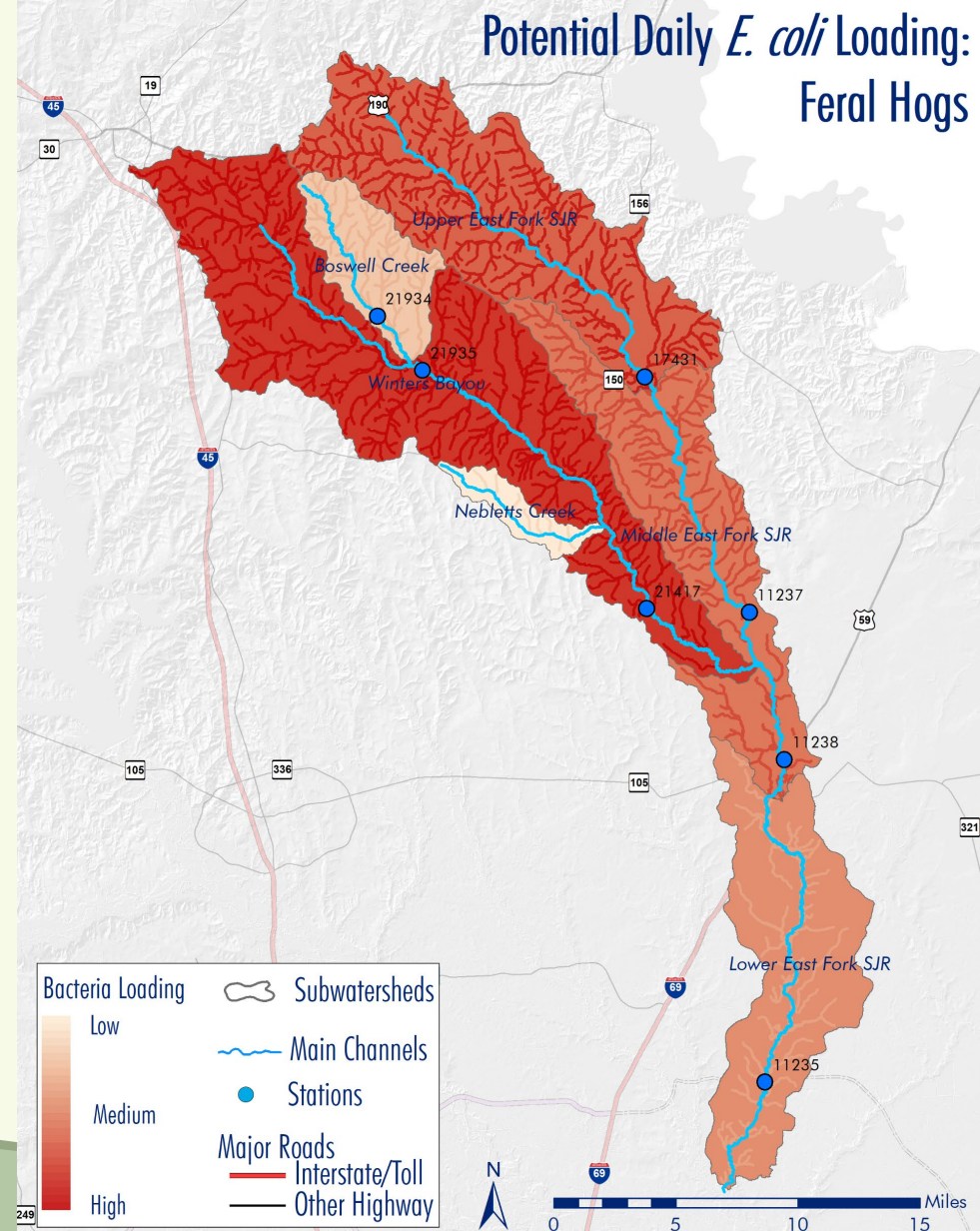
FERAL HOGS

Methods:

- Used AgriLife population density literature values
- Density assumptions adjusted for land cover type

Findings:

- Highest relative loads occur in the Winters Bayou subwatershed
- Expected to decrease slightly over time
- Major contribution to total load



OTHER SOURCES



Other Wildlife

- Initial estimate of additional 10% of total calculated load
- Increases overall load estimation
- Stakeholder observations?



