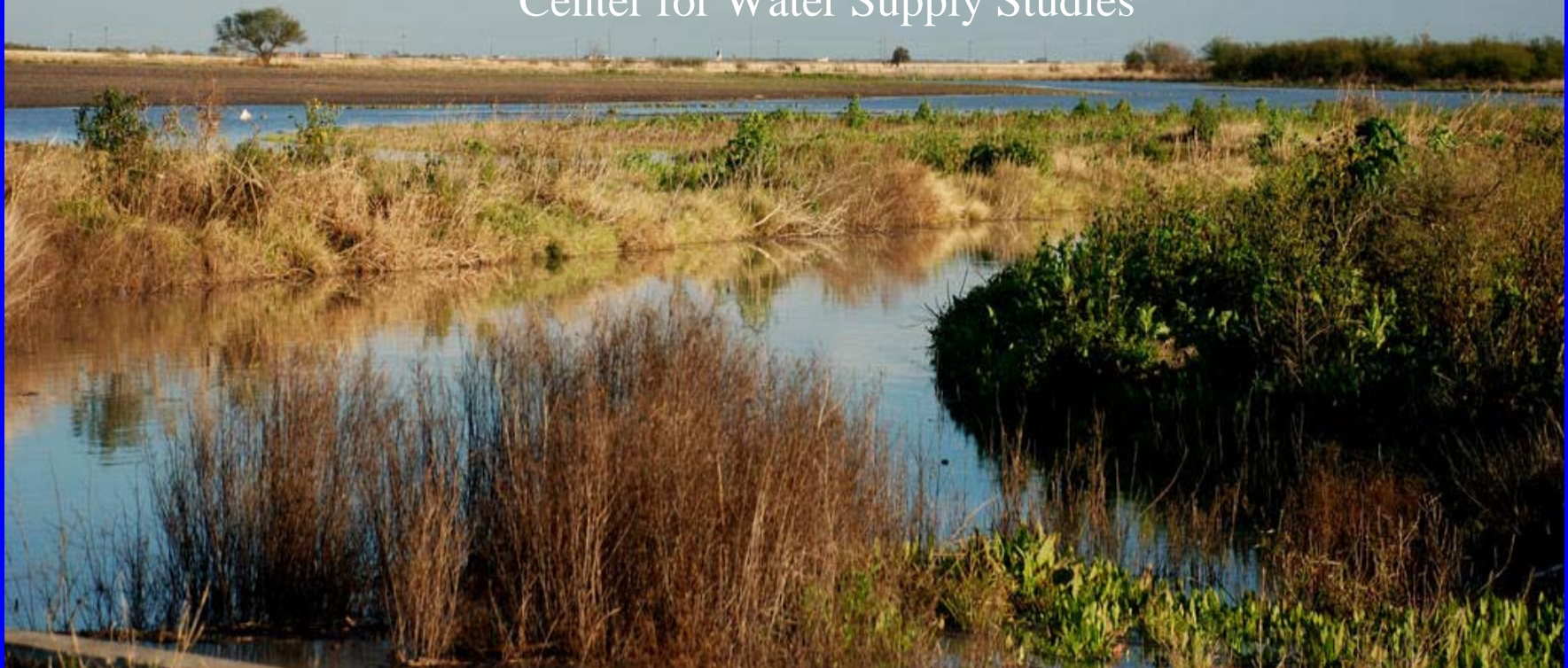


Oso Creek Investigations

(Bacteria Loading)

Richard Hay
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Background

- Oso Creek is not meeting Contact Recreation Use standards
 - Oso Creek placed on list of impaired waters (303(d)) for high concentrations of bacteria (enterococcus) in 2002.
- Oso Bay was not meeting Contact Recreation Use standards
 - Oso Creek placed on list of impaired waters (303(d)) for high concentrations of bacteria (enterococcus) in 2004.
 - A TMDL was completed in 2008
- TCEQ initiated a TMDL program for bacteria in Oso Creek/Bay.

