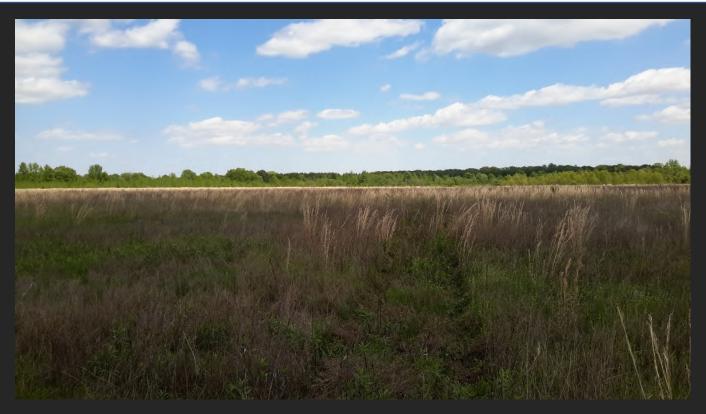
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Wattensaw Bayou Mitigation Bank Prospectus
Lonoke County, Arkansas

Presented to the USACE Memphis District in February 2021

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Prospectus

1.0 Introduction

1.1. Mitigation Bank Development

Mitigation Management, LLC. (MML or Sponsor), on behalf of AE Land and Timber, LLC. (Landowner) is proposing to develop a mitigation bank to be known as the Wattensaw Bayou Mitigation Bank (Bank). The 186-acre parcel will be placed under a restrictive easement and utilized for mitigation banking by means of re-establishment, restoration, enhancement, and preservation providing functional uplift for ecological functions within the proposed area. The establishment of the bank will make wetland mitigation credits available to offset impacts WOTUS within the Lower White-Bayou Des Arc HUC (HUC08020301) and the surrounding areas within the State of Arkansas and the Memphis District of the USACE.

The Bank will be established in accordance with the requirements specified in the USACOE guidance document *Compensatory Mitigation for Losses of Aquatic Resources (CMLAR) §332.8(d)(6)* and in collaboration with the Memphis District of the United States Army Corps of Engineers (USACE) to include the following members of the Interagency Review Team (IRT):

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1.2. Bank Location

The proposed Bank is located approximately twenty-three (23) miles northeast of Little Rock, in Lonoke County, Arkansas (Appendix A, Figure 1). The proposed Bank falls within the Lower White-Bayou Des Arc 8-digit HUC, the Locust Creek-Wattensaw Bayou 12-digit HUC and coincides primarily with the Mississippi Alluvial Plain Omernick Level III ecoregion (Appendix A, Figure 2). The latitude/longitude coordinates for the Project Site are: 34. 891820° N; -91.912500° W (UTM NAD83 Zone 15N).

This prospectus is being provided to the USACE to provide a summary of pertinent bank information including objectives, site selection, baseline assessment, and long-term site management.

1.3 Purpose, Goals and Objectives of the Mitigation Bank

The purpose of the proposed Bank is to provide a source of off-site compensatory mitigation for impacts to wetlands and other waters of the U.S. associated with projects undertaken by both the public and private sectors within the appropriate regions of Arkansas. The "re-establishment", "restoration", "enhancement" and "preservation" of wetlands and riparian zones within the proposed Bank will allow these resources to once again perform valuable functions and services within the Mississippi Alluvial Plain and adjacent Wetland Planning Regions as defined by the Arkansas Wetland Strategy (AWS 1996). These activities will contribute positively to the overall health of the region and associated water sheds by reducing the amount of sediment and organic nutrients passed downstream by providing critical habitat components necessary to aquatic wetland flora and fauna.

The goal of the proposed bank is to generate, for sale, wetland credits required by compensatory mitigation regulations administered under the Department of the Army, where permitted actions occur in agreement with Section 404 of the Clean Water Act (Federal Water Pollution Control Act) and/or Section 10 of the Rivers and Harbors Act (Rivers and Harbors Appropriation Act of 1899). This goal specifically pertains to providing compensation for losses of aquatic resource functions and services within the geographic extent of the Banks designated service area or as approved by the USACOE district office. The successful establishment of this Bank project will provide USACE permit applicants with 1) immediate access to compensating mitigation credits, where available, for adverse impacts to aquatic ecosystems and 2) statistically more successful, higher quality, cost-effective methods for the protection of waters of the U.S. (WOTUS), as well as, other aquatic resources that otherwise may be impeded by less favorable, less productive forms of compensatory mitigation.

Specific bank objectives are to "re-establish" prior-converted agricultural fields, "restore" palustrine forested wetland habitat, "enhance" forested wetland habitat adjacent to Wattensaw Bayou, and "preserve" forested wetlands previously established within the project parcel (Table 1 & Appendix A, Figure 8).

1.4. Proposed Service Area

The service area of a mitigation bank is the geographical area (e.g., watersheds or hydrologic unit codes (HUCs), counties, ecoregions, etc.) within which mitigation bank credits may be utilized, if approved by USACOE, for compensatory mitigation for adverse impacts to aquatic ecosystem.

The proposed service area consists of the 8-digit HUC in which the Bank is located (primary), neighboring 8-digit HUCs and portions of neighboring 8 digit HUCs within the contiguous ecoregion of the primary HUC (secondary); wholly encompassed within the larger Lower Mississippi-St Francis 6-digit (080203) HUC river basin, the USACE Memphis District, the state of Arkansas, and excluding Crowley's Ridge (Appendix A, Figures 2 & 3).

- Primary Service Area Portions of the Lower White Bayou Des Arc 8-digit HUC (08020301)
- Secondary Service Area Portions of the Cache (08020302), Big (08020303), Lower White (08020304), Bayou Meto (8020402), Languille (8020205), Upper White village (11010013) and Upper Black (11010007) 8-digit HUCs.

Although portions of the proposed secondary service area HUC's are not directly abutting the primary service area HUC, they are included due to hydrologic and biotic similarities to the other service area HUC's. Specifically, those proposed secondary service area HUCs fall within the Mississippi Alluvial Plain ecoregion and have hydrologic connectivity with the White and Mississippi river.

1.5. General Need

The Mississippi Alluvial Plain ecoregion has largely been converted from wetland habitat to agriculture, resulting in an influx of pesticides, herbicides, fertilizers, and live-stock waste to waterways. According to the National Water Summary on Wetland Resources, "Arkansas has lost more wetland acres than any other inland State; most of the loss has been due to conversion of farmland". In addition, the population in Lonoke County alone has been steadily increasing, with a 30% increase in population occurring from 2000 to 2010 (Figure 1). Such growth puts pressure on natural resource and land availability.

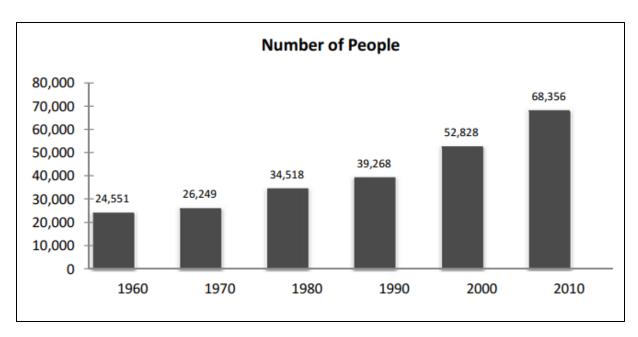


Figure 1. Population Growth Trends for Lonoke County (Lonoke County Profile 2013).

Despite the growing need and increasing threats to wetlands, there are currently no mitigation banks to offset impacts within the Arkansas portion of the Memphis District. The CMLAR is clear that mitigation banks generally represent more sustainable and ecologically beneficial forms of compensatory mitigation than the other allowable options (depending on case-specific circumstances). As such, the establishment of the proposed Bank in this service area will provide much needed mitigation to permittees within the proposed bank service area.

1.6. Site Selection

Using a watershed approach, the Bank was selected from numerous potential candidate sites. This approach included consideration of the following factors; availability for acquisition, current habitat type and condition, potential uplift opportunities, consolidation with intact forested riverine/riparian systems, likelihood for successful attainment of ecological performance standards, hydraulic and watershed connectivity, proximity to other conserved or comparably managed lands, and site location in relation to potential impacts.

The long history of commodity crop production and human influence on this site makes the Bank ideal for mitigation. The Bank is located immediately adjacent to hydrologic sources, Wattensaw Bayou and Locust Creek, giving it direct connection to at least one large natural waterway and periodic flood events associated with both streams.

The Bank is unique in its potential for reestablishment of forested communities typical of the Mississippi Alluvial Valley (MAV). The subtle elevations within the Bank offer the potential to target woody species diversity along the hydrologic gradient from semi-permanent flooding/ponding in the topographic lows, to seasonal flooding of the topographic highs. Intact forested wetland communities within and near the Bank provide near-site reference conditions (e.g. dominant or commonly encountered species) that can be utilized in the restoration design of this Bank. These stands also provide a source for seed dispersal by epizoochoric or hydrochoric mechanisms into the Bank, increasing the likelihood for incorporation of natural volunteer species. This potentially promotes early stratification and diversity within the developing canopies of the Bank which is an important consideration for habitat utilization by many wetland dependent wildlife species. Furthermore, the Bank footprint forms a contiguous riparian corridor along Wattensaw Bayou that is connected to the intact forested community.

It is worth noting that the Bank is proximal to several state and federally managed conservation properties (Appendix A, Figure 4a). The Bank is upstream of the Mike Freeze Wattensaw Wildlife Management Area (WMA). This WMA was determined to be a potential "hot spot" search area for Ivory Billed Woodpeckers (*Campephilus principalis*; IBWO) based upon clusters of potential visual and aural reports of IBWO (Cornell Lab of Ornithology 2007, accessed 4/27/15). In addition, the Bank is adjacent to the Wattensaw Bayou permittee responsible mitigation (PRM) site which is an 81-acre tract restored and managed by AEL (Appendix A, Figure 4b). Therefore, the Bank will contribute to locally important watershed needs by restoring and conserving additional riparian wetland habitats proximal to other high priority conservation sites.

Furthermore, Wattensaw Bayou is a 303 (d) listed tributary of the White River under the Clean Water Act. Section 303(d) requires states to prepare a list of impaired waters on which Total Maximum Daily Loads (TMDL) or other corrective actions must be implemented. Wattensaw Bayou is currently listed due to insufficient levels of dissolved oxygen. The establishment of the proposed Bank will directly improve the water quality of Wattensaw Bayou, and its watershed, by restoring wetland functions and eliminating the threat of agricultural development within its riparian zone.

Therefore, AEL believes the proposed Bank is an ecologically appropriate site for offsetting WOTUS impacts occurring within the proposed service area.

2.0 Baseline Conditions

In September of 2017 and June of 2018 Advanced Ecology, Ltd. (AEL) conducted field activities necessary to collect baseline conditions and perform a wetland delineation on the Bank (Appendix C).

2.1 Area and Site History

Lonoke County was formally established in 1873, although the area is thought to have been inhabited for up to 10,000 years prior. The landscape of Lonoke county consists of gently rolling hills and valleys in the north, and prairie and alluvial plains, largely used for farming, in the central and southern regions. A portion of the Bank acreage (93 acres), as well as the neighboring PRM site acreage, was converted from forested wetlands to agriculture prior to 1975, as determined through review of the historic aerial imagery (Appendix B). A 1949 aerial image provides evidence that most of the Bank was forested, with portions having already been cleared for farming at that time; as such, conversions are believed to have occurred sometime between 1949 and the 1960's (Appendix B). Agricultural operations have included extensive water regime management typical of farms in the region, including, but not limited to, flooding, disking, leveling, shredding, and herbicide applications.

2.2 Current Conditions

Currently, The National Wetlands Inventory has mapped freshwater emergent and freshwater forested/shrub wetlands on approximately 25 acres of the 186-acre Bank (Appendix A, Figure 5). However, past agricultural activities (disking, tilling, rice farming act.) have altered normal hydrology and hydroperiods within the Bank. Remnant rice levees now serve to unnaturally pond direct precipitation and floodwaters from Wattensaw Bayou. As previously indicated, native woody vegetation was removed from large portions of the Bank during land conversion activities prior to 1975 (Appendix B). Disking, shredding, and other vegetation management activities associated with crop production and agriculture uses have prevented reestablishment of native forested communities within those areas of the Bank.

2.3 Soils

Hydric soils comprise most of the Bank area. The presence of such soils is indicative of hydrological conditions occurring on the site and is ideal for supporting hydrophytic vegetation. The following detailed soil units can be found within the bounds of the Bank (USDA 1981, NRCS Web Soil Survey; Appendix A, Figure 6).

Tichnor silt loam, frequent flooding:

Tichnor silt loam, frequent flooding, is mapped over approximately 60% of the Bank. It is a component of floodplain systems and exhibits low natural drainage. According to the Soil Survey of Lonoke and Prairie Counties, Arkansas, this soil type is well suited to woodlands consisting primarily of cherry bark oak (Quercus pagoda), sweetgum (Liquidambar styraciflua), water oak (Q. nigra) and green ash (Fraxinus pennsylvanica; USDA 1981). Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is frequently flooded, though not ponded, and occurs on slopes of 0-1%. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, and December. Organic matter content in the surface horizon is about 2 percent (USDA 1981, NRCS Web Soil Survey).

Calhoun silt loam:

Calhoun silt loam is mapped over about 24% of the Bank. This soil occurs on slopes of 0-1% and experiences low natural drainage. Trees that commonly grow in this soil are cherry bark oak, water oak, sweetgum, and loblolly pine (*Pinus taeda*). Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very high. This soil does not typically exhibit shrink-swell properties. A seasonal zone of water saturation is at 9 inches during January, February, March, April, and December. Organic matter content in the surface horizon is about 2 percent (USDA 1981, NRCS Web Soil Survey).

<u>Stuttgart silt loam:</u>

Stuttgart silt loam is mapped over approximately 12% of the Bank. Stuttgart silt loam occurs at1 to 3% slopes within the tread portion of the Prairie terraces. The terraces are thought to be made up of sediments from the Arkansas River system with a silty mantle from the Mississippi River system that may be mixed with loess in some places. This series consists of very deep, moderately well to somewhat poorly drained, slowly permeable soils that developed mainly in native vegetation of tall grasses with hardwood and scattered areas of shortleaf pine (*P. echinata*; USDA 1981, NRCS Web Soil Survey).

Kobel silty clay loam:

Kobel silty clay loam is mapped across approximately 3% of the Bank. This is a very deep, poorly drained soil on broad flats and depressions that were back-swamps of major streams and their tributaries. This soil formed in clayey alluvium and has high natural fertility. Cherry-bark oak, green ash, sweetgum, water oak and sycamore (*Platanus occidentalis*) grow well in this soil (USDA 1981). Permeability is very slow and

available water capacity is high. This soil type occurs on slopes of 0-1%. This soil has high to very high shrink-swell potential (USDA 1981, NRCS Web Soil Survey).

Immanuel silt loam:

The Immanuel series is found on a very small area (\sim 2%) in the southeastern portion of the Project Site. These soils consist of very deep, moderately well drained soils that formed in silty alluvium. This soil occurs on slopes of 1-3% (NRCS Web Soil Survey).

Oaklimeter silt loam:

Oaklimeter silt loam, occasionally flooded is mapped over a minute section (<1%) in the southwest corner of the Bank. This is deep, moderately well-drained soil which occurs on floodplains of streams in the Loess Hills. Slopes range from 0-2%. This soil is well-suited to woodlands; cherry-bark oak, sweetgum, green ash, loblolly pine and willow oak (*Q. phellos*) grow well in areas mapped with this soil (USDA 1981, NRCS Web Soil Survey).

Calloway silt loam:

This soil was mapped across about 2% of the Bank within the northeast corner. This deep, somewhat poorly drained, soil is moderate in natural fertility and is frequently found in flats and terraces. This soil is well-suited to woodlands; cherry-bark oak, loblolly pine, sweetgum and water oak do particularly well in this soil type (USDA 1981).

2.4 Hydrology

The primary sources of wetland hydrology for the Bank are Locust Creek, Wattensaw Bayou, and overland flow from direct precipitation events. However, beaver activity and remaining effects of agricultural practices on the site have altered natural hydrology. Positive wetland hydrologic indicators were observed throughout much of the Bank with water-stained leaves, drift deposits and oxidized rhizospheres along living roots being particularly common. Surface water and soil saturation were also observed. Sources of hydrology for each vegetative community are discussed further below.

2.5 Vegetative Communities

Vegetative communities were determined through baseline assessments and are discussed in more detail in the following sections and summarized in Table 1.

Palustrine Emergent Wetland Habitat (PEM)- (+/- 110 acres):

Community Type 1 (+/- 42acres of Re-establishment):

This herbaceous community is located on the property within the Calhoun silt loam soil type. This community was primarily used for growing rice and remnant rice levees remain along the margins (Appendix B, Appendix A, Figure 9). The remaining topography of the community is relatively flat. The remnant rice levees prevent natural hydrological cycles and hydrologic connection with Wattensaw Bayou. Currently, the main functioning source of hydrology in this community is from direct precipitation events. Saturation of this community can be seen in aerial imagery (Appendix B). Dominant vegetation in the herbaceous stratum includes common lespodeza (Kummerowia striata), knotroot bristlegrass (Setaria parviflora), and bushy bluestem (Andropogon glomeratus). Plant species in this area are predominantly facultative (FAC) to facultative wetland (FACW). The area appears to have been disturbed by agricultural activities (disking/cropping) more recently than other communities (Appendix A, Figure 7).

Community Type 2 (+/- 34 acres of Re-establishment):

This herbaceous community exist at lower elevations than Community Type 1 and is adjacent to portions of Wattensaw Bayou in the south and Locust Creek in the north. Hydrology in this community is impacted by two culverts which allow for drainage from a neighboring field into the Bank (Appendix A, Figure 9). Additionally, remnant rice levees prevent natural hydrologic connection with Community Type 1 and beaver activity occasionally causing impoundment of water. Despite ponding water for portions of the year, this community does dry out in late spring and summer. Vegetation is predominantly obligate (OBL) hydrophytes including smartweed (*Persicaria hydropiperoides, P. pennsylvanica*) in the understory with buttonbush (*Cephalanthus occidentalis*) and black willow (*Salix nigra*) scattered throughout the mid-story (Appendix A, Figure 7).

Community Type 3 (+/- 17 acres of Re-establishment):

This herbaceous community occurred adjacent to Wattensaw Bayou in the southeastern portion of the tract. This community was historically used for crop and hay production and is currently dominated by redtop panic grass (*Coleataenia rigidula*) fox sedge (*Carex vulpinoidea*) and sumpweed (*Iva annua*) in the understory with persimmon (*Diospyros virginiana*) and buttonbush scattered throughout. Primary sources of hydrology in this community appear to be direct precipitation and from Wattensaw Bayou out-banking events. However, previous agricultural practices and elevation changes associated with previous fence lines have altered natural hydrologic flow across this community (Appendix B, Appendix A, Figure 9).

Broad-Leaved Deciduous Palustrine Forested Wetland Habitat (PFO1) -(+/- 71 acres):

Community Type 4 (+/- 9 acres of Enhancement):

This forested community occurred within the eastern portion of the Bank, adjacent to Wattensaw Bayou and frequently ponded palustrine emergent wetland communities. Main hydrology sources in this community are Wattensaw Bayou out-banking events and influx from drainage culverts (Appendix A, Figure 9). Persimmon and willow oak were dominant in the over story. The sapling/shrub layer was dominated by buttonbush, black willow, persimmon, winged elm (*Ulmus alata*) and water elm (*Planera aquatica*). Dominant herbaceous species included common rush (*Juncus effusus*) and ravenfoot sedge (*Carex crus-corvi;* Appendix A, Figure 7).

Community Type 5 (+/- 33 acres of Preservation):

This forested community occurred in the northeastern corner of the Bank, south of Locust Creek and adjacent to Community Types 1 and 2. Locust Creek and direct precipitation events are the primary hydrological drivers of the site. Micro-topographical diversity across the community can be seen in Lidar imagery (Appendix A, Figure 9). Willow oak and loblolly pine dominated the tree stratum while cedar elm dominated the sapling and shrub layer. The herbaceous/woody vine stratum consisted of Cherokee sedge (*Carex cherokeensis*) with greenbrier (*Smilax smallii*) scattered throughout (Appendix A, Figure 7).

Community Type 6 (+/- 40 acres of Preservation):

Community Type 6 is a forested community located in the northwestern portion of the Bank and contains the confluence of Wattensaw Bayou and Locust Creek. Wattensaw Bayou and Locust Creek are the main contributors to the hydrology of this community. Dominant tree species included water oak, red maple (*Acer rubrum*), persimmon and overcup oak (*Quercus lyrata*) with buttonbush scattered throughout the shrub stratum. Smartweed, spring lily (*Hymenocallis liriosome*) and Greenbriar (*Smilax glauca*) dominated the herbaceous layer (Appendix A, Figure 7).

Community Type 7 (+/- 5 acres of Restoration):

Community Type 7 is found to the south of the entrance road and west of Community Type 4. This community was previously farmed for rice and soy and remnant rice levees remain along the margins (Appendix A, Figure 9). A culvert draining water from a neighboring field and direct precipitation appear to be the main sources of hydrology. Sweetgum, green ash and winged elm dominated the tree and sapling/shrub stratum while ravenfoot sedge, northern sea oats (*Chasmanthium latifolium*), and Virginia creeper (*Parthenocissus* quinquefolia) dominated the herbaceous/woody vine layer (Appendix A, Figure 7).

3.0 Conceptual Mitigation Approach

Historically, aerial imagery proves the Bank supported an extensive bottomland hardwood forest within the floodplain of Wattensaw Bayou and Locust Creek and upland forests and riparian zones outside the primary flood plain. Woody vegetation within these areas has been substantially reduced due to impacts associated with agricultural activities.

Riparian and wetland areas perform important ecological functions, such as the transportation of nutrients, detritus and runoff. Serving as a key energy source for rivers and streams, riparian and wetland areas also provide wildlife habitat, reduce water temperature, and stabilize stream banks by reducing water velocity and minimizing erosion. Aquatic functional uplift and compensation associated with impacts to aquatic resources can be optimized by recovery and protection of high-quality forested wetlands and riparian zones. Therefore, "re-establishment," "restoration," "enhancement," and "preservation" strategies were chosen for the recovery of this site to produce a contiguous, mature conservation area supporting healthy, high functioning wetlands (Appendix A, Figure 8). The strategies proposed to accomplish these goals are discussed in more detail in the following sections and summarized in Table 1.

Table 1. Summary of the anticipated mitigation strategies and associated acreages occurring within the proposed Wattensaw Bayou Mitigation Bank (Appendix A, Figure 8).

Proposed Mitigation Strategies	Community Type	Acreage
Re-establishment	Community Types 1,2 & 3	93 acres
Rehabilitation/Restoration	Community Type 7	5 acres
Enhancement	Community Type 4	9 acres
Preservation	Community Types 5 & 6	73 acres

3.1 Mitigation Strategies

Re-establishment (+/- 93 acres)

Community Type 1, Community Type 2, and Community Type 3 are prior-converted agriculture fields ideally suited for "re-establishment" of forested wetland habitat (Appendix A, Figure 8). As previously

stated, these areas were converted from forested wetlands to agriculture fields sometime between 1949 and the 1960's, as evidenced in historic aerial imagery (Appendix B). Small levees (< 1ft.) combined with elevational changes between Community Type 1 and 2 prevent normal hydrology and restrict flood plain connection with Wattensaw Bayou in the south and Locust Creek in the north. Beaver activity on Wattensaw Bayou intermittently causes water to be impounded in portions of Community Type 2.

Community Type 3 was utilized mainly for hay production and displays un-natural hydrology. The elimination of regular disking and farming practices combined with increasing floodplain microtopography, will facilitate more natural hydrology within the community. Microtopography will be restored by removing remaining rice levees and utilizing micro-tillage site preparation, thereby restoring natural flood and drainage cycles. Implementing beaver trapping will prevent water impoundment in the future and increase the short-term survivability of planted seedlings.

Agricultural operations in all three communities have also prevented the regeneration of woody species. Reforestation of these areas with locally adapted native bottomland hardwood species, with care to match species wetness tolerances with appropriate geomorphic position, will allow for the development of diverse stands of native hardwoods invaluable to numerous wetland dependent wildlife species. To accomplish this, planting operations of the appropriate species will be conducted throughout the Bank. Management considerations integral for optimizing afforestation efforts on this site include knowledge of ranges for plant wetness tolerances (matching species with the appropriate landscape position), spatial arrangement, and diversity of plantings. For example, topographic lows with longer periods of flooding or ponding (e.g. portions of Community Type 2), will incorporate a larger proportion of OBL species, while higher elevations will incorporate a larger proportion of FACW and FAC species (Table 2). This approach will allow planting efforts to complement community specific vegetative competition, and buffer potential effects of unobservable microcosmic ecosystem conditions.

Re-establishment of these prior-converted communities will result in an increase in aquatic resources, aquatic area, and function, providing habitat connectivity between the Bank and the existing high-quality forested wetland communities in the neighboring PRM site (Appendix A, Figure 8).

Table 2. Proposed Species planting list by Community Designation for the Wattensaw Bayou Mitigation Bank.

Species	Common name	Wetland Indicator Status	CT 1	CT 2	CT 3	CT4	CT7
Quercus nigra	water oak	FAC	✓			✓	✓
Carya cordiformis	bitter-nut hickory	FAC	\checkmark				\checkmark
Acer rubrum	red maple	FAC	\checkmark		\checkmark	\checkmark	\checkmark
Ulmus americana	American elm	FAC	\checkmark		\checkmark		\checkmark
Ulmus rubra Liquidambar	slippery elm	FAC					
styraciflua Diospyros	sweetgum	FAC	✓		✓		✓
virginiana	common persimmon	FAC					
Populus deltoides	eastern cottonwood	FAC	\checkmark		\checkmark		\checkmark
Pinus taeda	loblolly pine	FAC	\checkmark				\checkmark
Quercus pagoda Platanus	cherry-bark oak	FACW	✓				✓
occidentalis	American sycamore	FACW	\checkmark		\checkmark		\checkmark
Quercus nutallii	nuttall oak	FACW		\checkmark	\checkmark	\checkmark	
Quercus phellos	willow oak	FACW	\checkmark	\checkmark	\checkmark		\checkmark
Quercus michauxii Fraxinus	swamp chestnut oak	FACW	✓	✓	✓	✓	✓
pennsylvanica Taxodium	green ash	FACW	✓	✓	✓	✓	✓
distichum	Bald cypress	OBL	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Nyssa aquatica	water tupelo	OBL		\checkmark	\checkmark		
Planera aquatica	planertree	OBL		\checkmark	\checkmark		
Carya aquatica	water hickory	OBL		\checkmark	\checkmark	\checkmark	
Quercus lyrata	overcup oak	OBL		\checkmark	\checkmark	\checkmark	
Salix nigra	black willow	OBL		\checkmark	\checkmark		

Rehabilitation (+/- 5 acres)

Community Type 7 provides an excellent opportunity for the restoration of forested wetland habitat through "rehabilitation" (Appendix A, Figure 8). This Community was previously farmed primarily for rice however it is now in the early successional stages of forest regeneration. Hydrology in this community has been manipulated by rice levees which disrupt natural connectivity to Wattensaw Bayou's floodplain (Appendix A, Figure 9). Preliminary rehabilitation plans include vegetation relief and inter-planting to increase species diversity and breaching the rice levees through micro-tillage, reconnecting hydrology

across the floodplain. Vegetation relief actions will enhance the stand characteristics of the young forest by simulating stem exclusion and understory initiation phase of forest development.

Vegetation relief actions will be accomplished via single stem or group selection of undesirable trees. The initial vegetation relief within this community will target non-mast producing species (e.g. green ash, sweetgum etc.). This action will result in the creation of coarse woody debris, reduce competition, and increase diameter growth (basal area) of non-selected trees. This will be accomplished using low-impact standard forest improvement techniques such as: mulching, pruning, cutting, felling, and/or herbicide application using non-soil active herbicides.

Following vegetation release actions, interplanting will be implemented. Interplanting will take into consideration species wetness tolerance and light availability when selecting locations (Table 2). These management actions will be complemented by enhancement of the neighboring existing forested wetland habitat (Community Type 4) (Appendix A, Figure 8).

Enhancement (+/- 9 acres)

"Enhancement" is often undertaken for a specific purpose such as improving water quality, flood water retention or wildlife habitat. Community Type 4 is well-suited for "enhancement" of the current palustrine forested wetland conditions (Appendix A, Figure 8). Currently, persimmon, buttonbush, black willow and willow oak are the dominant species in the tree and sapling/shrub stratum. The specific enhancement objective for this Community is to improve wildlife habitat through vegetation relief and interplanting management actions. Single-stem selection of dominant non-mast producing species (black willow) in this community will result in the creation of coarse woody debris and open the canopy to allow light to readily reach the ground. This removal of dominant, non-mast producing tree species will mimic natural gap disturbances and promote the growth and establishment of newly planted desirable tree species suited for the conditions of the site. This will be accomplished using low-impact standard forest improvement techniques (e.g. cutting/felling and/or herbicide application using non-soil active herbicides). Subsequent interplanting of desirable tree species will increase species diversity (Appendix A, Figure 8).

Potential species for planting are described in Table 2 and include Green Ash, Red Maple and several oaks all of which would introduce high value use species for wildlife.

Preservation (+/- 62 acres)

The 2008 CMLAR states that Preservation areas meet the following requirements.

- 1. The resources to be preserved provide important physical, chemical, or biological functions for the watershed.
- 2. The resources to be preserved significantly contribute to the ecological sustainability of the watershed.
- 3. The preserved resource is under direct threat of destruction or adverse modification.
- 4. The preserved resource will be permanently protected through an appropriate real estate or other legal instrument.
- 5. Preservation is determined by the district engineer to be appropriate and practicable.

