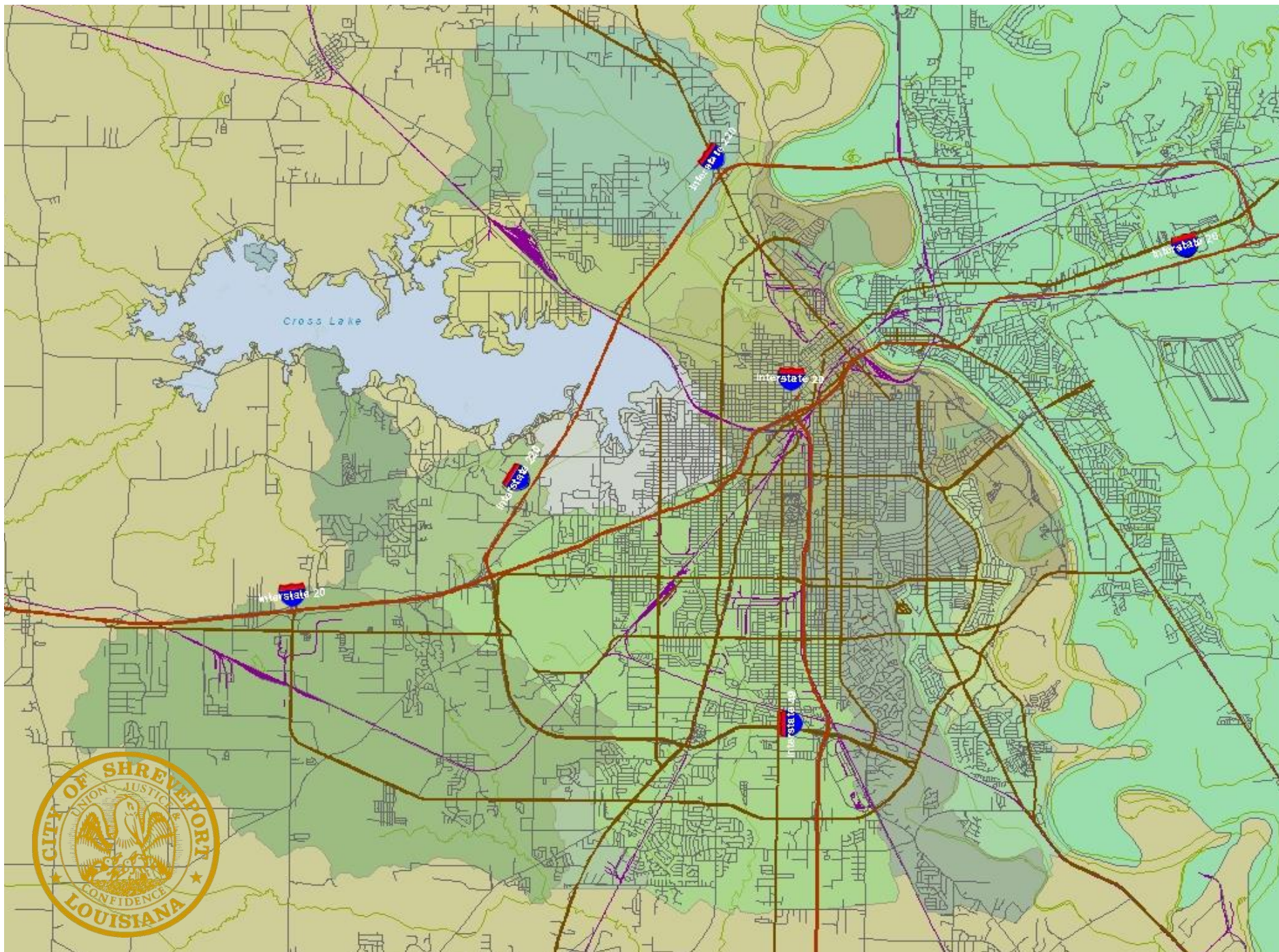


CROSS LAKE WATERSHED MANAGEMENT PROGRAM

Shreveport (Cross Lake in background)





Cross Lake

- Drinking Water Supply Source for Shreveport, BAFB, and surrounding communities
- Major recreational and ecological resource for NW Louisiana



