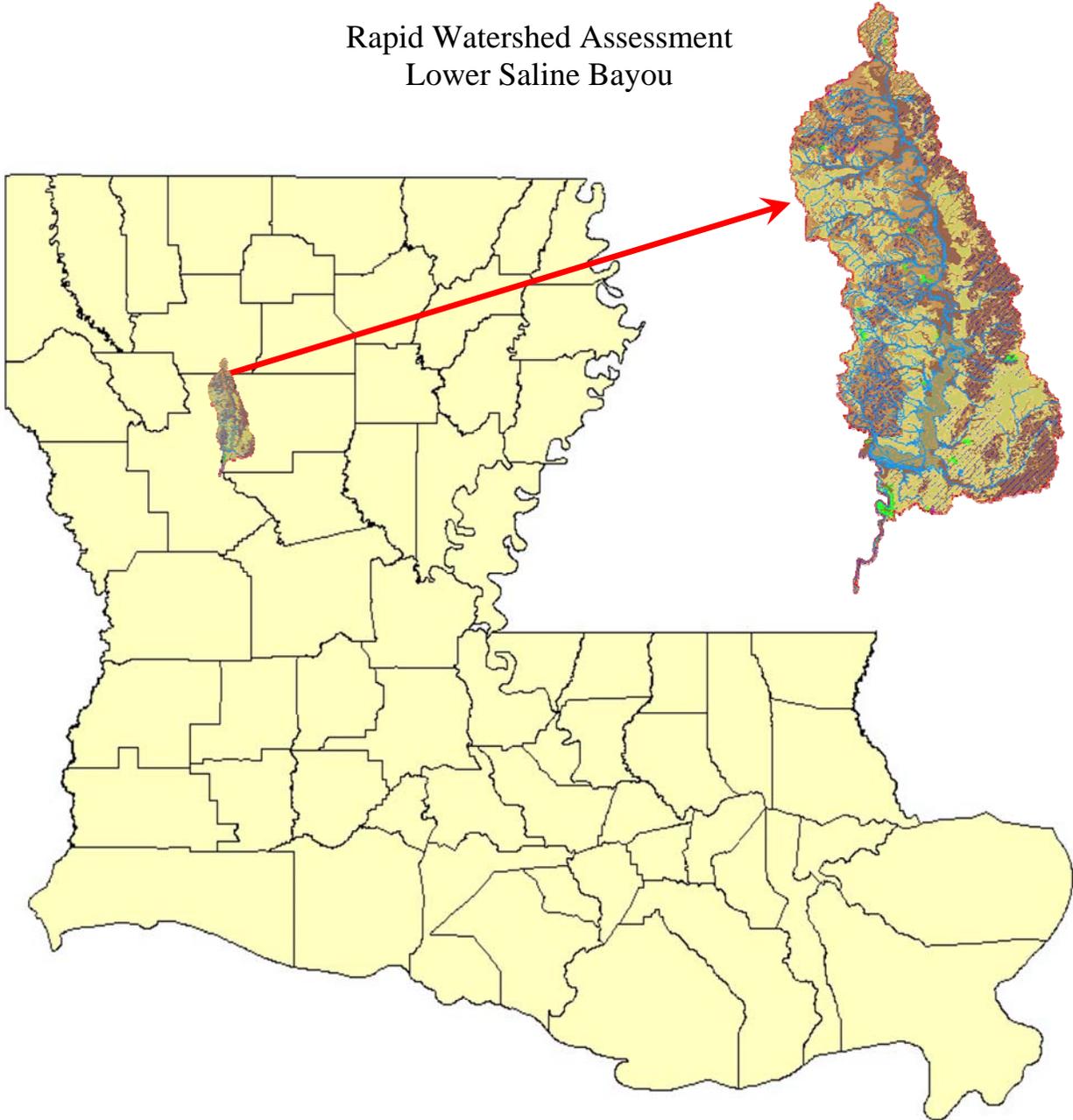




Natural Resources Conservation Service  
3737 Government Street  
Alexandria, Louisiana 71302

LOWER SALINE BAYOU WATERSHED  
RAPID WATERSHED ASSESSMENT  
HUC: 11140208020  
LOUISIANA

Rapid Watershed Assessment  
Lower Saline Bayou



Rapid watershed assessments provide initial estimates of where conservation investments would best address the concerns of landowners, conservation districts, and other community organizations. These assessments help landowners and local leaders set priorities and determine the best actions to achieve their goals.

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## **Lower Saline Bayou Watershed HUC - 11140208020**

### **Purpose**

This rapid watershed assessment (RWA) organizes resource information into one document that local conservationist, units of government, and others can use to identify existing resource conditions and conservation opportunities. This will enable the user to direct technical and financial resources to the local needs in the watershed. This RWA provides a brief description of the Upper Saline Bayou Watershed's natural resources, resource concerns, conservation needs, and ability to resolve natural resource issues and concerns.

### **Introduction**

The Lower Saline Bayou 11140208020-Digit Hydrologic Unit (HUC) sub basin is comprised of 130,000 acres in Northwest Louisiana.

### **Physical Description**

This area is in the West Gulf Coastal Plain Section of the Coastal Plain Province of the Atlantic Plain. It consists of level to steep uplands that are intricately dissected by streams. Broad flood plains and terraces are along some streams. Elevations range from 80 to 500 feet increasing gradually from southeast to northwest.

### **Soils**

For the purpose of this assessment the soils will be categorized by series. Series consists of soil within a family that have horizons similar in color, texture, structure reaction, consistence, mineral and chemical composition and arrangement in a soil profile. The common soil series found in this watershed are Ruston, Malbis, Wrightsville, Calhoun, Grenada, Gilbert, Frizzell, Bussy, Moreland, Latanier, Roxanna, Caspiana, Severn, and Gallion, Sucul, Beauregard, Glenmora, Caddo, Kisatchie, Blevins, Savannah, and Smithdale. On the floodplain the dominant soils are Guyton and Iuka.

### **Biology**

This area supports pine-hardwood vegetation. The dominant trees are loblolly pine, shortleaf pine, sweetgum, southern red oak, white oak, flowering dogwood, and post oak. American beautyberry, greenbrier, hawthorns, and berry vines are included in the woody understory. Little bluestem and pinhole bluestem are the dominant herbaceous species. Other major grasses include beaked panicum, longleaf uniola, spike uniola, and yellow Indiangrass. The plant community has many species of low-growing panicums and paspalums and perennial forbs. The major wildlife species in this area include white-tailed deer, coyote, beaver, raccoon, skunk, opossum, muskrat, mink, cottontail, squirrel, weasel, armadillo, and mourning dove.

## Climate

The average annual precipitation in the watershed is 39 to 63 inches. Most of the rainfall occurs as frontal storms in spring and early summer. High intensity, convective thunderstorms occur in late summer and in fall. Some heavy rains occur during the winter months. The average annual temperature is 61 to 68 degrees Fahrenheit. The freeze-free period averages 270 days.

## Land Use

The dominant land cover and land use in the watershed include forestland, pine plantation, pasture, truck crops, hayland and some urban concentrations. The forested areas in this watershed are used for the production of lumber and pulpwood. The natural vegetation in the relatively flat to undulating areas of the watershed has a high diversity of natural communities including oak-hickory forests; shortleaf pine-oak-hickory forest, hardwood flatwoods and calcareous forest and prairies, with many rare plant species: bald cypress, and water tupelo in wetter sites. The hilly upland areas has a high diversity of natural communities including upland longleaf pine woodlands (historically dominant), longleaf pine savannas, hardwood slope forests with beech and magnolias; calcareous forests and prairies, bogs with pitcher plants and rochids, and sandstone glades with pines, and drought tolerant oaks.

For the broad level to nearly level floodplain and low terraces areas of the watershed the natural vegetation consist of bottomland including oaks (willows, overcup, water, cherrybark, Nuttall, swamp chestnut), sweetgum, blackgum, American elm, red maple, green ash, honey locust, water locust, bald cypress, and water tupelo.

### Legend

	Water
	Urban/Developed
	Barren
	Forest
	Scrub
	Crops
	Marsh

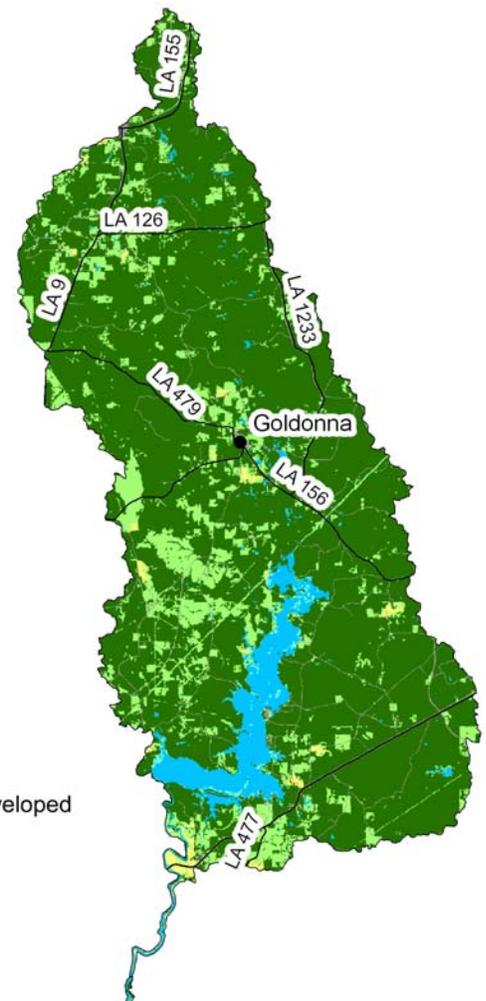


Figure 1: Land Use Map

## Ecoregions

Ecoregions are regions with similar ecological characteristics. Ecoregions are delineated based on characteristics such as climate, land surface form, soils, vegetation, land use and hydrographic modifications (levee systems) to form management units with similar biological, chemical and physical features Omernik, 1987. The Lower Saline Bayou Watershed is situated in the South Central Plains ecoregion. For the purpose of this assessment Level IV designation will be used which consists of the Pleistocene Fluvial Terraces, Red River Bottomlands, and the Southern Tertiary Uplands located in northwestern Louisiana. The Pleistocene Fluvial Terraces are characterized as relatively flat to undulating terraces with increasing dissection and relief with age. The Red River bottomlands are broad, level to nearly level floodplain and low terraces with oxbow lakes, meander scars, backswamps, natural and artificial levees and drainage ditches. The Southern Tertiary Uplands are hilly uplands formed by extensive dissection of bedrock strata.