Community Types 5 and 6 meet these requirements for "preservation". Nutrient cycling, flood storage, and quality wildlife habitat found within these communities provide critical physical, chemical, and biological functions to the watershed. Protection of these communities should contribute significantly to the ecological sustainability of the watershed by directly improving the water quality of Wattensaw Bayou, which is a 303 (d) listed stream, through filtering of pollutants and reducing riparian erosion and sedimentation.

Ensuring preservation of these Communities in perpetuity through a conservation easement will assist in maintaining a level of function in the watershed that is at risk of destruction or adverse modification, likely from agricultural development. It is estimated that Arkansas originally had 9.8 million acres of wetlands, representing almost 30% of the total surface area of the state. By the mid 1980's the number of wetlands had dropped to 2.8 million acres (72% loss) representing only 8% of the surface area (Dahl 1990). As demand for farmland increases, conversion of forested wetlands to agriculture is likely to increase as well. Thus, protection of this high-quality system through preservation is an ecologically prudent action.

3.2 Reference Site

Adjacent to the proposed Bank is the Wattensaw Bayou PRM site managed by AEL (Appendix A, Figure 4b). This site is an ideal reference site as it is analogous to the proposed bank in its historic land use trends, soils, hydrology, and vegetative communities. Community Type 5 and 6 can also serve as a reference for forested wetland conditions and vegetative assemblages within the Bank. These stands will provide a native seed source for natural volunteer species regeneration which will promote early stratification and

diversity within the developing canopies of the Bank. Natural elevational diversity in Communities 5 and 6 can be seen in Lidar imagery, and can be used as a reference for the proposed microtopographic work in other communities (Appendix A, Figure 9). Furthermore, the proximity of the mitigation areas to these reference sites will result in a large contiguous area of wetlands which will provide improved functionality and wildlife habitat.

4.0 Establishment and Operation

The guidelines for developing and establishing a mitigation bank outlined in the CMLAR will be followed. This process will result in the development of a DMBI that details the specific terms and conditions by which the Bank will be operated by the Sponsor and utilized by clients of the Department of the Army. As outlined by CMLAR, the DMBI will be developed after consultation with agencies representing the IRT and the interested public after the Prospectus has been reviewed. Bank-specific details incorporating local district policies regarding mitigation bank development, in place at the time of submission of this Prospectus, will be incorporated in a DMBI, when appropriate.

4.1 Site Protection Instrument

The Sponsor will ensure that the site is protected from incompatible land uses and activities that would adversely affect the intended extent, condition, and function of the Bank with an appropriate site protection instrument.

4.2 Financial Assurances

The Sponsor will establish both short-term and long-term financial assurance mechanisms (FAMs) in accordance with local district policies, to be detailed within the DMBI.

5.0 Ownership Arrangements and Long-Term Management Strategies

All real property to be included within the Bank is contracted by the Sponsor and will be pledged for use in the Bank consistent with an approved Mitigation Banking Instrument (MBI). The conservation values of the site will be protected using an appropriate site protection instrument. Any site-specific long-term management activities will be identified and funded via long-term financial assurances (to be approved by the USACE) payable to a beneficiary and/or a long-term steward (if different from the Sponsor). Provisions for transfer of long-term management responsibilities from the sponsor to another entity will be outlined within the DMBI.

6.0 Site Constraints

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AEL has not yet identified any constraints that would limit the restoration potential of the Bank. The successful implementation of the neighboring Wattensaw Bayou PRM site is evidence that any constraints in the area are not significant enough to limit Bank development.

7.0 Sponsor Qualifications

AEL is a unique family of companies with a diverse pool of talented ecologists and business professionals. The firm has been in the natural resource management business since 1979 and has established and managed more than 20 successful mitigation banks and approximately 35 permittee-responsible mitigation projects involving wetland, stream, and endangered species in multiple states, multiple USACE districts, and across a wide range of habitat types. Mitigation Management, LLC, is the mitigation asset holding entity created by Advanced Ecology, Ltd.

Our Story

The history of AEL began with the creation of Bird Forestry Services (BFS) in 1979, which developed as a traditional forestry consulting business. In 1994, AEL was created in the form of an affiliated business to focus solely on environmental and wildlife consulting. In 2006, the two businesses reorganized



so that BFS became a wholly owned subsidiary of AEL. At that same time, the owners of AEL also decided to forego traditional environmental consulting and focus instead on creating a portfolio of company owned and operated mitigation and conservation projects. As of 2021, that number of projects has increased to more than 24 successful mitigation banks and more than 35 permittee-responsible mitigation projects. Since that time the forestry component of the business has grown to currently manage more than 150,000 acres and has extensive experience in restoring and managing forest systems, particularly hardwood communities. Most recently, AEL further expanded its forest management expertise by consolidating with another forestry consulting firm formerly known as Crawford Forestry Group, Inc. The forest management are of AEL operates as Bird Forestry. Essential elements of the AEL Story also include the development of other integral business units or specialized companies. Siva-Tech South is a branch of AEL that specializing in vegetation management, site restoration, tree planting, and invasive species control. In addition to supporting AEL projects, Silva-Tech has conducted over 70,000 acres of endangered species habitat management on private and public lands. In 2007, AEL also developed Mitigation Solutions USA (MSUSA), which has become a national leader in the marketing and selling environmental credits. In 2011, AEL partnered with Mark Erb to form TerraNative, an expert in nursery management, the collection

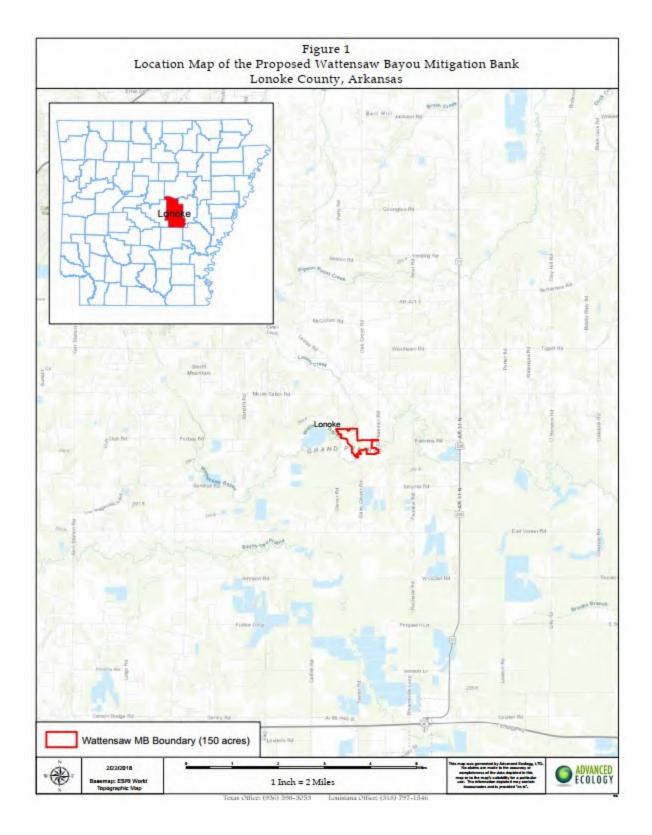
native hardwood seed and the propagation of seedlings, used to improve the outcomes of environmental restoration projects. The partnership has resulted in the creation of a hardwood nursery in Huntsville, Texas with a priority of conducting project-site specific seed collections and producing custom grown seedlings for each AEL project. To produce the highest quality project sites, AEL has also created TerraStone Land Company. The company's primary goal is to locate and secure the necessary real-estate in each of AEL's ecological target markets. Collectively these firms all work together in a capacity and process unique to the ecosystem marketplace.

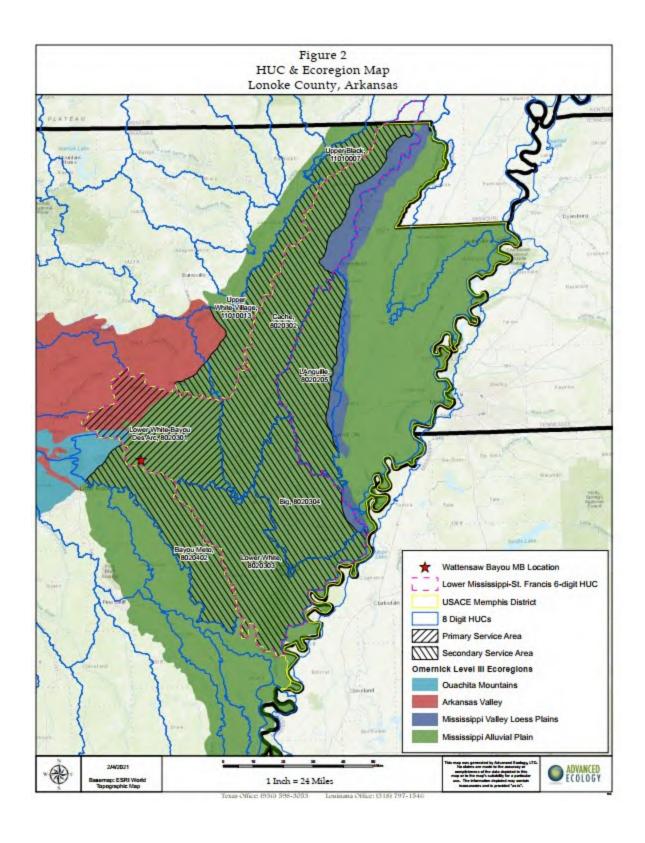
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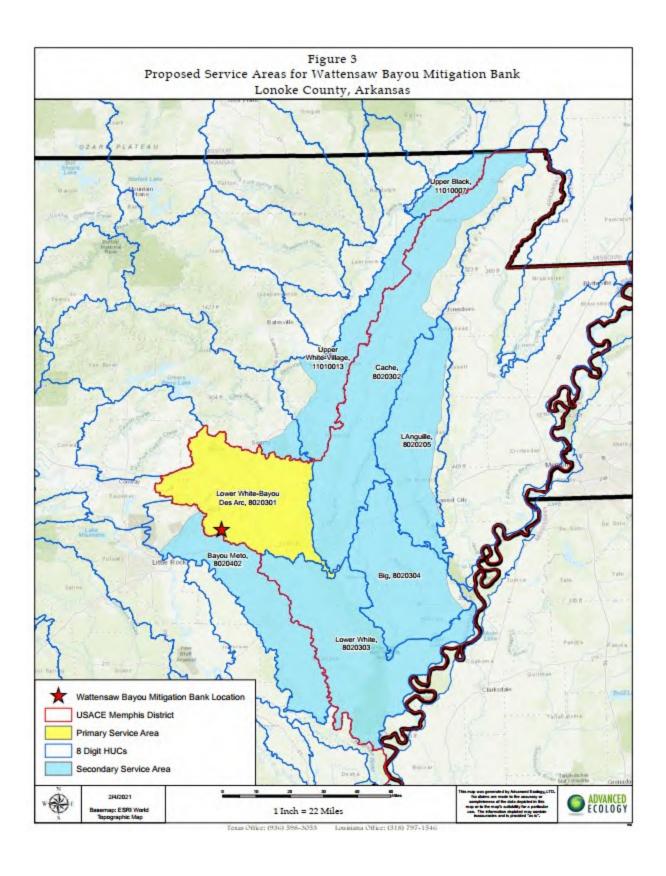
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APPENDIX A

Project Figures







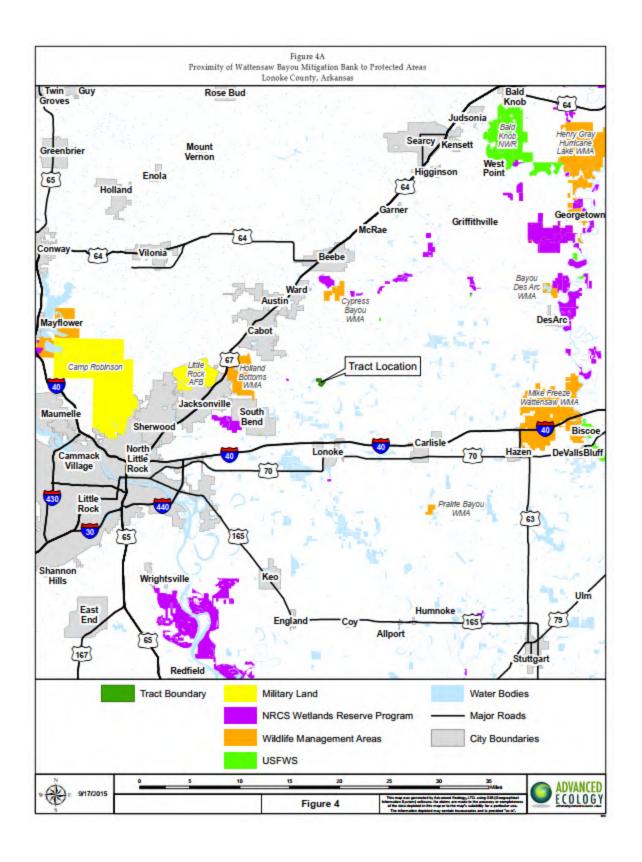
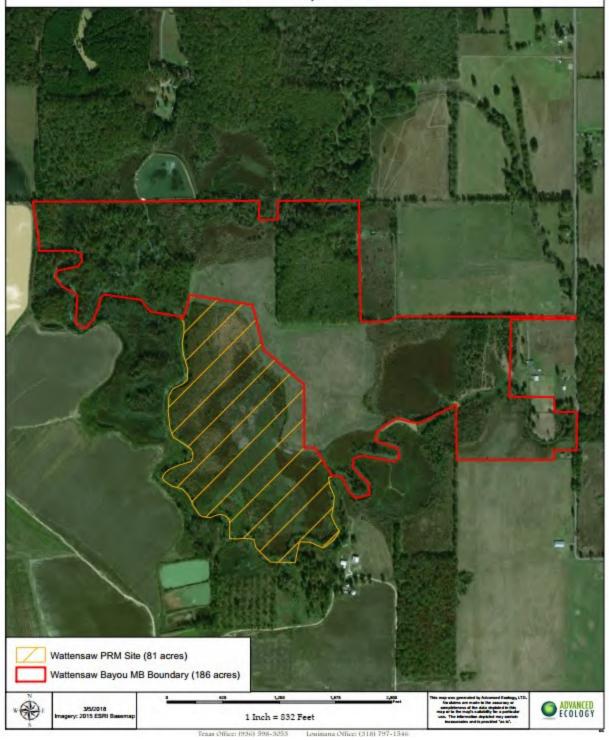


Figure 4b
Map of the Wattensaw PRM Site and the Proposed Wattensaw Bayou Mitigation Bank
Lonoke County, Arkansas



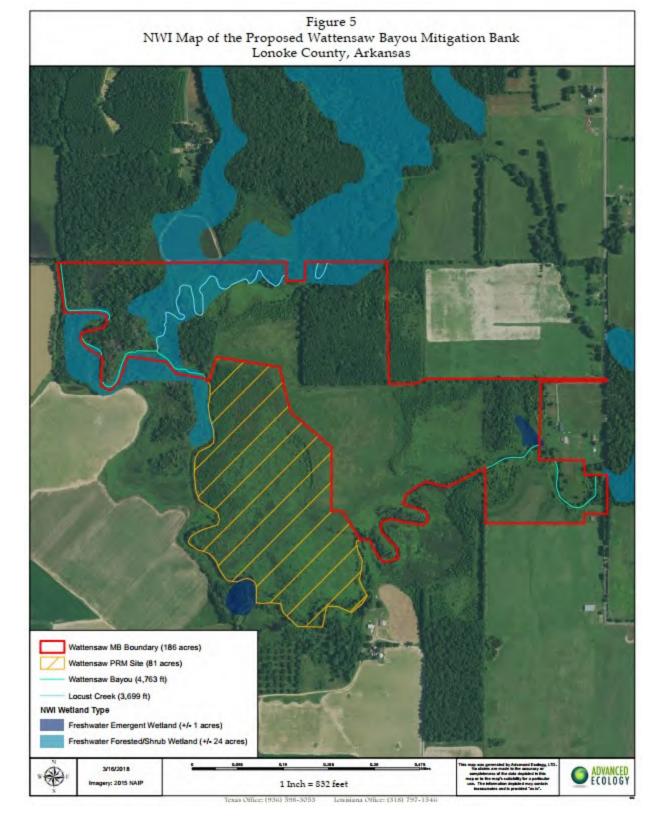
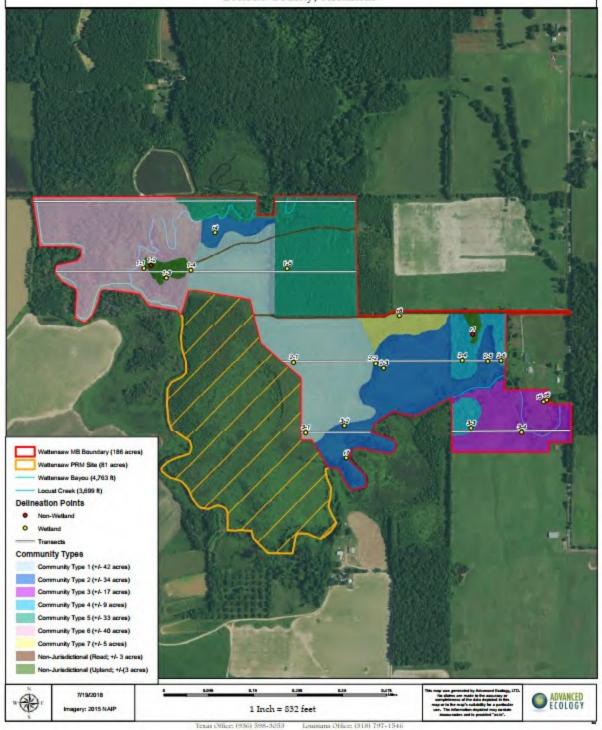


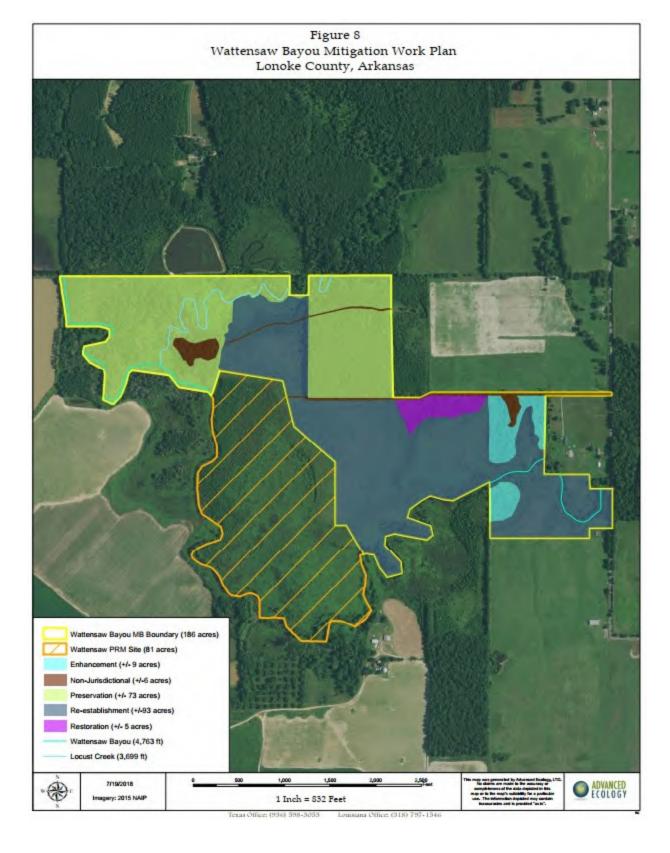
Figure 6 NRCS Soils Map of the Proposed Wattensaw Bayou Mitigation Bank Lonoke County, Arkansas 38 2 38 16 2 38 38 Name 6. Description

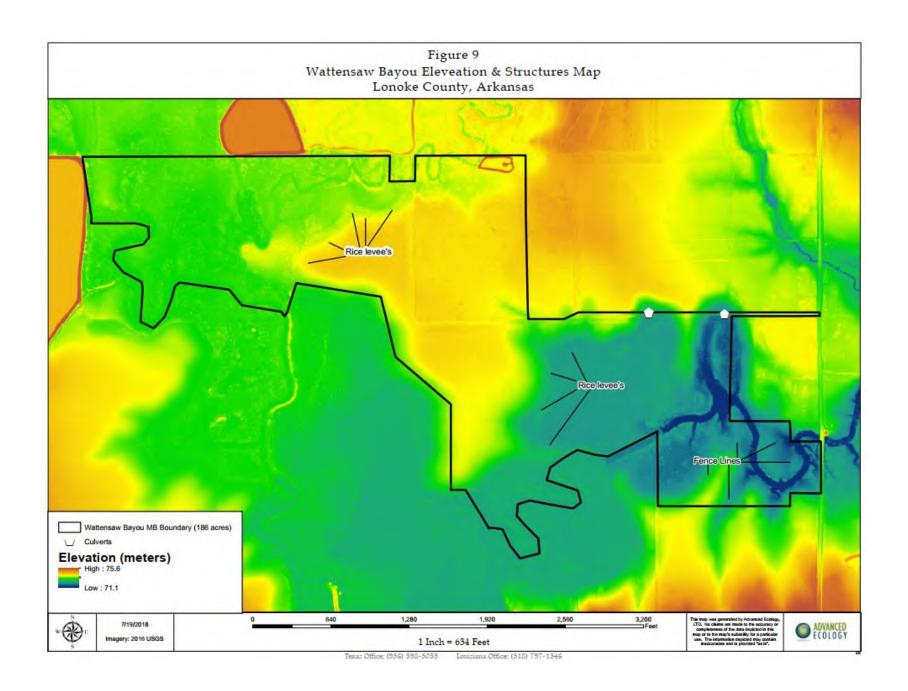
Kobel sity day loam; 0-3 % slope

Tichner sit loam; 0-1 % slope, frequent flooding
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Figure 7 Wetland Delineation Map of the Proposed Wattensaw Bayou Mitigation Bank Lonoke County, Arkansas