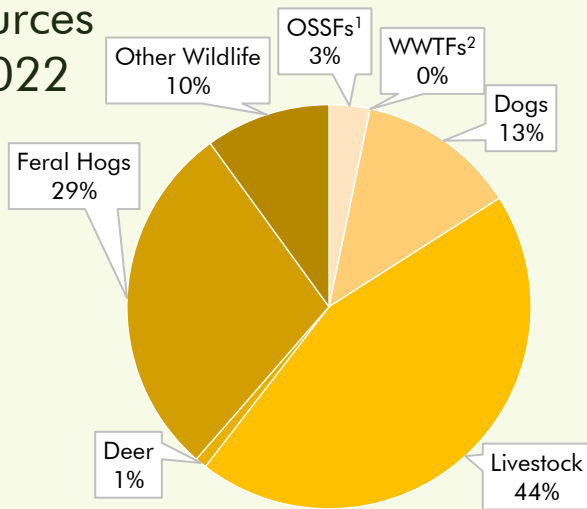
Birds

- Short-term migratory birds vs. colonial birds
- Relatively small human health risk
- Stakeholder observations?



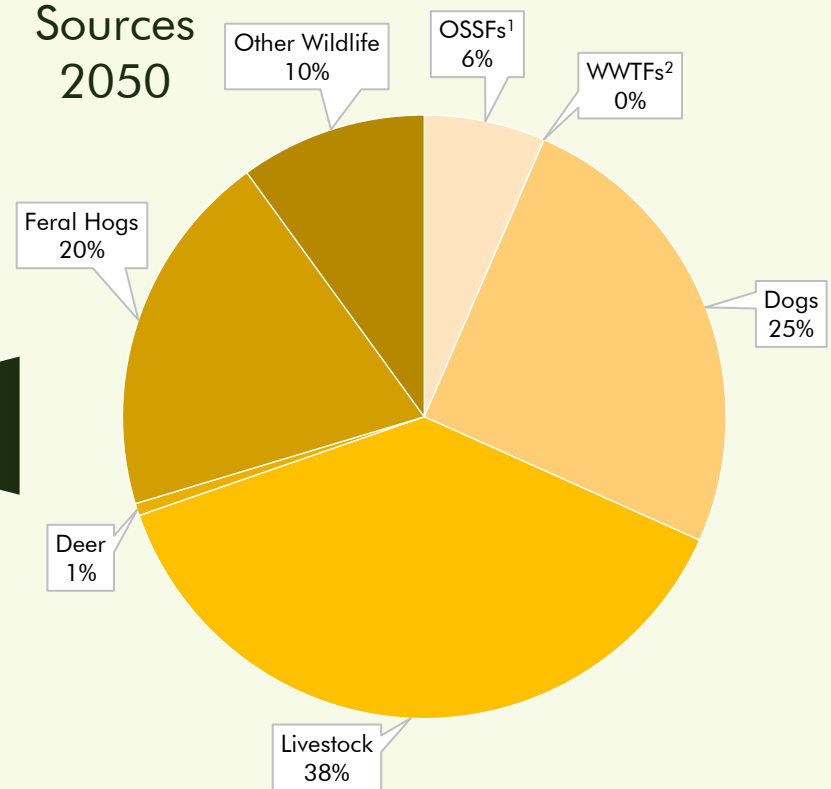
BACTERIA SOURCE MODEL SUMMARY

Sources
2022



41,322 billion cfu/day

Sources
2050



59,230 billion cfu/day

1.4x

¹OSSFs – On-Site Sewage Facilities
²WWTFS – Wastewater Treatment Facilities



DISCUSSION & QUESTIONS

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WATERSHED PARTNERSHIP**