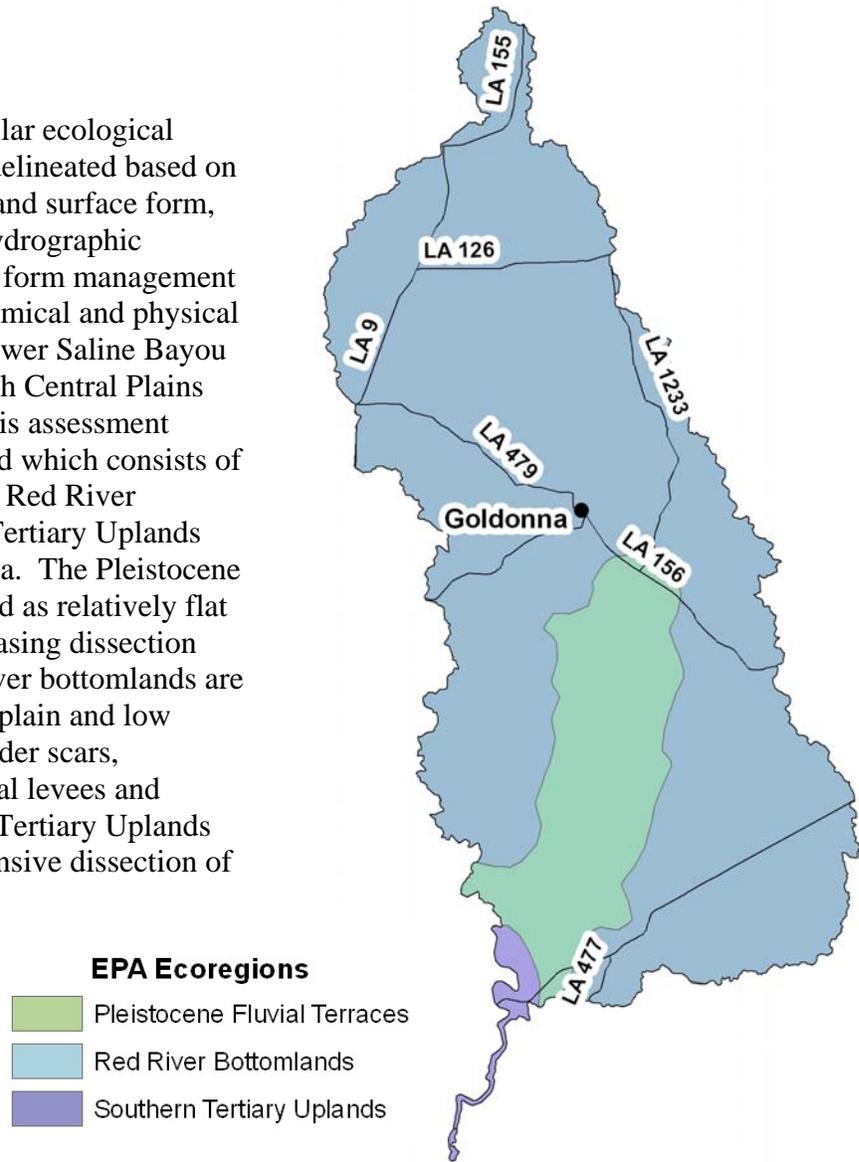


Figure 2: Ecoregions Map

## Gas and Oil Wells

Louisiana ranks fourth among the States in crude oil production behind Texas, Alaska, and California (excluding Federal offshore areas, which produces more than any single state). Louisiana ranks second in the Nation in natural gas production. Driven by the industrial and electricity generation sectors, Louisiana's natural gas consumption is high, ranking third among all States. Nearly one-half of Louisiana households use natural gas as their primary energy source for home heating. Within Natchitoches Parish, of which the Lower Saline watershed is a part of, there are over 1,129 oil and gas wells producing in excess of 22,839 barrels of oil and 531,522 million cubic feet of gas during the January 2007 - December 2007 time period.

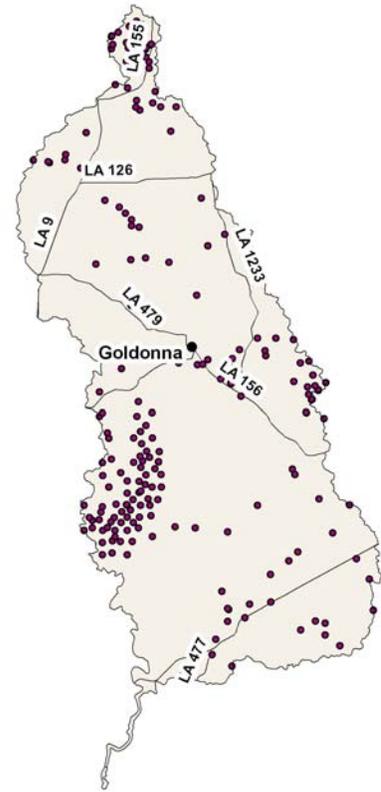
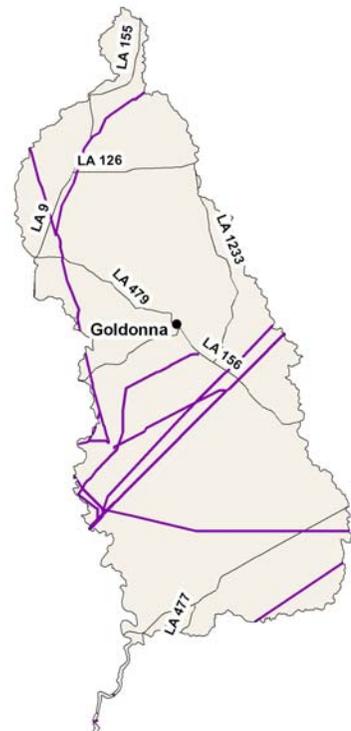


Figure 3: Gas/Oil Wells & Pipeline Maps

## Gas Pipeline

The pipeline industry is a vital part of the oil and gas industry in Louisiana. Louisiana has an extensive pipeline network. Pipelines transport crude oil and natural gas from the wellhead to the processing plants and refineries. Pipelines transport natural gas from producing states such as Louisiana to utility companies, chemical companies and other users throughout the nation. Pipelines are also used to transport chemical products. In Louisiana there are an estimated 25,000 miles of pipe moving natural gas through interstate pipelines. There are 7,600 miles of pipelines that carry natural gas through intrastate pipelines to users within the state's boundaries. Another 3,450 miles of pipelines in Louisiana transport crude oil and crude oil products. The pipeline industry employs 4,855 persons in Louisiana with an annual payroll of more than \$250 million. The dominant pipeline company in the watershed is the Tennessee Gas Pipeline Company



## Education

The schools located in the watershed consist of Saline High School, Shady Grove High School and Goldonna Elementary School. Within these facilities, basic skills are taught and mastered by the students.



Figure 4: Education & Political Maps

## State Political Area

The Louisiana House of Representatives is the lower house in the Louisiana State Legislature. The House is composed of 105 Representatives, each of whom represents approximately 42,500 people. Portions of Representative Districts 13 and 23 are located within the Saline Bayou Watershed



## **Resource Concerns**

Resource concerns are issues related to the natural environment. Natural resources include soil, water, air, plants, animals, and humans. A public meeting was held in the watershed to obtain input on the resource concerns from the general public. Some of those resource concerns are found below. The remainder of the concerns can be found in Appendix A.

### **Water**

- Nuisant aquatic vegetation such as hydrilla and giant Salvinia are impacting waterbodies in the watershed.
- There is a concern with the distance of drinking water supply in relations to the watershed

### **Animals**

- Improving and maintaining wildlife habitat for recreational purposes is a concern for residents in the watershed. Participants are in favor of utilizing incentives for private landowners to assist with wildlife habitat.

### **Plants**

- More implementation of buffer zones adjacent to streams in the watershed is needed.
- More conservation dollars are needed to assist forestland producers.

### **Human**

- The public needs to be educated more on being good stewards of our natural resources
- Local commitment for cost share funding is needed

## **Estimated Soil Loss**

Soil loss through wind and water erosion is critical to consider for dealing with air and water quality issues. As airborne particulate, soil particles are a major contributor to air quality concerns. Soil loss through water erosion causes water quality impairments, as pollutants are attached to soil colloids and are transported into the stream systems. Erosion by water has been identified as a concern in this watershed.

- Through NRCS programs, many farmers and ranchers have applied conservation practices to reduce the effects of erosion by water.

## **Water Quality Conditions**

The Louisiana Department of Environmental Quality (LDEQ) is responsible for monitoring water quality conditions in the state of Louisiana. LDEQ data shows that about 77 percent of the water bodies in the state fail to meet at least one, and sometimes more, of their intended uses. As of 2004, 318 water body sub-segments did not meet the state's "fishable" use and 111 sub-segments did not meet the state's "swimmable" use.

## Designated Uses

According to LDEQ, the designated uses for streams and rivers in this watershed include: Primary Contact Recreation (PCR) – Swimming, Secondary Contact Recreation (SCR), Fish and Wildlife Propagation (FWP) – Fishing, and Outstanding Natural Resource (ONR).  
**F** = Fully supporting their designated use and **N** = Not fully supporting their designated use.