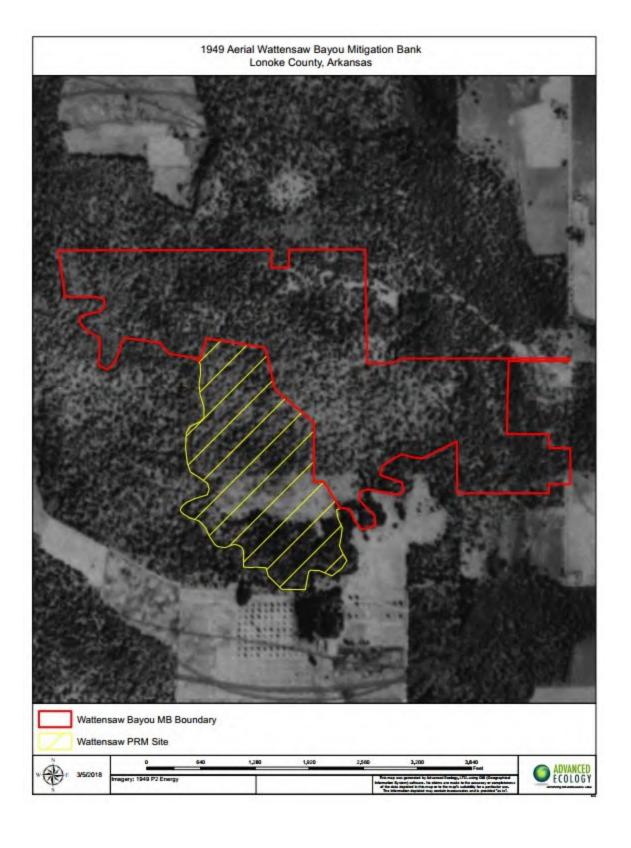


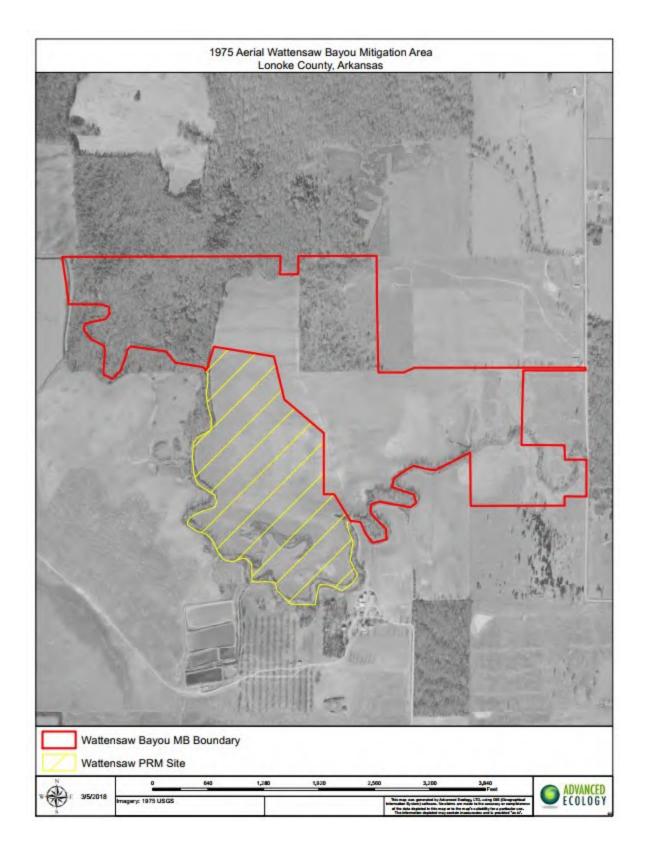


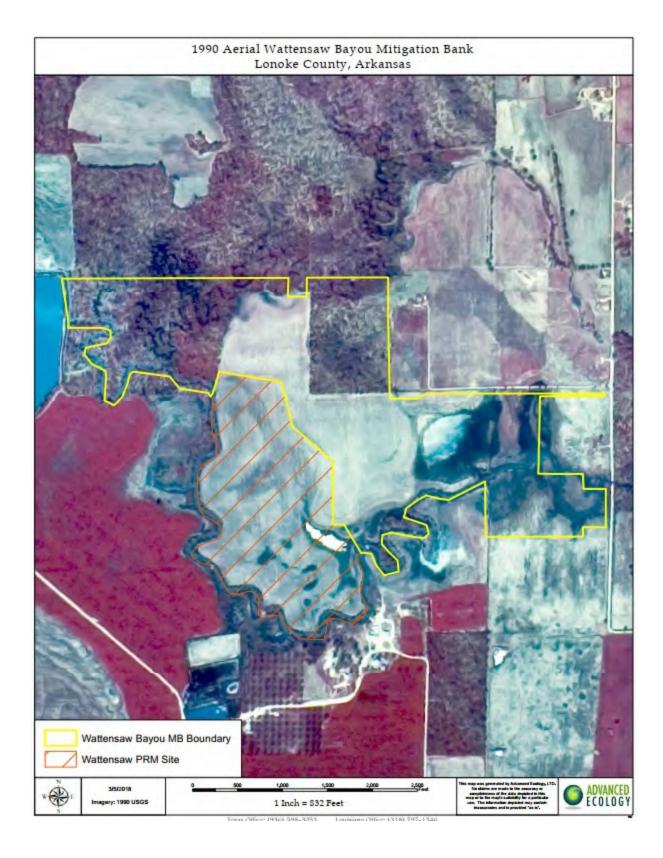


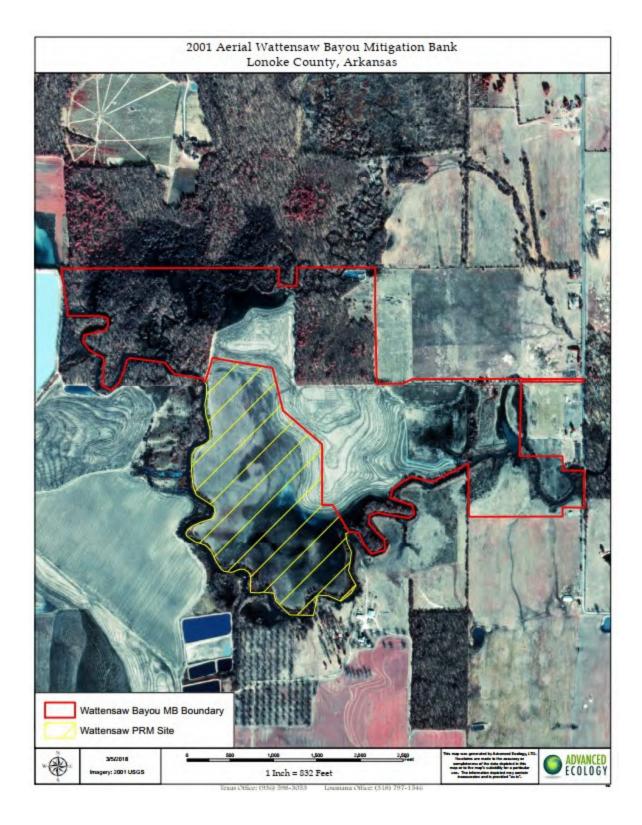
APPENDIX B

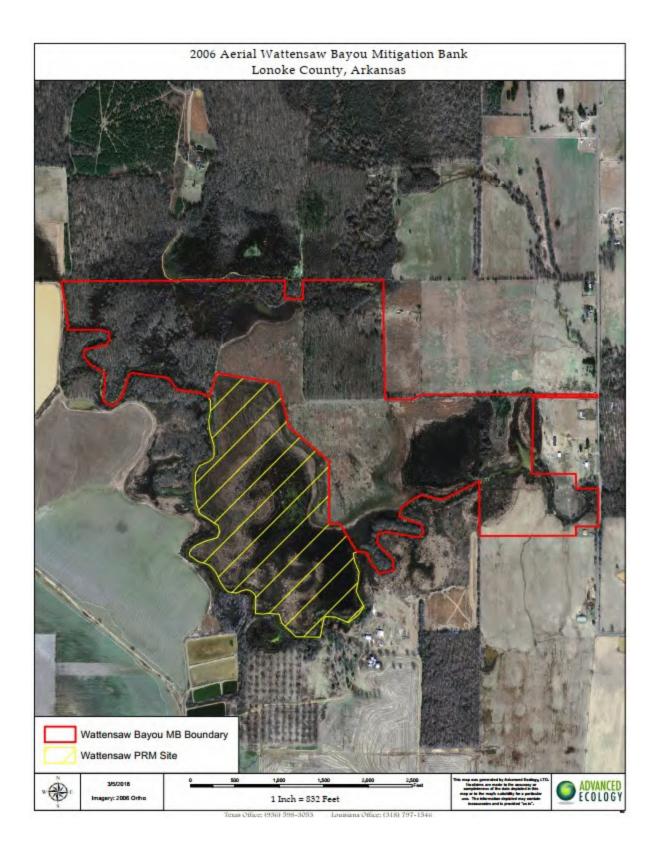
Historical Imagery

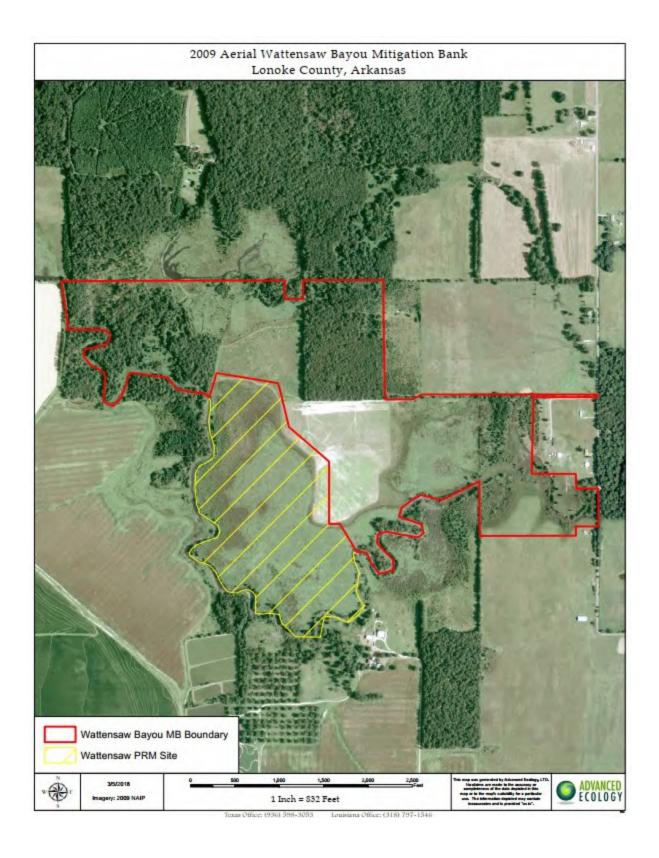


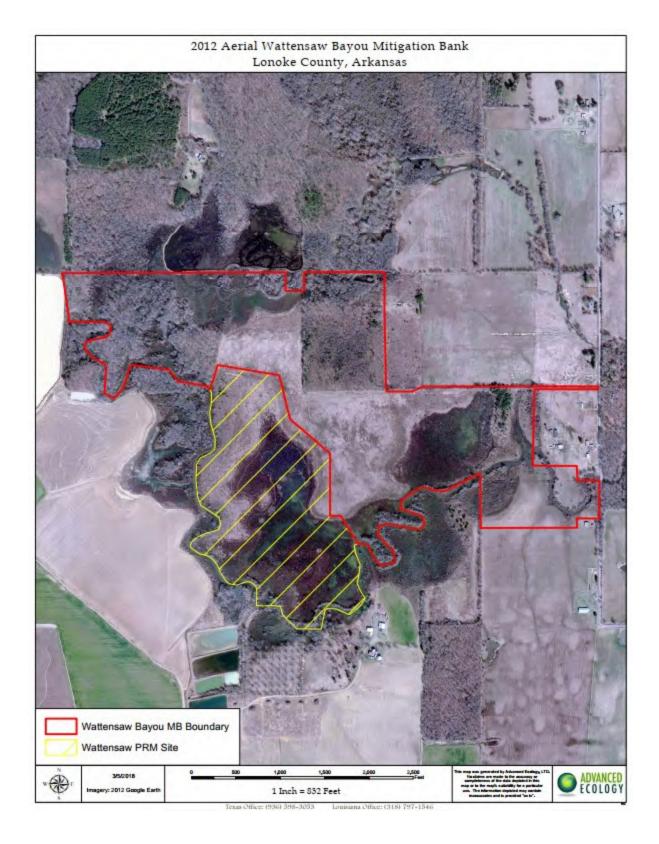


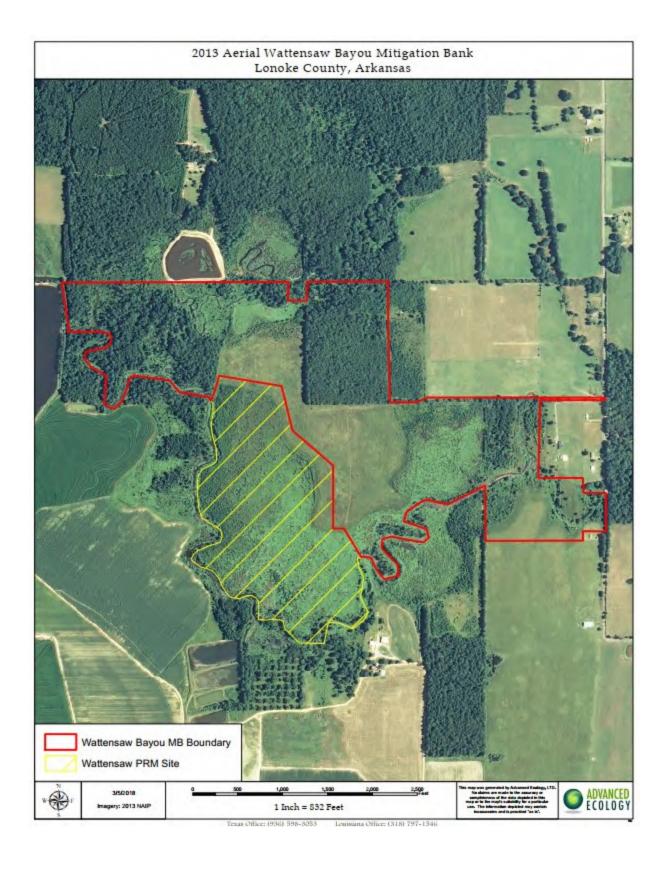












2014 Aerial Wattensaw Bayou Mitigation Bank Lonoke County, Arkansas Wattensaw Bayou MB Boundary Wattensaw PRM Site ADVANCED ECOLOGY

1 Inch = 832 Feet

APPENDIX C Wetland Delineation Report

Wetland Delineation Report

Wattensaw Bayou Mitigation Bank Lonoke County, Arkansas September 2017







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Delineation of Waters of the U.S., Including Wetlands

Part I: Introduction

Advanced Ecology LTD (AEL) investigated the land characteristics on an approximately 186-acre property (Project Site) owned by AE Land and Timber, LLC. (Landowner), located in Lonoke County, Arkansas approximately twenty-three (23) miles northeast of Little Rock, AR (Appendix A, Figure 1). The latitude/longitude coordinates for the Project Site are: 34° 89′ 18.20″ N; -91° 91′ 25.00″ W (UTM NAD 83 Zone 15N). This investigation was conducted as part of a feasibility study for Mitigation Management, LTD. (MML/Client). AEL staff members identified and delineated potential jurisdictional waters of the U.S. (including wetlands) on the Project Site as identified in Appendix A, Figure 2.

For the purposes of this report, the definition of "Waters of the U.S." is consistent with that provided in 33 CFR §328.3(a). According to the Corps of Engineers Wetlands Delineation Manual (Manual) (Environmental Laboratory 1987), wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The U.S. Army Corps of Engineers (USACE) has final authority over establishing all wetland/non-wetland boundaries and classification and jurisdictional status of non-wetland waters; thus, this report is being generated to aid in this jurisdictional determination.

Part II: Methods

2.1 Resource Review

AEL reviewed available information sources to ascertain local wetland community characteristics for the Project Site. A primary objective of the resource review was to identify and generally map expected wetland communities and specific habitat subtypes prior to the site visit. Information sources include:

• Natural Resources Conservation Service (NRCS) Soil Survey

NRCS Web Soil Survey data was reviewed for purpose of locating and evaluating designated hydric soil types within the Project Site (Appendix A, Figure 3). The U.S. Department of Agriculture (USDA)-NRCS Soil Survey Division Soil Series Name Search Query Facility website was used to determine a range in characteristics for mapped soil types within the delineated Project Site.

• U.S. Geological Survey (USGS) Topographic Map

One 7.5-minute series USGS Topographic Quadrangle Map (Lonoke, Arkansas) was evaluated prior to the site visit (Appendix A, Figure 4).

Aerial Photography

Aerial photography of the Project Site was reviewed for purposes of evaluating plant communities, identifying potential wetland habitats, and developing an initial understanding of hydrologic, vegetative, and overall land use changes. Current and historical aerial photographs were obtained from the USDA, USGS, and other sources (Appendix A, Figure 5; Appendix D).

National Food Securities Act Manual WETS Analysis

A National Food Securities Act Manual (NFSAM) WETS analysis was conducted to make the determination of hydrologic and climatic conditions for the site at the time of the delineation (Appendix C). The Cabot station (34.98 N, -92.00 W) was used for this analysis. Rainfall data was derived from the NOAA Lonoke Climate Data website (NOAA 2017).

National Wetlands Inventory Data (NWI)

NWI data was examined prior to the site visit (Appendix A, Figure 6).

Other Resources

AEL previously conducted a wetland delineation for the adjacent Wattensaw permittee responsible mitigation (PRM) area. This material was reviewed prior to conducting field work for the Project Site, given the obvious ecological similarities and geographic proximity of the two projects.

2.2 Site Investigation and Data Collection

Following the resource review, the Project Site was inspected by AEL biologists or AEL representatives to document environmental conditions of interest. The site visit was conducted on September 11-13, 2017. As per standard procedures, pedestrian surveys utilizing transects were conducted throughout the Project Site for delineation purposes. Ground conditions in other specific areas of interest identified via remote sensing were also documented. The wetland delineation involved documentation of the dominant plant species, soil properties, and hydrological characteristics of the potential wetland habitats within the Project Site. This data was used to categorize the habitat by the Cowardin wetland classification system (Cowardin et al. 1979).

Criteria used in the identification of potential wetlands were those prescribed the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0* (Regional Supplement) (USACE 2010). Methods for characterizing vegetation, recording soil data, and determining hydrology were done in accordance with these USACE manuals. Wetland delineation data points were collected along transects in accordance to the USACE guidelines for delineations greater than five acres in size; the corresponding data sheets are provided in Appendix B. The locations of all wetland communities were mapped using *ArcGIS 10.5* (Appendix A, Figure 2).

Preliminary determination of hydric soil conditions for the Project Site was based on the hydric soils list provided by the NRCS *Web Soil Survey*. Final determination of the presence of hydric or non-hydric soils was through in-field sampling of soil profiles. Soil value and chroma needed for the determination of the presence of hydric or non-hydric soils were determined using *Munsell Soil Color Charts* (2000 Revised Edition) as recommended in the USACE wetland delineation manual.

Visual samples of dominant plant species and estimates of their respective total percent composition within each vegetative stratum were taken within each community type. Confirmation of plant identification was made using several sources of information, including the *USDA Plants Database*.

Part III: Results and Discussion

3.1 Hydrology

The primary sources of wetland hydrology for the Project Site are Locust Creek, Wattensaw Bayou, and over-land flow from direct precipitation events. Positive wetland hydrology indicators were observed throughout much of the Project Site with water-stained leaves, drift deposits and oxidized rhizospheres along living roots being particularly common. Surface water and soil saturation were also observed.

Based on the WETS analysis, August displayed normal hydrologic conditions, while June and July displayed wetter-than-normal hydrologic conditions. Overall, the site was determined to exhibit slightly wetter than normal conditions during the three-month period prior to the delineation field work.

3.2 Soils

A detailed soils map sheet breaks this Project Site into specific soil groups. The following detailed soil units can be found within the bounds of the Project Site (USDA 1981, NRCS Web Soil Survey) (Appendix A, Figure 3).

Tichnor silt loam, frequent flooding

Tichnor silt loam, frequent flooding, is mapped over approximately 60% of the Project Site. It is a component of floodplain systems, exhibiting poor natural drainage. According to the Soil Survey of Lonoke and Prairie Counties, Arkansas, this soil type is well suited to woodlands consisting primarily of cherrybark oak (*Quercus pagoda*), sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*) and green ash (*Fraxinus pennsylvanica*) (USDA 1981). Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is frequently flooded, though not ponded, and occurs on slopes of 0-1%. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent (USDA 1981, NRCS Web Soil Survey).

Kobel silty clay loam

Kobel silty clay loam is mapped across approximately 3% of the Project Site. This is a very deep, poorly drained soil on broad flats and depressions that were back swamps of major streams and their tributaries. This soil formed in clayey alluvium and has high natural fertility. Cherrybark oak, green ash, sweetgum, water oak, and sycamore (*Platanus occidentalis*) grow well in this soil (USDA 1981). Permeability is very slow and available water capacity is high. This soil type occurs on slopes of 0-1%. This soil has high to very high shrink-swell potential (USDA 1981, NRCS Web Soil Survey).

Calhoun silt loam

Calhoun silt loam is mapped over about 24% of the Project Site. This soil occurs on slopes of 0-1% and experiences poor natural drainage. Trees that commonly grow in this soil are cherrybark oak, water oak, sweetgum, and loblolly pine. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very high. This soil does not typically exhibit shrink-swell properties. A seasonal zone of water saturation is at 9 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent (USDA 1981, NRCS Web Soil Survey).

Stuttgart silt loam

Stuttgart silt loam is mapped over approximately 12% of the Project Site. Stuttgart silt loam,1 to 3 percent slopes are on the tread portion of the Prairie terraces. The terraces are thought to be made up of sediments from the Arkansas River system with a silty mantle from the Mississippi River system that may be mixed with loess in some places. This series consists of very deep, moderately well to somewhat poorly drained, slowly permeable soils that developed mainly in native vegetation of tall grasses with hardwood and scattered areas of shortleaf pine (USDA 1981, NRCS Web Soil Survey).

Immanuel silt loam

The Immanuel series is found on a very small area (\sim 2%) in the southeastern portion of the Project Site. These soils consist of very deep, moderately well drained soils that formed in silty alluvium. This soil occurs on slopes of 1-3% (NRCS Web Soil Survey).

Oaklimeter silt loam

Oaklimeter silt loam, occasionally flooded is mapped over a minute section (<1%) in the southwest corner of the Project Site. This is deep, moderately well-drained soil which occurs on floodplains of streams in the Loess Hills. Slopes range from 0-2%. This soil is well-suited to woodlands; cherrybark oak, sweetgum, green ash, loblolly pine (*Pinus taeda*), and willow oak (*Quercus phellos*) grow well in areas mapped with this soil (USDA 1981, NRCS Web Soil Survey).

Calloway silt loam

This soil was mapped in the northeast corner of the Bank. This deep, somewhat poorly drained, soil is moderate in natural fertility and is frequently found in flats and terraces. This soil is well-suited to woodlands; cherrybark oak, loblolly pine, sweetgum and water oak do particularly well in this soil type (USDA 1981).

3.3 Non-Jurisdictional Habitat (+/- 3 acres)

Non-jurisdictional habitat comprises a minor component of the delineated Project Site. This habitat occurs at one area of higher elevation at or near the slope-transition between forested upland and wetlands. Dominant species in the tree stratum included loblolly pine and sweetgum. The sapling/scrub stratum was dominated by eastern redbud (Cercis canadensis), mockernut hickory (Carya tomentosa), winged elm (Ulmus alata), and black cherry (Prunus serotina). Eastern red cedar (Juniperus virginiana), green ash, and winged elm were dominant in the shrub stratum. Dominants in the herbaceous stratum included white oak (Quercus alba), green ash, Cherokee sedge (Carex cherokeensis), and sea oats (Chasmanthium latifolia). Lastly, Virginia creeper (Parthenocissus quinquefolia), and poison ivy (Toxicodendron radicans) were dominant in the woody vine stratum.



The elevation gradient between the wetland and the upland habitat in this area is gradual; nevertheless, the imagery above (taken on September 13, 2017) juxtaposed with the Google Earth derived figure and images from the September 11-13th site visit (Appendix B), validate the delineated boundary from field work conducted September 11-13th, 2017.

Soil type mapped for the upland area, located just south of the access road, is Tichnor silt loam, frequently flooded. This upland (data point R-1) failed to exhibit hydrophytic vegetation, hydric soil, and wetland hydrology indicators (Appendix B).

3.4 Prior-Converted Non-Jurisdictional Habitat (+/- 93 acres)

The neighboring PRM site AEL previously delineated was considered prior-converted agricultural fields by the NRCS (Appendix A, Figure 7). Similarly, the Project Site acreage is predominately comprised of prior-converted agricultural fields adjacent to Wattensaw Bayou (Appendix A, Figure 2). Conversion of forested wetlands occurred throughout the Project Site prior to 1975, as determined through review of the historic

aerial imagery (Appendix D). The 1949 aerial image provides evidence that most of the MA was forested, with portions having already been cleared for farming at that time; as such, conversions are believed to have occurred sometime between 1949 and the 1960's. Because most of the potential jurisdictional forested wetlands within the Project Site were converted prior to December 23, 1985, the site has been considered "prior converted" (pers. comm. NRCS staff, Lonoke County); however, a formal determination by the NRCS was never completed, presumably due to the long-standing use of the Project Site for crop production (both before and after December 23, 1985) and general lack of need (Appendix E). Currently, agricultural activities have altered natural hydrologic connection between the tributary and the site. The Project Site has an extensive history of water regime management, typical of agricultural farms in the region. Based on the prior-converted status, the majority of the Project Site is considered non-jurisdictional, and therefore possesses a wetland baseline commensurate with that designation.

Palustrine Emergent Wetland Habitat (PEM)- (+/- 93 acres)

Community Type 1:

This herbaceous community is centrally located on the property, predominantly within the Calhoun silt loam soil type. Dominant vegetation in the herbaceous stratum included common lespodeza (*Kummerowia striata*), knotroot bristlegrass (*Setaria parviflora*), and bushy bluestem (*Andropogon glomeratus*). Plant species in this area were predominantly facultative (FAC) to facultative wetland (FACW), but this area appears to have been disturbed by agricultural activities (disking/cropping) more recently than other communities (Appendix A, Figure 2).

Community Type 2:

This herbaceous community is found at lower elevations than Community Type 1 and is adjacent to portions of Wattensaw Bayou in the south and Locust Creek in the north. Vegetation was predominantly obligate (OBL) hydrophytes including smartweed (Persicaria hydropiperoides, P. pennsylvanica) in the understory with buttonbush (Cephalanthus occidentalis) and black willow (Salix nigra) scattered throughout the midstory (Appendix A, Figure 2).

Community Type 3:

This herbaceous community occurred within the slightly higher elevations than Community Type 2 and is adjacent to Wattensaw Bayou in the southeastern portion of the tract. This community was historically used for hay production and is currently dominated by redtop panic grass (Coleataenia rigidula) and sumpweed (Iva annua) in the understory with persimmon (Diospyros virginiana) scattered throughout (Appendix A, Figure 2).

3.5 Potentially Jurisdictional Habitat (+/- 87 acres)

Broad-Leaved Deciduous Palustrine Forested Wetland Habitat (PFO1) -(+/- 87 acres)

Community Type 4:

This forested community occurred within the eastern portion of the Project Site, adjacent to Wattensaw Bayou and frequently ponded palustrine emergent wetland communities. Black willow, willow oak, sweetgum and persimmon were dominant in the over story. The sapling/shrub layer was dominated by buttonbush, black willow, persimmon, winged elm and water elm (*Planera aquatica*). Dominant herbaceous species included common rush (*Juncus effusus*) and ravenfoot sedge (*Carex crus-corvi*). Soil mapped in this area was entirely Tichnor silt loam, frequent flooding (Appendix A, Figure 2).

Community Type 5:

This forested community occurred in the northeastern corner of the Project Site, south of Locust Creek and adjacent to frequently ponded palustrine emergent communities. Willow oak and loblolly pine dominated the tree stratum while cedar elm dominated the sapling and shrub layer. The herbaceous/woody vine stratum consisted of Cherokee sedge with greenbrier (*Smilax smallii*) scattered throughout (Appendix A, Figure 2).

Community Type 6:

Community Type 6 is a forested community located in the northwestern portion of the Bank and contains the confluence of Wattensaw Bayou and Locust Creek. Dominant tree species included red maple, persimmon and overcup oak with buttonbush scattered throughout the shrub stratum and smartweed dominating the herbaceous layer (Appendix A, Figure 2).

Community Type 7:

Community Type 7 is found to the south of the entrance road and west of Community Type 4. Sweetgum, green ash and winged elm dominated the tree and sapling/shrub stratum while ravenfoot sedge, northern sea oats (*Chasmanthium latifolium*), and Virginia creeper (*Parthenocissus quinquefolia*) dominated the herbaceous/woody vine layer (Appendix A, Figure 2).

Riverine/Streams- (+/- 8,462 linear feet)

Wattensaw Bayou is a perennial stream that flows along the southern border of the Project Site, meandering through portions of the eastern PEM community types. Locust Creek is a perennial stream which flows southwest across northern portions of the Project Site before intersecting with Wattensaw Bayou downstream.

3.6 Jurisdictional Determination

Based on current waters of the U.S., including wetlands, regulations and USACE guidelines, six potentially jurisdictional features— including four wetland communities totaling 87 acres and 2 perennial streams totaling 8,462 linear feet— of waters of the U.S., are located within the Project Site.

The USACE and the EPA are the final authority over a jurisdictional status and ecological functions and services of all waters of the U.S., including wetlands delineated on the Project Site per Section 404 of the Clean Water Act. The findings discussed in this report are the professional judgment of Advanced Ecology LTD and have not been verified by the regulatory government agencies.

Part IV: Conclusion

Areas that demonstrate characteristics of hydrophytic vegetation, hydric soils, and wetland hydrology qualify as potentially jurisdictional wetlands and may be regulated under Section 404 of the Clean Water Act. However, most of the areas demonstrating these characteristics found on the project site are the result of agricultural practices (e.g. hydrologic manipulation) and are therefore man-induced and not considered jurisdictional. Overall, areas determined to be potentially jurisdictional were measured as occurring on 87 acres within the Project Site. This report, accompanying maps and supporting documentation (Table 1 & Appendices) are being provided to aid in this jurisdictional determination

Table 1. Summary of the habitat delineation performed within the Project Site.

Community Type	Acreage within Project Site
Community Type 1 (PEM)	+/- 42 acres
Community Type 2 (PEM)	+/- 34 acres
Community Type 3 (PEM)	+/- 17 acres
Community Type 4 (PFO1)	+/- 9 acres
Community Type 5 (PFO1)	+/- 33 acres
Community Type 6 (PFO1)	+/- 40 acres
Community Type 7 (PFO1)	+/- 5 acres
Forested Upland	+/- 3 acres
Road	+/- 3 acres
Potentially Jurisdictional Total:	87 acres
Prior-Converted Non-Jurisdictional	93 acres
Total:	
Non-Jurisdictional (Including	6 acres
Roads) Total:	
TOTAL:	186 acres

This investigation was based on generally accepted practices of professionals undertaking similar studies at similar times and in the same general geographical area. AEL observed the same degree of care and skill generally exercised by professionals under similar circumstances and conditions. The observations, findings, and opinions of AEL must not be considered as scientific certainties, but solely as opinions based upon our professional judgment concerning the significance of the data gathered throughout the course of the project. No other warranty is expressed or implied by copy of this report.

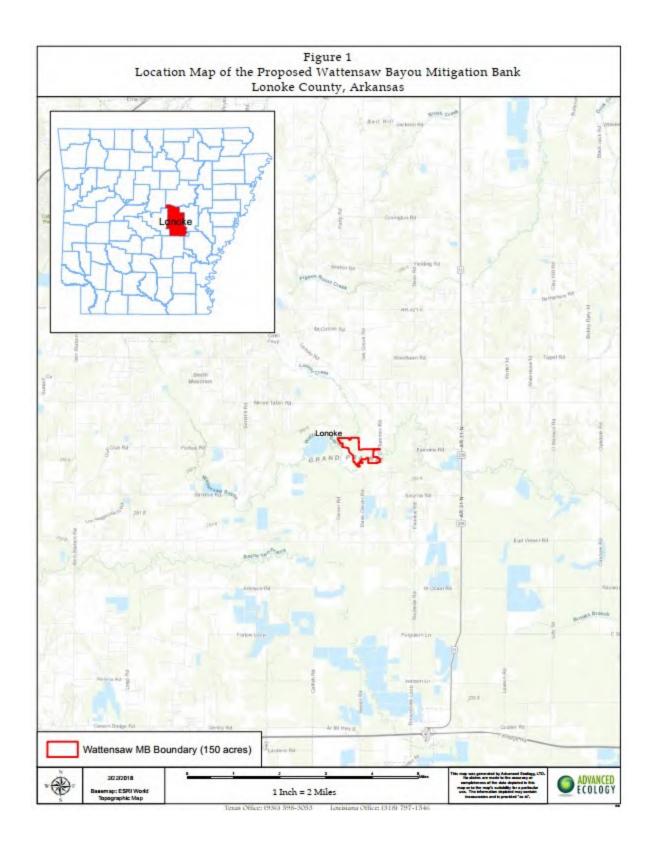
This report was prepared solely for use in the preliminary or approved wetland determination of portions of the subject property. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor shall it be used by any other party in whole or in part, without the prior written consent of the Client.

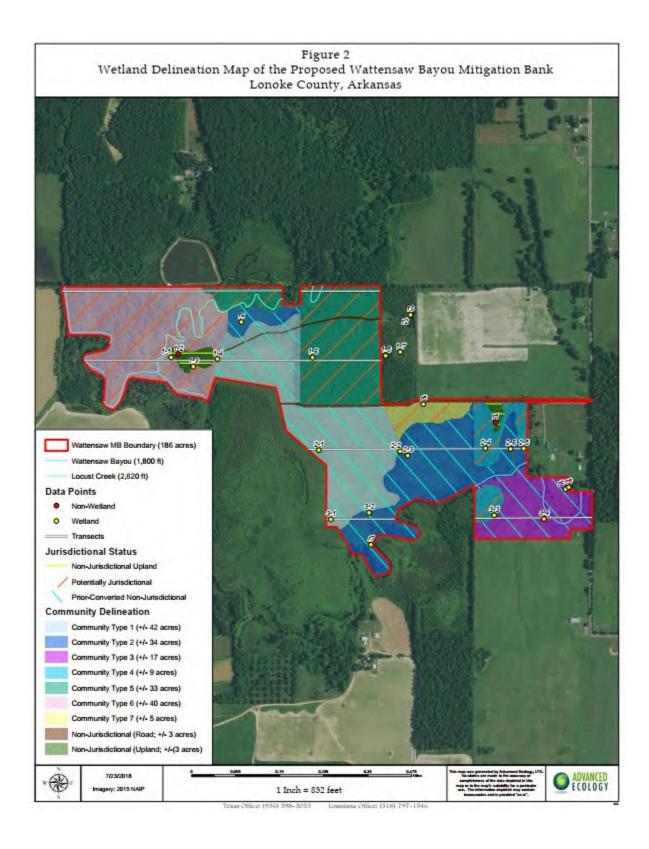
Part V: Literature Cited

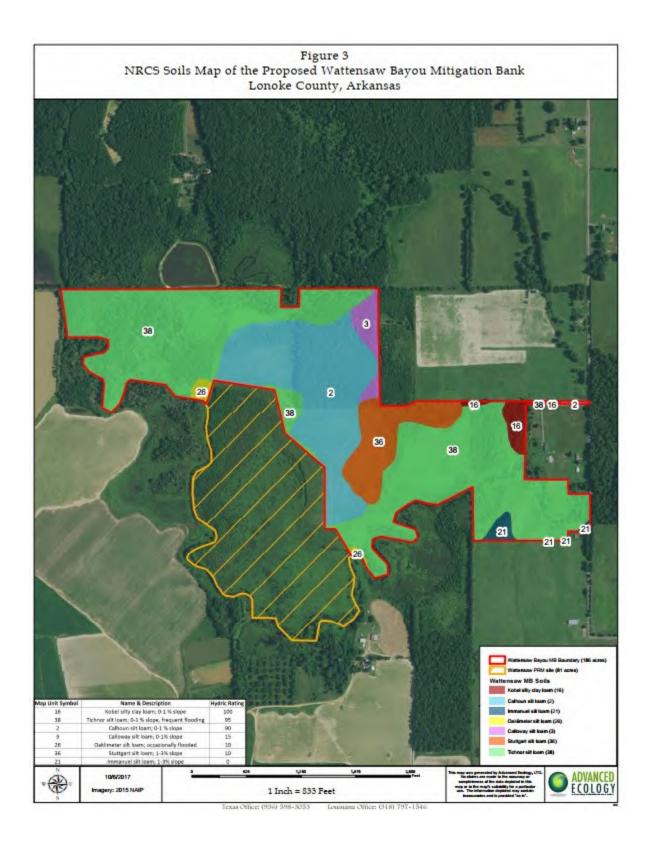
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- U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USDA 1981. <u>Soil Survey of Lonoke and Prairie Counties, Arkansas.</u> United States Department of Agriculture, Natural Resources Conservation Service.