NEIL JOHNSON

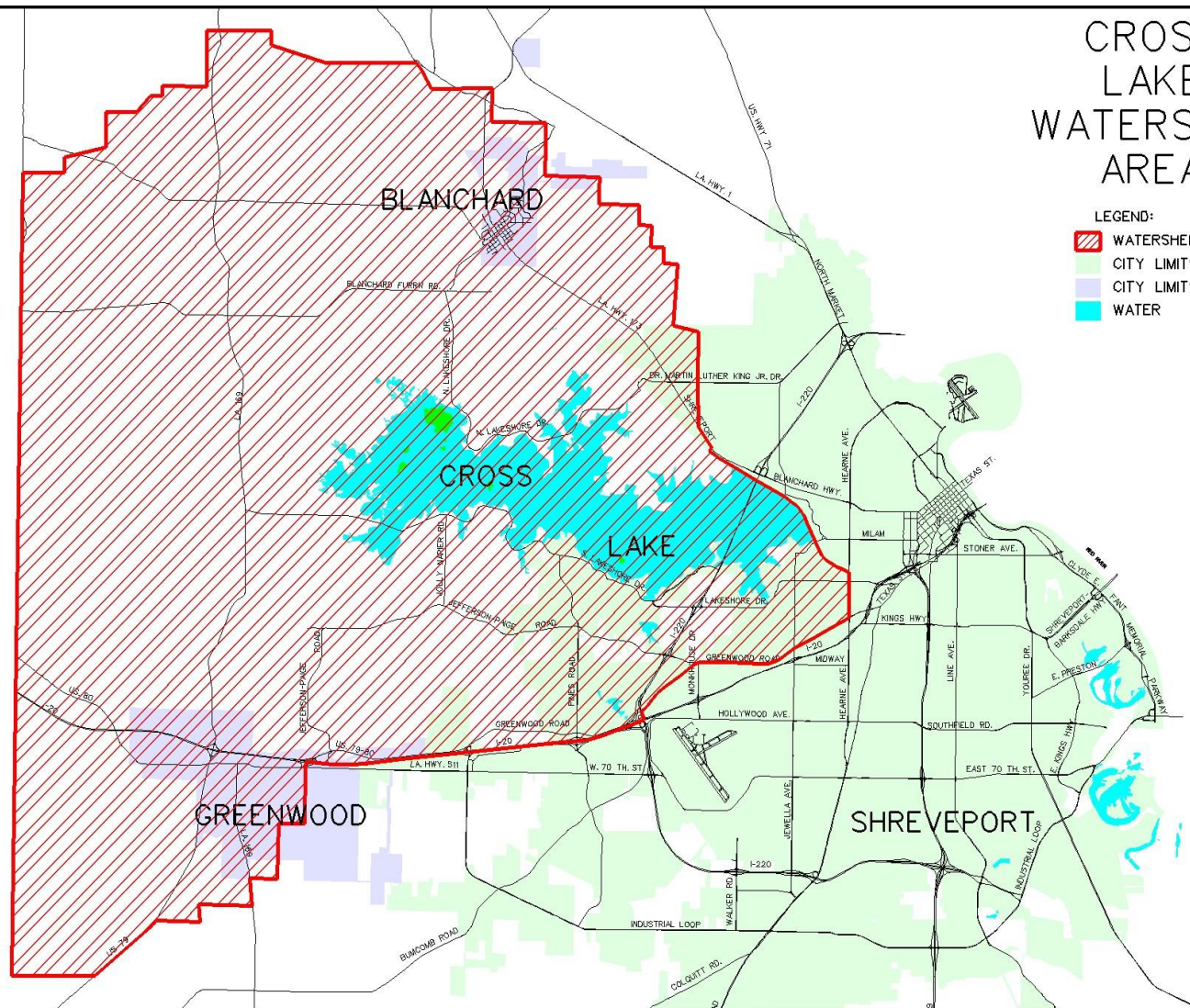


Barry Johnson

CROSS
LAKE
WATERSHED
AREA

LEGEND:

-  WATERSHED
 CITY LIMITS
 CITY LIMITS
 WATER



Lake/Watershed Facts

- Lake is shallow, getting shallower
- 13 square miles
- Watershed is 256 square miles
- Relatively little industrial point source pollution
 - Most of the watershed is located outside of the City limits

Cross Lake Watershed Management Program

- Began in late 1990s
- Citizens Advisory Committee
- Management Plan

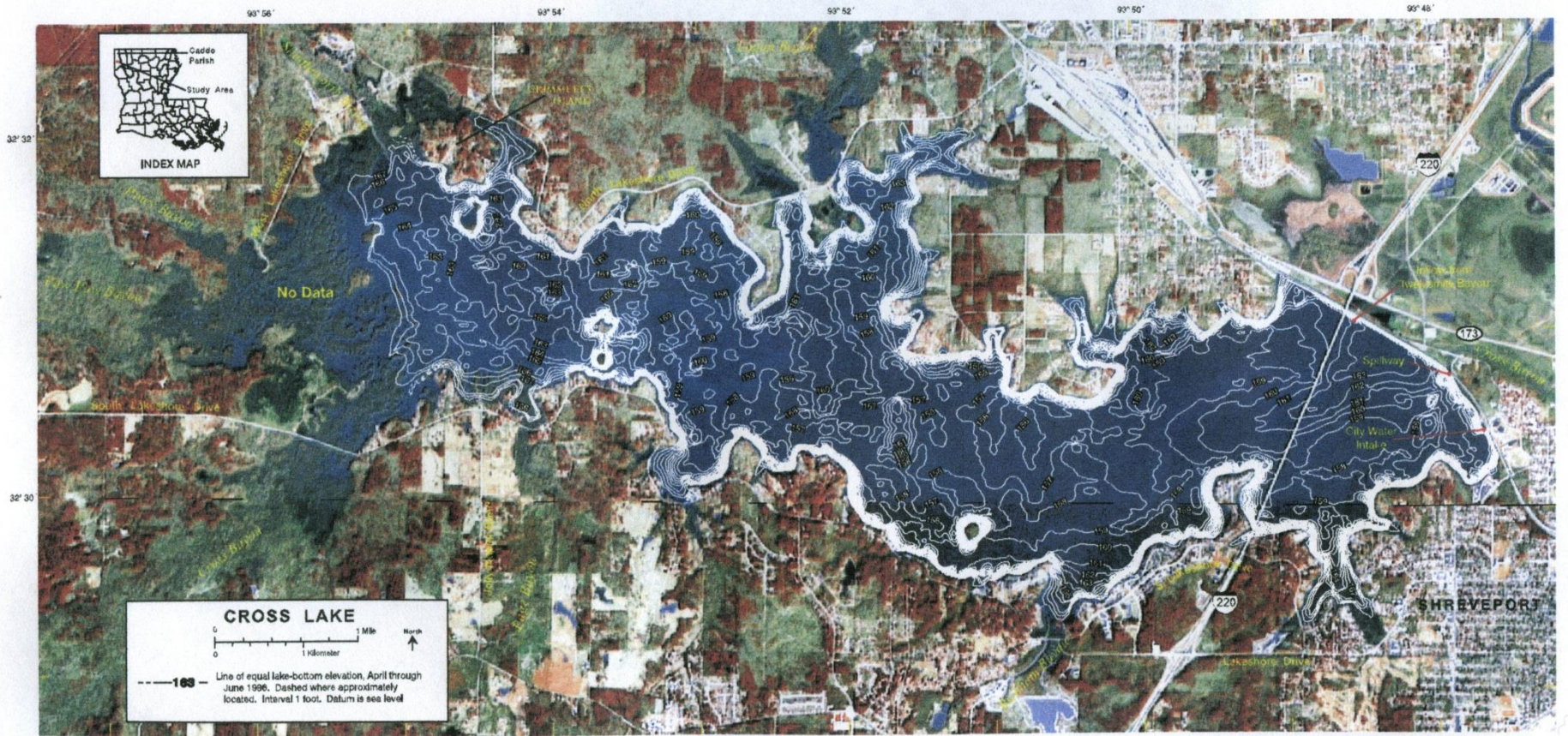
Components of Plan

- Lake/Watershed Characterization
- Public Awareness/Education
- Implementation

Lake/Watershed Characterization

- Bathymetric Map
 - <http://la.water.usgs.gov/pdfs/crosslake.pdf>
- Limnological Study
- Pollutant Loading Study
- Land Use