**Table 1: Lower Saline Water Quality Conditions**

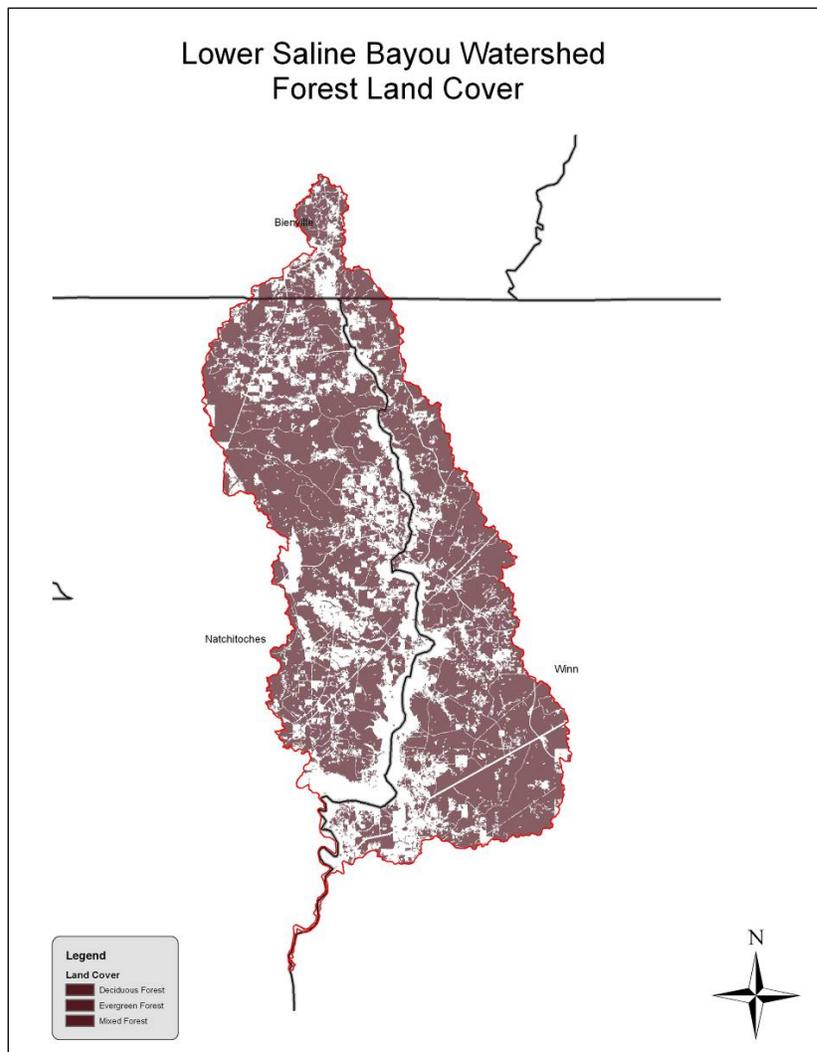
		PCR	SCR	FWP	DWS	ONR	OYS	AGR	LAL	Impaired Use for Suspected Cause	Suspected Causes of Impairment	IR Category for Suspected Causes	TMDL Due Date	TMDL Priority
<b>Lower Saline Rapid Watershed Assessment</b>														
100801	Saline Bayou	F	F	N		F		F		FWP	Nitrate/Nitrite (Nitrite + Nitrate as N)	IRC4c	n/a	
		F	F	N		F		F		FWP	Oxygen, Dissolved	IRC4c	n/a	
		F	F	N						FWP	Phosphorous (Total)	IRC4c	n/a	
100802	Saline Lake	F	F	N				F		FWP	Oxygen, Dissolved	IRC4c	n/a	
100803	Saline Bayou	F	F	N				F		FWP	Mercury	IRC5	2007	H
		F	F	N				F		FWP	Mercury	IRC5	2007	H

## Resource Characteristics

One of the resource concerns identified by stakeholders was surface water quality. The particular issue dealt with in this risk assessment is organic enrichment of surface waters. The goal of this effort was to identify areas of high risk related to erosion. The cultural and resource characteristics identified by local NRCS planning specialists to be considered in the risk assessment included: land cover, soil hydrologic group, land slopes, stream proximity.

### **Forest Land Cover**

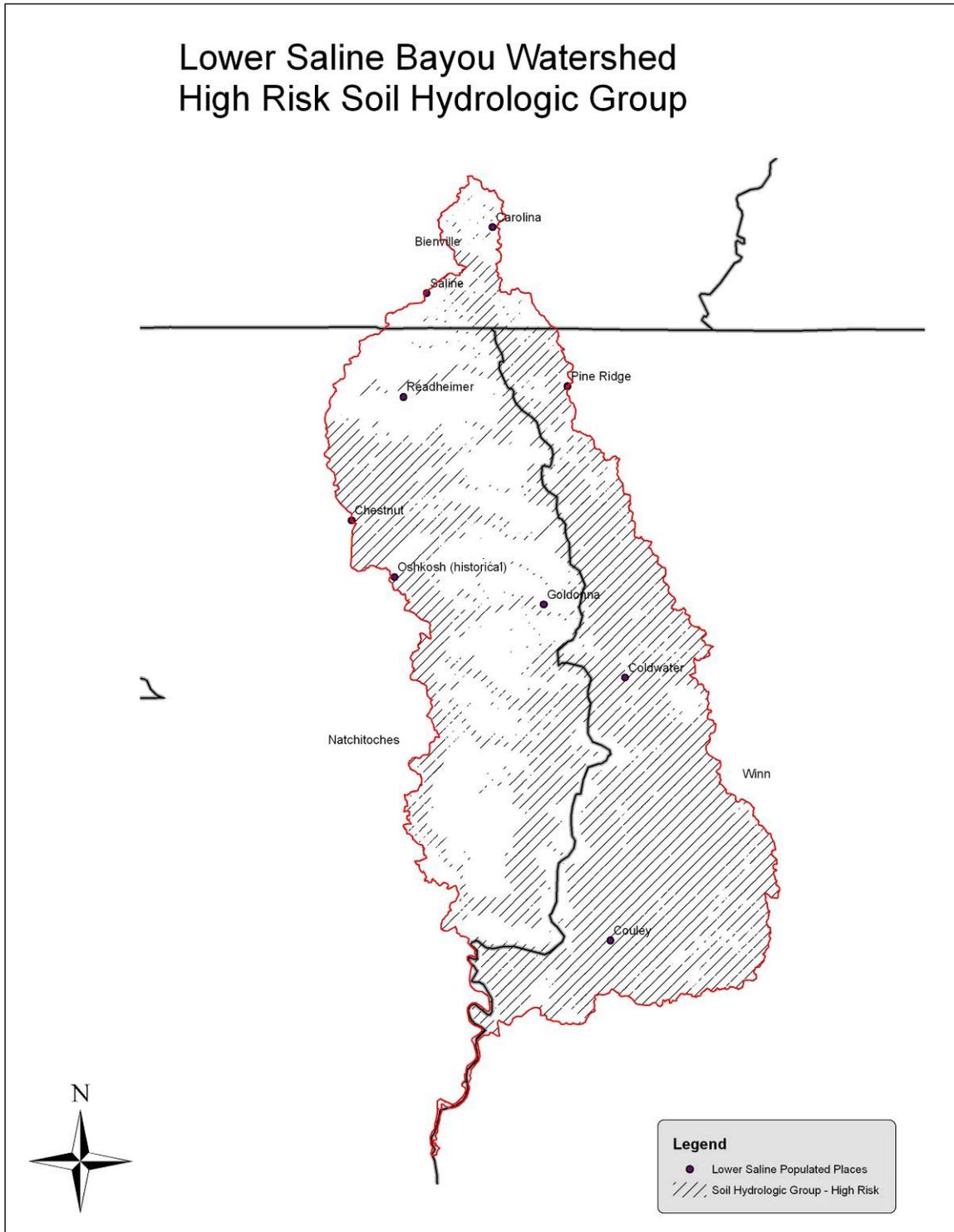
**Figure 5: Forest Land Cover**



## Soil Hydrologic Group

The soil hydrologic functions significantly affect runoff and the map below displays the high risk areas of the hydrologic soil group in the Lower Saline Bayou Watershed.

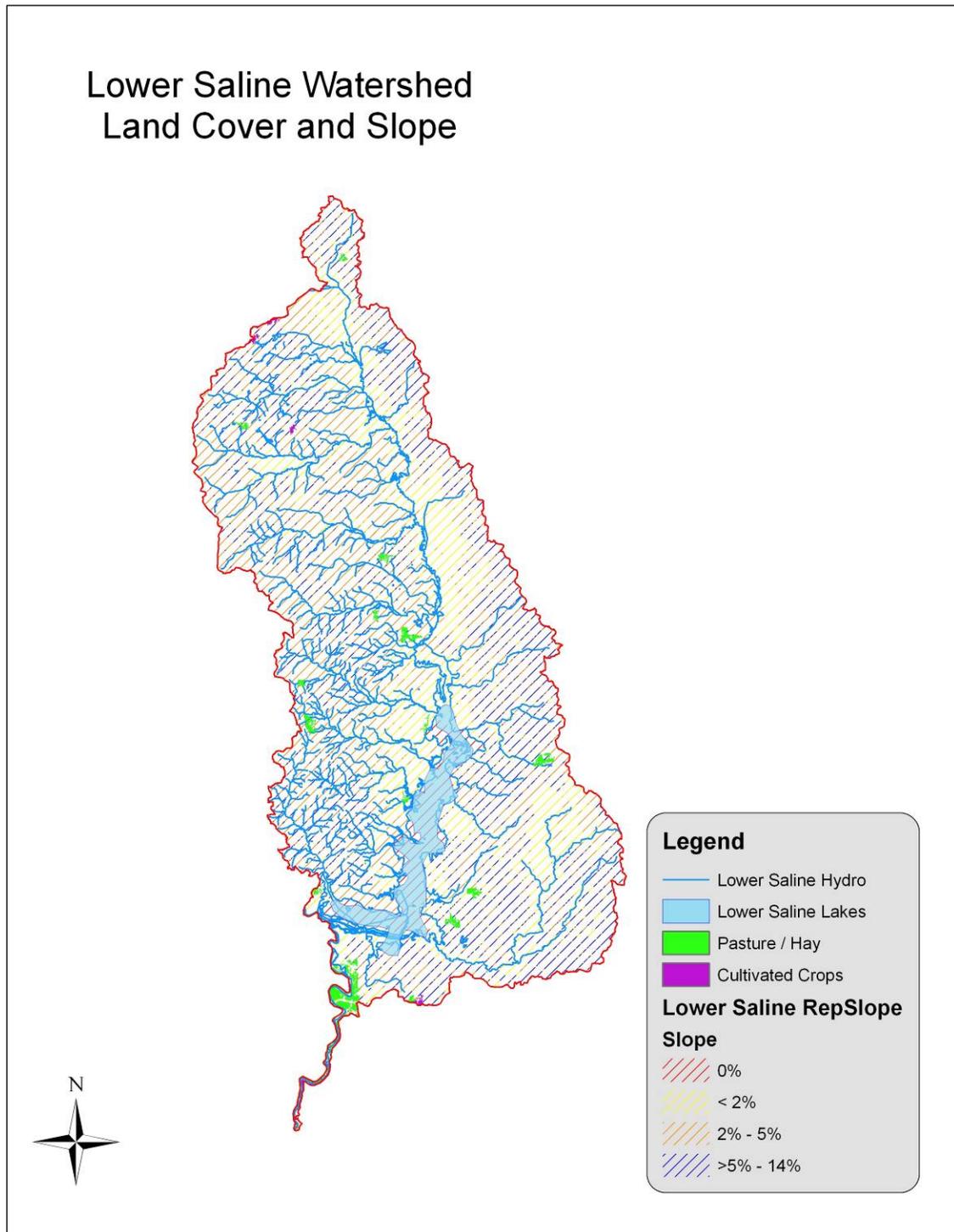
Figure 6: Soil Hydrologic Group



## Land Cover and Slope

This map presents the cropland and pastureland land uses as well as the various landscape slopes. The blue diagonal lines represent the high slope areas.