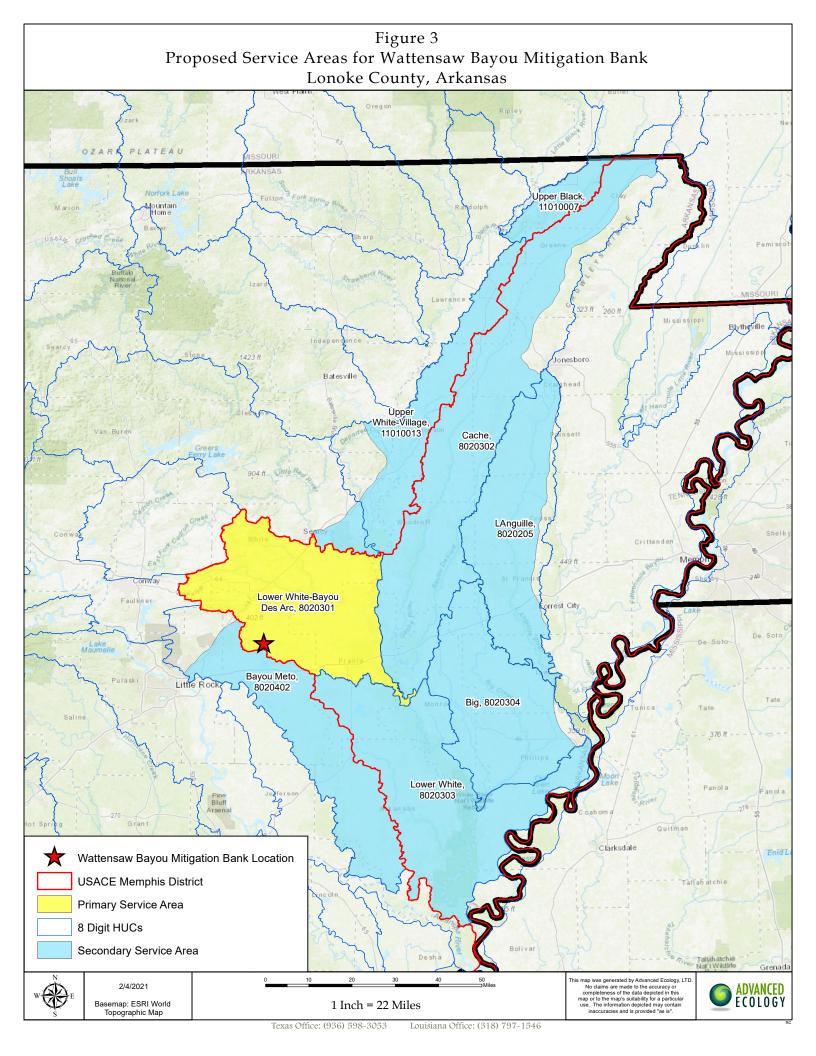
Appendix A

Project Figures









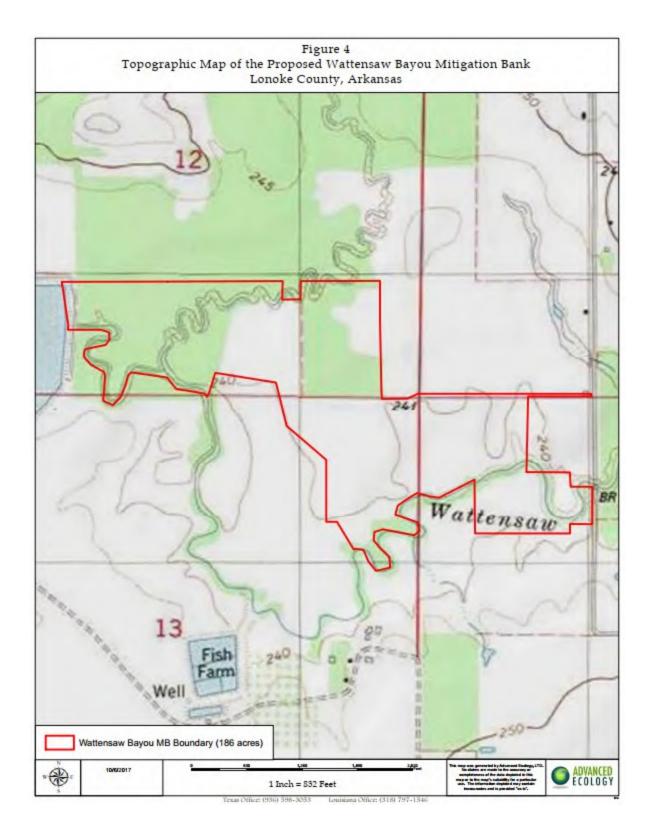


Figure 5 2015 Aerial Imagery of the Proposed Wattensaw Bayou Mitigation Bank Lonoke County, Arkansas Wattensaw Bayou MB Boundary (186 acres) 3/16/2018 1 Inch = 832 feet

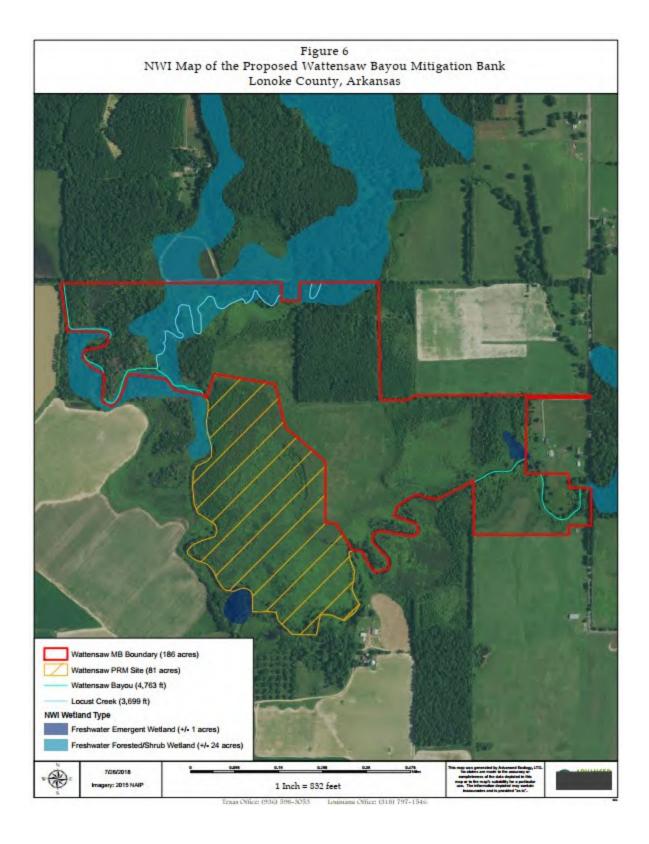


Figure 7
Map of the Wattensaw PRM Site and the Proposed Wattensaw Bayou Mitigation Bank
Lonoke County, Arkansas Wattensaw Byou MB Boundary (186 acres) Wattensaw PRM Site ADVANCED ECOLOGY 1 Inch = 832 Feet

10

Appendix B

Data Sheets and Site Photos

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County:	Lonoke/Lonoke		Sampling Date	: 12-Sep-17			
Applicant/Owner: Mitigation Management		State: Ar	Sampling F	oint: <u>1-1</u>				
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Tov	nship, Range: S 1	2 T	3N R	9W			
Landform (hillslope, terrace, etc.): Floodplain	Local relief (c	oncave, convex, none	e): concave	Slope:	1.0 % / 0.6°			
Subregion (LRR or MLRA): LRR O La	nt.: 34.895 N	Long.:	-91.9215 W		Datum: Nad 83			
Soil Map Unit Name: Tichnor Silt Loam			NWI classi	ification: Fresh	. Forested			
Are climatic/hydrologic conditions on the site typical for this time of	of vear? Ye	s • No O	no, explain i					
	cantly disturbed?	Are "Normal Cir			s • No O			
	ally problematic?			vers in Remarks.))			
SUMMARY OF FINDINGS - Attach site map showing	sampling poir		-	_				
Hydrophytic Vegetation Present? Yes ● No ○	Table	Complet Avec						
Hydric Soil Present? Yes No		Sampled Area	s • No O					
Wetland Hydrology Present? Yes No	withi	n a Wetland?	5 0 140 C					
Remarks:	I							
HYDROLOGY								
Wetland Hydrology Indicators:		Se	econdary Indica	ators (minimum of 2	required)			
Primary Indicators (minimum of one required; check all that ap	ply)		Surface Soil					
Surface Water (A1) Aquatic Faun					✓ Sparsely Vegetated Concave Surface (B8)			
I — —	High Water Table (A2) Marl Deposits (B15) (LRR U)			✓ Drainage Patterns (B10)				
	Saturation (A3) Hydrogen Sulfide Odor (C1)				✓ Moss Trim Lines (B16)			
	cospheres along Living	Roots (C3)	Dry Season Water Table (C2)					
	Reduced Iron (C4)		Crayfish Burr	• ,				
	Reduction in Tilled Soi	` ′ _	✓ Saturation Visible on Aerial Imagery (C9)					
Algal Mat or Crust (B4) Thin Muck Su	• ,	✓	Geomorphic	. ,				
	in in Remarks)		Shallow Aqui					
✓ Inundation Visible on Aerial Imagery (B7)		✓	FAC-Neutral	• ,				
✓ Water-Stained Leaves (B9)			Sphagnum m	noss (D8) (LRR T, U	·)			
Field Observations: Surface Water Present? Yes No Depth (inch). 10							
1	nes): 18							
Water Table Present? Yes No Depth (inch	nes):18	Wetland Hydrolo	av Procent?	Yes 💿 N	lo O			
Saturation Present? Yes No Depth (inch	nes):0	. Wedand Hydroid	gy Fresent:	163 0 14	0 0			
Describe Recorded Data (stream gauge, monitoring well, aerial p	photos, previous in	spections), if availab	le:					
Remarks:								
Remarks.								

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Tree Stratum (Plot size: 30) % Company 1. Acer rubrum 10 2. Diospyros virginiana 10 3. Quercus lyrata 10 4. 0 0 5. 0 0 6. 0 0 7. 0 0 8. 0 0 50% of Total Cover: 15 20% of Total Cover: 6 30 30 Sapling or Sapling/Shrub Stratum (Plot size: 30)) 1. Diospyros virginiana 1 2. 0 0 3. 0 0 4. 0 0 5. 0 0 6. 0 0	Cover Cove	Cover 33.3% 33.3%		Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: 4 (A) Total Number of Dominant Species Across All Strata: 5 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B) Prevalence Index worksheet:		
1. Acer rubrum 10 2. Diospyros virginiana 10 3. Quercus lyrata 10 4. 0 5. 0 6. 0 7. 0 8. 0 50% of Total Cover: 15 20% of Total Cover: 6 30 Sapling or Sapling/Shrub Stratum (Plot size: 30) 1. Diospyros virginiana 1 2. 0 3. 0 4. 0 6. 0 6. 0		33.3% 33.3% 33.3% 33.3% 0.0% 0.0% 0.0% 0	FAC FACU OBL	That are OBL, FACW, or FAC: 4 (A) Total Number of Dominant Species Across All Strata: 5 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 110 x 1 = 110		
Diospyros virginiana 10 10 10 10 10 10 10 1		33.3% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0% 100.0% 0.0%	FACU OBL	That are OBL, FACW, or FAC: 4 (A) Total Number of Dominant Species Across All Strata: 5 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 110 x 1 = 110		
3. Quercus lyrata 10 4. 0 5. 0 6. 0 7. 0 8. 0 50% of Total Cover: 15 20% of Total Cover: 6 30 Sapling or Sapling/Shrub Stratum (Plot size: 30) 1. Diospyros virginiana 1 2. 0 3. 0 4. 0 6. 0 6. 0		33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0% 100.0% 100.0%	OBL	Species Across All Strata: 5 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 110 x 1 = 110		
4		0.0% 0.0% 0.0% 0.0% 0.0% Total Cover 100.0% 0.0%	<u>=</u>	Species Across All Strata: 5 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 110 x 1 = 110		
5. 0 6. 0 7. 0 8. 0 50% of Total Cover: 15 20% of Total Cover: 6 30 Sapling or Sapling/Shrub Stratum (Plot size: 30) 1. Diospyros virginiana 1 2. 0 3. 0 4. 0 6. 0 6. 0		0.0% 0.0% 0.0% 0.0% Total Cover 100.0% 0.0%		That Are OBL, FACW, or FAC: 80.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 110 x 1 = 110		
3. 0 50% of Total Cover: 15 20% of Total Cover: 6 30 Sapling or Sapling/Shrub Stratum (Plot size: 30) 1. Diospyros virginiana 1 2. 0 3. 0 4. 0 5. 0 6. 0 6. 0		0.0% 0.0% 0.0% Total Cover		That Are OBL, FACW, or FAC: 80.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 110 x 1 = 110		
7. 0 3. 0 50% of Total Cover: 15 20% of Total Cover: 6 30 Sapling or Sapling/Shrub Stratum (Plot size: 30) 1. Diospyros virginiana 1 2. 0 3. 0 4. 0 5. 0 6. 0		0.0% 0.0% Total Cover		Prevalence Index worksheet:		
3. 0 50% of Total Cover: 15 20% of Total Cover: 6 30 Sapling or Sapling/Shrub Stratum (Plot size: 30) 1. Diospyros virginiana 1 2. 0 3. 0 4. 0 5. 0 6. 0		0.0% Total Cover 100.0% 0.0%		Total % Cover of: Multiply by: OBL species 110 x 1 = 110		
Sapling or Sapling/Shrub Stratum (Plot size: 30)		100.0% 0.0%		OBL species <u>110</u> x 1 = <u>110</u>		
Sapling or Sapling/Shrub Stratum (Plot size: 30) 1. Diospyros virginiana 1 2. 0 3. 0 4. 0 5. 0 6. 0		100.0%				
1. Diospyros virginiana 1 2. 0 3. 0 4. 0 5. 0 6. 0		0.0%	FAC	FACW species <u>0</u> x 2 = <u>0</u>		
0 3. 0 4. 0 5. 0 6. 0		0.0%	FAC			
3. 0 4. 0 5. 0 6. 0				FAC species $11 \times 3 = 33$		
1. 0 5. 0 6. 0		0.0%		FACU species $10 \times 4 = 40$		
5. 0				UPL species $0 \times 5 = 0$		
5.	n [0.0%		Column Totals:131 (A)183 (B)		
		0.0%				
_	_ [0.0%		Prevalence Index = B/A = 1.397		
70		0.0%		Hydrophytic Vegetation Indicators:		
3	<u> </u>	0.0%		1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 0.5 20% of Total Cover: 0.2 1	1 =	Total Cover		✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30)	_			✓ 3 - Prevalence Index is \leq 3.0 ¹		
Cephalanthus occidentalis 5	5	100.0%	OBI	Problematic Hydrophytic Vegetation ¹ (Explain)		
		0.0%		Froblematic Hydrophytic Vegetation (Explain)		
		0.0%		¹ Indicators of hydric soil and wetland hydrology must		
		0.0%		be present, unless disturbed or problematic.		
5.		0.0%		Definition of Vegetation Strata:		
6.		0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 2.5 20% of Total Cover: 1 5		Total Cover		approximately 20 ft (6 m) or more in height and 3 in.		
		rotal cover		(7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: 30		_		Sapling - Woody plants, excluding woody vines,		
1. Persicaria hydropiperoides 95	5	100.0%	OBL	approximately 20 ft (6 m) or more in height and less		
2	_			than 3 in. (7.6 cm) DBH.		
3	_					
4	<u> </u>			Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.		
5	<u> </u>					
6				Shrub - Woody plants, excluding woody vines,		
7				approximately 3 to 20 ft (1 to 6 m) in height.		
8				Herb - All herbaceous (non-woody) plants, including		
9				herbaceous vines, regardless of size, and woody		
0				plants, except woody vines, less than approximately		
1				3 ft (1 m) in height.		
2	<u> </u>			Woody vine - All woody vines, regardless of height.		
50% of Total Cover: 47.5 20% of Total Cover: 19 95	5 =	Total Cover		Woody ville - All woody villes, regardless of height.		
Woody Vine Stratum (Plot size: 30						
l	0 [0.0%				
2.	0 [0.0%				
	0 [0.0%				
	0 [0.0%				
	<u> </u>	0.0%		Hydrophytic		
50% of Total Cover: 0 20% of Total Cover: 0 0) =	Total Cover		Vegetation Present? Yes No		
200000000000000000000000000000000000000						

SOIL Sampling Point: 1-1

Profile Descr	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth Matrix Redox Features									
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type 1	Loc2	Texture	Remarks	
0-18	10YR 6/1	95	7.5YR 5/6	5	С		Silt Loam	,	
			<u> </u>					`	
								·	
								<u> </u>	
								`	
								·	
		n. RM=Reduc	ed Matrix, CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	ition: PL=Pore Lining. M=	Matrix	
Hydric Soil I							Indicators for Prob	lematic Hydric Soils ³ :	
Histosol (•		Polyvalue Belo	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)	(LRR O)	
	pedon (A2)		Thin Dark Sur	face (S9) (LRR S, T, l	J)	2 cm Muck (A10) (LRR S)	
Black Hist			Loamy Mucky	Mineral (F	1) (LRR O)	1	Reduced Vertic (F18) (outside MLRA 150A,B)	
	Sulfide (A4)		Loamy Gleyed	l Matrix (F2	2)			lain Soils (F19) (LRR P, S, T)	
	Layers (A5)		✓ Depleted Matı	rix (F3)				it Loamy Soils (F20) (MLRA 153B)	
Organic B	odies (A6) (LRR P, T, l	J)	Redox Dark S	urface (F6)			Red Parent Mate		
5 cm Muc	ky Mineral (A7) (LRR P	P, T, U)	Depleted Dark	Surface (F	7)		Very Shallow Da	rk Surface (TF12)	
Muck Pres	sence (A8) (LRR U)		Redox Depres	sions (F8)			Other (Explain in		
1 cm Muc	k (A9) (LRR P, T)		Marl (F10) (LF	RR U)			Outer (Explain ii	Tremano)	
Depleted	Below Dark Surface (A	11)	Depleted Och	ric (F11) (N	1LRA 151)				
Thick Dar	k Surface (A12)		☐ Iron-Mangane			R O, P, T)			
Coast Pra	irie Redox (A16) (MLR/	A 150A)	Umbric Surfac						
Sandy Mu	ıck Mineral (S1) (LRR C), S)	Delta Ochric (
Sandy Gle	eyed Matrix (S4)		Reduced Verti		-	150B)		of hydrophytic vegetation and	
Sandy Re			☐ Piedmont Floo					hydrology must be present, s disturbed or problematic.	
	Matrix (S6)						9A, 153C, 153D)	o distarbed of problemater	
	ace (S7) (LRR P, S, T,	U)	Anomalous bi	igne Louiny	30113 (1 20)) (MEION I I	JA, 1330, 1330)		
		,							
Restrictive La	ayer (if observed):								
Type:				_			U. 44. 0. U.D	v	
Depth (incl	hes):			_			Hydric Soil Present?	Yes No	
Remarks:						•			

Sampling Point Labeled on Map: 1-1



Project/Site: Wattensaw Bayou	City/County: Lo	onoke/Lonoke		Sampling Date:	12-Sep	-17
Applicant/Owner: Mitigation Management	Str	ate: Ar	Sampling Po	oint: 1-2		
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Towns	hip, Range: S 12	т_:	3N R	9W	
Landform (hillslope, terrace, etc.): Floodplain	Local relief (conc	cave, convex, none): flat	Slope:	1.0 % /	0.6 °
Subregion (LRR or MLRA): LRR O	Lat.: 34.8951 N	Long.: -	-91.9212 W	,	Datum: Nad 8	83
Soil Map Unit Name: Tichnor Silt Loam			NWI classifi			
Are climatic/hydrologic conditions on the site typical for this t	ime of year? Yes	• No O (If I	no, explain in			
	significantly disturbed?	Are "Normal Circ		· .,	● No ○)
	naturally problematic?	(If needed, expla	•	. cocinc.		
SUMMARY OF FINDINGS - Attach site map show	• •		-	_		
Hydrophytic Vegetation Present? Yes ○ No ●	T- W- 0					
Hydric Soil Present? Yes No •	Is the Sa	ampled Area	S No •			
Wetland Hydrology Present? Yes ● No ○	within a	Wetland?	, O NO G			
Remarks:						
HYDROLOGY						
Wetland Hydrology Indicators:		Sec	condary Indicate	ors (minimum of 2	required)	
Primary Indicators (minimum of one required; check all the	at apply)		Surface Soil Cr		requiredy	
	Fauna (B13)			tated Concave Sur	face (B8)	
High Water Table (A2)	eposits (B15) (LRR U)		Drainage Patte		` ,	
Saturation (A3)	gen Sulfide Odor (C1)		Moss Trim Line	es (B16)		
Water Marks (B1) Oxidize	ed Rhizospheres along Living Ro	oots (C3)	Dry Season W	ater Table (C2)		
Sediment Deposits (B2)	ce of Reduced Iron (C4)		Crayfish Burro	ws (C8)		
✓ Drift Deposits (B3) Recent	: Iron Reduction in Tilled Soils (C6)	Saturation Visi	ble on Aerial Imag	jery (C9)	
Algal Mat or Crust (B4)	uck Surface (C7)		Geomorphic Po	osition (D2)		
☐ Iron Deposits (B5) ☐ Other ((Explain in Remarks)		Shallow Aquita	ırd (D3)		
Inundation Visible on Aerial Imagery (B7)			FAC-Neutral Te	est (D5)		
✓ Water-Stained Leaves (B9)			Sphagnum mo	ss (D8) (LRR T, U)	
Field Observations:						
Surface Water Present? Yes No Depth	h (inches):	I				
Water Table Present? Yes O No O Depth	h (inches):	1				
Saturation Present?		Wetland Hydrolog	y Present?	Yes 💿 No	o ()	
(includes capillary fringe)	h (inches):	> .c				
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspe	ections), if available	: :			
Remarks:						

	· · · · · · · · · · · · · · · · · · ·		Dominant Species?		Sampling Point: 1-2	
		Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:	
Tre	ee Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species	
1.	Carya tomentosa	40	36.4%	UPL	That are OBL, FACW, or FAC:1(A)	
2.	Quercus nigra	30	27.3%	FAC	Total Number of Dominant	
3.	Quercus alba	20	18.2%	FACU	Species Across All Strata:3(B)	
4.	Quercus pagoda	10	9.1%	FACW		
5.	Ulmus crassifolia	10	9.1%	FAC	Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)	
6.		0			That Are Obe, FACW, OF FAC.	
7.		0			Prevalence Index worksheet:	
8.		0			Total % Cover of: Multiply by:	
50	0% of Total Cover:55 20% of Total Cover:22	110	= Total Cover		OBL species $0 \times 1 = 0$	
Sa	pling or Sapling/Shrub Stratum (Plot size: <u>30</u>	_)			FACW species <u>14</u> x 2 = <u>28</u>	
1.	Carya tomentosa	25	100.0%	UPL	FAC species $44 \times 3 = 132$	
2.		0			FACU species $22 \times 4 = 88$	
3.		0			UPL species $65 \times 5 = 325$	
4.		0			Column Totals: <u>145</u> (A) <u>573</u> (B)	
5.		0			Prevalence Index = B/A = 3.952	
6.						
7.					Hydrophytic Vegetation Indicators:	
8.					1 - Rapid Test for Hydrophytic Vegetation	
50	0% of Total Cover: 12.5 20% of Total Cover: 5	25	= Total Cover		2 - Dominance Test is > 50%	
Sh	rub Stratum (Plot size: 30)				3 - Prevalence Index is ≤3.0 ¹	
1.	Fraxinus pennsylvanica	2	50.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
2.	Ulmus crassifolia		50.0%	FAC		
3.			0.0%		¹ Indicators of hydric soil and wetland hydrology must	
4.			0.0%		be present, unless disturbed or problematic.	
5.		0	0.0%		Definition of Vegetation Strata:	
6.		0	0.0%		Tree - Woody plants, excluding woody vines,	
50	0% of Total Cover: 2 20% of Total Cover: 0.8	4	= Total Cover		approximately 20 ft (6 m) or more in height and 3 in.	
	rb Stratum (Plot size: 30)				(7.6 cm) or larger in diameter at breast height (DBH).	
	Course about to our de	2	100.00/	FACIAL	Sapling - Woody plants, excluding woody vines,	
2.			0.0%	FACW	approximately 20 ft (6 m) or more in height and less	
3.	•				than 3 in. (7.6 cm) DBH.	
-			0.0%		Sapling/Shrub - Woody plants, excluding vines, less	
4.	1		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.	
6			0.0%			
7			0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
γ.			0.0%		approximately 3 to 20 ft (1 to 6 fff) in height.	
a.			0.0%		Herb - All herbaceous (non-woody) plants, including	
ع. 10			0.0%		herbaceous vines, regardless of size, and woody	
10.			0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.	
12			0.0%		o k (r m) in noight.	
	9 of Total Cover: 1 20% of Total Cover: 0.4		= Total Cover		Woody vine - All woody vines, regardless of height.	
			– Total Cover			
	pody Vine Stratum (Plot size: 30					
1.	Vitis rotundifolia	1	25.0%	FAC		
2.	Smilax smallii	_ 1	25.0%	FACU		
3.	Toxicodendron radicans	1	25.0%	FAC		
4.	Parthenocissus quinquefolia	1	25.0%	FACU	Hydrophytic	
5.					Vegetation	
50	0% of Total Cover: 2 20% of Total Cover: 0.8	4	= Total Cover		Present? Yes No No	
Ren	narks: (If observed, list morphological adaptations below).					
	Company of the control of the contro					
*In	dicator suffix = National status or professional decision assigned because Re	egional status	not defined by F\	NS.		