Lake/Watershed Characterization



Map provided by USGS

Lake/Watershed Characterization: Issues

- Sedimentation
- Nutrients
- Bacteria
- Threat of pollution from spills
- Latest concern-non-native aquatic weed growth

Lake/Watershed Characterization: Issues - Sedimentation





Lake/Watershed Characterization: Issues - Nutrients



Lake/Watershed Characterization: Issues - Bacteria

- Sewage overflows
- Malfunctioning septic systems

Lake/Watershed Characterization: Issues – Threat of Spills

- Highways, streets (I-220)
- Railyard
- Industrial activity
- Oil & Gas well activity



Lake/Watershed Characterization: Issues – Non-native Aquatic Weeds

- Hydrilla
- Water Hyacinth
- Giant Salvinia



Salvinia



Salvinia on Lake Bistineau



Public Awareness Projects

- Developed interactive CD on the watershed, distributed to all schools
- Newsletters

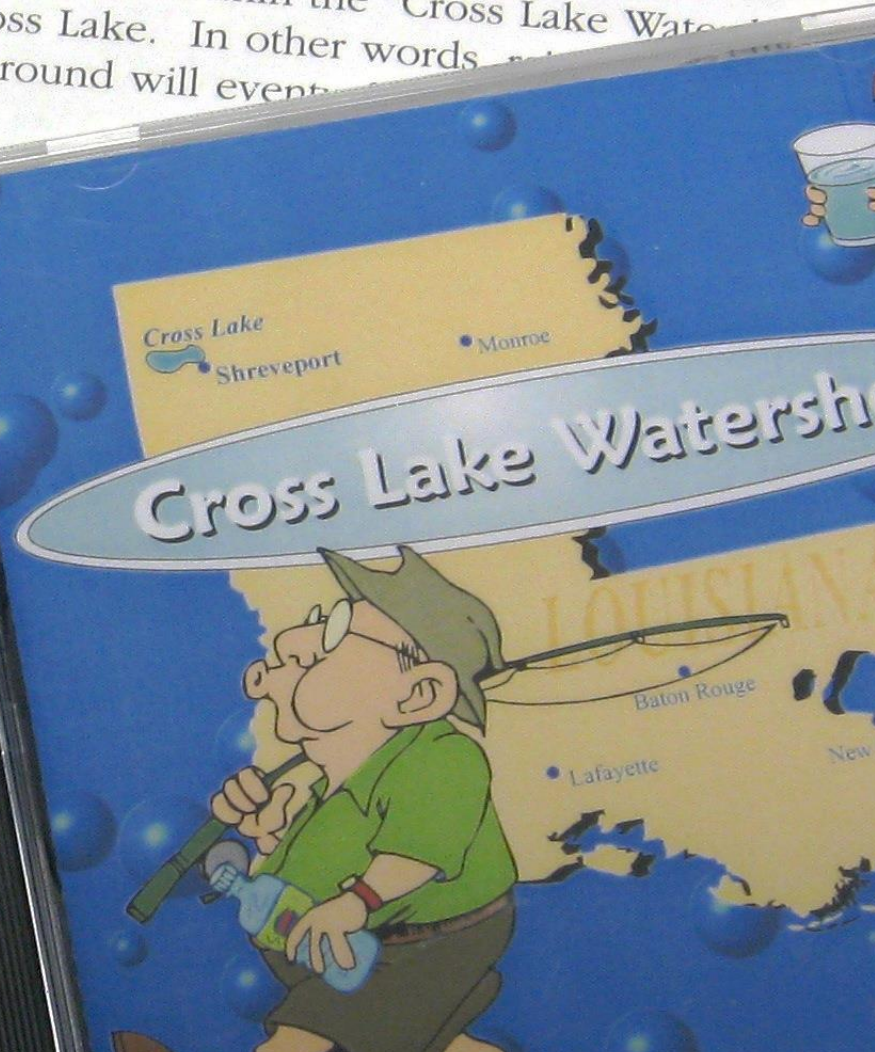
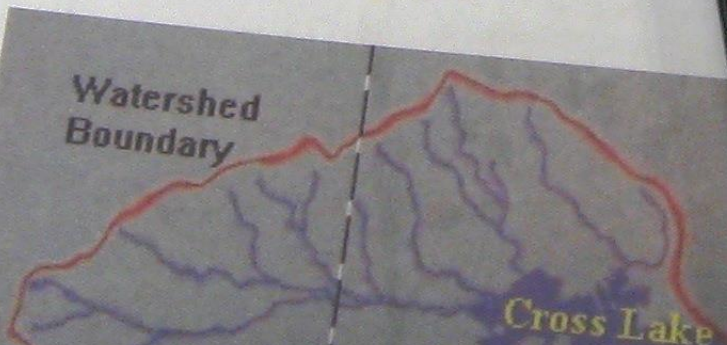
WHAT IS THE "CROSS LAKE WATERSHED," AND WHY IS IT IMPORTANT?