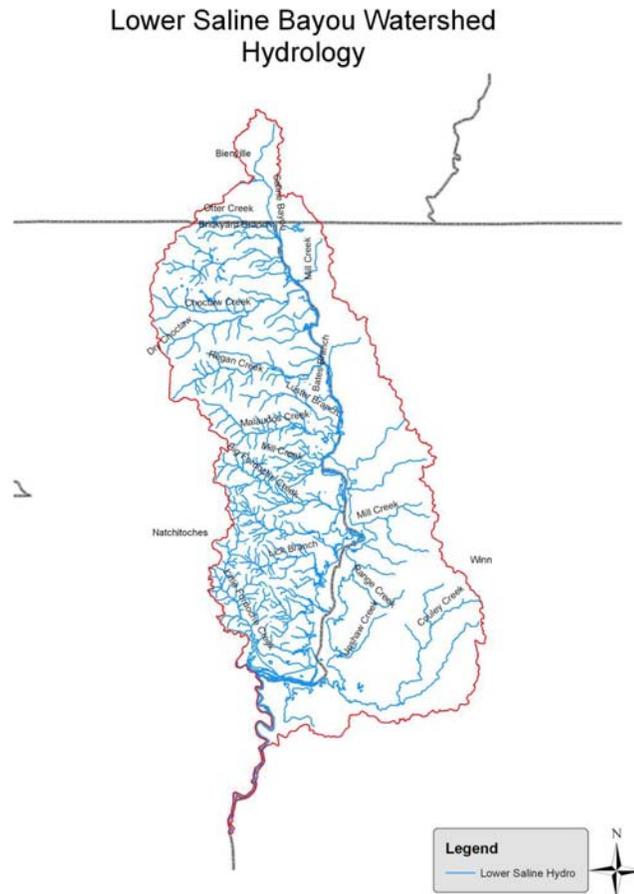
Figure 7: Land Cover and Slope



## Stream Network

The landscape slope affects the velocity of runoff therefore the erosion rates which are likely to occur. It can be seen from Figure 8, the steeper slopes are in the southeast and eastern parts of the watershed. The stream system, which is the receiving body of the generated sediment, is also shown. The closer a potential contributing area is to a stream the higher the risk for sediment and other pollutant loading. These risk factors were rated individually and cumulatively to define the overall risk of erosion and sediment loading to streams. The risk matrix in Table 1 below expresses the concept.

**Figure 8: Stream Network**

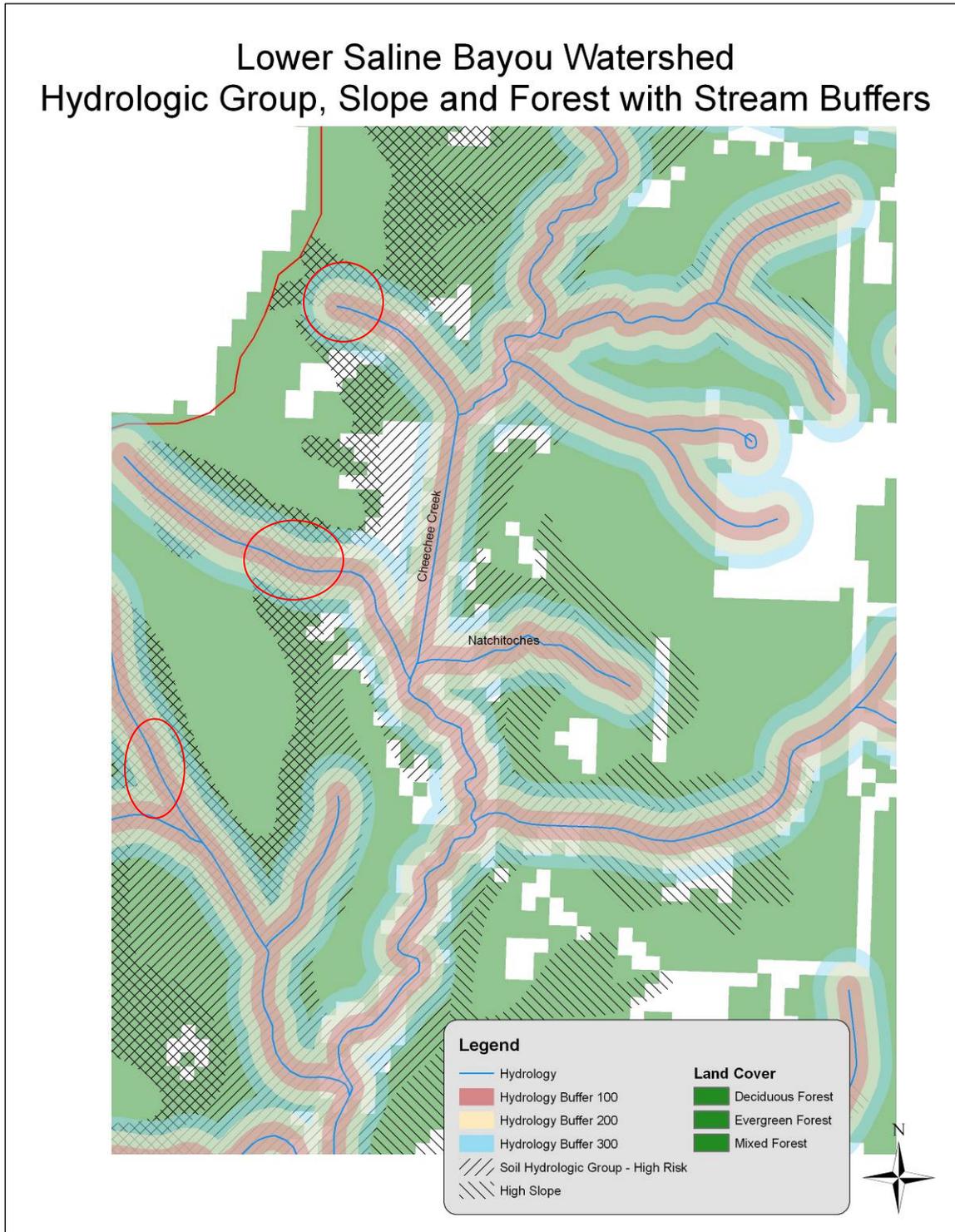


**Table 2: Risk Matrix**

<b>RISK</b>	<b>LOW</b>	<b>MODERATE</b>	<b>HIGH</b>
<b>Forest cover</b>	Not Present – 1		Present - 3
<b>Soil Hydrologic Group</b>	Low – A(1)	Medium – B(2)	High – C&D(3)
<b>Slope</b>	0 - < 2%	2-5%	>5 - 14%
<b>Stream Proximity</b>	5000 ft.	2600 ft.	1300 ft.

When this matrix is applied using GIS technology varying levels of risk become apparent. The following map depicts these risk areas. The high risk areas are those forested areas where the landscape slopes exceed five percent and are within 1300 feet of a stream. The stream buffers identify the risk zones and the areas of highest risk are circled in red on Figure 9.

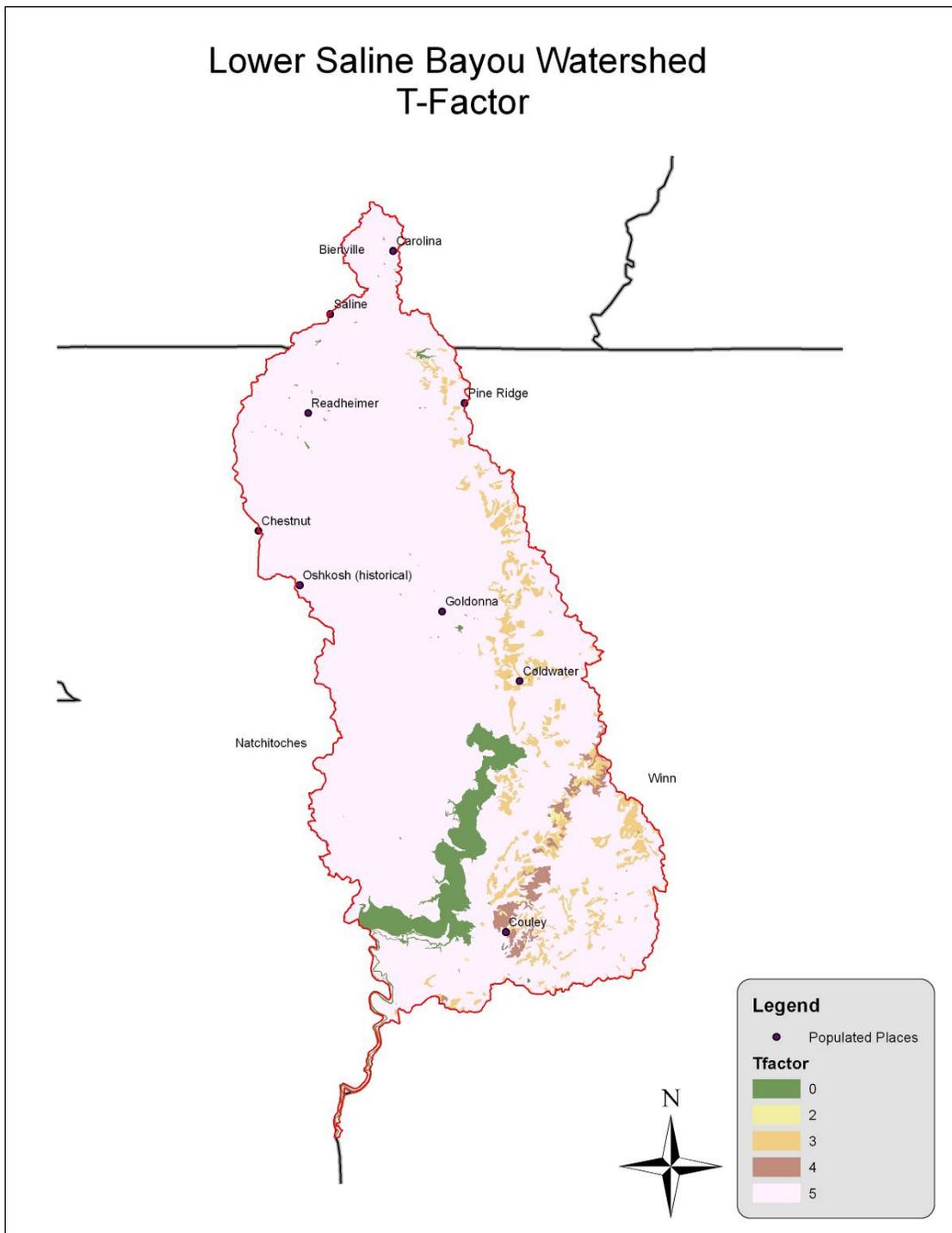
**Figure 9: Hydrologic Group, Slope & Forest w/stream buffers**



## T-Factor Soils in the Watershed

The significance of erosion to the soil resource is dependant on a soils depth. Deep soils are not as seriously impacted by erosion. Generally, these soils have a T-factor of five. "T" is the soil loss tolerance factor. It is defined as the maximum amount of erosion at which the quality of a soil as a medium for plant growth can be maintained. Shallower soils have T-factors less than five. Figure 10 displays the various T-factors for the Lower Saline Watershed.