SOIL Sampling Point: 1-2

Profile Descr	ription: (Describe to	the depth ne	eded to documen	t the indica	ator or co	nfirm the a	absence of indicators.)	
Depth	Matrix							
(inches)	Color (moist)	%	Color (moist)	%	Type 1	Loc ²	Texture	Remarks
0-18	10YR 5/3	100					Silt Loam	
								`
	$\overline{}$			-				· ·
	$\overline{}$							·
								·
								`
1 Types C-Con	contration D_Donlatio	n DM-Dadusa	d Matrix, CC-Cayar	ad ar Casta	d Cand Cra	ing 21 ocat	tion, DI —Dave Lining M—	Motorix
		n. RM=Reduce	a Matrix, CS=Cover	ed or Coate	a Sana Gra	ins ² Locat	tion: PL=Pore Lining. M=	
Hydric Soil I							Indicators for Prol	olematic Hydric Soils ³ :
Histosol (•		Polyvalue Bel				1 cm Muck (A9)	(LRR O)
	pedon (A2)		Thin Dark Su)	2 cm Muck (A10) (LRR S)
Black Hist			Loamy Mucky					F18) (outside MLRA 150A,B)
	Sulfide (A4)		Loamy Gleyer)			olain Soils (F19) (LRR P, S, T)
	Layers (A5)	1)	Depleted Mat	` '				t Loamy Soils (F20) (MLRA 153B)
	Bodies (A6) (LRR P, T, L		Redox Dark S	. ,			Red Parent Mate	
	cky Mineral (A7) (LRR P	, 1, 0)	Depleted Dar	•	7)		Very Shallow Da	rk Surface (TF12)
	sence (A8) (LRR U)		Redox Depre	` ,			Other (Explain in	Remarks)
	ck (A9) (LRR P, T)	11\	☐ Marl (F10) (L					
	Below Dark Surface (A: k Surface (A12)	11)	Depleted Och			0.5.7)		
	irie Redox (A16) (MLRA	1504)	☐ Iron-Mangan			O, P, 1)		
	uck Mineral (S1) (LRR O		Umbric Surfa					
	eyed Matrix (S4)	, 3)	Delta Ochric		-	1 FOD)	³ Indicators	of hydrophytic vegetation and
Sandy Re			Reduced Vert				wetland	hydrology must be present,
_	Matrix (S6)		Piedmont Flo	-		-		s disturbed or problematic.
_	face (S7) (LRR P, S, T, I	1)	☐ Anomaious B	rignt Loamy	Solis (F20) (MLRA 149	9A, 153C, 153D)	
Dark Suri	acc (37) (LICIC 17, 3, 17, C	5)						
Restrictive L	ayer (if observed):							
Туре:				_				· O · O
Depth (inc	:hes):			_			Hydric Soil Present?	Yes O No 💿
Remarks:						Ÿ		

Sampling Point Labeled on Map: 1-2





Project/Site: Wattensaw Bayou	City/County: Lonoke/Lonoke Sampling Date: 12-Sep-17
Applicant/Owner: _Mitigation Management	State: Ar Sampling Point: 1-3
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Township, Range: S 12 T 3N R 9W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): concave Slope: 1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR O Lat	t.: 34.8947 N Long.: -91.9206 W Datum: Nad 83
Soil Map Unit Name: Tichnor Silt Loam	NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of	
	cantly disturbed? Are "Normal Circumstances" present? Yes No
	lly problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	Is the Sampled Area Within a Wesland 2 Yes No No
Wetland Hydrology Present? Yes No	within a Wetland?
Remarks:	
Remarks.	
HYDROLOGY	
HIDROLOGI	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that app	
Surface Water (A1) Aquatic Fauna	
	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfi	
I — —	ospheres along Living Roots (C3)
	Reduced Iron (C4) Crayfish Burrows (C8)
	Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Sur	
☐ Iron Deposits (B5) ☐ Other (Explain	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
✓ Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inche	es):
Water Table Present? Yes No Depth (inche	es):
Saturation Present? (includes capillary fringe) Yes No Depth (inche	es):
Describe Recorded Data (stream gauge, monitoring well, aerial pl	photos, previous inspections), if available:
	, , , , , , , , , , , , , , , , , , ,
Remarks:	

	,			ominant		Sampling Point: 1-3		
		Absolute		pecies? _ el.Strat.	Indicator	Dominance Test worksheet:		
Tr	ee Stratum (Plot size: 30	% Cover	. (Cover	Status	Number of Dominant Species		
1.	Quercus pagoda	30	✓	28.6%	FACW	That are OBL, FACW, or FAC:8 (A)		
2.	Ulmus crassifolia	25	\checkmark	23.8%	FAC			
3.	Carya tomentosa	20		19.0%	UPL	Total Number of Dominant Species Across All Strata: 11 (B)		
4.	Ulmus americana	15		14.3%	FAC	Species / kiross / kiroskatali		
5.	Quercus nigra	15		14.3%	FAC	Percent of dominant Species		
6.		0		0.0%		That Are OBL, FACW, or FAC: 72.7% (A/B)		
7.		0		0.0%		Prevalence Index worksheet:		
8.		0		0.0%		Total % Cover of: Multiply by:		
5	0% of Total Cover: 52.5 20% of Total Cover: 21	105	- To	otal Cove	-	OBL species $0 \times 1 = 0$		
S=	ppling or Sapling/Shrub Stratum (Plot size: 30	1				FACW species $31 \times 2 = 62$		
1.	Carya tomentosa	′ 25	✓	50.0%	UPL	FAC species $103 \times 3 = 309$		
2.	Ulmus crassifolia	15		30.0%	FAC	FACU species $\frac{2}{2}$ x 4 = $\frac{8}{2}$		
3.	Ulmus americana	10		20.0%	FAC	FO 250		
3. 4.			<u> </u>	0.0%	TAC			
 . 5.			\Box	0.0%		Column Totals: <u>186</u> (A) <u>629</u> (B)		
6.			\Box	0.0%		Prevalence Index = B/A = 3.382		
7.			\Box	0.0%		Hydrophytic Vegetation Indicators:		
8.			\Box	0.0%				
			Ш.			1 - Rapid Test for Hydrophytic Vegetation		
5	0% of Total Cover: 25 20% of Total Cover: 10		= To	otal Cove	•	✓ 2 - Dominance Test is > 50%		
Sh	rrub Stratum (Plot size: 30)		_			\Box 3 - Prevalence Index is ≤3.0 1		
1.	Ulmus americana	15	✓.	60.0%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
2.	Carya tomentosa	5	✓.	20.0%	UPL			
3.	Liquidambar styraciflua	5	✓.	20.0%	FAC	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
4.		0		0.0%		be present, unless disturbed of problematic.		
5.		0		0.0%		Definition of Vegetation Strata:		
6.		0		0.0%		Tree - Woody plants, excluding woody vines,		
5	0% of Total Cover:5	25	= To	otal Cove	r	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
Н	erb Stratum (Plot size: 30)					(7.5 on) of larger in diameter at breast height (BBH).		
_	Community and a south	1		100.0%	EACW/	Sapling - Woody plants, excluding woody vines,		
2	•		\Box	0.0%	TACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.		
3			\Box	0.0%				
4			Π.	0.0%		 Sapling/Shrub - Woody plants, excluding vines, less		
			Π.	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
6			Η.	0.0%				
7			Π.	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
, S			\Box	0.0%		approximately 0 to 20 ft (1 to 0 fil) in height.		
a			\Box	0.0%		Herb - All herbaceous (non-woody) plants, including		
ات 10			\Box	0.0%		herbaceous vines, regardless of size, and woody		
11			\Box	0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.		
12			\Box	0.0%		o it (1 m) in noight.		
	•		Ŭ. - - -			Woody vine - All woody vines, regardless of height.		
			- 10	otal Cove		, , , ,		
	oody Vine Stratum (Plot size: 30							
1.	Vitis rotundifolia	2	ዾ.	40.0%	FAC			
2.	Smilax smallii	2	ዾ.	40.0%	FACU			
3.	Toxicodendron radicans	1	ዾ.	20.0%	FAC			
4.		0	Ц.	0.0%		Hydrophytic		
5.			\square	0.0%		Hydrophytic Vegetation		
5	0% of Total Cover: 2.5 20% of Total Cover: 1	5	= To	tal Cove	r	Present? Yes No O		
Don	narks: (If observed, list morphological adaptations below).					<u> </u>		
Ken	narks. (11 observed, iist morphological adaptations below).							
*In	dicator suffix = National status or professional decision assigned because Re	egional status	not c	defined by F	WS.			

SOIL Sampling Point: 1-3

Profile Descri	iption: (Des	cribe to	the depth	needed to docu	ment the indi	cator or co	onfirm the	absence of indicators.)
Depth	Depth Matrix Redox Features								
(inches)	Color (r	moist)		Color (mois		Type 1	Loc²	Texture	Remarks
0-6	10YR	5/1	70	10YR 6	5/6 30	С	М	Silt Loam	
6-18	10YR	5/1	60	10YR 6	5/6 40	С	М	Silt Loam	
						_			
									.
									.
									·
			-						·
1		5 1 .:		- IN		10.10			
		=Depletior	n. RM=Rea	uced Matrix, CS=C	overed or Coat	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=	
Hydric Soil I								Indicators for Pro	blematic Hydric Soils ³ :
Histosol (A	•				e Below Surface			1 cm Muck (A9)	(LRR O)
Histic Epip				☐ Thin Dar	k Surface (S9)	(LRR S, T,	U)	2 cm Muck (A10)) (LRR S)
Black Histi				Loamy M	1ucky Mineral (I	=1) (LRR O)	Reduced Vertic	(F18) (outside MLRA 150A,B)
	Sulfide (A4)			Loamy G	Gleyed Matrix (F	2)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
	ayers (A5)			✓ Depleted	l Matrix (F3)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
_	odies (A6) (LI		•	Redox D	ark Surface (F6)		Red Parent Mate	
5 cm Muck	ky Mineral (A	7) (LRR P	, T, U)	Depleted	l Dark Surface ((F7)			ark Surface (TF12)
Muck Pres	ence (A8) (LI	RR U)		Redox D	epressions (F8))		Other (Explain i	
1 cm Muck	(A9) (LRR P	P, T)		Marl (F1	0) (LRR U)				- · · · · · · · · · · · · · · · · · · ·
Depleted E	Below Dark S	urface (A1	l1)	☐ Depleted	d Ochric (F11) (MLRA 151)			
☐ Thick Dark	Surface (A1	2)		☐ Iron-Mar	nganese Masses	s (F12) (LR	R O, P, T)		
Coast Prair	rie Redox (A1	16) (MLRA	150A)	Umbric S	Surface (F13) (L	RR P, T, U)		
Sandy Muc	ck Mineral (S	1) (LRR O	, S)	Delta Oc	hric (F17) (MLR	RA 151)		2	
Sandy Gle	yed Matrix (S	64)		Reduced	Vertic (F18) (N	1LRA 150A,	150B)		s of hydrophytic vegetation and I hydrology must be present,
Sandy Red	lox (S5)			Piedmon	t Floodplain So	ils (F19) (M	LRA 149A)		s disturbed or problematic.
Stripped M	latrix (S6)			☐ Anomalo	us Bright Loam	y Soils (F20)) (MLRA 14	9A, 153C, 153D)	
☐ Dark Surfa	ice (S7) (LRR	P, S, T, L	J)		· ·			, ,	
Restrictive La	yer (if obse	erved):							
Type:								Hydric Soil Present?	P Yes ● No ○
Depth (inch	nes):							riyuric 30ii Presenti	
Remarks:									

Sampling Point Labeled on Map: 1-3





Project/Site: Wattensaw Bayou	City/County: Lonoke/I	Lonoke	Sampling Date:	12-Sep-17
Applicant/Owner: Mitigation Management	State:	Ar Sampling P	oint: 1-4	
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Township, R	ange: S 12 T	3N R 9W	ī
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, o	convex, none): concave	Slope: 1.0	0.6°
Subregion (LRR or MLRA): LRR O Lat	 ∴ 34.8949 N	Long.: -91.9197 W	 Datur	n: Nad 83
Soil Map Unit Name: Tichnor Silt Loam		NWI classi	ification: none	
Are climatic/hydrologic conditions on the site typical for this time of	vear? Yes • No			
		"Normal Circumstances"		No \bigcirc
	-	needed, explain any answ	•	
SUMMARY OF FINDINGS - Attach site map showing			-	etc.
Hydrophytic Vegetation Present? Yes No				
Hydric Soil Present? Yes No	Is the Sample	orda Yes • No •		
Wetland Hydrology Present? Yes No	within a Wetla	and? res @ NO C		
Remarks:				
This tract has been farmed regularly since at least before 1960's altered site conditions from that of historic condition prior to con-		I planing, and levees have	е	
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of 2 requi	ired)
Primary Indicators (minimum of one required; check all that app	y)	Surface Soil (
Surface Water (A1)	(B13)	Sparsely Veg	etated Concave Surface ((B8)
High Water Table (A2) Marl Deposits	(B15) (LRR U)	☐ Drainage Pat	terns (B10)	
Saturation (A3) Hydrogen Sulf	de Odor (C1)	Moss Trim Lin	nes (B16)	
☐ Water Marks (B1) ✓ Oxidized Rhizo	spheres along Living Roots (C	3) Dry Season V	Water Table (C2)	
Sediment Deposits (B2)	educed Iron (C4)	Crayfish Burn	ows (C8)	
☐ Drift Deposits (B3) ☐ Recent Iron R	eduction in Tilled Soils (C6)	Saturation Vir	sible on Aerial Imagery (0	C9)
Algal Mat or Crust (B4) Thin Muck Sur	face (C7)	Geomorphic I	Position (D2)	
☐ Iron Deposits (B5) ☐ Other (Explain	in Remarks)	Shallow Aquit	tard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral	Test (D5)	
✓ Water-Stained Leaves (B9)		Sphagnum m	noss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes No Depth (inche	s):			
Water Table Present? Yes O No O Depth (inche	s):			
Saturation Present? (includes capillary frings) Yes No Depth (inches)	Wetl	land Hydrology Present?	Yes ● No ○	
(includes capillary fringe)		\ 'C		
Describe Recorded Data (stream gauge, monitoring well, aerial p	notos, previous inspections	s), if available:		
Remarks:				

,		Dominant Species 2	Sampling Point: 1-4		
	Absolute	Species? Rel.Strat. Indicato	Dominance Test worksheet:		
Tree Stratum (Plot size: 30)	% Cover	Cover Status	Number of Dominant Species		
1		0.0%	That are OBL, FACW, or FAC:		
2.		0.0%	T. (1)		
3		0.0%	Total Number of Dominant Species Across All Strata: 3 (B)		
4		0.0%			
5.		0.0%	Percent of dominant Species		
6.		0.0%	That Are OBL, FACW, or FAC: 66.7% (A/B)		
7	0	0.0%	Prevalence Index worksheet:		
8.	0	0.0%	Total % Cover of: Multiply by:		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	OBL species 0 x 1 = 0		
Sapling or Sapling/Shrub Stratum (Plot size: 30)		FACW species $30 \times 2 = 60$		
1		0.0%	FAC species 45 x 3 = 135		
2.		0.0%	FACU species $\frac{45}{2}$ x 4 = $\frac{180}{2}$		
<u> </u>		0.0%			
4		0.0%	John Species — x 3 - —		
··· -		0.0%	Column Totals: 120 (A) 375 (B)		
6	0	0.0%	Prevalence Index = B/A = 3.125		
7		0.0%	Hydrophytic Vegetation Indicators:		
7 8.		0.0%			
			1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover	2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30)			\Box 3 - Prevalence Index is ≤3.0 1		
1		0.0%	Problematic Hydrophytic Vegetation ¹ (Explain)		
2		0.0%			
3		0.0%	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
4	0	0.0%			
5	0	0.0%	Definition of Vegetation Strata:		
6	0		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: 30)			(,g		
1 Kummerowia striata	30	✓ 25.0% FACU	Sapling - Woody plants, excluding woody vines,		
2 Solidago gigantea		✓ 16.7% FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.		
3 Desmodium tortuosum		✓ 16.7% FAC	than o m. (7.5 cm) BBH.		
4. Cynodon dactylon	15	12.5% FACU	Sapling/Shrub - Woody plants, excluding vines, less		
5. Bidens bipinnata	10	8.3% FAC	than 3 in. DBH and greater than 3.28 ft (1m) tall.		
6. Verbena bonariensis	10	8.3% FAC			
7 Setaria parviflora		8.3% FACW	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
8 Agalinis fasciculata	5	4.2% FAC			
9.		0.0%	Herb - All herbaceous (non-woody) plants, including		
		0.0%	herbaceous vines, regardless of size, and woody		
10 11		0.0%	plants, except woody vines, less than approximately 3 ft (1 m) in height.		
11 12.		0.0%			
50% of Total Cover: 60 20% of Total Cover: 24		= Total Cover	Woody vine - All woody vines, regardless of height.		
	120 =	- Iotal Cover			
Woody Vine Stratum (Plot size: 30					
1					
2			_		
3					
4	0		- Hudronhutio		
5	0	0.0%	Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover	Present? Yes No		
Remarks: (If observed, list morphological adaptations below).			•		
,					
*Indicator suffix = National status or professional decision assigned because F	Regional status r	not defined by FWS.			

SOIL Sampling Point: 1-4

Profile Descri	iption: (Des	cribe to	the depth	needed to docume	ent the indic	cator or co	onfirm the	absence of indicators.	
Depth	Depth Matrix Redox Features								
(inches)	Color (r	moist)		Color (moist)		Type 1	Loc ²	Texture	Remarks
0-8	10YR	6/2	80	10YR 4/6	20	C		Silt Loam	
8-18	10YR	5/2	85	7.5YR 5/8	3 15	С	М	Silt Loam	
			1			1			·
									·
									<u> </u>
								1	· · · · · · · · · · · · · · · · · · ·
						`			·
1		5 1				10.10			
		=Depletior	n. RM=Red	uced Matrix, CS=Cov	ered or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=	
Hydric Soil I								Indicators for Pro	blematic Hydric Soils ³ :
Histosol (A	•				Below Surface			1 cm Muck (A9)	(LRR O)
Histic Epip				Thin Dark S	Surface (S9) ((LRR S, T,	J)	2 cm Muck (A10)) (LRR S)
Black Histi				Loamy Mud	cky Mineral (F	1) (LRR O)	Reduced Vertic	(F18) (outside MLRA 150A,B)
	Sulfide (A4)			Loamy Gle	yed Matrix (F.	2)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
Stratified L	ayers (A5)			✓ Depleted M	1atrix (F3)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
Organic Bo	odies (A6) (LI	RR P, T, U)	Redox Darl	k Surface (F6)		Red Parent Mate	erial (TF2)
5 cm Muck	ky Mineral (A	7) (LRR P,	T, U)	☐ Depleted □	ark Surface (F7)			ark Surface (TF12)
Muck Pres	ence (A8) (LI	RR U)		Redox Dep	ressions (F8)			Other (Explain i	n Remarks)
1 cm Muck	(A9) (LRR P	P, T)		☐ Marl (F10)	(LRR U)				,
Depleted E	Below Dark S	urface (A1	.1)	Depleted C	Ochric (F11) (I	MLRA 151)			
☐ Thick Dark	Surface (A1	2)		☐ Iron-Manga	anese Masses	(F12) (LR	R O, P, T)		
Coast Prair	rie Redox (A1	16) (MLRA	150A)	Umbric Sur	rface (F13) (L	RR P, T, U)		
Sandy Muc	ck Mineral (S	1) (LRR O	, S)	Delta Ochr	ic (F17) (MLR	A 151)		2	
Sandy Gle	yed Matrix (S	64)		Reduced V	ertic (F18) (M	1LRA 150A,	150B)		s of hydrophytic vegetation and I hydrology must be present,
Sandy Red	lox (S5)			☐ Piedmont F	Floodplain Soi	ls (F19) (M	LRA 149A)		s disturbed or problematic.
Stripped M	latrix (S6)			Anomalous	Bright Loam	y Soils (F20)) (MLRA 14	9A, 153C, 153D)	
☐ Dark Surfa	ice (S7) (LRR	P, S, T, L	J)		-	, ,	, ,		
Restrictive La	yer (if obse	erved):							
Type:					_			Hydric Soil Present?	Yes No
Depth (inch	nes):							riyuric 3011 Presenti	165 9 NO C
Remarks:									

Sampling Point Labeled on Map: 1-4



DATA FORM ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

- 1. **Type of alteration:** The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural management techniques (e.g. tilling, disking, mowing, herbicide, leveling). The site is currently fallow.
- 2. **Effect on the Vegetation:** Regular tilling, disking, mowing, herbicide, and leveling have prevented natural succession.
- 3. **Previous Vegetation:** Prior to 2011, wheat, soybeans, sweet potatoes, rice, corn, and other commodity crops. Prior to 1960's, the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate that bottomland hardwood forested wetlands were present at that time.
- 4. Hydrophytic Vegetation? Yes

B. SOILS:

- 1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil has been routinely disturbed on site due to tilling, disking, etc. leveling, and leveling as part of an agricultural management regime. Micro and macro topographic features have been largely eliminated due to leveling.
- 2. **Effect on the Soil:** Microtopography has been mostly eliminated with exception to remnant rice levees on margins.
- 3. **Previous Soils:** Prior to clearing, the soils likely exhibited wetland characteristics and a hydroperiod more similar to that as the intact forested community abutting the Bank.
- 4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Rice levees were constructed to allow for control of the hydrologic connectivity between Wattensaw Bayou/Locust Creek and the Bank.
- 2. **Effect on the Hydrology:** Rice levees have altered the natural hydrologic regime for the area.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

Project/Site: Wattensaw Bayou	City/County: Lonoke/Lonoke Sampling Date: 12-Sep-17
Applicant/Owner: Mitigation Management	State: Ar Sampling Point: 1-5
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Township, Range: S 12 T 3N R 9W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): Concave Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR O	Lat.: 34.8949 N Long.: -91.9161 W Datum: Nad 83
Soil Map Unit Name: Calhoun silt loam	NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time	
	nificantly disturbed? Are "Normal Circumstances" present? Yes • No
	curally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	ing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○	To the Commiss Area
Hydric Soil Present? Yes ● No ○	Is the Sampled Area Yes No
Wetland Hydrology Present? Yes ● No ○	within a Wetland?
Remarks:	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that a	
	auna (B13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Depo	osits (B15) (LRR U) Drainage Patterns (B10)
Saturation (A3)	Sulfide Odor (C1) ✓ Moss Trim Lines (B16)
☐ Water Marks (B1) ✓ Oxidized R	Rhizospheres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	of Reduced Iron (C4) Crayfish Burrows (C8)
✓ Drift Deposits (B3) Recent Iro	on Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	k Surface (C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Exp	plain in Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
✓ Water-Stained Leaves (B9)	✓ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes O No O Depth (in	inches):
Water Table Present? Yes O No Depth (in	inches):
Saturation Precent?	Wetland Hydrology Present? Yes • No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspections), if available:
Remarks:	

,	Dominant Species 2		Sampling Point: 1-5
	Species? Absolute Rel.Strat.		Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover Cover	Status	Number of Dominant Species
1. Quercus phellos	5049.8%	FACW	That are OBL, FACW, or FAC: 4 (A)
2. Pinus taeda	25 🗸 24.9%	FAC	
3. Quercus pagoda	#### 12.4 %	FACW	Total Number of Dominant Species Across All Strata: 5 (B)
4. Quercus nigra	8	FAC	Species / in Strata.
5. Ulmus crassifolia	5 🗌 5.0%	FAC	Percent of dominant Species
6.	0 0.0%		That Are OBL, FACW, or FAC: 80.0% (A/B)
7.	0 0.0%		Prevalence Index worksheet:
8.	0 0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 50.25 20% of Total Cover: 20.1	100.5 = Total Cov	er	OBL species 0 x 1 = 0
Sapling or Sapling/Shrub Stratum (Plot size: 30)		FACW species 67.5 x 2 = 135
1 Ulmus crassifolia	′ 5 ✓ 100.0%	6 FAC	FAC species $45 \times 3 = 135$
0			FACU species $\frac{5}{}$ x 4 = $\frac{20}{}$
^			
4			·
Γ			Column Totals: 117.5 (A) 290 (B)
	0 000		Prevalence Index = $B/A = 2.468$
7	0 0.0%		Hydrophytic Vegetation Indicators:
8.	0 0.0%		
			1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 2.5 20% of Total Cover: 1	= Total Cov	er	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)	_		✓ 3 - Prevalence Index is ≤3.0 ¹
1. Ulmus crassifolia	2.5100.0%	6 FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2	0.0%		
3	0		Indicators of hydric soil and wetland hydrology must
4	0 0.0%		be present, unless disturbed or problematic.
5	0 0.0%		Definition of Vegetation Strata:
6.	0 0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 1.25 20% of Total Cover: 0.5	2.5 = Total Cov	er	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30)			(7.0 diff) of larger in diameter at breast height (DBH).
1 Carex cherokeensis	5 🗸 100.0%	, EACM	Sapling - Woody plants, excluding woody vines,
		6 FACW	approximately 20 ft (6 m) or more in height and less
3.	0 0.0%		than 3 in. (7.6 cm) DBH.
4.	0 0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	0 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
5			
6	0 0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7	0 0.0%		approximately 3 to 20 ft (1 to 6 fff) in height.
8	$\begin{array}{c c} - & 0 & \square & 0.0\% \\ \hline 0 & \square & 0.0\% \end{array}$		Herb - All herbaceous (non-woody) plants, including
9	$\begin{array}{c c} - & 0 & \square & 0.0\% \\ \hline 0 & \square & 0.0\% \end{array}$		herbaceous vines, regardless of size, and woody
10	$\begin{array}{c c} & 0 & \square & 0.0\% \\ \hline 0 & \square & 0.0\% \end{array}$		plants, except woody vines, less than approximately 3 ft (1 m) in height.
11 12.			3 it (1 iii) iii neight.
			Woody vine - All woody vines, regardless of height.
50% of Total Cover: 2.5 20% of Total Cover: 1	= Total Cov	er	Trees, the first trees, regardless of height
Woody Vine Stratum (Plot size: 30)			
1. Smilax smallii	_ 5 100.0%	6 FACU	
2			
3	0.0%		
4	0.0%		
5	0 0.0%		Hydrophytic Vegetation
50% of Total Cover: 2.5 20% of Total Cover: 1	5 = Total Cov	er	Present? Yes No
Remarks: (If observed, list morphological adaptations below).			•
(2. 2222.22,se morphological adaptations solom).			
*Indicator suffix = National status or professional decision assigned because Re	egional status not defined by	FWS.	

SOIL Sampling Point: 1-5

Profile Descri	iption: (Des	cribe to	the depth	needed to documen	t the indic	cator or co	nfirm the	absence of indicators.	1
Depth	Depth Matrix Redox Features								
(inches)	Color (ı	moist)	%	Color (moist)		Type 1	Loc2	Texture	Remarks
0-3	10YR	5/2	100					Silt Loam	
3-18	10YR	5/2	80	7.5YR 5/6	20	С	М	Silt Loam	
				· · · · · ·	1				
					-				.
									.
									
									·
1 - 0 0		5 1				10 10	. 21		
		=Depletior	n. RM=Rec	luced Matrix, CS=Cover	ed or Coate	ed Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	-Matrix
Hydric Soil I								Indicators for Pro	blematic Hydric Soils ³ :
Histosol (A	•			Polyvalue Be				1 cm Muck (A9)	(LRR O)
Histic Epip				☐ Thin Dark Su	rface (S9) (LRR S, T, U	J)	2 cm Muck (A10)) (LRR S)
Black Histi				Loamy Mucky	y Mineral (F	1) (LRR O)		Reduced Vertic	(F18) (outside MLRA 150A,B)
	Sulfide (A4)			Loamy Gleye	d Matrix (F	2)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
	ayers (A5)			✓ Depleted Mat	trix (F3)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
Organic Bo	odies (A6) (LI	RR P, T, U	1)	Redox Dark S	Surface (F6))		Red Parent Mate	erial (TF2)
5 cm Muck	ky Mineral (A	7) (LRR P	, T, U)	Depleted Dar	k Surface (F7)			ark Surface (TF12)
Muck Pres	ence (A8) (LI	RR U)		Redox Depre	ssions (F8)			Other (Explain i	n Remarks)
1 cm Muck	(A9) (LRR P	P, T)		☐ Marl (F10) (L	.RR U)				,
Depleted E	Below Dark S	urface (A1	11)	Depleted Och	nric (F11) (ľ	MLRA 151)			
Thick Dark	Surface (A1	2)		☐ Iron-Mangan	ese Masses	(F12) (LRF	R O, P, T)		
Coast Prair	rie Redox (A	16) (MLRA	150A)	Umbric Surfa	ce (F13) (L	RR P, T, U)			
Sandy Muc	ck Mineral (S	1) (LRR O	, S)	☐ Delta Ochric	(F17) (MLR	A 151)		2	
Sandy Gle	yed Matrix (S	64)		Reduced Ver	tic (F18) (M	ILRA 150A,	150B)		s of hydrophytic vegetation and I hydrology must be present,
Sandy Red	lox (S5)			☐ Piedmont Flo	odplain Soi	ls (F19) (M	LRA 149A)		s disturbed or problematic.
Stripped M	latrix (S6)			Anomalous B	right Loam	y Soils (F20) (MLRA 14	9A, 153C, 153D)	
Dark Surfa	ice (S7) (LRR	R P, S, T, U	J)			,			
Restrictive La	yer (if obse	erved):							
Type:					_			Hydric Soil Present?	Yes No
Depth (inch	nes):				_			Tryunc 3011 Presents	
Remarks:									

Sampling Point Labeled on Map: 1-5







Project/Site: Wattensaw Bayou	City/County: Lonoke/Lonoke Sampling Date: 12-Sep-17
Applicant/Owner: Mitigation Management	State: Ar Sampling Point: 1-6
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Township, Range: S 12 T 3N R 9W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): concave Slope: 1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR O Lat.:	: 34.895 N Long.: -91.91331 W Datum: Nad 83
Soil Map Unit Name: Calloway silt loam	NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of y	year? Yes No (If no, explain in Remarks.)
	ntly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally	y problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing s	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	To the Convoled Avec
Hydric Soil Present? Yes No	Is the Sampled Area Western Western 2 Yes No No
Wetland Hydrology Present? Yes No	within a Wetland?
Remarks: HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply	Secondary Indicators (minimum of 2 required) Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (
High Water Table (A2) Marl Deposits (E	
Saturation (A3) Hydrogen Sulfid	de Odor (C1) Moss Trim Lines (B16)
<u> </u>	pheres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	duced Iron (C4) Crayfish Burrows (C8)
	duction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surfa	
☐ Iron Deposits (B5) ☐ Other (Explain i	
☐ Inundation Visible on Aerial Imagery (B7) ✓ Water-Stained Leaves (B9)	FAC-Neutral Test (D5)
	Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches)·
Surface Water Fresche.	<i>)</i> ·
Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes • No •
Saturation Present? (includes capillary fringe) Yes No Depth (inches):
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	

	,	Dominant Species?				Sampling Point: 1-6		
		Absolute		el.Strat.	Indicator	Dominance Test worksheet:		
Tr	ee Stratum (Plot size: 30	% Cover		Cover	Status	Number of Dominant Species		
1.	Liquidambar styraciflua	60	✓.	60.0%	FAC	That are OBL, FACW, or FAC: 9 (A)		
2.	Ulmus alata	25	✓.	25.0%	FACU	Takal Ni, mak an at Dannisa at		
3.	Diospyros virginiana	15		15.0%	FAC	Total Number of Dominant Species Across All Strata: 11 (B)		
4.		0		0.0%				
5.		0		0.0%		Percent of dominant Species		
6.		0		0.0%		That Are OBL, FACW, or FAC: 81.8% (A/B)		
7.		0		0.0%		Prevalence Index worksheet:		
8.		0		0.0%		Total % Cover of: Multiply by:		
	0% of Total Cover: 50 20% of Total Cover: 20	100 :	- To	tal Cove		OBL species $0 \times 1 = 0$		
Sa	pling or Sapling/Shrub Stratum (Plot size: 30)				FACW species $35 \times 2 = 70$		
1	Liquidambar styraciflua	′ 20	✓	66.7%	FAC	FAC species $165 \times 3 = 495$		
2.	Diospyros virginiana	10		33.3%	FAC	·		
3.			<u> </u>	0.0%	TAC	10 50		
			Η.			UPL species $\frac{10}{10}$ x 5 = $\frac{50}{10}$		
4.			Η.	0.0%		Column Totals: <u>245</u> (A) <u>755</u> (B)		
5.			Η.	0.0%		Prevalence Index = B/A = 3.082		
6.			片.	0.0%				
7.			Ц.	0.0%		Hydrophytic Vegetation Indicators:		
8.		0	Ш.	0.0%		1 - Rapid Test for Hydrophytic Vegetation		
50	0% of Total Cover: 15 20% of Total Cover: 6	30 :	= To	tal Cove		✓ 2 - Dominance Test is > 50%		
Sh	rub Stratum (Plot size: 30)					3 - Prevalence Index is ≤3.0 ¹		
1	Lieuridamskau et mariflus	10	✓	66.7%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
2.	Disamuse vivainiene			33.3%	FAC	Froblematic Hydrophytic Vegetation (Explain)		
3.				0.0%	- TAC	¹ Indicators of hydric soil and wetland hydrology must		
			\Box	0.0%		be present, unless disturbed or problematic.		
4.			Η.			Definition of Vegetation Strate:		
5.			Η.	0.0%		Definition of Vegetation Strata:		
6.						Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.		
50	0% of Total Cover: 7.5 20% of Total Cover: 3	15:	= To	tal Cove	•	(7.6 cm) or larger in diameter at breast height (DBH).		
Не	rb Stratum (Plot size: 30)							
1	Bidens bipinnata	30	✓	37.5%	FAC	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less		
2	Solidago gigantea	25		31.3%	FACW	than 3 in. (7.6 cm) DBH.		
3	Dichanthelium clandestinum	10		12.5%	FACW			
4	Quercus stellata	10		12.5%	UPL	Sapling/Shrub - Woody plants, excluding vines, less		
	Ulmus alata	5	\Box	6.3%	FACU	than 3 in. DBH and greater than 3.28 ft (1m) tall.		
6		0	\Box	0.0%		Observe Wassels and a state of the district of the state		
			П.	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
, a			\Box	0.0%		approximately 5 to 25 ft (1 to 5 ff) in height.		
٥			\exists	0.0%		Herb - All herbaceous (non-woody) plants, including		
10			\Box	0.0%		herbaceous vines, regardless of size, and woody		
10			\exists			plants, except woody vines, less than approximately 3 ft (1 m) in height.		
11			Н.	0.0%				
12			Ш.	0.0%		Woody vine - All woody vines, regardless of height.		
50	0% of Total Cover: 40 20% of Total Cover: 16	80 :	= To	tal Cove	•	Woody vine - All woody vines, regardless of height.		
W	oody Vine Stratum (Plot size: 30							
1.	Rubus argutus	10	✓	50.0%	FAC			
2.	Vitis rotundifolia	5	\checkmark	25.0%	FAC			
3.	Lonicera japonica	5	✓	25.0%	FACU			
4.		0		0.0%				
5.		0	\Box	0.0%		Hydrophytic		
	100 of Total Covers 10 200/ of Tatal Covers 1		 _ - _			Vegetation Present? Yes No		
50	0% of Total Cover: 10 20% of Total Cover: 4	20 =	- 10	tal Cove				
Ren	narks: (If observed, list morphological adaptations below).							
	us calleryana in sapling stratum 10% coverage; no indica	tor status						
*In	dicator suffix = National status or professional decision assigned because R	egional status	not c	defined by F	ws.			