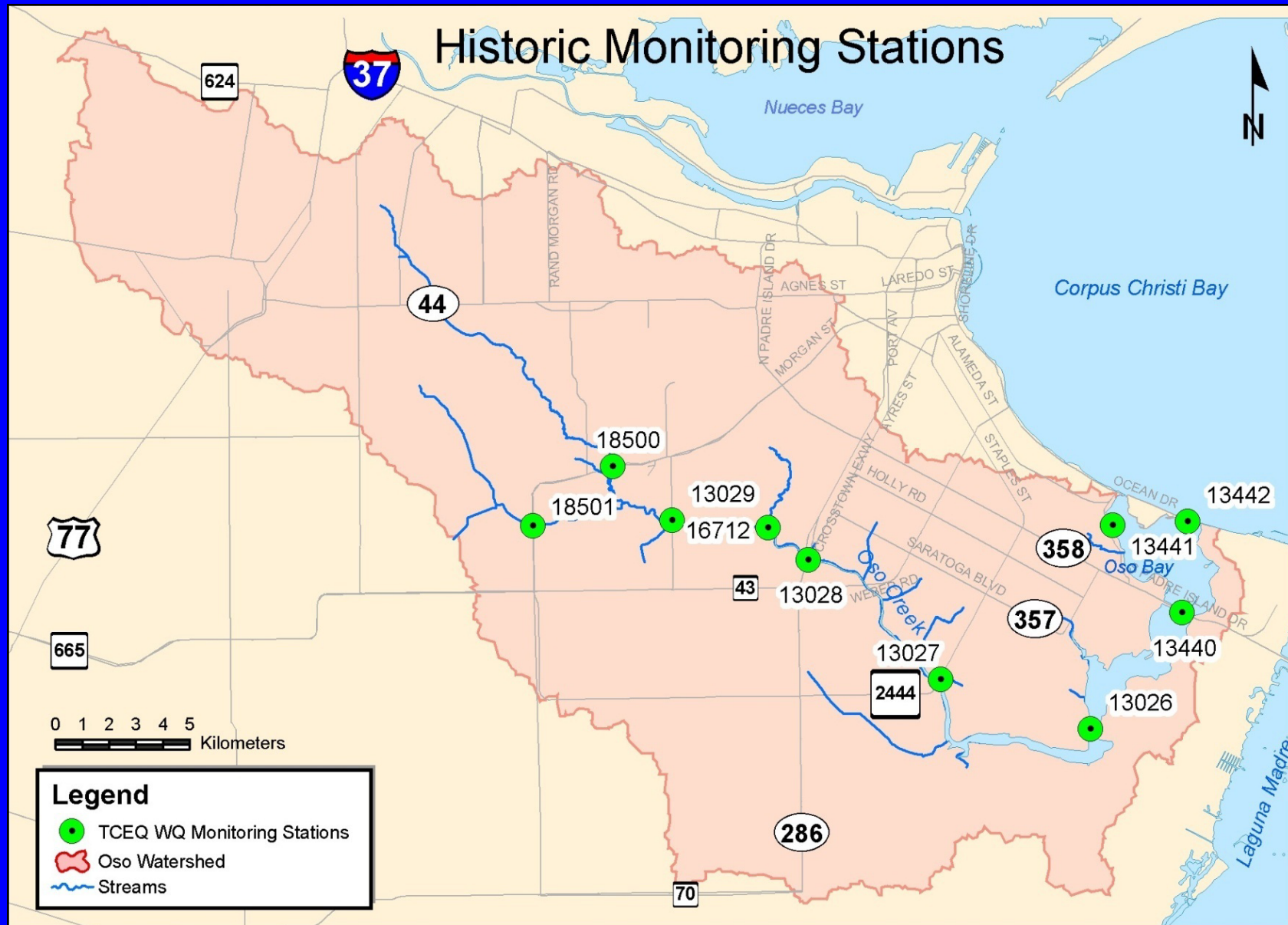


Background

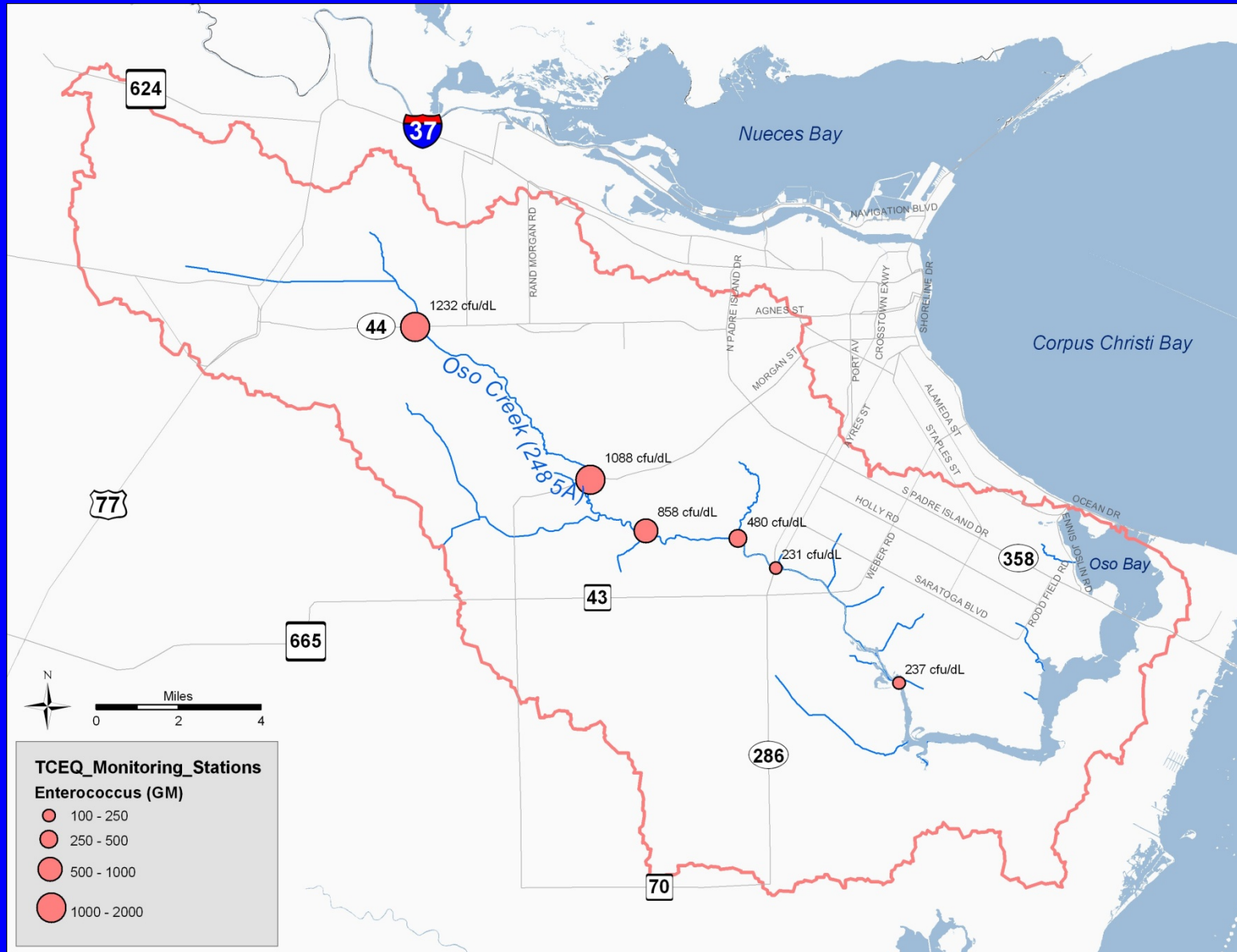
- Indicator Bacteria
 - E. coli for fresh water
 - Enterococcus for saline water
 - Fecal coliform for oyster waters
- Use to indicate the presence of fecal bacteria
 - Commonly found in human and warm blooded animal waste
- High levels pose a higher risk of gastrointestinal upset if the water is ingested
- Precautions needed to use Oso Creek
 - Do not drink the water
 - After contact, wash hands before eating
 - Pets should be bathed after use