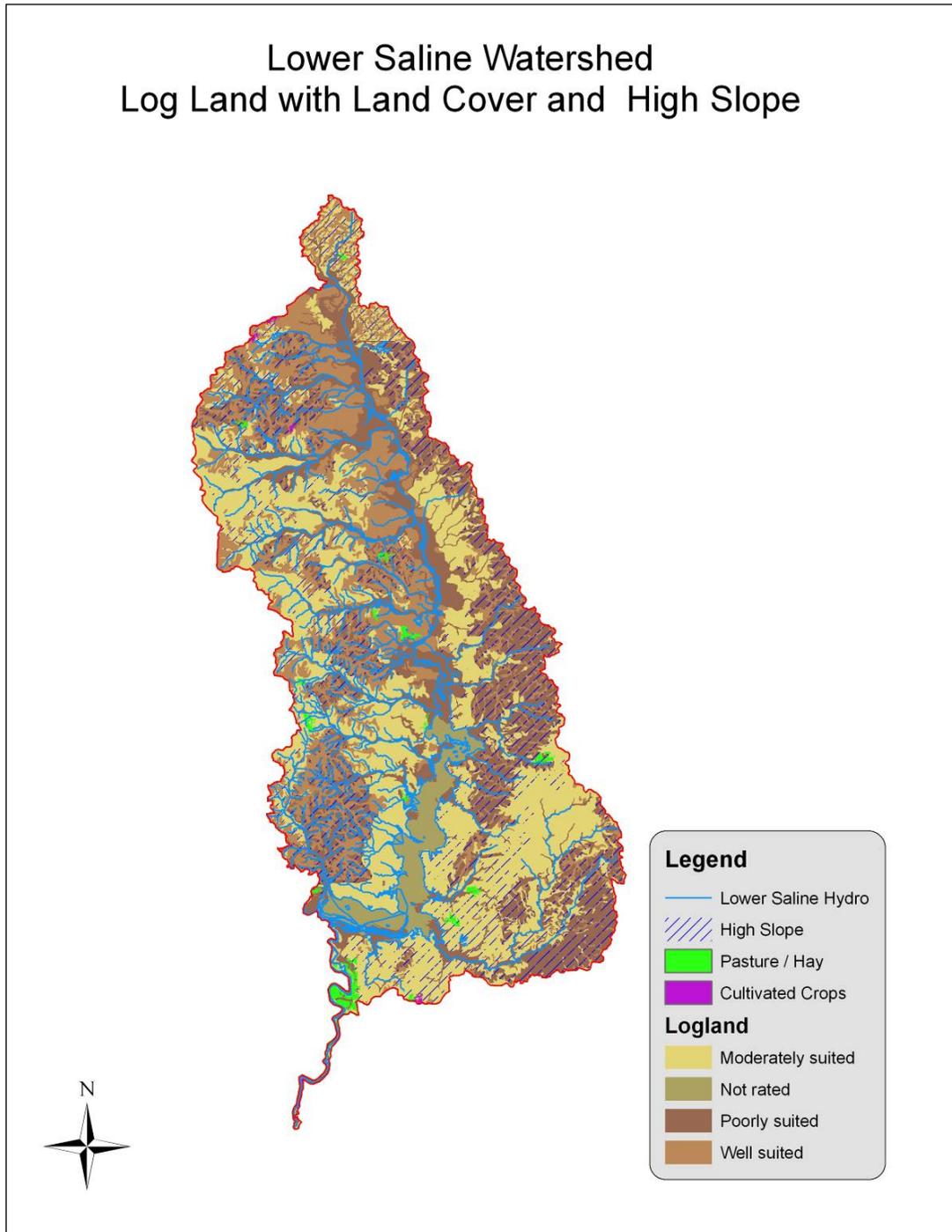
Figure 10: T-Factor Soils for Lower Saline Watershed



## Forest Harvesting

Forest harvesting can be the catalyst to erosion. Improperly sited log landings are especially susceptible to erosion. Note in Figure 11 the high slope areas are also occurring in poorly suited landing sites. This makes them even more susceptible to significant erosion. When surface waters are in close proximity to sites with the previously mentioned conditions, they are likely to receive the sediment generated from erosion.

**Figure 11: Log Landings**



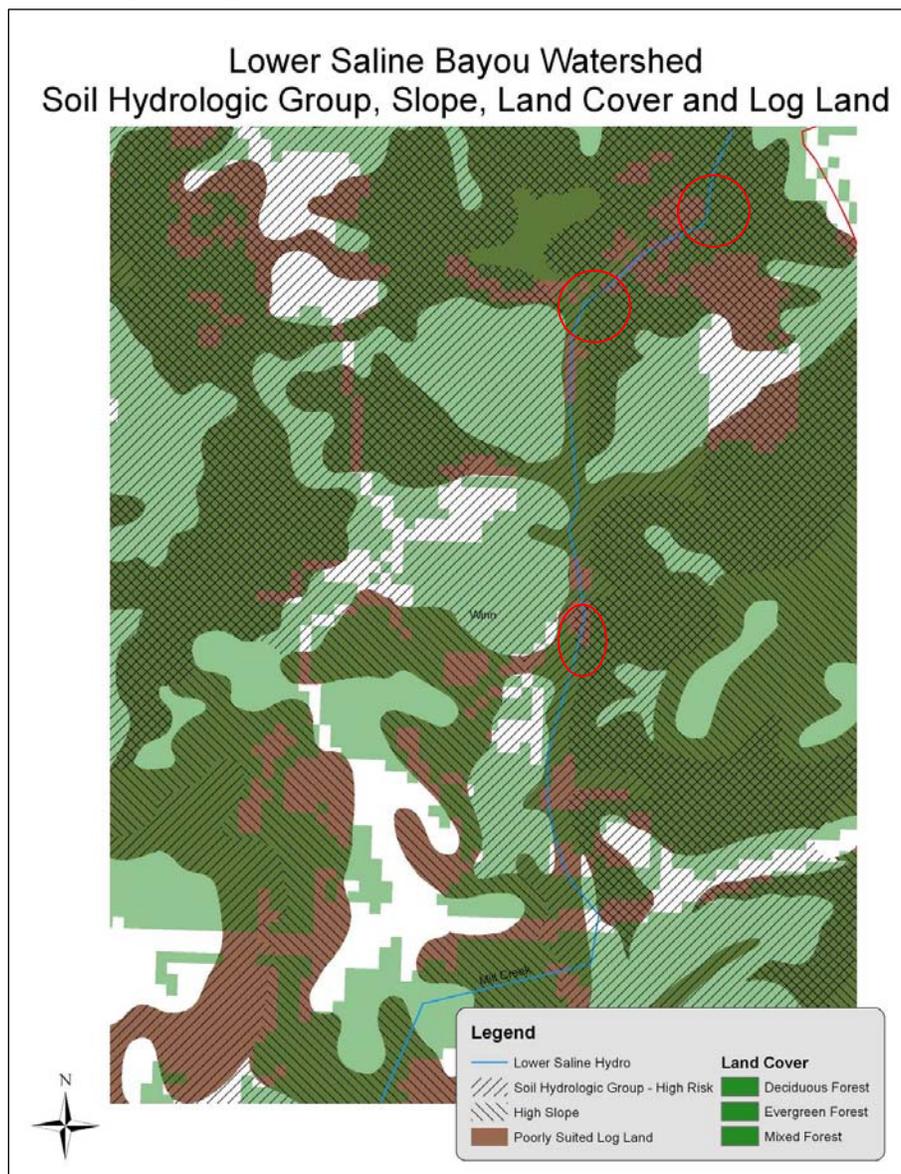
## Watershed Buffers

One treatment consideration is the creation of buffers adjacent to receiving water bodies. These would be vegetative buffers which also benefit wildlife. The need for this treatment increases as human activities penetrate deeper into the risk zones created by defining surface water buffers at various distances from the water body. The greatest need for this type of treatment occurs when risk zones are deeply penetrated by resource production oriented activities such as timber harvesting. The other matrix risk factors further define the risk level associated with the landscape condition. The following maps depict how the risk factors may be used to minimize environmental impairments related to log landings.

### High Risk Log Landings

Figure 12 uses high risk soils hydrologic unit areas combined with steeply sloping forested land (green colors) to define an area of high risk for log landings. Those areas in close proximity to stream present the highest risks and are circled in red.