SOIL Sampling Point: 1-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Red	lox Featu					
(inches)	Color (moist)		Color (moist)	%	Type 1	Loc ²	Texture	Remarks	
0-12	10YR 6/2	75	10YR 6/6	25	C	M	Silt Loam		
	· · · · · · · · · · · · · · · · · · ·								
				-				.	
			,						
									
									
¹ Type: C=Conc	entration. D=Depletion	n. RM=Reduce	d Matrix, CS=Covered	d or Coate	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	-Matrix	
Hydric Soil I	ndicators:						Indicators for Pro	blematic Hydric Soils ³ :	
Histosol (A	A1)		Polyvalue Belo	w Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)		
Histic Epip	edon (A2)		Thin Dark Surf				2 cm Muck (A10		
Black Histi			Loamy Mucky						
	Sulfide (A4)		Loamy Gleyed					(F18) (outside MLRA 150A,B)	
	_ayers (A5)				,			plain Soils (F19) (LRR P, S, T)	
	odies (A6) (LRR P, T, U	`	= '					ht Loamy Soils (F20) (MLRA 153B)	
_		-	Redox Dark Su	. ,			Red Parent Mate	erial (TF2)	
	ky Mineral (A7) (LRR P,	1, 0)	Depleted Dark		7)		Very Shallow Da	ark Surface (TF12)	
	ence (A8) (LRR U)		Redox Depress				Other (Explain i	n Remarks)	
	(A9) (LRR P, T)		Marl (F10) (LR	RU)					
Depleted E	Below Dark Surface (A1	.1)	Depleted Ochr	ic (F11) (M	ILRA 151)				
Thick Dark	Surface (A12)		☐ Iron-Manganes	se Masses	(F12) (LRI	R O, P, T)			
Coast Prair	rie Redox (A16) (MLRA	150A)	Umbric Surface	e (F13) (LF	RR P, T, U))			
Sandy Muc	ck Mineral (S1) (LRR O	, S)	Delta Ochric (F	- 17) (MLRA	A 151)		2		
Sandy Gley	yed Matrix (S4)		Reduced Vertic			150B)		s of hydrophytic vegetation and	
Sandy Red	lox (S5)		Piedmont Floo					I hydrology must be present, as disturbed or problematic.	
Stripped M							9A, 153C, 153D)	s distarbed or problematic.	
	nce (S7) (LRR P, S, T, L	1)	Anomalous bit	grit Loarry	30113 (1 20) (MLNA 14:	9A, 133C, 133D)		
Durk Suria	ice (57) (Erak 175) 17 c	, ,							
Restrictive La	yer (if observed):								
Type:				_					
Depth (inch	nes):						Hydric Soil Present?	Yes 💿 No 🔾	
Remarks:									
Kemarks.									

Sampling Point Labeled on Map: 1-6





Project/Site: Wattensaw Bayou	City/County: Lonoke/Lonoke Sampling Date: 12-Sep-17				
Applicant/Owner: _Mitigation Management	State: Ar Sampling Point: 1-7				
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Township, Range: S 12 T 3N R 9W				
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): concave Slope: 1.0 % / 0.6 °				
Subregion (LRR or MLRA): LRR O Lat.:	34.8951 N Long.: -91.91274 W Datum: Nad 83				
Soil Map Unit Name: Calloway silt loam	NWI classification: none				
Are climatic/hydrologic conditions on the site typical for this time of yea	ar? Yes No (If no, explain in Remarks.)				
	:ly disturbed?				
Are Vegetation , Soil , or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)				
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area				
Hydric Soil Present? Yes No	Voc (No (
Wetland Hydrology Present? Yes ● No ○	within a Wetland?				
Remarks: HYDROLOGY					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)				
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)				
Surface Water (A1) Aquatic Fauna (B1	Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2) Marl Deposits (B15)	_ ` ` '				
Saturation (A3) Hydrogen Sulfide (
	res along Living Roots (C3) Dry Season Water Table (C2)				
Sediment Deposits (B2) Presence of Reduction Printing Presence of Reduction Presence of	ced Iron (C4) Crayfish Burrows (C8) ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4) Thin Muck Surface					
☐ Iron Deposits (B5) ☐ Other (Explain in F					
☐ Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)				
✓ Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)				
Field Observations:					
Surface Water Present? Yes No Depth (inches):					
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes ● No ○				
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes Vo No				
Describe Recorded Data (stream gauge, monitoring well, aerial photographics) Remarks:	os, previous inspections), if available:				

• •		Dominant Species?		Sampling Point: 1-7
	Absolute	Species? Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cover	Status	Number of Dominant Species
1	_ 0_ [0.0%		That are OBL, FACW, or FAC: 2 (A)
2.	0 [0.0%		
3.		0.0%		Total Number of Dominant Species Across All Strata: 3 (B)
1		0.0%		Species Across All Strata:
5		0.0%		Percent of dominant Species
C .		0.0%		That Are OBL, FACW, or FAC: 66.7% (A/B)
7	0 [0.0%		Prevalence Index worksheet:
7 8.	- —			
•	_ <u>0</u>			Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		OBL species $0 \times 1 = 0$
Sapling or Sapling/Shrub Stratum (Plot size: 30	_)			FACW species $0 \times 2 = 0$
1				FAC species $45 \times 3 = 135$
2				FACU species $\underline{60}$ x 4 = $\underline{240}$
3	_ 0			UPL species $0 \times 5 = 0$
4	0[0.0%		Column Totals: 105 (A) 375 (B)
5	0 [0.0%		
6.	0 [0.0%		Prevalence Index = B/A = 3.571
7.	0 [0.0%		Hydrophytic Vegetation Indicators:
8.	0 [0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	: Total Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)	. [☐ 3 - Prevalence Index is ≤3.0 ¹
1	,			Problematic Hydrophytic Vegetation ¹ (Explain)
2	,			1
3	= <u>0</u>			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4				
5	0	0.0%		Definition of Vegetation Strata:
6	0			Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30)				(***,
1 Kummerowia striata	60	✓ 63.2%	FACU	Sapling - Woody plants, excluding woody vines,
2 Diospyros virginiana		21.1%	FAC	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3 Liquidambar styraciflua	10	10.5%	FAC	than 3 m. (7.6 cm) DBH.
4. Dichanthelium acuminatum	5	\neg		Sapling/Shrub - Woody plants, excluding vines, less
E			FAC	than 3 in. DBH and greater than 3.28 ft (1m) tall.
5				
6	- <u>0</u>			Shrub - Woody plants, excluding woody vines,
7		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8				Herb - All herbaceous (non-woody) plants, including
9				herbaceous vines, regardless of size, and woody
10	0			plants, except woody vines, less than approximately
11		0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 47.5 20% of Total Cover: 19	95 =	Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30				
1 Rubus argutus	10	1 00.0%	FAC	
^	0	0.0%		
<u> </u>	0 1	0.0%		
4	0 [0.0%		
	_ —	$\neg = = = = = = = = = = = = = = = = = = =$		Hydrophytic
5	_ <u> </u>			Vegetation V A N
50% of Total Cover: 5 20% of Total Cover: 2	=	Total Cover		Present? Yes VO
Remarks: (If observed, list morphological adaptations below).				•
Crotin michauxii in herb stratum- 10% cover, no indicator sta	atus listed			
*Indicator suffix = National status or professional decision assigned because Re	egional status r	not defined by FV	/S.	

SOIL Sampling Point: 1-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix									
(inches)	Color (moist)	%	Color (moist)	%	Type 1	Loc2	Texture	Remarks		
0-12	10YR 6/2	70	10YR 6/8	30	С	М	Silt Loam			
								·		
								·		
								<u>.</u>		
								_		
								·		
								·		
				-						
		n. RM=Reduce	ed Matrix, CS=Covere	ed or Coated	Sand Gra	ins ² Loca	tion: PL=Pore Lining. M=	Matrix		
Hydric Soil I							Indicators for Prob	lematic Hydric Soils ³ :		
Histosol (•		Polyvalue Belo				1 cm Muck (A9)	(LRR O)		
	pedon (A2)		☐ Thin Dark Sur	face (S9) (LF	RR S, T, L)	2 cm Muck (A10)) (LRR S)		
Black Hist			Loamy Mucky		(LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)		
	Sulfide (A4)		Loamy Gleyed				Piedmont Floodp	lain Soils (F19) (LRR P, S, T)		
	Layers (A5)		Depleted Mati	rix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MLRA 153B)		
	Bodies (A6) (LRR P, T, L	-	Redox Dark S	urface (F6)			Red Parent Mate	rial (TF2)		
	cky Mineral (A7) (LRR P	, T, U)	Depleted Dark	k Surface (F7	')		Very Shallow Da	rk Surface (TF12)		
	sence (A8) (LRR U)		Redox Depres	ssions (F8)			Other (Explain in	Remarks)		
_	ck (A9) (LRR P, T)		☐ Marl (F10) (LF	RR U)				,		
	Below Dark Surface (A:	11)	Depleted Och	ric (F11) (ML	.RA 151)					
Thick Dar	k Surface (A12)		☐ Iron-Mangane	ese Masses (I	F12) (LRR	O, P, T)				
Coast Pra	iirie Redox (A16) (MLRA	A 150A)	Umbric Surfac	ce (F13) (LRF	R P, T, U)					
Sandy Mu	uck Mineral (S1) (LRR O	, S)	Delta Ochric (F17) (MLRA	151)		3			
Sandy Gle	eyed Matrix (S4)		Reduced Vert	ic (F18) (MLI	RA 150A,	150B)		of hydrophytic vegetation and hydrology must be present,		
Sandy Re	dox (S5)		Piedmont Floo	odplain Soils	(F19) (MI	RA 149A)		s disturbed or problematic.		
Stripped I	Matrix (S6)		Anomalous Br	ight Loamy S	Soils (F20) (MLRA 14	9A, 153C, 153D)			
Dark Surf	face (S7) (LRR P, S, T, I	J)								
Postrictivo I	ayer (if observed):									
Type:	ayer (ii observed).									
Depth (inc	hes).			_			Hydric Soil Present?	Yes No		
Remarks:										

Sampling Point Labeled on Map: 1-7





Project/Site: Wattensaw Bayou	City/County: Lonoke/Lonoke Sampling Date: 12-Sep-17
Applicant/Owner: Mitigation Management	State: Ar Sampling Point: 2-1
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Township, Range: S 13 T 3N R 9W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): $\underline{\text{concave}}$ Slope: 1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR O Lat.:	34.892 N Long.: -91.91588 W Datum: Nad 83
Soil Map Unit Name: Calhoun silt loam	NWI classification:
Are climatic/hydrologic conditions on the site typical for this time of year	ar? Yes No (If no, explain in Remarks.)
	ly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)
, , , , , , , , , , , , , , , , , , , ,	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Table Campled Avec
Hydric Soil Present? Yes ● No ○	Is the Sampled Area Yes No
Wetland Hydrology Present? Yes No	within a Wetland?
Remarks:	
This tract has been farmed regularly since at least before 1960's. The altered site conditions from that of historic condition prior to convers	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1	· · · · · · · · · · · · · · · · · · ·
High Water Table (A2) Marl Deposits (B15)	
Saturation (A3) Hydrogen Sulfide (
1 <u> </u>	neres along Living Roots (C3)
Sediment Deposits (B2) Presence of Reduc	
	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface ☐ Iron Deposits (B5) ☐ Other (Explain in F	
☐ Iron Deposits (B5) ☐ Other (Explain in F☐ Inundation Visible on Aerial Imagery (B7)	Remarks)
✓ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	Spriagrium moss (20) (ERK 1, 0)
Surface Water Present? Yes No Depth (inches):	
W O N O	
	Wetland Hydrology Present? Yes No
(includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:

,		Dominant Species 2	Sampling Point: 2-1
	Absolute	Species? Rel.Strat. Indicato	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cover Status	Number of Dominant Species
1	0	0.0%	That are OBL, FACW, or FAC:
2	0	0.0%	
3	0	0.0%	Total Number of Dominant Species Across All Strata: 3 (B)
4	0	0.0%	,
5		0.0%	Percent of dominant Species
6.	0	0.0%	That Are OBL, FACW, or FAC:66.7%(A/B)
7.	0	0.0%	Prevalence Index worksheet:
8.	0	0.0%	Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	OBL species 0 x 1 = 0
Sapling or Sapling/Shrub Stratum (Plot size: 30)		FACW species $45 \times 2 = 90$
1		0.0%	FAC species $50 \times 3 = 150$
2.		0.0%	FACU species $75 \times 4 = 300$
<u> </u>		0.0%	UPL species $0 \times 5 = 0$
4		0.0%	
Γ		0.0%	Column Totals: <u>170</u> (A) <u>540</u> (B)
6		0.0%	Prevalence Index = $B/A = 3.176$
7		0.0%	Hydrophytic Vegetation Indicators:
7 8.		0.0%	
			1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover	2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)			3 - Prevalence Index is ≤3.0 ¹
1	0		Problematic Hydrophytic Vegetation 1 (Explain)
2	0		
3	0		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	0		be present, unless disturbed of problematic.
5			Definition of Vegetation Strata:
6	0		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30)			
1 Kummerowia striata	75	✓ 44.1% FACU	Sapling - Woody plants, excluding woody vines,
2 Setaria parviflora		✓ 20.6% FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. Andropogon virginicus		✓ 20.6% FAC	unano ini. (1.0 din) BBH.
4. Bidens bipinnata	15	8.8% FAC	Sapling/Shrub - Woody plants, excluding vines, less
5. Solidago gigantea	10	5.9% FACW	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6		0.0%	Observito Managharda analysida a usan da saiga a
7		0.0%	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%	spp. community of the first () that it is, in realignar
9.	0	0.0%	Herb - All herbaceous (non-woody) plants, including
	0	0.0%	herbaceous vines, regardless of size, and woody
10 11		0.0%	plants, except woody vines, less than approximately 3 ft (1 m) in height.
12.		0.0%	
50% of Total Cover: 85 20% of Total Cover: 34		= Total Cover	Woody vine - All woody vines, regardless of height.
		- Iotal Covel	
Woody Vine Stratum (Plot size: 30			
1			
2			
3			h.
4			Hydrophytic
5			Vogetation
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover	Present? Yes No
Remarks: (If observed, list morphological adaptations below).			•
,			
*Indicator suffix = National status or professional decision assigned because R	Regional status r	not defined by FWS.	

SOIL Sampling Point: 2-1

Profile Desci	ription: (Des	scribe to	the depth i	needed to docum	ent the indic	ator or co	onfirm the	absence of indicators.)		
Depth		Matrix								
(inches)	Color (<u>%</u>	Color (moist		Type 1		Texture	Remarks	
0-8	10YR	6/2	70	7.5YR 5/	8 30	C		Silt Loam		
8-12	10YR	6/1	80	7.5YR 5/	8 20	С	М	Silt Loam		
						`			· ·	
					_				<u>.</u>	
									-	
						`		`	- `	
									`	
1- 00										
		=Depletio	n. RM=Redu	ced Matrix, CS=Co	vered or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=	Matrix	
Hydric Soil 1								Indicators for Prob	lematic Hydric Soils ³ :	
Histosol (•				Below Surface			1 cm Muck (A9)	(LRR O)	
	pedon (A2)				Surface (S9) (2 cm Muck (A10)	(LRR S)	
Black Hist				Loamy Mu	cky Mineral (F	1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)	
	Sulfide (A4)				eyed Matrix (F	2)		Piedmont Floodp	lain Soils (F19) (LRR P, S, T)	
	Layers (A5)			✓ Depleted I	Matrix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MLRA 153B)	
	Bodies (A6) (L		-	Redox Da	k Surface (F6))		Red Parent Mate	rial (TF2)	
	cky Mineral (A		r, T, U)	Depleted I	Dark Surface (F7)		Very Shallow Da	k Surface (TF12)	
	sence (A8) (L			Redox De	oressions (F8)			Other (Explain in	Remarks)	
	ck (A9) (LRR F			☐ Marl (F10)	(LRR U)				,	
	Below Dark S	-	11)	Depleted (Ochric (F11) (f	MLRA 151)				
	k Surface (A1			☐ Iron-Mang	anese Masses	(F12) (LR	R O, P, T)			
Coast Pra	irie Redox (A	16) (MLRA	A 150A)	Umbric Su	rface (F13) (L	RR P, T, U)			
Sandy Mu	ıck Mineral (S	(LRR C), S)	Delta Och	ric (F17) (MLR	A 151)		3		
Sandy Gle	eyed Matrix (S	54)		Reduced Vertic (F18) (MLRA 150A, 150B)					of hydrophytic vegetation and hydrology must be present,	
Sandy Re	dox (S5)			Piedmont	Floodplain Soi	ls (F19) (M	LRA 149A)	unless disturbed or problematic.		
Stripped I	Matrix (S6)			Anomalou	s Bright Loamy	y Soils (F20)) (MLRA 14	9A, 153C, 153D)		
☐ Dark Surf	ace (S7) (LRF	R P, S, T, I	U)							
	<i></i>									
Restrictive L	ayer (if obs	erved):								
Type:					_			Hydric Soil Present?	Yes No	
Depth (inc	hes):				_			Tryune son i resent.		
Remarks:										

Sampling Point Labeled on Map: 2-1





DATA FORM ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

- 1. **Type of alteration:** The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural management techniques (e.g. tilling, disking, mowing, herbicide, leveling). The site is currently fallow.
- 2. **Effect on the Vegetation:** Regular tilling, disking, mowing, herbicide, and leveling have prevented natural succession.
- 3. **Previous Vegetation:** Prior to 2011, wheat, soybeans, sweet potatoes, rice, corn, and other commodity crops. Prior to 1960's, the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate that bottomland hardwood forested wetlands were present at that time.
- 4. Hydrophytic Vegetation? Yes

B. SOILS:

- 1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil has been routinely disturbed on site due to tilling, disking, etc. leveling, and leveling as part of an agricultural management regime. Micro and macro topographic features have been largely eliminated due to leveling.
- 2. **Effect on the Soil:** Microtopography has been mostly eliminated with exception to remnant rice levees on margins.
- 3. **Previous Soils:** Prior to clearing, the soils likely exhibited wetland characteristics and a hydroperiod more similar to that as the intact forested community abutting the Bank.
- 4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Rice levees were constructed to allow for control of the hydrologic connectivity between Wattensaw Bayou/Locust Creek and the Bank.
- 2. **Effect on the Hydrology:** Rice levees have altered the natural hydrologic regime for the area.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

Project/Site: Wattensaw Bayou	City/County. Lonoke/L	Sampling Da	12-Sep-17				
Applicant/Owner: Mitigation Management	State: _A	Ar Sampling Point: 2-2					
Investigator(s): _CG,CK,HS,TW,GW,KK	Section, Township, Ra	Section, Township, Range: S 13 T 3N R 9W					
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, co	onvex, none): concave Slope:	1.0 % / 0.6 °				
Subregion (LRR or MLRA): LRR O La	.: 34.892 N	Long.: -91.9128 W	Datum: Nad 83				
Soil Map Unit Name: Tichnor Silt Loam		NWI classification: NOT	ie				
Are climatic/hydrologic conditions on the site typical for this time o	year? Yes No	(If no, explain in Remarks.)					
	-		′es ● No ○				
	•	needed, explain any answers in Remark	s)				
SUMMARY OF FINDINGS - Attach site map showing		,	•				
Hydrophytic Vegetation Present? Yes No	Is the Sampled	1 Area					
Hydric Soil Present? Yes ● No ○	-	Vac (No (
Wetland Hydrology Present? Yes ● No ○	within a Wetla	nd?					
Remarks: This tract has been farmed regularly since at least before 1960's altered site conditions from that of historic condition prior to cor HYDROLOGY		planing, and levees have					
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that app	w)	Secondary Indicators (minimum o	of 2 required)				
Surface Water (A1) Aquatic Fauna		Surface Soil Cracks (B6) Sparsely Vegetated Concave	Surface (B8)				
	(B15) (LRR U)	Drainage Patterns (B10)	Surface (BO)				
Saturation (A3) Hydrogen Sul		Moss Trim Lines (B16)					
✓ Water Marks (B1) ✓ Oxidized Rhiz	spheres along Living Roots (C3	B) Dry Season Water Table (C2)					
Sediment Deposits (B2)	educed Iron (C4)	Crayfish Burrows (C8)					
	eduction in Tilled Soils (C6)	Saturation Visible on Aerial In	nagery (C9)				
Algal Mat or Crust (B4)	` '	Geomorphic Position (D2)					
☐ Iron Deposits (B5) ☐ Other (Explain ☐ Inundation Visible on Aerial Imagery (B7)	in Remarks)	Shallow Aquitard (D3)					
✓ Water-Stained Leaves (B9)		✓ FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T	: IIV				
Field Observations:		Spriagrium moss (Do) (LRR 1)	, 0)				
Surface Water Present? Yes No Depth (inch.	s):						
Saturation Present?	Wetla	and Hydrology Present? Yes •	No O				
(includes capillary fringe) Yes V No V Depth (inch							
Describe Recorded Data (stream gauge, monitoring well, aerial particles) Remarks:		,, ii dicilatici					

,		Dominant		Sampling Point: 2-2		
	Absolute	Species? Rel.Strat.	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30	% Cover	Cover	Status	Number of Dominant Species		
1 Salix nigra	15[✓ 100.0%	OBL	That are OBL, FACW, or FAC:4 (A)		
2	0 [0.0%				
3		0.0%		Total Number of Dominant Species Across All Strata: 5 (B)		
4	0 [0.0%				
5.	[0.0%		Percent of dominant Species		
6.	0 [0.0%		That Are OBL, FACW, or FAC: 80.0% (A/B)		
7.	0 [0.0%		Prevalence Index worksheet:		
8.	0 [0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 7.5 20% of Total Cover: 3	15 =	Total Cover		OBL species 88 x 1 = 88		
Sapling or Sapling/Shrub Stratum (Plot size: 30)			FACW species 75 x 2 = 150		
1	_ ′ 0 [0.0%		FAC species $0 \times 3 = 0$		
1 2.		0.0%		FACU species $5 \times 4 = 20$		
<u> </u>		0.0%				
A		0.0%		· ·		
-		0.0%		Column Totals: 168 (A) 258 (B)		
2		0.0%		Prevalence Index = B/A =1.536		
7		0.0%		Hydrophytic Vegetation Indicators:		
7 8.	0	0.0%				
				1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	=	: Total Cover		2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30				✓ 3 - Prevalence Index is ≤3.0 ¹		
1 . Cephalanthus occidentalis	3[100.0%	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)		
2	[0.0%				
3	0 [0.0%		Indicators of hydric soil and wetland hydrology must		
4	0	0.0%		be present, unless disturbed or problematic.		
5	0	0.0%		Definition of Vegetation Strata:		
6	0	0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 1.5 20% of Total Cover: 0.6	3 =	Total Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: 30)				(7.0 dill) di larger ill diameter at breast neight (BBH).		
1 Juncus effusus	60 [✓ 41.4%	OBL	Sapling - Woody plants, excluding woody vines,		
2 Setaria parviflora		✓ 20.7%	FACW	approximately 20 ft (6 m) or more in height and less		
3. Coleataenia rigidula		20.7%	FACW	than 3 in. (7.6 cm) DBH.		
4. Phyla lanceolata	10	6.9%	OBL	Sapling/Shrub - Woody plants, excluding vines, less		
5. Persicaria pensylvanica	10	6.9%	FACW	than 3 in. DBH and greater than 3.28 ft (1m) tall.		
6 Dichanthelium clandestinum	5	3.4%	FACW			
7		0.0%	FACVV	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
		0.0%		approximately 3 to 20 ft (1 to 0 fil) in fleight.		
8	1	0.0%		Herb - All herbaceous (non-woody) plants, including		
9	[0.0%		herbaceous vines, regardless of size, and woody		
10				plants, except woody vines, less than approximately 3 ft (1 m) in height.		
11 12.	_ <u>0</u>	0.0%				
•	_ 0	0.0%		Woody vine - All woody vines, regardless of height.		
50% of Total Cover: 72.5 20% of Total Cover: 29	145=	: Total Cover		Troody tillo Till troody tilloo, rogalalood of floighti		
Woody Vine Stratum (Plot size: 30)	_					
1 Lonicera japonica	5	100.0%	FACU			
2. Ipomoea hederacea	[0.0%	FACU			
3	[0.0%				
4		0.0%				
5	0[0.0%		Hydrophytic Vegetation		
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	Total Cover		Present? Yes No		
Domayles (If abcomed list results is a last time below)				<u> </u>		
Remarks: (If observed, list morphological adaptations below).						
*Indicator suffix = National status or professional decision assigned because Re	gional status r	not defined by FW	/S.			

SOIL Sampling Point: 2-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix			Red	dox Featu	res				
(inches)	Color (moist)		Color (mois		%	Type 1	Loc2	Texture	Remarks	
0-18	10YR 5/2	70	7.5YR 4	4/4	25	C		Silt Loam	<u>, </u>	
			7.5YR 2	.5/1	5	С	М	Silt Loam		
			 -						`	
			 -						·	
									·	
									`	
1 Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=C	`overe	d or Coate	d Sand Gra	ains 2l oca	tion: PL=Pore Lining. M=l	Matrix	
Hydric Soil I		III III I III III	ear rathy 65° c	.01010	u or courc	a sana on	2000			
Histosol (Dobacalu	o Polo	ow Surface	(CO) (I DD	C T II)		lematic Hydric Soils ³ :	
l — `	pedon (A2)		_		face (S9) (I			1 cm Muck (A9)		
Black Hist								2 cm Muck (A10)		
	Sulfide (A4)				Mineral (F:				F18) (outside MLRA 150A,B)	
	Layers (A5)				Matrix (F2	.)			lain Soils (F19) (LRR P, S, T)	
	layers (A3) Sodies (A6) (LRR P, T, l	I)	✓ Depleted		` '				t Loamy Soils (F20) (MLRA 153B)	
	ky Mineral (A7) (LRR P	-			urface (F6)			Red Parent Mate	` '	
	sence (A8) (LRR U)	, 1, 0)			Surface (F	-/)			k Surface (TF12)	
	k (A9) (LRR P, T)				sions (F8)			Other (Explain in	Remarks)	
	Below Dark Surface (A:	11)	☐ Marl (F1			41 DA 4E4\				
	k Surface (A12)	11)			ric (F11) (M					
	k Surface (A12) irie Redox (A16) (MLRA	1 1 5 0 4 \			se Masses					
	irie Redox (A16) (MLRA ick Mineral (S1) (LRR C				e (F13) (LF)			
	eyed Matrix (S4)	, 3)		-	F17) (MLR/	-	4.500)	³ Indicators	of hydrophytic vegetation and	
Sandy Re					ic (F18) (M			wetland hydrology must be present,		
	Matrix (S6)				odplain Soils				s disturbed or problematic.	
		LIN	☐ Anomalo	ous Br	ight Loamy	Soils (F20)) (MLRA 14	9A, 153C, 153D)		
Dark Suri	ace (S7) (LRR P, S, T, I	0)								
Restrictive L	ayer (if observed):									
Туре:					_				😞 🔿	
Depth (inc	hes):				_			Hydric Soil Present?	Yes No	
Remarks:										

Sampling Point Labeled on Map: 2-2







DATA FORM ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

- 1. **Type of alteration:** The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural management techniques (e.g. tilling, disking, mowing, herbicide, leveling, leveling) and anthropogenic force flooding for rice production. The site is currently fallow and rice field levees remain intact, ponding water.
- Effect on the Vegetation: Ponded water has resulted in a very wet hydroperiod with aquatic species and OBL hydrophytes occurring throughout the fallow crop fields. Native herbaceous species adapted to disturbances as pioneer species, currently occupy drier portions of the site.
- 3. **Previous Vegetation:** Prior to 2011, soybeans, sweet potatoes, rice, corn, and other commodity crops. Prior to 1960's, the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate that bottomland hardwood forested wetlands were present at that time.
- 4. Hydrophytic Vegetation? Yes

B. SOILS:

- 1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil has been routinely disturbed on site due to tilling, disking, etc. leveling and leveling, as part of an agricultural management regime. Micro and macro topographic features have been largely eliminated due to leveling.
- 2. **Effect on the Soil:** Microtopography has been mostly eliminated with exception to rice field levees. Presence of rice field levees ponds water excessively.
- 3. **Previous Soils:** Prior to clearing, the soils likely exhibited wetland characteristics and a hydroperiod more similar to that as the intact forested community abutting the Bank.