You are receiving this because your address is within the "Cross Lake Watershed." This is the area of land which drains to Cross Lake. In other words, any rain that falls on your address and is not absorbed into the ground will eventually end up in Cross Lake.

For this reason, what happens in the watershed is important. Furthermore, because the lake is located near Shreveport, Barksdale Air Force Base, and the lake happens throughout the watershed, it is important to protect it by nearly a quarter of a million people.

WHERE IS THE CROSS LAKE WATERSHED?

Two-thirds of the watershed is located in Harrison County, Texas.



Public Awareness Projects

- School projects
- Host all Caddo Parish 5th graders annually
- Established interactive kiosk at Sci-Port

Implementation of Plan

- Act 145 of 1990, regular session of Louisiana Legislature

Implementation of Plan: Regulatory Actions

- Comprehensive Watershed Protection Ordinance adopted in 2002
 - Adopted pursuant to City's statutory authority
 - Strengthened and clarified City's regulatory authority

Ordinances

- Section 78-344 created new comprehensive watershed protection ordinance
 - Included requirement for land-altering activity permits
- Section 94-191, et seq. established regulations pertaining to private individual sewage treatment systems

Implementation of Plan: Monitoring/Enforcement/Projects

- Monitor tributaries
- Inspect septic systems, USTs, industries
- Oversees vegetation management program
- Review/approve erosion control plans