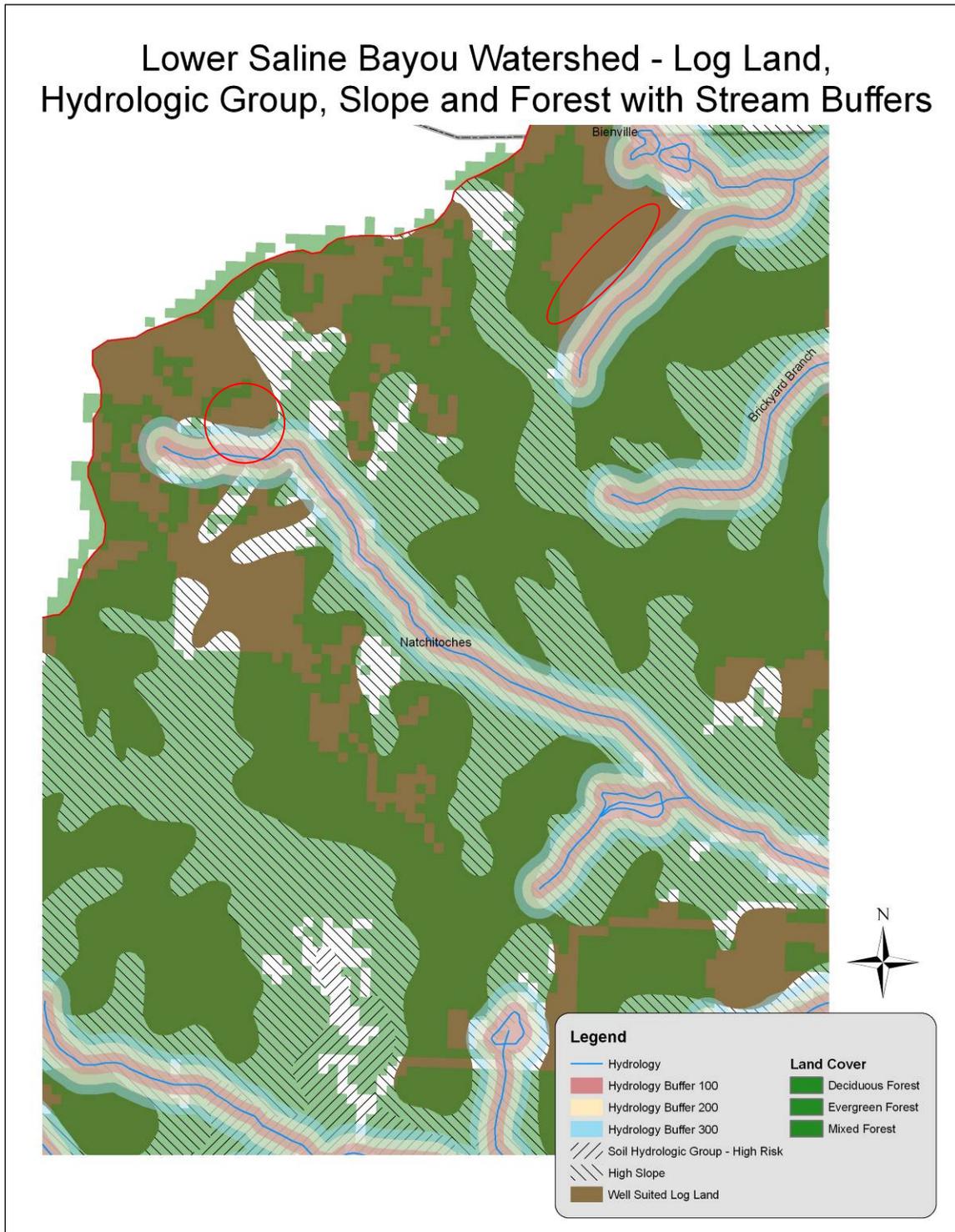
Figure 12: High Risk Log Landing Sites



## Well-Suited Log Landings

Figure 13 portrays risk zones (buffers) created by using the proximity risk factor. It also identifies the areas well suited for log landings. Log landings placed on the well-suited areas outside the largest proximity risk zone would not be likely to promote environmental degradation. Two such areas are identified with red circles.

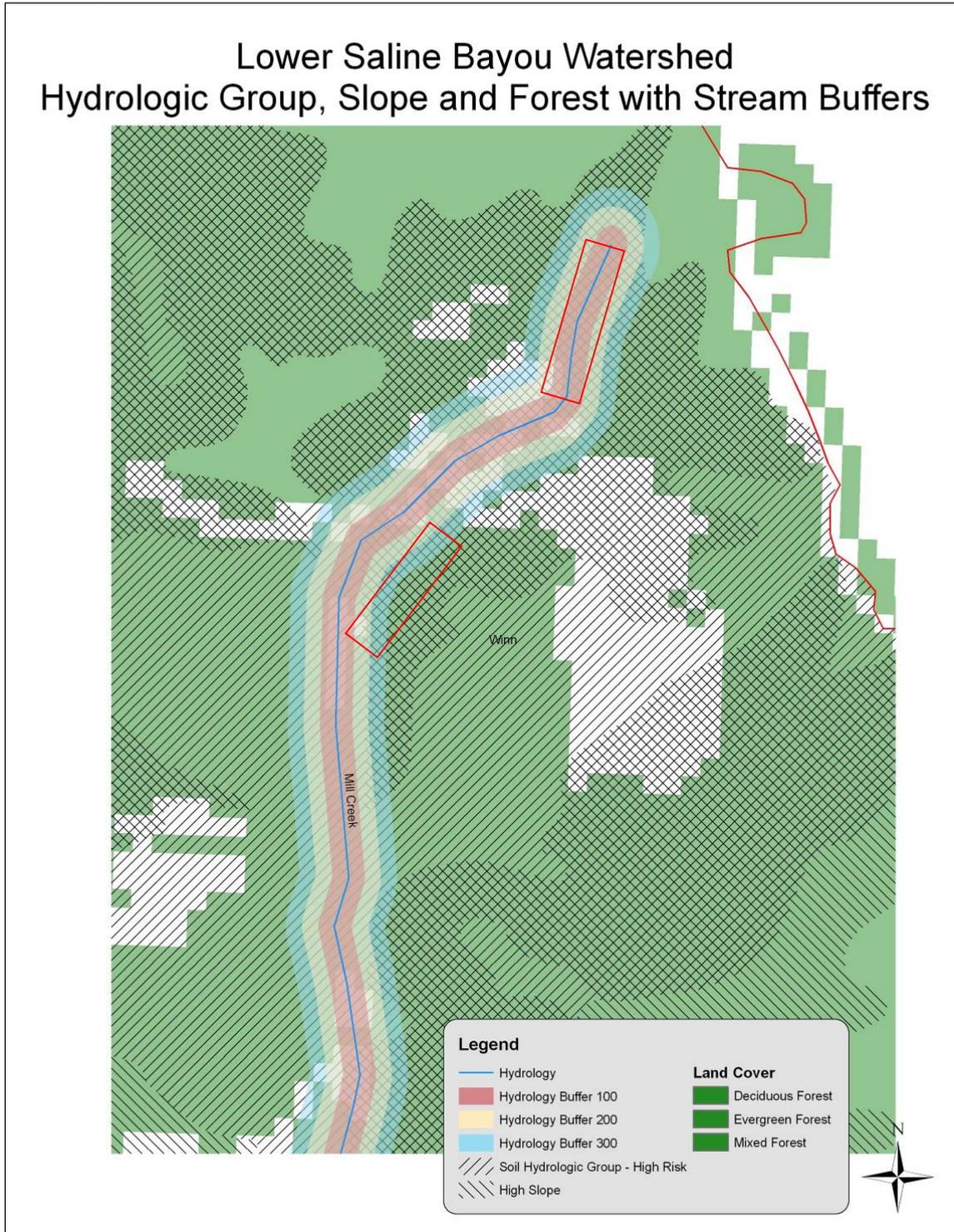
Figure 13: Well-suited Log Landings



## Vegetative Barriers

An effective land treatment to reduce sediment loading of streams is to establish vegetative barriers to trap the materials. The most benefits from this treatment are in areas likely to generate high amounts of runoff during storm events. A red rectangle on Figure 14 identifies two such areas.

Figure 14: Vegetative Barriers



## **Threatened and Endangered Species Status**

The Endangered Species Act provides protection to animals that are experiencing a decline in population, or nearing extinction. Table 2 below lists the species of concern and their designation.

**Table 3: Threatened and Endangered Species**

<b>Watershed</b>	<b>Threatened and Endangered Species</b>	<b>Status</b>	<b>Habitat</b>
Lower Saline Bayou	Red-Cockaded Woodpecker ( <i>Picoides borealis</i> ) Louisiana Pine Snake ( <i>Pituophis ruthveni</i> )	Endangered Candidate species	No

The Louisiana pine snake (*Pituophis ruthveni*) is a candidate species for federal listing as a threatened or endangered species, and historically occurred in portions of west-central Louisiana and extreme east-central Texas. Candidate species are those taxa for which the Service has on file sufficient information regarding biological vulnerability and threat(s) to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions. According to U.S. Fish and Wildlife Service records, in Louisiana, the pine snake is known to occur in Bienville, Sabine, Natchitoches, and Vernon Parishes. Pine snakes inhabit areas of longleaf pine with sandy, well-drained soils, substantial herbaceous ground cover, and little midstory (e.g., longleaf pine savannah). The pine snake is highly associated with the pocket gopher (*Geomys breviceps*), a major food source, which is dependent on the same habitat type. Pine snakes are most frequently found near pocket gopher burrow systems and move from one burrow system to another. Threats to this species include the sharp decline in quality and quantity of longleaf pine habitat due to logging, suppression of fire, and short-rotation silviculture, as well as vehicle-related mortality on roads and off-road trails. In the interest of conserving the Louisiana pine snake, the USFWS encourage individuals to avoid project activities that would adversely affect that species or its habitat.

The endangered redcockaded woodpecker (RCW), *Picoides borealis*) nests in open, park-like stands of mature (i.e., greater than 60 years of age) pine trees containing little hardwood understory or midstory. RCWs can tolerate small numbers of overstory hardwoods or large midstory hardwoods at low densities found naturally in many southern pine forests, but they are not tolerant of dense hardwood midstories resulting from fire suppression. RCWs excavate roost and nest cavities in large living pines (i.e., 10 inches or greater in diameter at breast height). The cavity trees and the foraging area within 200 feet of those trees are known as a cluster. Foraging habitat is defined as pine and pine-hardwood (i.e., 50 percent or more of the dominant trees are pines) stands over 30 years of age that are located contiguous to and within one-half mile of the cluster.

## **Lower Saline Bayou Watershed HUC – 11140208020 - Assessment**

### **Description**

This assessment matrix has been developed to provide an estimate of conservation systems which may be needed to address resource concerns identified in the RWA Resource Profile. This can also be described as likely future conditions within the watershed.