4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Levees were constructed to allow for control of the hydrologic connectivity between Wattensaw Bayou and the Bank. Force flooding and subsequent drawdowns for the promotion of commodity crops and fallow periods constitute normal *conditions* for agricultural/cropland.
- 2. **Effect on the Hydrology:** Rice field levees have altered the natural hydrologic regime for the Bank.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	——————————————————————————————————————	Lorioke/Lorioke	Sampling Da	12-Sep-1/	
Applicant/Owner: Mitigation Management		State: Ar	Sampling Point: 2-3		
Investigator(s): CG,CK,HS,TW,GW,KK	Section	on, Township, Range: S	T 3N	R 9W	
Landform (hillslope, terrace, etc.): Floodplain	Local re	elief (concave, convex,	none): concave Slope:	1.0 % / 0.6 °	
Subregion (LRR or MLRA): LRR O	Lat.: 34.8918	N Lon	 -91.9125 W	Datum: Nad 83	
Soil Map Unit Name: _ Tichnor Silt Loam			NWI classification: NOT	ie	
Are climatic/hydrologic conditions on the site typical for thi	is time of year?	Yes ● No ○	(If no, explain in Remarks.)		
Are Vegetation , Soil , or Hydrology	significantly distur	bed? Are "Norma	al Circumstances" present?	′es ● No ○	
Are Vegetation , Soil , or Hydrology	naturally problema		explain any answers in Remark	s.)	
SUMMARY OF FINDINGS - Attach site map sh		(,		•	
Hydrophytic Vegetation Present? Yes No		Is the Sampled Area			
Hydric Soil Present? Yes No		•	Yes No		
Wetland Hydrology Present? Yes ● No ○		within a Wetland?	160 0 160 0		
Remarks:					
This tract has been farmed regularly since at least before		ular tillage, field planing	g, and levees have		
altered site conditions from that of historic condition price	or to conversion.				
HYDROLOGY					
Wetland Hydrology Indicators:			Secondary Indicators (minimum c	of 2 required)	
Primary Indicators (minimum of one required; check all	that apply)		Surface Soil Cracks (B6)		
Surface Water (A1)	atic Fauna (B13)		Sparsely Vegetated Concave	Surface (B8)	
High Water Table (A2)	l Deposits (B15) (LRR U	1)	Drainage Patterns (B10)		
Saturation (A3)	rogen Sulfide Odor (C1))	Moss Trim Lines (B16)		
✓ Water Marks (B1) ✓ Oxid	dized Rhizospheres alon	g Living Roots (C3)	☐ Dry Season Water Table (C2)		
✓ Sediment Deposits (B2)	sence of Reduced Iron ((C4)	Crayfish Burrows (C8)		
☐ Drift Deposits (B3) ☐ Rec	ent Iron Reduction in Ti	illed Soils (C6)	Saturation Visible on Aerial In	nagery (C9)	
Algal Mat or Crust (B4)	Muck Surface (C7)		Geomorphic Position (D2)		
☐ Iron Deposits (B5) ☐ Othe	er (Explain in Remarks)		☐ Shallow Aquitard (D3)		
☐ Inundation Visible on Aerial Imagery (B7)			✓ FAC-Neutral Test (D5)		
✓ Water-Stained Leaves (B9)			Sphagnum moss (D8) (LRR T	, U)	
Field Observations:					
Surface Water Present? Yes No • De	epth (inches):				
Water Table Present? Yes O No O	epth (inches):				
Saturation Present? (includes capillary fringe) Yes No De	epth (inches):	Wetland Hy	drology Present? Yes •	No O	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well		ious inspections) if ava	ailahla:		
Describe Recorded Data (stream gauge, monitoring weil	, aeriai priotos, previ	ious irispections), ii ava	illable.		
Remarks:					

VEGETATION (Five/Four Strata) - Use scientific names of plants.

		Dominant Species? _		Sampling Point: 2-3			
(5)		Rel.Strat.	Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: 30)	% Cover	Cover	Status	Number of Dominant Species			
		0.0%		That are OBL, FACW, or FAC:3(A)			
		0.0%		Total Number of Dominant			
		0.0%		Species Across All Strata:3(B)			
		0.0%		Percent of dominant Species			
		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)			
		0.0%		Boundary Volumentalists			
		0.0%		Prevalence Index worksheet:			
		= Total Cover		Total % Cover of: Multiply by: OBL species 70 x 1 = 70			
	=	= Total Cover					
apling or Sapling/Shrub Stratum (Plot size: 30	—'			FACW species $85 \times 2 = 170$			
	$-\frac{0}{0}$	0.0%		FAC species $0 \times 3 = 0$			
	_	0.0%		FACU species $0 \times 4 = 0$			
		0.0%		UPL species $0 \times 5 = 0$			
		0.0%		Column Totals: 155 (A) 240 (B)			
				Prevalence Index = B/A =1.548_			
		0.0%		Hydrophytic Vegetation Indicators:			
		0.0%					
				1 - Rapid Test for Hydrophytic Vegetation			
60% of Total Cover: 0 20% of Total Cover: 0	=	= Total Cover		2 - Dominance Test is > 50%			
hrub Stratum (Plot size: 30)		_		✓ 3 - Prevalence Index is \leq 3.0 ¹			
Cephalanthus occidentalis		70.0%	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)			
Salix nigra	15	30.0%	OBL				
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
		0.0%					
	0			Definition of Vegetation Strata:			
	0	0.0%	approximately 20 ft (6 m) or more in height and				
50% of Total Cover: 25 20% of Total Cover: 10	50 =	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).			
lerb Stratum (Plot size: 30)							
Persicaria pensylvanica	85	✓ 81.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less			
_ Juncus effusus	10	9.5%	OBL	than 3 in. (7.6 cm) DBH.			
			OBL	1 11 7 1 7			
Scirpus cyperinus	10	9.5%		than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less			
Scirpus cyperinus	10	9.5%		than 3 in. (7.6 cm) DBH.			
Scirpus cyperinus	10 10 0 0	9.5% 9.5% 0.0%		than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.			
Scirpus cyperinus	10 10 0 0	9.5% 9.5% 0.0%		than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less			
Scirpus cyperinus	10 10 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0%		than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,			
Scirpus cyperinus	10 10 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0%		than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including			
Scirpus cyperinus	10 10 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody			
Scirpus cyperinus	10 10 0 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including			
Scirpus cyperinus	10 10 0 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately			
Scirpus cyperinus	10 0 0 0 0 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL	than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately			
Scirpus cyperinus	10 0 0 0 0 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL	than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.			
Scirpus cyperinus Ow of Total Cover: 52.5 20% of Total Cover: 21 Coody Vine Stratum (Plot size: 30	10 0 0 0 0 0 0 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL	than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.			
Scirpus cyperinus	10 0 0 0 0 0 0 0 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL	than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.			
Scirpus cyperinus	10 0 0 0 0 0 0 0 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL	than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.			
Scirpus cyperinus O% of Total Cover: 52.5 20% of Total Cover: 21 Oody Vine Stratum (Plot size: 30)	10 0 0 0 0 0 0 0 0 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL	than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.			
Scirpus cyperinus Scirpus cyper	10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL	than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.			
Scirpus cyperinus 5. 5. 6. 7. 7. 8. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.	10 10 0 0 0 0 0 0 0 0 0 105 =	9.5% 9.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL	than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.			

SOIL Sampling Point: 2-3

Profile Desc	ription: (Describe to	the depth ne	eded to document	the indica	tor or co	nfirm the	absence of indicators.)	
Depth	Matrix		Re	dox Featui	res			
(inches)	Color (moist)	%	Color (moist)	%	Type 1	Loc2	Texture	Remarks
0-18	10YR 6/2	90	7.5YR 5/8	10	C	М	Silt Loam	_
								· ·
								
								·
								· ·
								· .
¹ Type: C=Con	ncentration. D=Depletion	n. RM=Reduce	ed Matrix, CS=Covere	ed or Coated	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	Matrix
Hydric Soil	Indicators:						Indicators for Prob	olematic Hydric Soils ³ :
Histosol ((A1)		Polyvalue Beld	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)	(LRR O)
Histic Epi	ipedon (A2)		Thin Dark Sur	face (S9) (L	.RR S, T, U	J)	2 cm Muck (A10	
☐ Black His	tic (A3)		Loamy Mucky	Mineral (F1	.) (LRR O)		_	F18) (outside MLRA 150A,B)
Hydroger	n Sulfide (A4)		Loamy Gleyed					lain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		✓ Depleted Mati	rix (F3)			_	nt Loamy Soils (F20) (MLRA 153B)
Organic E	Bodies (A6) (LRR P, T, U	J)	Redox Dark S				Red Parent Mate	
5 cm Muc	cky Mineral (A7) (LRR P	, T, U)	Depleted Dark	, ,	7)			rk Surface (TF12)
	esence (A8) (LRR U)		Redox Depres	•	. ,			
	ck (A9) (LRR P, T)		Marl (F10) (LF				Other (Explain in	i Remarks)
	Below Dark Surface (A:	11)	Depleted Och		I RΔ 151)			
	rk Surface (A12)	,	☐ Iron-Mangane			O D T)		
	airie Redox (A16) (MLRA	150A)	Umbric Surface					
	uck Mineral (S1) (LRR O							
	eyed Matrix (S4)	, 5)	Delta Ochric (-	1F0D)	³ Indicators	of hydrophytic vegetation and
Sandy Re			Reduced Verti				wetland	hydrology must be present,
	Matrix (S6)		☐ Piedmont Floo	•		-		s disturbed or problematic.
		1)	☐ Anomalous Br	ight Loamy	Soils (F20) (MLRA 14	9A, 153C, 153D)	
□ Dark Suri	face (S7) (LRR P, S, T, I	J)						
Restrictive L	.ayer (if observed):							
Type:				_				
Depth (inc	ches):			_			Hydric Soil Present?	Yes No
Remarks:								
I								

Sampling Point Labeled on Map: 2-3



DATA FORM ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

- 1. **Type of alteration:** The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural management techniques (e.g. tilling, disking, mowing, herbicide, leveling, leveling) and anthropogenic force flooding for rice production. The site is currently fallow and rice field levees remain intact, ponding water.
- 2. **Effect on the Vegetation:** Ponded water has resulted in a very wet hydroperiod with aquatic species and OBL hydrophytes occurring throughout the fallow crop fields.
- 3. **Previous Vegetation:** Prior to 2011, soybeans, sweet potatoes, rice, corn, and other commodity crops. Prior to 1960's, the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate that bottomland hardwood forested wetlands were present at that time.
- 4. Hydrophytic Vegetation? Yes

B. SOILS:

- 1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil has been routinely disturbed on site due to tilling, disking, etc. leveling and leveling, as part of an agricultural management regime. Micro and macro topographic features have been largely eliminated due to leveling.
- 2. **Effect on the Soil:** Microtopography has been mostly eliminated with exception to rice field levees. Presence of rice field levees ponds water excessively.
- 3. **Previous Soils:** Prior to clearing, the soils likely exhibited wetland characteristics and a hydroperiod more similar to that as the intact forested community abutting the Bank.

4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Levees were constructed to allow for control of the hydrologic connectivity between Wattensaw Bayou and the Bank. Force flooding and subsequent drawdowns for the promotion of commodity crops and fallow periods constitute normal *conditions* for agricultural/cropland.
- 2. **Effect on the Hydrology:** Rice field levees have altered the natural hydrologic regime for the Bank.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County: Loi	noke/Lonoke	Sampli	ing Date: 12-Sep-17
Applicant/Owner: Mitigation Management	Sta	nte: Ar	Sampling Point: 2-	-4
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Townsh	hip, Range: S 18	T 3N	R 8W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (conca	ave, convex, none):	: flat S	lope: 1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR O	Lat.: 34.892 N	Long.: -	-91.90955 W	Datum: Nad 83
Soil Map Unit Name: Tichnor Silt Loam			NWI classification:	
Are climatic/hydrologic conditions on the site typical for this tim	e of year? Yes	No O (If n	o, explain in Remarl	
	nificantly disturbed?	•	umstances" present?	
	urally problematic?		in any answers in Re	•
SUMMARY OF FINDINGS - Attach site map showi	ng sampling point le	. , .	•	•
Hydrophytic Vegetation Present? Yes ● No ○	To the Co			
Hydric Soil Present? Yes No		mpled Area	● No ○	
Wetland Hydrology Present? Yes No	within a	Wetland?	© 140 ©	
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:		Sec	ondary Indicators (mini	imum of 2 required)
Primary Indicators (minimum of one required; check all that	apply)		Surface Soil Cracks (B6	
	auna (B13)		Sparsely Vegetated Co.	•
	osits (B15) (LRR U)		Drainage Patterns (B10	` '
Saturation (A3) Hydrogen	Sulfide Odor (C1)		Moss Trim Lines (B16)	•
✓ Water Marks (B1) ✓ Oxidized F	Rhizospheres along Living Roo	_	Dry Season Water Tabl	
	of Reduced Iron (C4)		Crayfish Burrows (C8)	
☐ Drift Deposits (B3) ☐ Recent Iro	on Reduction in Tilled Soils (C	26)	Saturation Visible on A	erial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck	Surface (C7)		Geomorphic Position (I	D2)
☐ Iron Deposits (B5) ☐ Other (Ex	plain in Remarks)		Shallow Aquitard (D3)	•
Inundation Visible on Aerial Imagery (B7)	,		FAC-Neutral Test (D5)	
✓ Water-Stained Leaves (B9)			Sphagnum moss (D8)	(LRR T, U)
Field Observations:				
Surface Water Present? Yes No Depth (ii	nches):			
Water Table Present? Yes No Depth (ii	nches).			
Saturation Precent?		Wetland Hydrolog	y Present? Yes	● No ○
(includes capillary fringe) Yes V No Depth (i				
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspec	ctions), if available	:	
Remarks:				

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Majority Stretum Plot size: 30	Diospyros virginiana	S	Rel.Strat. Cover 50.0% 33.3% 16.7% 0.0% 0.0% 0.0% 0.0% Total Cover	FACW FACW FACW	Number of Dominant Species That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: 10 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 90.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 145 X 1 = 145 FACW species 70 X 2 = 140
Discopros virginina	Diospyros virginiana	5	50.0% 33.3% 16.7% 0.0% 0.0% 0.0% 0.0% Total Cover 37.5% 37.5%	FACW FACW FACW	That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: 10 Percent of dominant Species That Are OBL, FACW, or FAC: 90.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 145 X 1 = 145 FACW species 70 X 2 = 140
Disciprose visiplinana	Quercus phellos 10 Fraxinus pennsylvanica 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	33.3% 16.7% 0.0% 0.0% 0.0% 0.0% Total Cover	FACW	That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: 10 Percent of dominant Species That Are OBL, FACW, or FAC: 90.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 145 X 1 = 145 FACW species 70 X 2 = 140
Prevalence perneylvanica	Fraxinus pennsylvanica	5	16.7% 0.0% 0.0% 0.0% 0.0% 0.0% Total Cover 37.5% 37.5%	FAC	Species Across All Strata: 10 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 90.0% (A/B) Prevalence Index worksheet:
Fromine permey/wantica	Sapling or Sapling/Shrub Stratum (Plot size: 30) Diospyros virginiana 1! Salix nigra 1! Ulmus alata 10	5	0.0% 0.0% 0.0% 0.0% 0.0% Total Cover	FAC	Species Across All Strata: 10 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 90.0% (A/B) Prevalence Index worksheet:
0 0.0% 0.0	Sapling or Sapling/Shrub Stratum (Plot size: 30) Diospyros virginiana 1! Salix nigra 1! Ulmus alata 10	5 0 0	0.0% 0.0% 0.0% 0.0% Total Cover	FAC	Percent of dominant Species That Are OBL, FACW, or FAC: 90.0% (A/B) Prevalence Index worksheet:
	50% of Total Cover: 15 20% of Total Cover: 6 30 Sapling or Sapling/Shrub Stratum (Plot size: 30) Diospyros virginiana 1! Salix nigra 1! Ulmus alata 11	5 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0% 0.0% 0.0% Total Cover 37.5% 37.5%	FAC	That Are OBL, FACW, or FAC: 90.0% (A/B) Prevalence Index worksheet:
0	0 0 0 0 0 0 0 0 0 0	5 5 0 0	0.0% 0.0% Total Cover 37.5% 37.5%	FAC	Prevalence Index worksheet:
Complaints pennsylvanica Complaints pennsylv	Sapling or Sapling/Shrub Stratum (Plot size: 30) Diospyros virginiana 1! Salix nigra 1! Ulmus alata 0	5 5 5 0	0.0% Total Cover 37.5% 37.5%	FAC	Total % Cover of: Multiply by: OBL species 145 x 1 = 145 FACW species 70 x 2 = 140
Solid Cover 15 20% of Total Cover 6 30 = Total Cover 50% of Total Cover 15 20% of Total Cover 20 20% of Total Cover 8 40 = Total Cover 20 20% of Total Cover 20 20% of Total Cover 8 40 = Total Cover 20 20% of Total Cover 20 20% o	Sapling or Sapling/Shrub Stratum (Plot size: 30) Diospyros virginiana 1! Salix nigra 1! Ulmus alata 0	5 0	37.5% 37.5%	FAC	OBL species 145 x 1 = 145 FACW species 70 x 2 = 140
Solition of Total Cover 15 20% of Total Cover 6 30 = Total Cover 58pling of Sapling/Shrub Stratum (Plot size: 30)	Sapling or Sapling/Shrub Stratum (Plot size: 30) Diospyros virginiana 1! Salix nigra 1! Ulmus alata 10	5 .5 .0 .0	2 37.5% 2 37.5%	FAC	OBL species 145 x 1 = 145 FACW species 70 x 2 = 140
Disopyros virginiana	Diospyros virginiana 19 Salix nigra 19 Ulmus alata 10	.5 .0 .0	37.5%		
Disopyros virginiana	Diospyros virginiana 19 Salix nigra 19 Ulmus alata 10	.5 .0 .0	37.5%		FO 0 1FO
Salik nigra	Ulmus alata 10	.5 .0 .0	37.5%	OBL	IFAC species 50 x 3 = 150
Ulmus alata	Ulmus alata 10				45 60
Commelia virginica Commel					
			0.0%		or E species
Dicease Comment Comm	ı (t				Column Totals: <u>280</u> (A) <u>495</u> (B)
Hydrophytic Vegetation Indicators:					Prevalence Index = B/A = 1.768
1 - Rapid Test for Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹					Hydrophytic Vegetation Indicators:
5% of Total Cover: 20 20% of Total Cover: 8 40 = Total Cover					
Shrub Stratum (Plot size: 30)	_				1 - Rapid Test for Hydrophytic Vegetation
Diospyros virginiana	50% of Total Cover: 20 20% of Total Cover: 8 40	0 =	Total Cover		✓ 2 - Dominance Test is > 50%
Cephalanthus occidentalis	Shrub Stratum (Plot size: 30)	_	_		✓ 3 - Prevalence Index is ≤3.0 ¹
Carya ovata	Diospyros virginiana 1	.5	✓ 37.5%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
Fraxinus pennsylvanica	Cephalanthus occidentalis 1!	.5	✓ 37.5%	OBL	
Frakinus pennsylvanica	Carya ovata 5	5 [12.5%	FACU	
1	Fraxinus pennsylvanica 5	5 [12.5%	FACW	be present, unless disturbed or problematic.
5% of Total Cover: 20 20% of Total Cover: 8 40 = Total Cover		<u> </u>	0.0%		Definition of Vegetation Strata:
1		0 [0.0%		
Carex crus-corvi	50% of Total Cover: 20 20% of Total Cover: 8 40	0 =	Total Cover		
1. Carex crus-corvi	Herh Stratum (Plot size: 30				(7.5 only of langer in diameter at broadt height (BBH).
2. Coleataenia rigidula 2. Coleataenia rigidula 3. Rhynchospora corniculata 4. Commelina virginica 5. Persicaria hydropiper 6.	•	· -	J 56 70%	OBI	
3. Rhynchospora corniculata 4. Commelina virginica 5. Persicaria hydropiper 6.					
4. Commelina virginica 5. Persicaria hydropiper 10					
5. Persicaria hydropiper 10	4				Sapling/Shrub - Woody plants, excluding vines, less
6.					
7.				ODL	
8.		_ =			
9.	8				approximately 5 to 25 ft (1 to 6 fil) in height.
0.	O				Herb - All herbaceous (non-woody) plants, including
1.	J		\neg		
2.	1				
50% of Total Cover: 75	2				o it (1 iii) iii neight.
Woody Vine Stratum (Plot size: 30)	-				Woody vine - All woody vines regardless of height
. Mikania scandens 15		=	Iotal Cover		Troody time 7 in troody times, regularises of height
Vitis rotundifolia 5 ✓ 25.0% FAC 0 0.0% 0	Woody Vine Stratum (Plot size: 30	_	_		
0 0.0% 0 0.0% Hydrophytic Vegetation Ves No No No No No No No No No N	•			FACW	
		5	∠ 25.0%	FAC	
. O O.0% Hydrophytic Vegetation Voc No No O		<u>o</u> [
Vegetation Vegetation		<u>o</u> [Hadanak da
l ¬ · · · · Voc (●) No ()		<u>o</u> [Vogetation
	50% of Total Cover: 10 20% of Total Cover: 4 20	0 =	Total Cover		
temarks: (If observed, list morphological adaptations below).	Imparisor (If observed list marphological adoptations heles)				1

SOIL Sampling Point: 2-4

Profile Descr	ription: (Des	cribe to	the depth r	needed to d	locument	the indic	ator or co	onfirm the	absence of indicators.)		
Depth		Matrix			Re	dox Featu					
(inches)	Color (moist)	%	Color (moist)	%	Type 1		Texture	Remarks	
0-8	10YR	4/2	80	7.5YR	4/6	10	С	M	Silt Loam		
				10YR	2/1	10	С		Silt Loam	·	
8-18	10YR	6/1	60	7.5YR	5/8	25	С		Silt Loam	,	
				10YR	5/1	15	С	. <u>M</u>	Silt Loam		
						,					
							•			`	
1 Type: C=Cond	centration. D	- -Depletio	n. RM=Redu	ced Matrix, C	S=Covere	ed or Coate	d Sand Gra	ains ² Loca	ntion: PL=Pore Lining. M=N	Natrix	
Hydric Soil I	Indicators:								Indicators for Prob	ematic Hydric Soils ³ :	
Histosol (•			Poly	value Belo	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9) (LRR O)	
Histic Epip	pedon (A2)			Thir	n Dark Sur	face (S9) (LRR S, T, I	J)	2 cm Muck (A10)		
Black Hist	tic (A3)			Loa	my Mucky	Mineral (F	1) (LRR O))		18) (outside MLRA 150A,B)	
Hydrogen	Sulfide (A4)			Loa	my Gleyed	d Matrix (F2	2)			ain Soils (F19) (LRR P, S, T)	
Stratified	Layers (A5)			✓ Dep	oleted Mati	rix (F3)				Loamy Soils (F20) (MLRA 153B)	
Organic B	odies (A6) (L	RR P, T, U	J)	Red	lox Dark S	urface (F6)			Red Parent Mater		
5 cm Muc	ky Mineral (A	7) (LRR P	, T, U)	☐ Dep	oleted Dark	k Surface (F	- 7)		Very Shallow Dar		
Muck Pres	sence (A8) (L	RR U)		Red	lox Depres	sions (F8)			Other (Explain in		
1 cm Muc	k (A9) (LRR F	P, T)		Mar	1 (F10) (LF	RR U)				,	
	Below Dark S	-	11)	☐ Dep	oleted Och	ric (F11) (N	1LRA 151)				
	k Surface (A1			☐ Iron	n-Mangane	ese Masses	(F12) (LRI	R O, P, T)			
Coast Prai	irie Redox (A	16) (MLRA	A 150A)	Uml	bric Surfac	e (F13) (LF	RR P, T, U))			
Sandy Mu	ıck Mineral (S	1) (LRR C), S)	☐ Delt	ta Ochric (F17) (MLR/	A 151)		3		
Sandy Gle	eyed Matrix (S	64)		Red	luced Vert	ic (F18) (M	LRA 150A,	150B)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
Sandy Red				Pied	dmont Floo	odplain Soil	s (F19) (M	LRA 149A)			
Stripped N	Matrix (S6)			Ano	malous Br	ight Loamy	Soils (F20)) (MLRA 14	9A, 153C, 153D)		
☐ Dark Surfa	ace (S7) (LRF	R P, S, T, I	U)								
Restrictive La	ayer (if obse	erved):									
Type:						_			Hydric Soil Present?	Yes No	
Depth (incl	hes):								Trydric 3011 Fresent:		
Remarks:											

Sampling Point Labeled on Map: 2-4



WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

			Sampling Date: 12-Sep-17
n Management		State: Ar	Sampling Point: 2-5
TW,GW,KK	s	ection, Township, Range:	S 18 T 3N R 8W
, etc.): Floodplain	Loc	cal relief (concave, convex,	none): concave Slope: $1.0 \% / 0.6 \degree$
LRR O	Lat.: 34	.892 N Lor	ng.: -91.90858 W Datum: Nad 83
or Silt Loam			NWI classification: Fresh. Emergent
ditions on the site typ	ical for this time of year?	Yes ⊙ No ○	(If no, explain in Remarks.)
		listurbed? Are "Norma	al Circumstances" present?
			, explain any answers in Remarks.)
_ , .	· · · · · · · · · · · · · · · · · · ·	,	
resent? Yes •	No O	Is the Sampled Area	
Yes	No O	_	Yes No
nt? Yes 💿	No O	within a wetland?	
			g, and levees have
<u> </u>			
	chack all that apply)		Secondary Indicators (minimum of 2 required)
main of one required,			Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
		_RR U)	Drainage Patterns (B10)
	Hydrogen Sulfide Odo	r (C1)	Moss Trim Lines (B16)
	✓ Oxidized Rhizospheres	s along Living Roots (C3)	☐ Dry Season Water Table (C2)
	Presence of Reduced ?	Iron (C4)	Crayfish Burrows (C8)
	Recent Iron Reduction	n in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
	Thin Muck Surface (C7	7)	Geomorphic Position (D2)
	Other (Explain in Rem	arks)	Shallow Aquitard (D3)
			✓ FAC-Neutral Test (D5)
39) 			☐ Sphagnum moss (D8) (LRR T, U)
Vos O No 🗨	Double (in the sa).		
	Depth (inches):		
	Depth (inches):	Wetland Hy	drology Present? Yes No
Yes No	Depth (inches):	3	arology resource in the second
(stream gauge monit	oring well, aerial photos, p	nravious inspactions) it av	ailahle
	LRR O or Silt Loam ditions on the site typic soil , or Hydrole resent? Yes Yes ont? Yes ont? Yes ont? Yes and regularly since at lead regularly	LRR O cor Silt Loam ditions on the site typical for this time of year? ditions on the site typical for this time of year? ditions on the site typical for this time of year? ditions on the site typical for this time of year? ditions on the site typical for this time of year? significantly ditions on the site typical for this time of year? significantly ditions on the site map showing sample of the	LRR O Lat.: 34.892 N Lor or Silt Loam ditions on the site typical for this time of year? Yes No not lydrology significantly disturbed? Are "Normation of the site typical for this time of year? No naturally problematic? (If needed in the site map showing sampling point locations, or significantly disturbed? No naturally problematic? (If needed in the site map showing sampling point locations, or significantly disturbed? Is the Sampled Area within a Wetland? Is the Sampled Area within a Wetland? In the sampled A

VEGETATION (Five/Four Strata) - Use scientific names of plants.

, , , , , , , , , , , , , , , , , , , ,		Dominant Species?	Sampling Point: 2-5
	Absolute	Rel.Strat. Indicato	r Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cover Status	Number of Dominant Species
1	0	0.0%	That are OBL, FACW, or FAC: 4 (A)
2	0	0.0%	Total Number of Dominant
3	0	0.0%	Species Across All Strata: 4 (B)
4	0		
5	0	0.0%	Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
6	0		That are OBL, FACW, OF FAC:
7	0	0.0%	Prevalence Index worksheet:
8	0	0.0%	Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	OBL species 105 x 1 = 105
Sapling or Sapling/Shrub Stratum (Plot size: 30)		FACW species $0 \times 2 = 0$
1	0	0.0%	FAC species $0 \times 3 = 0$
2	0	0.0%	FACU species $0 \times 4 = 0$
3.	0	0.0%	UPL species $0 \times 5 = 0$
4.		0.0%	Column Totals: 105 (A) 105 (B)
5.		0.0%	
6.		0.0%	Prevalence Index = B/A = 1.000
7.	0	0.0%	Hydrophytic Vegetation Indicators:
8.	0	0.0%	1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	: Total Cover	
			2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)	20	- 00 00/ OPI	У 3 - Prevalence Index is ≤3.0 ¹
1. Cephalanthus occidentalis		✓ 80.0% OBL	Problematic Hydrophytic Vegetation 1 (Explain)
2. Planera aquatica		✓ 20.0% OBL	1 Indicators of hydric call and watland hydrology much
3		0.0%	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4			Definition of Manager Charles
5			Definition of Vegetation Strata:
6			Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 12.5 20% of Total Cover: 5	=	: Total Cover	(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30)			
1 Scirpus cyperinus	40	✓ 50.0% OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2. Persicaria hydropiper	25	✓ 31.3% OBL	than 3 in. (7.6 cm) DBH.
3. Hibiscus laevis	15	18.8% OBL	
4.	0	0.0%	Sapling/Shrub - Woody plants, excluding vines, less
5.	0	0.0%	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.	0	0.0%	Shrub - Woody plants, excluding woody vines,
7	0	0.0%	approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%	
9.	0	0.0%	Herb - All herbaceous (non-woody) plants, including
10.	0	0.0%	herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11.	0	0.0%	3 ft (1 m) in height.
12.	0	0.0%	·
50% of Total Cover: 40 20% of Total Cover: 16	80 =	: Total Cover	Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30	0	0.00/	
1		0.0%	
2		0.0%	
3		0.0%	
4		0.0%	Hydrophytic
5			Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	Present? Yes Vo V
Remarks: (If observed, list morphological adaptations below).			
*Indicator cuffix = National status or arefersional desires	ogional at-ti-	ant defined by FMC	
*Indicator suffix = National status or professional decision assigned because Re	eyioriai status i	iot defined by FWS.	