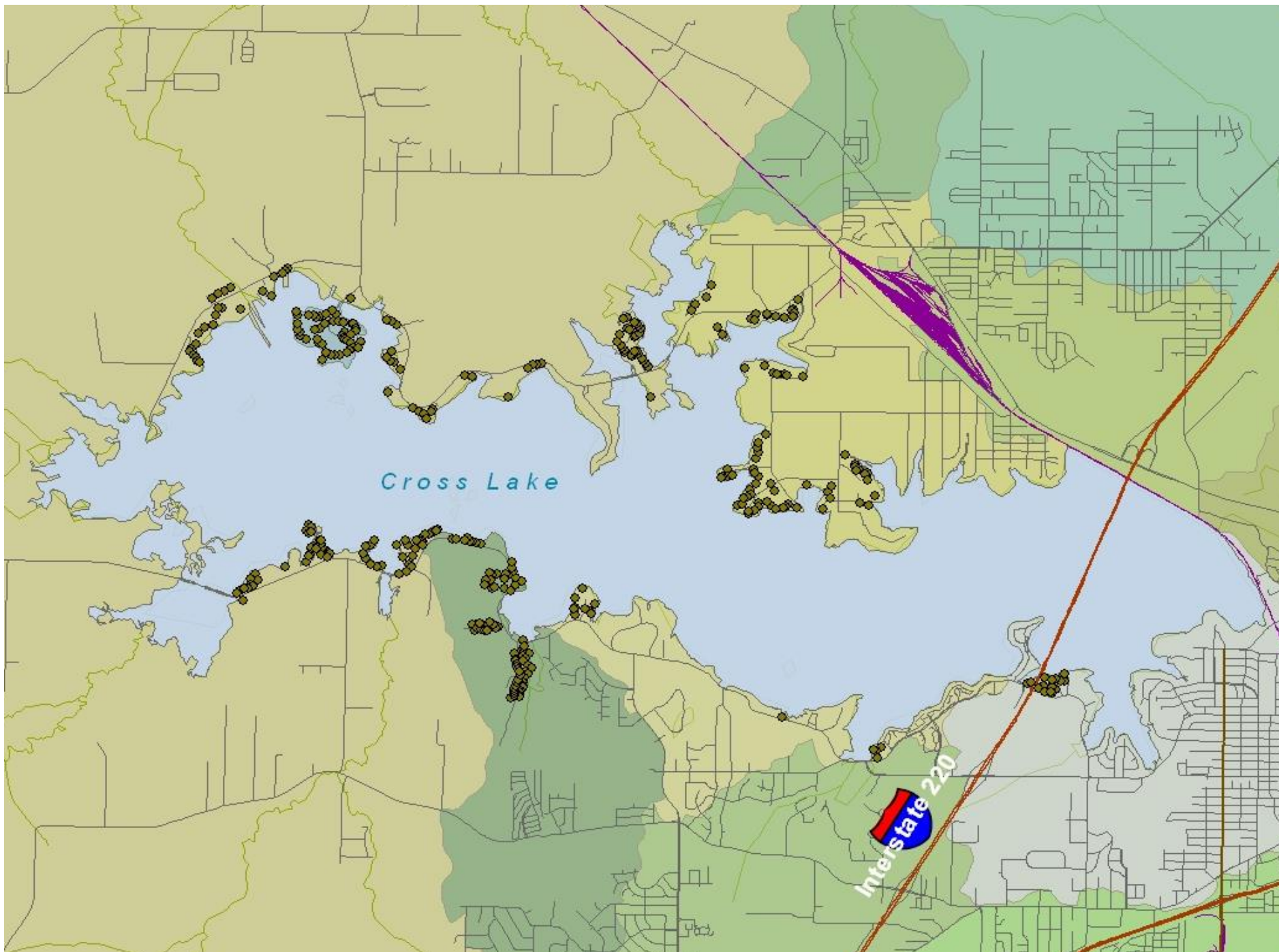
Help From Others!

