



Lake Columbia Source Water Assessment Project

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ANRA

Background

- Source Water Assessment for a future planned reservoir site (Lake Columbia)
- Research and Planning Grant from the Texas Water Development Board (TWDB)
- Study Period: 1/1/09 – 12/31/09

Goals of the Project

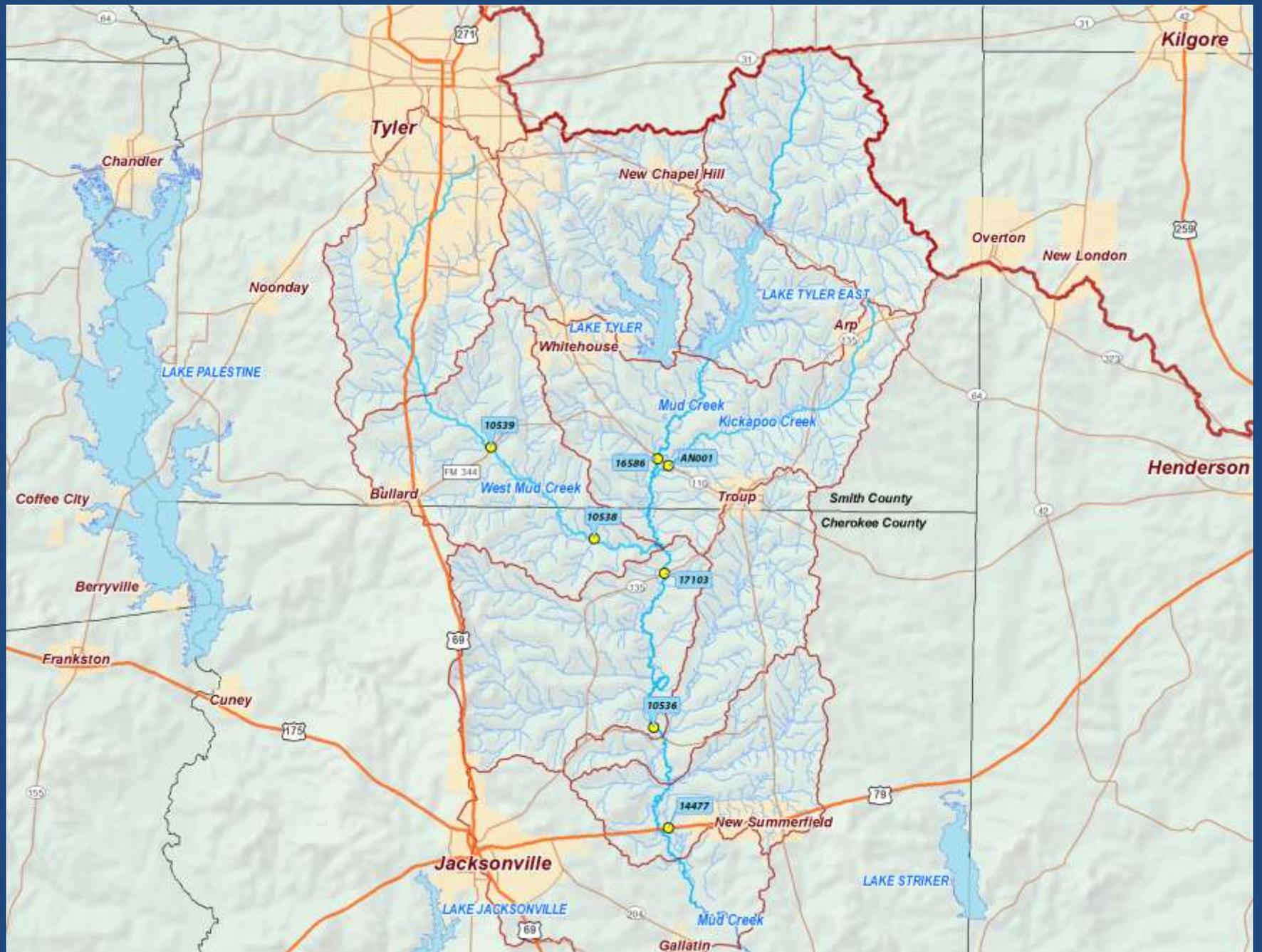
- Identify and address non-point and point source contamination (if necessary) prior to the impoundment of reservoir waters.
- Provide a basis for predicting water quality conditions in Lake Columbia
- Identify and plan for processes to treat the raw water from Lake Columbia to meet drinking water standards
- Develop a project template that will be useful to other entities for assessment of future reservoir locations