Conservation systems have been described in this assessment as systems of conservation practices developed to address resource concerns on various landuses. Systems include benchmark and resource management systems. Benchmarks (BM) systems are best described as land units that have had no treatment or one or more resource concerns treated with conservation practices. Resource Management Systems (RMS) are described as land units which have all known resource concerns treated with conservation practices. The level of treatment to an individual resource concern is credited when the practice(s) used meet or exceed a predetermined level of treatment, known as quality criteria.

Resource concerns have been described in this RWA. These concerns were identified at a public meeting that was held. Other resource concerns likely exist within the watershed but only make up a small percentage of what needs to be treated. Further investigation and analysis will need to be completed in order to better define all resource concerns.

Resource professionals provided an estimate by percent of conservation systems that will likely be applied to BM systems and untreated land units to address resource concerns identified in the resource profile. These systems are not meant to be comprehensive or address all concerns for each land unit in the watershed; rather, only the typical system of conservation practices that could be applied. Numerous alternatives and combinations of practices exist that should be made available to landowners and producers in order to meet their desired level of treatment.

Federal programs identified to implement conservation systems include, but are not limited to: Environmental Quality Program (EQIP), Wildlife Habitat Incentive Program (WHIP), and the Wetland Reserve Program (WRP). Other funding available for implementation includes various private, local, and state program funds.

The assessment provides estimates only that have been developed using local conservationist, input from the public, and Performance Results Measurement System (PRMS) data to identify resource concerns, participation rates, and conservation systems likely to be applied. This information was merged with state average cost lists, and estimated operation and maintenance costs to generate a cost estimate by individual practice for each conservation system projected to be applied.

**Table 4: Lower Saline Livestock Assessment**

<b>Rapid Watershed Assessment For:</b>								<b>Future Conditions For:</b>															
<b>NAME: Lower Saline Bayou Watershed HUC 11140208020</b>																							
<b>Management Systems</b>		<b>Quantity</b>		<b>Effects*</b>				<b>Implementation</b>															
Practices		Unit	Quantity	Water Qual	Water Qual	Plant Cond	Domes Ani	CTA	EQIP	WRP	WHIP	CSP	CRP	CREP	Others								
Baseline			AC/NO.																				
	No conservation practices being applied at this level																						
Progressive																							
	No conservation practices being applied at this level																						
RMS				(+)	4	(+)	4									(+)	5	(+)	5				
	Fence 382	ft.	1,340,733													X	X						
	Grade Stab. Struct. 410	nos.	413													X	X						
	Nutrient Manage. 590	acres	12,376													X	X						
	Prescribed Graz. 528	acres	12,376													X	X						
<b>Notes:</b>								<b>Estimated Time Frame = 5 Years</b>															

Note: See attachments for economic analysis  
 \*Note: Effects are numerical values placed on benchmark conditions and degree of change in conditions by conservation system (s) application. Scale ranges from (-) most damaging to resources to (+) best protection offered by treatment.

Table 5: Lower Saline Livestock Variables

Watershed Name	Lower Saline Bayou Watershed		Watershed Code	11140208020		Help					
Landuse Type	Livestock		Landuse Acres	18,200		Interest Rate	5%				
Typical Unit Size (ac)	60		Percent TA of FA	20%		Cost-Share Rate	50%				
Estimated Time Frame = 5 years	Participation Rate (Based on Watershed Profile)	60%	COMPARE	60%	Calculated Participation Rate (Based on Projected Future Conditions)	Next					
Current Conditions			Projected Change			Projected Future Condition					
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres			
Baseline	40%	7,280	Baseline	40%	2,912	Baseline	16%	Total	2,912	Treated	0
			Progressive	0%	0			Static	2,912		
			RMS	60%	4,368						
			Must Total 100%			100%					
Current Conditions			Projected Change			Projected Future Condition					
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres			
Progressive	40%	7,280	Progressive	40%	2,912	Progressive	16%	Total	2,912	Static	2,912
			RMS	60%	4,368						Treated
			Must Total 100%			100%					
Current Conditions			Projected Change			Projected Future Condition					
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres			
RMS	20%	3,640	RMS	100%	3,640	RMS	68%	Total	12,376	Static	3,640
								Treated	8,736		
<b>Grand Totals</b>	<b>100%</b>	<b>18,200</b>				<b>100%</b>	<b>18,200</b>	<b>9,464</b>	<b>8,736</b>		

**Table 6:  
Lower Saline  
Livestock  
Assessment  
Information**

WATERSHED NAME & CODE		LOWER SALINE BAYOU WATERSHED - 11140208020			LANDUSE ACRES		18,200		
LANDUSE TYPE		LIVESTOCK			TYPICAL UNIT SIZE ACRES		60		
ASSESSMENT INFORMATION					CALCULATED PARTICIPATION				60%
Conservation Systems by Treatment Level		Benchmark Conditions	Future Conditions			RESOURCE CONCERNS			
		Total Units	Existing Unchanged Units	New Treatment Units	Total Units	Water Quality – Excessive Nutrients and Organics in Surface Water	Water Quality – Harmful Levels of Pathogens in Surface Water	Plant Condition – Productivity, Health and Vigor	Domestic Animals – Inadequate Quantities and Quality of Feed and Forage
<b>Baseline</b>		<b>System Rating -&gt;</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
No Conservation Practices being applied at this level		0	0	0	0	0	0	0	
<b>Total Acreage at Baseline</b>		<b>7,280</b>	<b>2,912</b>	<b>0</b>	<b>2,912</b>				
<b>Progressive</b>		<b>System Rating -&gt;</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
No Conservation Practices being applied at this level		0	0	0	0	0	0	0	
<b>Total Acreage at Progressive Level</b>		<b>7,280</b>	<b>2,912</b>	<b>0</b>	<b>2,912</b>				
<b>RMS</b>		<b>System Rating -&gt;</b>			<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>	
No Conservation Practices being applied at this level		0	0	0	0	0	0	0	
Fence (ft.) 382		394,333	394,333	946,400	1,340,733	4	4	5	
Grade Stabilization Structure (no.) 410		121	121	291	413	2	2	3	
Nutrient Management (ac.) 590		3,640	3,640	8,736	12,376	4	3	4	
Prescribed Grazing (ac.) 528		3,640	3,640	8,736	12,376	4	4	5	
<b>Total Acreage at RMS Level</b>		<b>3,640</b>	<b>3,640</b>	<b>8,736</b>	<b>12,376</b>				



Table 8: Lower Saline Livestock Funding Sources

WATERSHED NAME & CODE		LOWER SALINE BAYOU WATERSHED - 11140200020						LANDUSE ACRES			18,200
LANDUSE TYPE		LIVESTOCK						TYPICAL UNIT SIZE ACRES			60
POSSIBLE SOURCES OF FUNDING							CALCULATED PARTICIPATION			60%	
Conservation Systems by Treatment Level	FUTURE	FARM BILL					OTHERS			NOTES/COMMENTS	
	New Treatment Units	CTA	EQIP	WRP	WHIP	CSP	CRP/CREP	Fed	State		Local
<b>Progressive</b>											
No Conservation Practices being applied at this level	0										
<b>New Treatment Acreage</b>	<b>0</b>										
<b>RMS</b>											
No Conservation Practices being applied at this level	0										
Fence (ft.) 382	946,400	X	X								
Grade Stabilization Structure (no.) 410	291	X	X								
Nutrient Management (ac.) 590	8,736	X	X								
Prescribed Grazing (ac.) 528	8,736	X	X								
<b>New Treatment Acreage</b>	<b>8,736</b>										

**Table 9: Lower Saline Timber Assessment**

<b>Rapid Watershed Assessment For:</b>								<b>Future Conditions For:</b>															
<b>NAME: Lower Saline Bayou Watershed HUC 11140208020</b>																							
Management Systems		Quantity		Effects*				Implementation															
	Practices	Unit	Quantity	Soil Erosion	Water Qual	Plant Cond	Plant Cond	CTA	EQIP	WRP	WHIP	CSP	CRP	CREP	Others								
Baseline		AC/NO.																					
	No conservation practices being applied at this level																						
Progressive																							
	No conservation practices being applied at this level																						
RMS				(+)	3	(+)	4																
	Firebreak 394	ft.	4,561,667													X	X						
	Forest Stnd Improv. 660	acres	54,740													X	X						
	Forest Tils/Landgs 655	acres	4,562													X	X						
	Tree/Shrub Estab. 612	acres	54,740													X	X						
<b>Notes:</b>				<b>Estimated Time Frame = 5 Years</b>																			

Note: See attachments for economic analysis  
 \*Note: Effects are numerical values placed on benchmark conditions and degree of change in conditions by conservation system (s) application. Scale ranges from (-) most damaging to resources to (+) best protection offered by treatment.

Table 10: Lower Saline Timber Variables

Enter Watershed Variables Below														
Watershed Name			Lower Saline Bayou Watershed			Watershed Code			11140208020		<input type="button" value="Help"/>			
Landuse Type			Timber			Landuse Acres			80,500		Interest Rate	5%		
Typical Unit Size (ac)			60			Percent TA of FA			20%		Cost-Share Rate	50%		
Estimated Time Frame = 5 years	Participation Rate			60%			← COMPARE →		Calculated Participation Rate			60%		<input type="button" value="Next"/>
				(Based on Watershed Profile)						(Based on Projected Future Conditions)				
Current Conditions			Projected Change			Projected Future Condition								
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres						
								Total	Static	Treated				
Baseline	40%	32,200	Baseline	40%	12,880	Baseline	16%	12,880	12,880	0				
			Progressive	0%	0									
			RMS	60%	19,320									
			Must Total 100%			100%								
Current Conditions			Projected Change			Projected Future Condition								
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres						
								Total	Static	Treated				
Progressive	40%	32,200	Progressive	40%	12,880	Progressive	16%	12,880	12,880	0				
			RMS	60%	19,320									
											Must Total 100%			100%
Current Conditions			Projected Change			Projected Future Condition								
System	Percent	Acres	System	Percent	Acres	System	Percent	Acres						
								Total	Static	Treated				
RMS	20%	16,100	RMS	100%	16,100	RMS	68%	54,740	16,100	38,640				
			Must Total 100%			100%								
<b>Grand Totals</b>	<b>100%</b>	<b>80,500</b>					<b>100%</b>	<b>80,500</b>	<b>41,860</b>	<b>38,640</b>				