- Shreveport Green's Inland Waterway Cleanup Programs



Residential Sewage Treatment Plant Project

- Received a grant to help improve failing septic systems around the lake

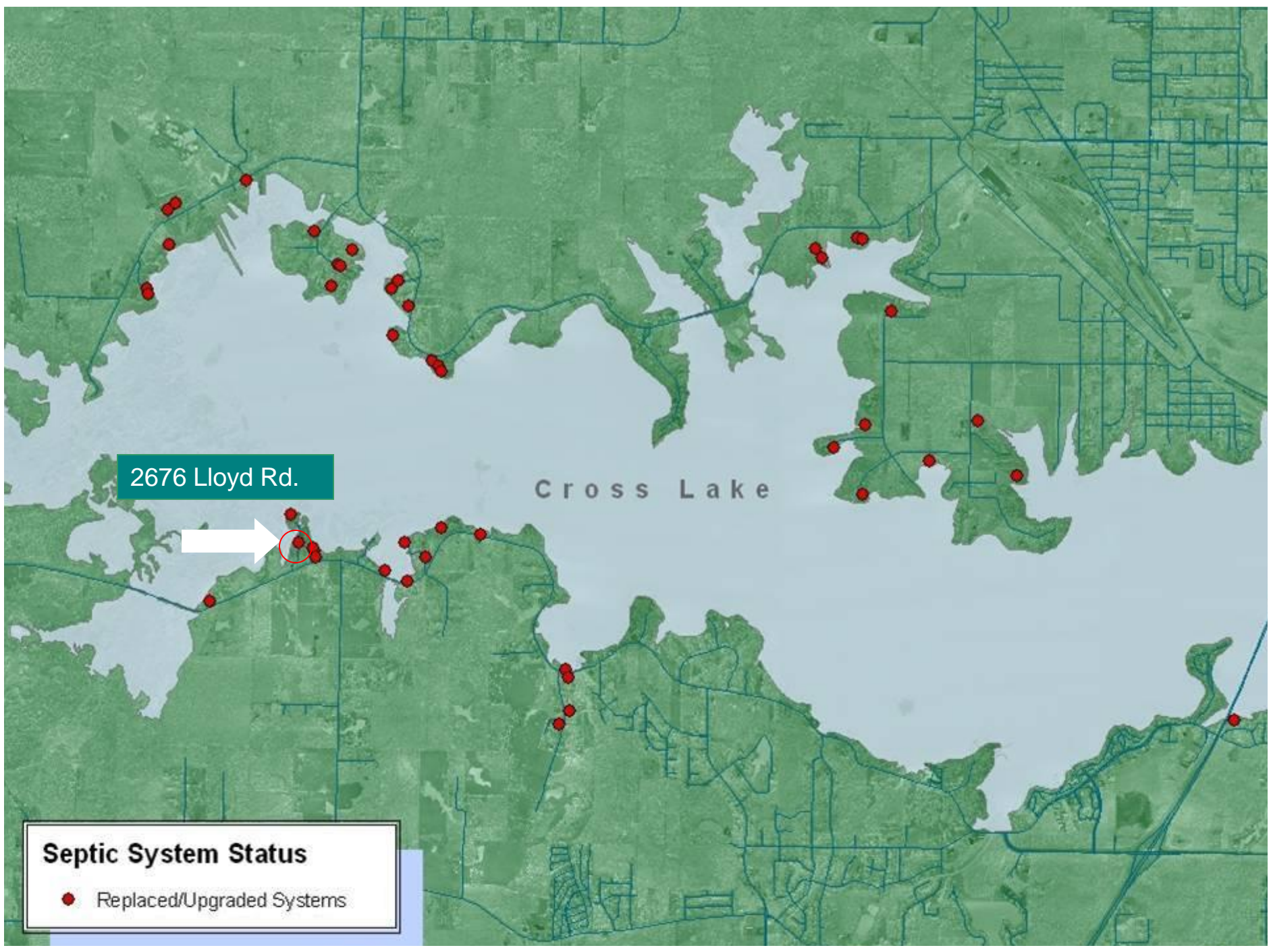


2676 Lloyd Rd.

Cross Lake

Septic System Status

- Replaced/Upgraded Systems



2676 Lloyd Rd.

Before Upgrade:



Location of bleed out from old septic tank.

First	<	>	Last	Delete
Point feature: sewage system				
Attribute Name		Value		
Date visited		9/11/2006		
Time visited		11:16:32 am		
Inspector		B J - J M		
Address		2676 lloyd rd		
Type of system		Septic tank		
Brand of system		Other		
Other		JACK DANIELS		
Last pumpout (yr)		0		
Age of system (yrs)		35		
Garbage disposal		no		
Maintenance contract		no		
Effluent Quality		0		
Odor		no odor		
Effluent Notes		none		
Mech Plant inspect:				
Aerator		n/a		
Sprinklers		n/a		
Filter		n/a		
Timer		n/a		
Tank		n/a		
Other observations		none		
Septic Tank inspect				
Leaching / Bleedout		yes		
Caving		no		
Excessive/irreg veg		no		
Odor		no		
Other observations		direct discharge to lake		
Inspection Grade		fail		
Summary Attributes 68% Precisions				
Positions:		1		
Std Deviation:		?		
Filename:		2676 Loyd.ssf		
Status...		New		
Offset...		<None>		

GPS Field Inspection Record

2676 Lloyd Rd.



The failing septic system was also discharging directly into Cross Lake.

2676 Lloyd Rd.

After Upgrade:



Upgraded system to a mechanical plant and removed direct discharge line to Cross Lake.