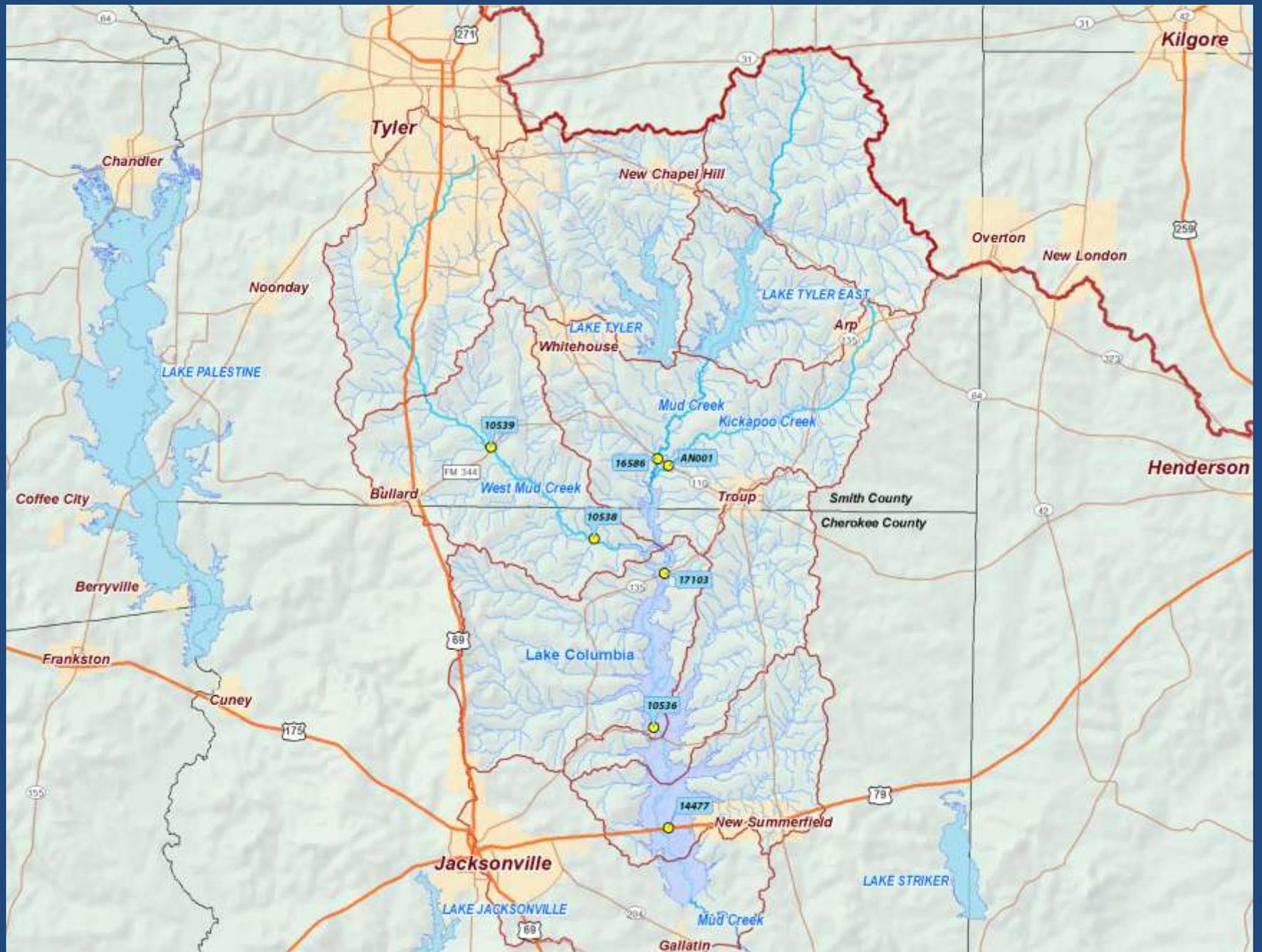
Study Plan

- Sample and test the water quality in Mud Creek, as well as West Mud Creek and Kickapoo Creek (direct tributaries to Mud Creek)
 - Field Parameters
 - Routine Conventional Parameters
 - Additional Parameters (Primary and Secondary Drinking Water Standards)
- Seven sampling locations, with each location being sampled monthly for a period of one year
- Data evaluation
- Final written report to TWDB

Monitoring & Sampling Locations

Station #	Station ID#	Location	Comments
1	16586	Mud Creek at SH 110	This site is located at the SH 110 crossing, approximately 6.0 km NW of the City of Troup.
2	10538	West Mud Creek at FM 3052	This site is located at the FM 3052 crossing, SW of the City of Troup. West Mud Creek is a direct tributary of Mud Creek.
3	17103	Mud Creek at SH 135	This site is located at the SH 135 crossing, SW of the City of Troup.
4	10536	Mud Creek at FM 2064	This site is located at the FM 2064 crossing, NW of the City of Jacksonville.
5	14477	Mud Creek at 79	This site is located on the N side of the US Hwy 79 crossing, between the Cities of Jacksonville and New Summerfield.
6	AN001	Kickapoo Creek at SH 110	This site is located at the SH 110 crossing, NW of the City of Troup. Kickapoo Creek is a direct tributary of Mud Creek.
7	10539	West Mud Creek at FM 344	This site is located at the FM 344 crossing, East of the City of Bullard and South of the City of Tyler.





Sampling & Analyses Schedule

TASK 3: Laboratory Analyses												