**Table 11:  
Lower Saline  
Timber  
Assessment  
Information**

WATERSHED NAME & CODE		LOWER SALINE BAYOU WATERSHED - 11140208020			LANDUSE ACRES		80,500			
LANDUSE TYPE		TIMBER			TYPICAL UNIT SIZE ACRES		60			
ASSESSMENT INFORMATION					CALCULATED PARTICIPATION				60%	
Conservation Systems by Treatment Level		Benchmark Conditions	Future Conditions			RESOURCE CONCERNS				
		Total Units	Existing Unchanged Units	New Treatment Units	Total Units	Soil Erosion – Road, Roadsides and Construction Sites	Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water	Plant Condition – Productivity, Health and Vigor	Plant Condition – Wildfire Hazard	
<b>Baseline</b>		<b>System Rating -&gt;</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		
No Conservation Practices being applied at this level		0	0	0	0	0	0	0		
<b>Total Acreage at Baseline</b>		<b>32,200</b>	<b>12,880</b>	<b>0</b>	<b>12,880</b>					
<b>Progressive</b>		<b>System Rating -&gt;</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		
No Conservation Practices being applied at this level		0	0	0	0	0	0	0		
<b>Total Acreage at Progressive Level</b>		<b>32,200</b>	<b>12,880</b>	<b>0</b>	<b>12,880</b>					
<b>RMS</b>		<b>System Rating -&gt;</b>			<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>		
No Conservation Practices being applied at this level		0	0	0	0	0	0	0		
Firebreak (ft.) 394		1,341,667	1,341,667	3,220,000	4,561,667	1	1	3	5	
Forest Stand Improvement (ac.) 666		16,100	16,100	38,640	54,740	2	2	5	4	
Forest Trails & Landings (ac.) 655		1,342	1,342	3,220	4,562	4	4	2	3	
Tree/Shrub Establishment (ac.) 612		16,100	16,100	38,640	54,740	2	4	4	2	
<b>Total Acreage at RMS Level</b>		<b>16,100</b>	<b>16,100</b>	<b>38,640</b>	<b>54,740</b>					



Table 13: Lower Saline Timber Funding Sources

WATERSHED NAME & CODE		LOWER SALINE BAYOU WATERSHED - 11140208020						LANDUSE ACRES			80,500
LANDUSE TYPE		TIMBER						TYPICAL UNIT SIZE ACRES			60
POSSIBLE SOURCES OF FUNDING							CALCULATED PARTICIPATION			60%	
Conservation Systems by Treatment Level	FUTURE	FARM BILL						OTHERS			NOTES/COMMENTS
	New Treatment Units	CTA	EQIP	WRP	WHIP	CSP	CRP/CREP	Fed	State	Local	
<b>Progressive</b>											
No Conservation Practices being applied at this level	0										
<b>New Treatment Acreage</b>	<b>0</b>										
<b>RMS</b>											
No Conservation Practices being applied at this level	0										
Firebreak (ft.) 394	3,220,000	X	X								
Forest Stand Improvement (ac.) 666	38,640	X	X								
Forest Trails & Landings (ac.) 655	3,220	X	X								
Tree/Shrub Establishment (ac.) 612	38,640	X	X								
<b>New Treatment Acreage</b>	<b>38,640</b>										

## **BIBLIOGRAPHY**

All data is provided “as is.” There are no warranties, express or implied, including the warranty of fitness for a particular purpose, accompanying this document. Use for general planning purposes only.

Blanchard, Patrick. Proposal for Construction of New Water Reservoir. Bryceland Water System.

Louisiana Department of Environmental Quality Total Maximum Daily Loads,  
<http://www.deq.louisiana.gov/portal/tabid/130/Default.aspx>

Louisiana Cooperative Extension Service, 2006, Louisiana’s TMDL Facts: Baton Rouge, Louisiana, Louisiana State University Agricultural Center Promoting Best Management Practices through the use of Model Farms

U.S. fish and Wildlife Service. 2003. Recovery plan for the red-cockaded woodpecker (*Picoides borealis*): second revision. U.S. Fish and Wildlife Service, Atlanta, GA. 296 pp.

USDA Major Land Resource Customs Report. Data ;Source: USDA Agriculture handbook 296 (2006). <http://soils.usda.gov/MLRAExplorer>

USDA Soil Conservation Service, Economic Research Service, Forest Service. Southwest Louisiana River Basin Study (August 1974).

NatWldlifeRefuges LaGIS2007:Biologic/National\_Wildlife\_Refuges\_LA\_USFWS\_2001

WMA Refuges LaGIS2007:Biologic/wma\_refuge\_ldwf\_2006

Schools LaGIS2005: schools/Idoe\_schools\_2004

BusinessLocations ESRI BusinessMap4 software package, data provided by Duns & Bradstreet, 2005

EPAEcoregions LaGIS2005: Ecoregions/EPA\_ecoregions\_2004

Geology LaGIS2007: Geophysical/geology\_NWRC\_1998

Soils LaGIS2005: La\_GIS3007: Geophysical/statsgo\_soils\_NWRC\_1998

HouseDistricts LaGIS2005: La\_house/House\_2004\_Act174\_Act2\_Act3\_Act535

SenateDistricts LaGIS2005: La\_senate/Senate\_2003\_Act\_7

NLCD Land Cover LaGIS2007: Imagery/landcover\_la\_noaa\_2005

EPA Federal Lands LaGIS2007: Land\_use\_cover/FederalLLand\_LA\_EPA\_2002

National Parks LaGIS2007: Land\_use\_cover/national\_parks\_boundaries\_BTS\_2006

State Parks LaGIS2007: Land\_use\_cover/state\_parks\_ldotd\_2007

Census Population 2006 LaGIS2007:

Collections/tiger\_2006\_se\_census\_2006/tiger\_la\_block\_CENSUS\_2000

Census Income 2006 LaGIS2007:

Collections/tiger\_2006\_se\_census\_2006/tiger\_la\_blockgroup\_CENSUS\_2000

Population Data LaGIS2007: Cultural/CENSUS\_SF1\_LA\_BLOCKS\_CENSUS\_2000.dbf

# **APPENDIX A**

## Rapid Watershed Assessment Public Meeting

Natchitoches Events Center  
Natchitoches, LA  
August 29, 2007  
9:30 AM

### Attendees

Benny Dobson  
James W. Scarborough  
James Killing  
Harry Hawthorne  
Glenn Austin  
Mimi Stoker  
Dexter Sapp  
Mike Burns  
Nancy McDowell  
Gordon Newton  
Marty Floyd

Facilitator     Benny Dobson  
Recorder       Nancy McDowell

Opening comments were given by District Conservationist Glenn Austin. Handouts including Rapid Watershed Assessment Fact Sheets, Watershed and Sparta Aquifer Maps, and a questionnaire were made available for each meeting participant. After the opening comments Glenn turned the meeting over to Dexter Sapp. Dexter gave a PowerPoint presentation concerning the overview of the Rapid Watershed Assessment process.

Twin Valley RC&D Coordinator, Benny Dobson stated to the group that the next agenda item entailed obtaining input from the public on resource concerns within the watersheds. Benny asked each person in attendance to introduce themselves. Benny gave the ground rules for this portion of the agenda and then he proceeded to ask for input.

#### Water Quality

**Discussion:** here was some discussion as to whether there was any water quality baseline data in place and whether there were any stream segments in the watersheds where water samples have been or are presently being taken from.

Nearest Drinking Water Source to the Three Watershed Areas

Overgrowth of Vegetation in the Waterbodies

**Discussion** Participant stated that there is a problem with hydrilla, and Giant Salvinia in some of the waterbodies. There needs to be a more managed approach to control the problem. More integrated management is needed

Social Issues

**Discussion** Education of the public is needed. There is a need in the lake areas to identify and control invasive plant species

More Farm Bill Dollars for Conservation is Needed for Conservation in the Upper Saline Area.  
**Discussion** The public is asking for more aquatic weed control. Participant stated that 85 – 90% of the Upper Saline area is forested, but yet more Farm Bill Dollars are targeted for other commodity crops than for forestry practices

Education - Need More Commitment to Education/Stewardship for our Land and Water

**Discussion** The public needs to be educated on being better stewards of our resources such as forestland, pastureland, croplands, and water bodies

Need Local Commitment for Cost Share Funding

Flooding is not a Reported Issue

Is There a Sufficient Quantity of Groundwater in Our Wells for Public Usage

**Discussion** Since wells are the source of drinking water, what is the quantity of water in the wells

Supplemental Water Source

**Discussion** When the water goes down in the local water systems, can water from another system be redirected to the impacted system. It was stated that water from other systems could not be mixed, there is a concern with the chemicals from two different systems. Can't link and switch one system to the other. However one participant did state that there was an incident when the water system in Hagewood, Louisiana stopped working and the City of Natchitoches turned a valve and sent water to Hagewood

Surface Water

**Discussion** Need to look at surface water sources for public and private usage if it is safe and available

Water Levels Going Down in Streams

**Discussion** Resident lives in Cooley Creek area. The Creek almost totally goes dry now. Participant stated that he would like to see the creek restored back. Another participant stated that the watershed can be impacted by what humans do. Participant stated that you have to get out in the hills in order to get good drinking water. Water levels are on the decline because of Ag or industrial uses

Cattle Operation – Is Overgrazing a Problem

Lack of Forestland Practices Not Cost Shared

**Discussion** Participant stated that everyone that signs up for EQIP gets into the program, however conservation dollars are not available for forestland producers

Buffer on Scenic Streams

**Discussion** NRCS is trying to insert practices into the Farm Bill to address this issue. The goal is to provide forest landowners with streams traversing their land, an incentive that would allow them to leave the buffer area intact

Logger Operations

**Discussion** Participant stated that there are already guidelines in place for buffer zones. Participant referred to guidelines contained in the Master Logger Program

Recreation – Hunting, Camping, Fishing

**Discussion** There is a need for improved recreation. Need to maintain and improve wildlife habitat for recreational purposes. There are no incentives for maintaining/improving habitats. Most timber companies have biologists on staff to do wildlife management. Small landowners don't have this. There needs to be incentives for private landowners. Participant also stated that waste from private camps is a problem

Control Burns – Fuel Reduction

**Discussion** There is a practice in place for fuel reduction

Utilization of Waste Water Treatment

**Discussion** The septic on many of the camps near some popular waterbodies in the watershed areas have inadequate sewer facilities. Additionally, some of the wastewater treatment of some of the smaller municipalities needs to be looked at as well

Closing comments were given by Glenn Austin. Dexter Sapp stated that the final product will be completed in June 2008. Hardcopies will be available and also the document will be posted on NRCS's website. The public will be notified about the final document.