BORDELON SEPTIC SYSTEMS, INC.
11850 MANSFIELD ROAD
KEITHVILLE, LA 71047
318-925-0925

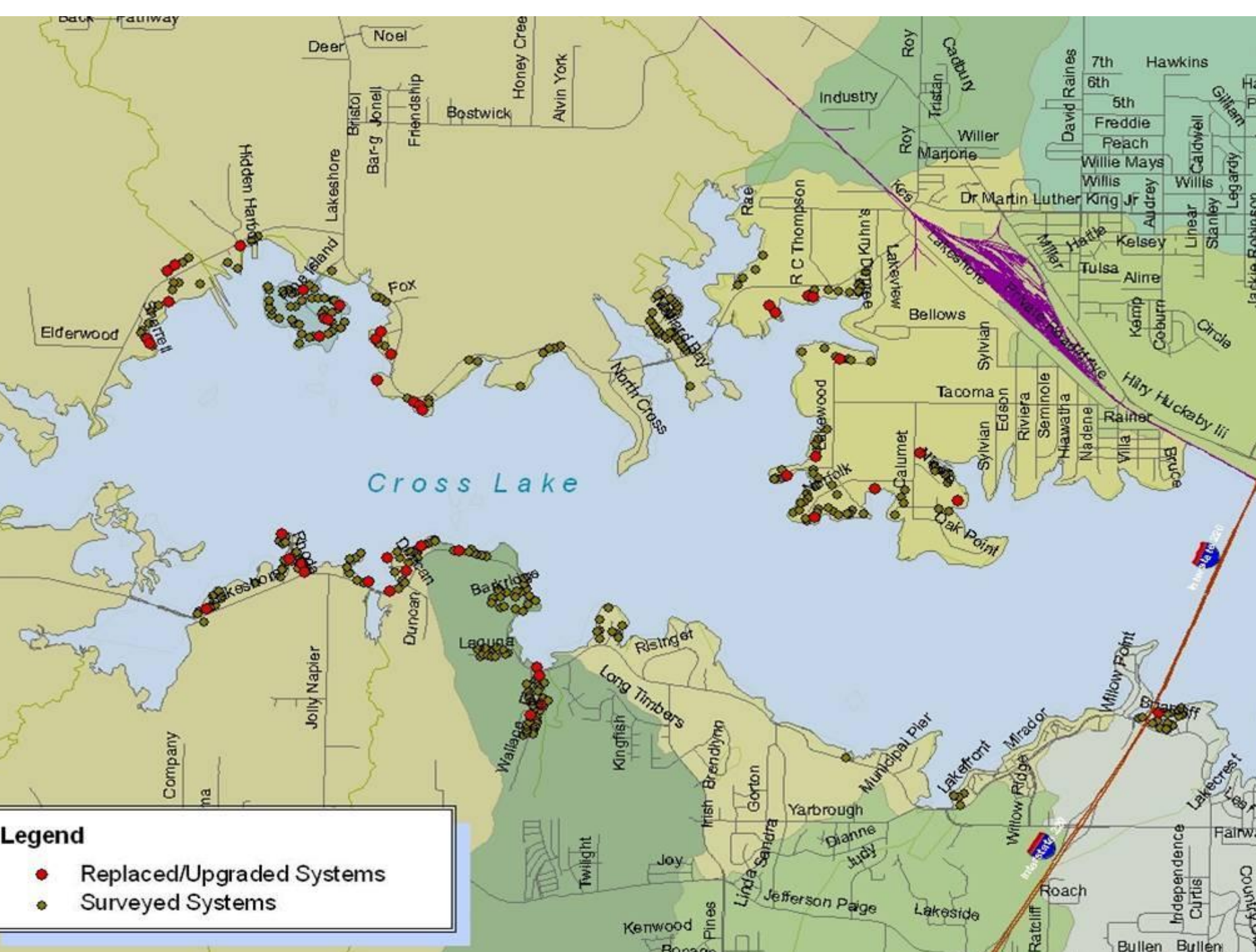
MARCH 28, 2007

JOHN HONEYCUTT
2676 LLOYD
SHREVEPORT, LA

INSTALL 500GPD CAJUN AIRE WITH PUMP, AERATOR AND 3 SPRINKLERS. PUMP AND AERATOR HAVE A 2 YR LIMITED WARRANTY, SPRINKLERS HAVE A 1 YR LIMITED WARRANTY. PUMP OUT EXISTING SEPTIC TANK AND TIE INTO TO BE USED AS PRE-TREATMENT. EXTRA DIRT TO BE HAULED OFF.

TOTAL \$4125.00

Quote generated by installer for upgrade totaling \$4,125.00





NEIL JOHNSON