PROJECT SCHEDULE	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Analyses	•	•	•	•	•	•	•	•	•	•	•	•
Quarterly Analyses	•			•			•			•		
Semi-Annual Analyses	•						•					

Field Parameters

In-stream Flow

Water Temperature

Air Temperature

Flow Severity

pH

Dissolved Oxygen

Conductivity

Transparency

Present Weather

Days Since Last Rainfall

Laboratory Analyses

Monthly

Ammonia-N

Nitrate-N

Nitrite-N

Total Phosphorus

Orthophosphorus

Sulfate

Chloride

Total Dissolved Solids

Total Suspended Solids

Total Solids

Chlorophyll-*a*

Pheophytin-*a*

E. coli

Carbonate

Bicarbonate

Sodium

Fluoride

Alkalinity

Hardness (Total, Ca, and Mg)

Calcium

Magnesium

Biochemical Oxygen Demand

Chemical Oxygen Demand

Total Kjeldahl Nitrogen

Turbidity

Color

Total Petroleum Hydrocarbons

Laboratory Analyses

Quarterly

Arsenic
Barium
Cadmium
Chromium
Lead
Mercury
Selenium
Silver
Antimony
Beryllium
Thallium
Aluminum
Copper
Iron
Manganese
Zinc

Total Organic Carbon
Cyanide
Phenols
Bromide
Herbicides
Pesticides

Semi-Annually

Volatile Organics
Semi-Volatile Organics
Polychlorinated Biphenyls

Project Status

- Sampling ended in December 2009
- Data is currently being evaluated
- Data is being assembled for preparation of Draft Report
- Draft Report is due to the TWDB by May 31, 2010
- Final Report is due August 31, 2010
- Final Report will be made available on ANRA website (www.anra.org)



Please direct Questions and/or Comments to:

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