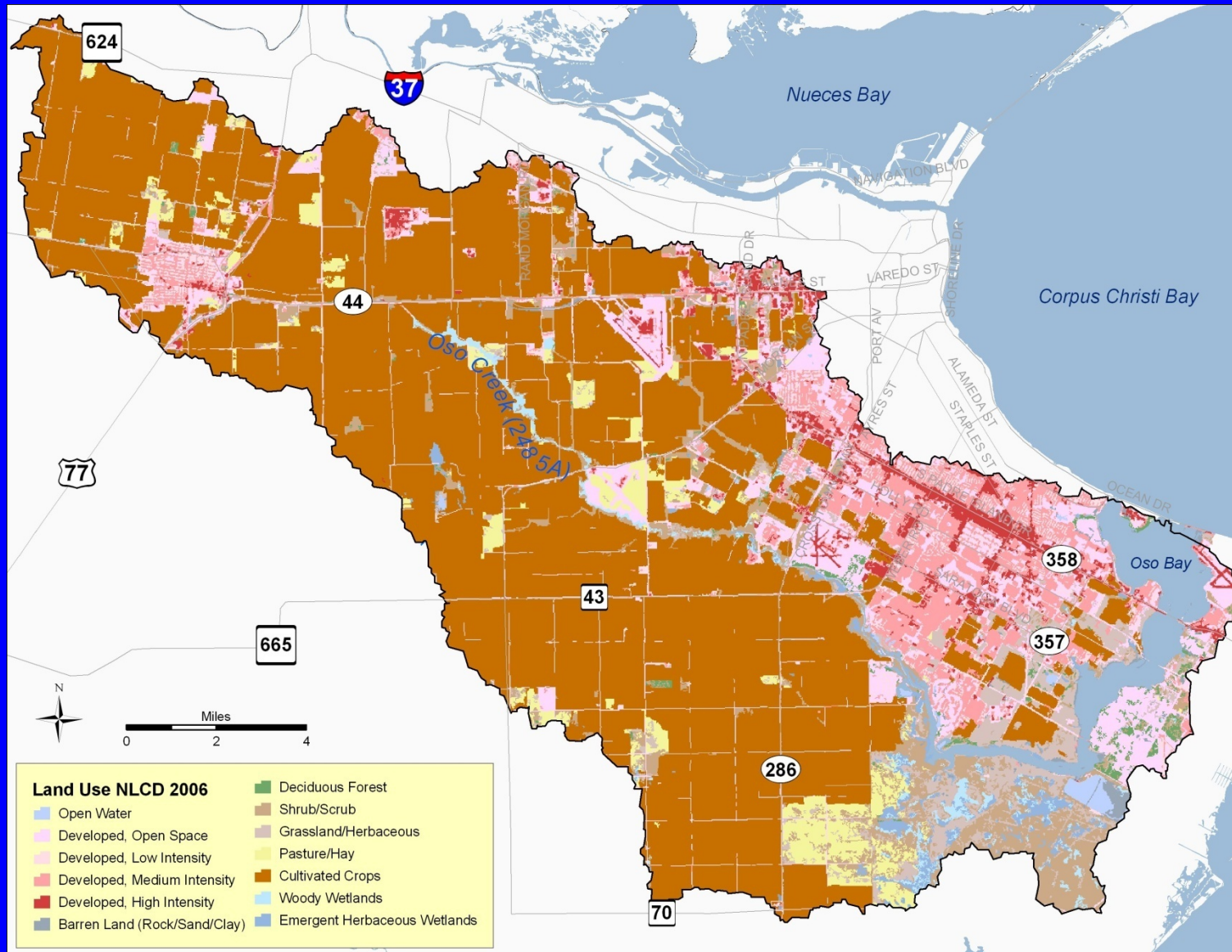
Water Quality Monitoring



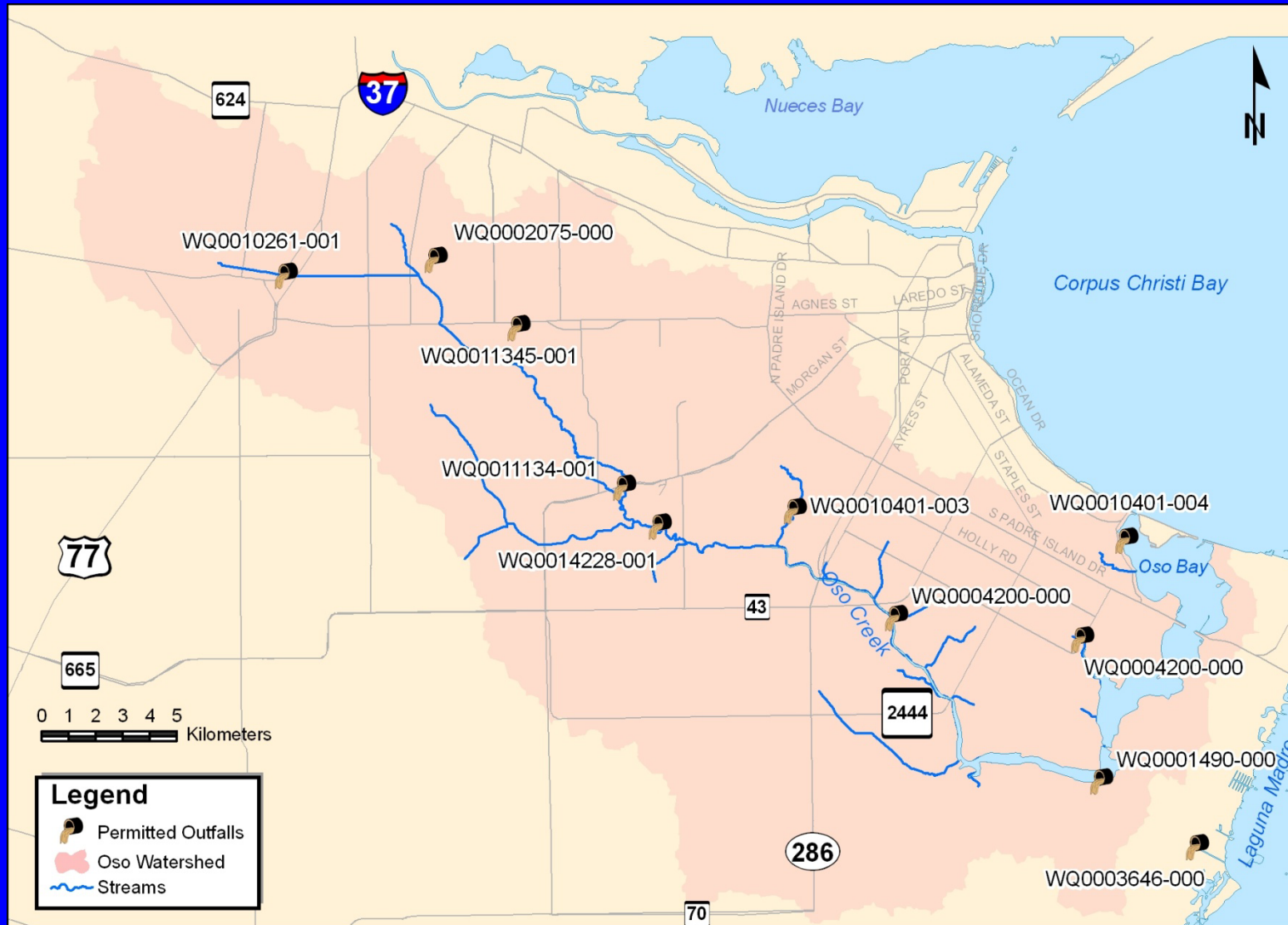
Study Area



Watershed Land Use



Permitted Outfalls



Studies

- 1992 Oso Bay – An Assessment of a South Texas Bay System
- 2001 Water Quality and Biological Characterization of Oso Creek and Oso Bay, Corpus Christi, Texas
- 2005, 2006 Oso Creek and Oso Bay TMDL Modeling Project
- 2005-2007 Storm Runoff in Agricultural Areas in Oso Creek Watershed
- 2007 Oso Bay TMDL
- 2009 Oso Creek Bacteria Contamination Investigation
- 2010 Oso Watershed Groundwater Characterization Study
- 2012 Identify and Characterize Nonpoint Source Bacteria Pollution to Support the Implementation of Bacteria TMDLs in the Oso Bay Watershed
- Currently underway Oso Creek TMDL



Summary

- High bacteria concentrations during wet weather
- Dry weather loading
- Not from ground water
- Not from WWTP
- Most dry weather inflows in lower Creek
- Upper Creek shows high concentration in agricultural areas
- Enterococcus survives in soil
- Not farming practices
- Not re-suspension (not enough bacteria in sediments)
- Source Tracking
 - Wildlife
 - Avian (dry/wet weather)
 - Non-avian (wet weather)
 - Horse/Cattle (wet weather)
 - Human < 10%



Questions?