SOIL Sampling Point: 2-5

Profile Descr	ription: (Des	scribe to	the depth i	needed to docum	ent the indic	ator or co	nfirm the	absence of indicators.)			
Depth		Matrix			Redox Featu	ires					
(inches)	Color (%	Color (moist)		Type 1	Loc²	Texture	Remarks		
0-3	10YR	5/1	90	7.5YR 4/6	10	C	M	Silt Loam			
3-18	GLEY1	7/10	85	7.5YR 5/6	15	С	М	Silt Loam			
				,					*		
									·		
									·		
									`		
								· ——	`		
									4		
		=Depletio	n. RM=Redu	ced Matrix, CS=Cov	ered or Coate	ed Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=N	1atrix		
Hydric Soil 1				_				Indicators for Prob	ematic Hydric Soils ³ :		
Histosol ((A1)			Polyvalue I	Below Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9) (LRR O)		
Histic Epi	pedon (A2)			Thin Dark	Surface (S9) (LRR S, T, I	J)	2 cm Muck (A10)			
Black Hist	tic (A3)			Loamy Mu	cky Mineral (F	1) (LRR O)			18) (outside MLRA 150A,B)		
Hydrogen	Sulfide (A4)			✓ Loamy Gle	yed Matrix (F2	2)			ain Soils (F19) (LRR P, S, T)		
Stratified	Layers (A5)			✓ Depleted N					: Loamy Soils (F20) (MLRA 153B)		
Organic B	Bodies (A6) (L	RR P, T, L	J)	Redox Dar	k Surface (F6))		Red Parent Mater			
5 cm Muc	cky Mineral (A	7) (LRR P	, T, U)	Depleted D	ark Surface (F7)		Very Shallow Dar	` '		
Muck Pres	sence (A8) (L	RR U)			ressions (F8)	,		Other (Explain in			
1 cm Muc	ck (A9) (LRR F	P, T)		☐ Marl (F10)					Remarks)		
	Below Dark S		11)		(=: :: 0))chric (F11) (N	MI RA 151)					
	rk Surface (A1	-	,		anese Masses		2 O P T)				
	irie Redox (A		(150A)		face (F13) (L						
	uck Mineral (S				ic (F17) (MLR						
	eyed Matrix (S		, 5)			-	1EOD)	³ Indicators	of hydrophytic vegetation and		
Sandy Re		<i>,</i> ,			ertic (F18) (M		•	wetland hydrology must be present, unless disturbed or problematic.			
	Matrix (S6)				loodplain Soil				disturbed or problematic.		
		. D. C. T. I	1)	☐ Anomalous	Bright Loamy	Soils (F20)) (MLRA 14	9A, 153C, 153D)			
□ Dark Suri	face (S7) (LRF	(P, S, 1, t	J)								
Restrictive L	ayer (if obs	erved):									
Type:		•									
Depth (inc	hes).							Hydric Soil Present?	Yes 💿 No 🔾		
					_						
Remarks:											

Sampling Point Labeled on Map: 2-5



DATA FORM ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

- 1. **Type of alteration:** The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural management techniques (e.g. tilling, disking, mowing, herbicide, leveling, leveling) and anthropogenic force flooding for rice production. The site is currently fallow and rice field levees remain intact, ponding water.
- 2. **Effect on the Vegetation:** Ponded water has resulted in a very wet hydroperiod with aquatic species and OBL hydrophytes occurring throughout the fallow crop fields.
- 3. **Previous Vegetation:** Prior to 2011, soybeans, sweet potatoes, rice, corn, and other commodity crops. Prior to 1960's, the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate that bottomland hardwood forested wetlands were present at that time.
- 4. Hydrophytic Vegetation? Yes

B. SOILS:

- 1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil has been routinely disturbed on site due to tilling, disking, etc. leveling and leveling, as part of an agricultural management regime. Micro and macro topographic features have been largely eliminated due to leveling.
- 2. **Effect on the Soil:** Microtopography has been mostly eliminated with exception to rice field levees. Presence of rice field levees ponds water excessively.
- 3. **Previous Soils:** Prior to clearing, the soils likely exhibited wetland characteristics and a hydroperiod more similar to that as the intact forested community abutting the Bank.

4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Levees were constructed to allow for control of the hydrologic connectivity between Wattensaw Bayou and the Bank. Force flooding and subsequent drawdowns for the promotion of commodity crops and fallow periods constitute normal *conditions* for agricultural/cropland.
- 2. **Effect on the Hydrology:** Rice field levees have altered the natural hydrologic regime for the Bank.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County:	Lonoke/Lonoke	Sampling Da	ate: 13-Sep-17
Applicant/Owner: Mitigation Management		State: Ar	Sampling Point: 2-6	
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Tow	nship, Range: S 18	3N T 3N	R 8W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (co	ncave, convex, none	e): concave Slope:	1.0 % / 0.6°
Subregion (LRR or MLRA): LRR O	Lat.: 34.892 N	Long.:	-91.9081 W	Datum: Nad 83
Soil Map Unit Name: Kobel silt loam	_		NWI classification: NO	
Are climatic/hydrologic conditions on the site typical for this	time of year? Yes	s • No O (If	no, explain in Remarks.)	
	significantly disturbed?	•		Yes ● No ○
	naturally problematic?		ain any answers in Remark	
SUMMARY OF FINDINGS - Attach site map sho	owing sampling poin		•	•
Hydrophytic Vegetation Present? Yes ● No ○	Takka	Commission Association		
Hydric Soil Present? Yes No		Sampled Area	s • No O	
Wetland Hydrology Present? Yes No No	withir	a Wetland?	, © 110 ©	
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:		Se	condary Indicators (minimum	of 2 required)
Primary Indicators (minimum of one required; check all the			Surface Soil Cracks (B6)	C., f (DO)
	tic Fauna (B13) Deposits (B15) (LRR U)		Sparsely Vegetated Concave	Surface (B8)
	ogen Sulfide Odor (C1)		Drainage Patterns (B10)	
	zed Rhizospheres along Living	Poots (C3)	Moss Trim Lines (B16)	\
		ROOLS (C3)	Dry Season Water Table (C2))
	nce of Reduced Iron (C4)	_ (CC)	Crayfish Burrows (C8)	(60)
	nt Iron Reduction in Tilled Soil	S (Cb)	Saturation Visible on Aerial Ir	magery (C9)
	Muck Surface (C7)		Geomorphic Position (D2)	
	(Explain in Remarks)		Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		<u> </u>	FAC-Neutral Test (D5)	
✓ Water-Stained Leaves (B9)			Sphagnum moss (D8) (LRR T	r, U)
Field Observations: Surface Water Present? Yes No Dep				
Surface Trace Treserve	oth (inches):			
Water Table Present? Yes ○ No ⊙ Dep	th (inches):		- v (a)	
Saturation Present? (includes capillary fringe) Yes No • Dep	oth (inches):	Wetland Hydrolo	gy Present? Yes	NO C
Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous ins	pections), if available	e:	
Remarks:				

VEGETATION (Five/Four Strata) - Use scientific names of plants.

		Dominant Species?		Sampling Point: 2-6		
	Absolute	Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:		
ree Stratum (Plot size: 30	% Cover	Cover	Status	Number of Dominant Species		
Quercus phellos	30[✓ 75.0%	FACW	That are OBL, FACW, or FAC: 7 (A)		
Planera aquatica	10	✓ 25.0%	OBL	Total Number of Descinant		
	0	0.0%		Total Number of Dominant Species Across All Strata: 8 (B)		
	0	0.0%				
		0.0%		Percent of dominant Species		
	0	0.0%		That Are OBL, FACW, or FAC: 87.5% (A/B)		
	0	0.0%		Prevalence Index worksheet:		
	0	0.0%		Total % Cover of: Multiply by:		
0% of Total Cover: 20 20% of Total Cover: 8	40 =	Total Cover		OBL species 10 x 1 = 10		
apling or Sapling/Shrub Stratum (Plot size: 30)			FACW species 185 x 2 = 370		
	_ ′ ₀	0.0%		FAC species $15 \times 3 = 45$		
		0.0%		FACU species $5 \times 4 = 20$		
		0.0%				
		0.0%		UPL species $0 \times 5 = 0$		
				Column Totals: <u>215</u> (A) <u>445</u> (B)		
		0.0%		Prevalence Index = $B/A = 2.070$		
				Hydrophytic Vegetation Indicators:		
				nydrophytic vegetation indicators:		
				1 - Rapid Test for Hydrophytic Vegetation		
0% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		✓ 2 - Dominance Test is > 50%		
nrub Stratum (Plot size: _30)				✓ 3 - Prevalence Index is ≤3.0 ¹		
Ilex decidua	20	✓ 57.1%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
Diospyros virginiana	15	✓ 42.9%	FAC			
		0.0%		¹ Indicators of hydric soil and wetland hydrology must		
		0.0%		be present, unless disturbed or problematic.		
	- —			Definition of Vegetation Strata:		
	0	0.0%		_		
200 (5-112				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.		
0% of Total Cover: 17.5 20% of Total Cover: 7	=	: Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).		
erb Stratum (Plot size: 30						
_ Carex cherokeensis	90	✓ 69.2%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less		
. Coleataenia rigidula	40	✓ 30.8%	FACW	than 3 in. (7.6 cm) DBH.		
	0	0.0%				
	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less		
	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
	0	0.0%		Chrub Waadu planta avaluding waadu vinaa		
		0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
	0	0.0%				
		0.0%		Herb - All herbaceous (non-woody) plants, including		
		0.0%		herbaceous vines, regardless of size, and woody		
		0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.		
·		\neg				
	0			Woody vine - All woody vines, regardless of height.		
0% of Total Cover: 65 20% of Total Cover: 26	130=	: Total Cover		Twody vine 7 iii woody vines, regardless of fielgrit.		
oody Vine Stratum (Plot size: 30						
Brunnichia ovata	5	✓ 50.0%	FACW			
Symphoricarpos orbiculatus	5	✓ 50.0%	FACU			
	0	0.0%				
		0.0%				
	0	0.0%		Hydrophytic		
	- — '			Vegetation Present? Yes No		
	10 =	: Total Cover		Present? 100 0		

SOIL Sampling Point: 2-6

Profile Descr	ription: (Describe to	the depth n	eeded to	locument	the indic	ator or co	onfirm the	absence of indicators.)			
Depth	Matrix			Red	dox Featu	res					
(inches)	Color (moist)		Color (%	Type 1		Texture	Remarks		
0-18	10YR 5/1	70	10YR	4/6	10	C	M	Silt Loam	<u>, </u>		
			7.5YR	5/8	10	С	М	Silt Loam			
			10YR	2/1	10	С	М	Silt Loam			
									`		
									· .		
									•		
1			1.54			10 10					
		n. RM=Reduc	ed Matrix, (LS=Covere	d or Coate	d Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=N			
Hydric Soil I Histosol (A						(00) (100			ematic Hydric Soils ³ :		
_ `	•			-	w Surface			1 cm Muck (A9) (
	pedon (A2)				face (S9) (2 cm Muck (A10)			
Black Hist					Mineral (F)		f18) (outside MLRA 150A,B)		
	Sulfide (A4)				Matrix (F2	.)			ain Soils (F19) (LRR P, S, T)		
	Layers (A5) Sodies (A6) (LRR P, T, L	I)		oleted Matr	. ,				Loamy Soils (F20) (MLRA 153B)		
	ky Mineral (A7) (LRR P	-			urface (F6)			Red Parent Mater	` '		
	sence (A8) (LRR U)	, 1, 0)			Surface (F	-/)		☐ Very Shallow Dar			
	k (A9) (LRR P, T)			dox Depres				Other (Explain in	Remarks)		
	Below Dark Surface (A:	11\		rl (F10) (LF		M DA 1E1\					
	k Surface (A12)	11)			ric (F11) (N						
	irie Redox (A16) (MLRA	\ 150A\		_	se Masses						
	ick Mineral (S1) (LRR O				e (F13) (LF)				
_	eyed Matrix (S4)	,, 3)		-	F17) (MLR/	-	1 EOD)	³ Indicators	of hydrophytic vegetation and		
Sandy Re			_		ic (F18) (M		LRA 149A)		wetland hydrology must be present, unless disturbed or problematic.		
	Matrix (S6)								disturbed or problematic.		
	ace (S7) (LRR P, S, T, I	U)	L AIR	JIIIalous Di	IGHT LOGHLY	SOIIS (FZC)) (MLKA 14	9A, 153C, 153D)			
	acc (6/) (2/1/1/1/	- ,									
	ayer (if observed):										
Type:					_			Hydric Soil Present?	Yes No		
Depth (incl	hes):							Tryunc Son Fresent:			
Remarks:											

Sampling Point Labeled on Map: 2-6







WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	— City/County.	LUTIONE/LUTIONE	Sampling Da	ate: 12-Sep-17		
Applicant/Owner: Mitigation Management	:	State: Ar	Sampling Point: 3-1			
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Tow	Section, Township, Range: S 13 T 3N R 9W				
Landform (hillslope, terrace, etc.): Floodplain	Local relief (co	ncave, convex, no	one): concave Slope:	1.0 % / 0.6 °		
Subregion (LRR or MLRA): LRR O	Lat.: 34.8899 N	Long.	.: -91.91545 W	Datum: Nad 83		
Soil Map Unit Name: Calhoun silt loam			NWI classification: NO	ne		
Are climatic/hydrologic conditions on the site typical for this tir	ne of year? Yes	No ○	(If no, explain in Remarks.)			
	gnificantly disturbed?	Are "Normal (Circumstances" present?	Yes No		
	turally problematic?		xplain any answers in Remark	·- \		
, , , , ,	• •	,	. ,	•		
SUMMARY OF FINDINGS - Attach site map show	ing sampling point	t locations, tra	ansects, important feat	ures, etc.		
Hydrophytic Vegetation Present? Yes No No	Is the	Sampled Area				
Hydric Soil Present? Yes No No	within	a Wetland?	Yes No			
Wetland Hydrology Present? Yes ● No ○	Wichin	a Wedand:				
Remarks:						
This tract has been farmed regularly since at least before 19		ge, field planing,	and levees have			
altered site conditions from that of historic condition prior to	conversion.					
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators (minimum o	of 2 required)		
Primary Indicators (minimum of one required; check all that	apply)		Surface Soil Cracks (B6)			
Surface Water (A1)	Fauna (B13)		Sparsely Vegetated Concave Surface (B8)			
	oosits (B15) (LRR U)		Drainage Patterns (B10)			
	Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3)					
	e of Reduced Iron (C4)		Crayfish Burrows (C8)			
	ron Reduction in Tilled Soils	s (C6)	Saturation Visible on Aerial Ir	magery (C9)		
	ck Surface (C7)		Geomorphic Position (D2)			
☐ Iron Deposits (B5) ☐ Other (E☐ Inundation Visible on Aerial Imagery (B7)	xplain in Remarks)		Shallow Aquitard (D3)			
			FAC-Neutral Test (D5)	F 11)		
		1	Sphagnum moss (D8) (LRR T	, 0)		
Field Observations: Surface Water Present? Yes No Depth	(inches):					
0 0						
1	(inches):	Wetland Hydr	ology Present? Yes •	No O		
Saturation Present? Yes No Depth	(inches):	Wedana nyan	blogy i resent:			
Describe Recorded Data (stream gauge, monitoring well, aer	rial photos, previous ins	pections), if avail	able:			
Remarks:						

VEGETATION (Five/Four Strata) - Use scientific names of plants.

, ,		Dominant Species?	Sampling Point: 3-1		
	Absolute	Species? Rel.Strat. Indicat	tor Dominance Test worksheet:		
Tree Stratum (Plot size: 30)	% Cover	Cover Statu	Number of Dominant Species		
1	0	0.0%	That are OBL, FACW, or FAC:		
2	0 [0.0%	Total Number of Descinent		
3	0	0.0%	Total Number of Dominant Species Across All Strata: 3 (B)		
4	0	0.0%			
5	0	0.0%	Percent of dominant Species That Are OBL FACW or FAC: 66.7% (A/B)		
6	0	0.0%	That Are OBL, FACW, or FAC: 66.7% (A/B)		
7	0	0.0%	Prevalence Index worksheet:		
8	0	0.0%	Total % Cover of: Multiply by:		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	OBL species 0 x 1 = 0		
Sapling or Sapling/Shrub Stratum (Plot size: 30)		FACW species 60 x 2 = 120		
 1	0	0.0%	FAC species $15 \times 3 = 45$		
2.	0	0.0%	FACU species $55 \times 4 = 220$		
3.		0.0%	UPL species $0 \times 5 = 0$		
4.		0.0%	Column Totals: 130 (A) 385 (B)		
5.		0.0%			
6.		0.0%	Prevalence Index = B/A = 2.962		
7.	0	0.0%	Hydrophytic Vegetation Indicators:		
8.	0	0.0%	1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	: Total Cover	2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30	0	0.0%	3 - Prevalence Index is ≤3.0 ¹		
1 2		0.0%	Problematic Hydrophytic Vegetation ¹ (Explain)		
<u> </u>			Indicators of hydric soil and wetland hydrology must		
3		0.0%	be present, unless disturbed or problematic.		
4	- —	0.0%	Definition of Vegetation Strata:		
5	0	0.0%	_		
6.			Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	: Total Cover	(7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: 30)			Carling Manch plants and other was designed		
1_ Andropogon glomeratus	40	✓ 33.3% FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less		
2. Cynodon dactylon	40	✓ 33.3% FACU	than 3 in. (7.6 cm) DBH.		
3. Solidago gigantea	20	16.7% FACW			
4. Eragrostis spectabilis	10	8.3% FACU	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.		
5. Bidens bipinnata	5	4.2%FAC	than 3 iii. DBH and greater than 3.26 it (1111) tall.		
6. Kummerowia striata	5	4.2% FACU	Shrub - Woody plants, excluding woody vines,		
7			approximately 3 to 20 ft (1 to 6 m) in height.		
8	0				
9	0		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody		
10	0	0.0%	plants, except woody vines, less than approximately		
11	0	0.0%	3 ft (1 m) in height.		
12	0	0.0%			
50% of Total Cover: 60 20% of Total Cover: 24	120 =	: Total Cover	Woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: 30)					
1 Rubus argutus	10	✓ 100.0% FAC			
2.	0	0.0%	_		
3.	0	0.0%	_		
4.		0.0%	_		
5.	0	0.0%	Hydrophytic		
50% of Total Cover: 5 20% of Total Cover: 2	10 =	: Total Cover	Vegetation Present? Yes No		
Remarks: (If observed, list morphological adaptations below).					
*Indicator suffix = National status or professional decision assigned because Re	egional status r	not defined by FWS.			

SOIL Sampling Point: 3-1

Profile Desc	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth		Matrix			Redox Feat	ures		_	
(inches)	Color (moist)	%	Color (mois		Type 1	Loc2	Texture	Remarks
0-6	10YR	5/2	90	10YR 5	5/8 10	С	М	Silt Loam	
6-18	10YR	6/2	80	10YR 5	5/8 20	С	М	Silt Loam	
		•			· ·				`
									· ·
						_			
		•				_			
									`
1 Type: C=Con		=Denletio	n RM=Redi	rced Matrix CS=C	overed or Coate	ed Sand Gr	ains 2l oca	ation: PL=Pore Lining. M=	Matrix
Hydric Soil		-Беріскіо	iii. Ki i—Kede	acca Matrix, C5-C	Overed or code	ca Sana Gr	umb Loce		
Histosol (Pohazalu	e Below Surface	. (CQ) (I DD	C T II)		plematic Hydric Soils ³ :
	ipedon (A2)				k Surface (S9)			1 cm Muck (A9)	
Black His							•	2 cm Muck (A10	
	n Sulfide (A4)				lucky Mineral (I		1		F18) (outside MLRA 150A,B)
	Layers (A5)			✓ Depleted	Gleyed Matrix (F	_)			olain Soils (F19) (LRR P, S, T)
	Bodies (A6) (L	RRPTI	LD.		ark Surface (F6	`			nt Loamy Soils (F20) (MLRA 153B)
	cky Mineral (A				drk Surface (Fo I Dark Surface (•		Red Parent Mate	
	esence (A8) (L		, 1, 0)		epressions (F8)				rk Surface (TF12)
	ck (A9) (LRR				epressions (ro) 0) (LRR U)	1		Other (Explain in	Remarks)
	Below Dark S		11)	_		MI DA 151\			
	rk Surface (A		11)		l Ochric (F11) (
	airie Redox (A	-	Δ 150Δ)		nganese Masses				
	uck Mineral (S		-		Surface (F13) (L)		
	eyed Matrix (, 5)		hric (F17) (MLF	-	1 EOD)	³ Indicators	of hydrophytic vegetation and
Sandy Re		51)			Vertic (F18) (N				hydrology must be present,
□ Sandy Redox (S5) □ Piedmont Floodplain Soils (F19) (MLRA 1494 □ Stripped Matrix (S6) □ Anomalous Bright Loamy Soils (F20) (MLRA				-		s disturbed or problematic.			
	face (S7) (LRI	RPST	U)	□ Anomaio	ous Bright Loam	y Solis (F20	J) (MLKA 14	19A, 153C, 153D)	
Durk Surf	1000 (57) (EI (I	(1,5,1,	0)						
Restrictive L	ayer (if obs	erved):							
Type:								Hydric Soil Present?	Yes ● No ○
Depth (inc	ches):							Tryulic 3011 Fresent:	
Remarks:									

Sampling Point Labeled on Map: 3-1



DATA FORM ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

- 1. **Type of alteration:** The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural management techniques (e.g. tilling, disking, mowing, herbicide, leveling). The site is currently fallow.
- 2. **Effect on the Vegetation:** Regular tilling, disking, mowing, herbicide, and leveling have prevented natural succession.
- 3. **Previous Vegetation:** Prior to 2011, wheat, soybeans, sweet potatoes, rice, corn, and other commodity crops. Prior to 1960's, the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate that bottomland hardwood forested wetlands were present at that time.
- 4. Hydrophytic Vegetation? Yes

B. SOILS:

- 1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil has been routinely disturbed on site due to tilling, disking, etc. leveling, and leveling as part of an agricultural management regime. Micro and macro topographic features have been largely eliminated due to leveling.
- 2. **Effect on the Soil:** Microtopography has been mostly eliminated with exception to remnant rice levees on margins.
- 3. **Previous Soils:** Prior to clearing, the soils likely exhibited wetland characteristics and a hydroperiod more similar to that as the intact forested community abutting the Bank.
- 4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Rice levees were constructed to allow for control of the hydrologic connectivity between Wattensaw Bayou/Locust Creek and the Bank.
- 2. **Effect on the Hydrology:** Rice levees have altered the natural hydrologic regime for the area.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	Sampling Date: 12-Sep-1/				
Applicant/Owner: Mitigation Management	State: Ar Sampling Point: 3-2				
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Township, Range: S 13 T 3N R 9W				
andform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): $\underline{\text{concave}}$ Slope: 1.0 % / 0.6 $^{\circ}$				
Subregion (LRR or MLRA): LRR O Lat.:	34.89 N Long.: -91.91399 W Datum: Nad 83				
Soil Map Unit Name: Tichnor Silt Loam	NWI classification: none				
Are climatic/hydrologic conditions on the site typical for this time of yea	ar? Yes • No (If no, explain in Remarks.)				
Are Vegetation ✓ , Soil ✓ , or Hydrology ✓ significant	ly disturbed? Are "Normal Circumstances" present? Yes No O				
Are Vegetation , Soil , or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)				
	()				
	mpling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes No No	Is the Sampled Area				
Hydric Soil Present? Yes No No	within a Wetland? Yes No				
Wetland Hydrology Present? Yes No					
Remarks: This tract has been farmed regularly since at least before 1960's. The altered site conditions from that of historic condition prior to convers					
HYDROLOGY					
Sediment Deposits (B2)	Drainage Patterns (B10) Odor (C1)				
Remarks:					

VEGETATION (Five/Four Strata) - Use scientific names of plants.

,		Dominant Species?	Sampling Point: 3-2
	Absolute	Species? Rel.Strat. Indicato	r Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cover Status	Number of Dominant Species
1	0	0.0%	That are OBL, FACW, or FAC:3(A)
2	0	0.0%	Tatal Number of Densirent
3	0	0.0%	Total Number of Dominant Species Across All Strata: 3 (B)
4	0	0.0%	
5	0	0.0%	Percent of dominant Species That Are OBL FACW or FAC: 100.0% (A/B)
6	0	0.0%	That Are OBL, FACW, or FAC:
7	0	0.0%	Prevalence Index worksheet:
8	0	0.0%	Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	OBL species 155 x 1 = 155
Sapling or Sapling/Shrub Stratum (Plot size: 30)		FACW species $0 \times 2 = 0$
1	0	0.0%	FAC species $0 \times 3 = 0$
2.	0	0.0%	FACU species $0 \times 4 = 0$
3.		0.0%	UPL species $0 \times 5 = 0$
4.		0.0%	Column Totals:155 (A)155 (B)
5.		0.0%	255 (15)
6.		0.0%	Prevalence Index = B/A = 1.000
7.	0	0.0%	Hydrophytic Vegetation Indicators:
8.	0	0.0%	A Book Took for Hadron book Woods Nove to
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	1 - Rapid Test for Hydrophytic Vegetation
		- Total Cover	2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30		-	3 - Prevalence Index is ≤3.0 ¹
1 Cephalanthus occidentalis		✓ 70.0% OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Salix nigra		✓ 30.0% OBL	17.4
3			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4			
5	0		Definition of Vegetation Strata:
6			Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 25 20% of Total Cover: 10	50=	Total Cover	(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30)			
1 Persicaria hydropiperoides	85	✓ 81.0% OBL	Sapling - Woody plants, excluding woody vines,
2. Juncus effusus	10	9.5% OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. Scirpus cyperinus	10	9.5% OBL	
4.	0	0.0%	Sapling/Shrub - Woody plants, excluding vines, less
5.		0.0%	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.	0	0.0%	Chrub Weedy plants evaluding weedy vince
7		0.0%	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8.	0	0.0%	
9.	^	0.0%	Herb - All herbaceous (non-woody) plants, including
10		0.0%	herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11	0	0.0%	3 ft (1 m) in height.
12.		0.0%	
50% of Total Cover: 52.5 20% of Total Cover: 21	105 =	Total Cover	Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30)	•	□ a an/	
1	0	0.0%	
2		0.0%	
3		0.0%	
4		0.0%	Hydrophytic
5			Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	Present? Yes No V
Remarks: (If observed, list morphological adaptations below).			•
,			
we like the second of the seco			
*Indicator suffix = National status or professional decision assigned because	kegional status i	not defined by FWS.	

SOIL Sampling Point: 3-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth								
(inches)	Color (moist)	%	Color (moist)	%	Type 1	Loc2	Texture	Remarks
0-18	10YR 6/2	90	7.5YR 5/8	10	C	М	Silt Loam	<u> </u>
				1				·
	$\overline{}$							•
	$\overline{}$							· ·
								<u> </u>
								· ·
	$\overline{}$			-				•
1 T C . C		DM Ded	- I Matrix CC Carre		1616-		None Di Deserbision M	Malain
	centration. D=Depletio	n. RM=Redu	ced Matrix, CS=Cover	ed or Coated	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. M:	
Hydric Soil I							Indicators for Pro	blematic Hydric Soils ³ :
Histosol (•		☐ Polyvalue Bel				1 cm Muck (A9)) (LRR O)
	pedon (A2)		Thin Dark Su				2 cm Muck (A1	0) (LRR S)
Black Hist			Loamy Mucky				Reduced Vertic	(F18) (outside MLRA 150A,B)
	Sulfide (A4)		Loamy Gleye)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
	Layers (A5)		✓ Depleted Mat				Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
	Bodies (A6) (LRR P, T, L	•	Redox Dark S	Surface (F6)			Red Parent Mat	erial (TF2)
	cky Mineral (A7) (LRR P	r, T, U)	Depleted Dar	k Surface (F	7)		Very Shallow Da	ark Surface (TF12)
	sence (A8) (LRR U)		Redox Depre	ssions (F8)			Other (Explain i	n Remarks)
	ck (A9) (LRR P, T)		Marl (F10) (L	RR U)				
	Below Dark Surface (A	11)	Depleted Och	ric (F11) (M	ILRA 151)			
Thick Dar	k Surface (A12)		☐ Iron-Mangan	ese Masses	(F12) (LRF	R O, P, T)		
Coast Pra	iirie Redox (A16) (MLRA	A 150A)	Umbric Surfa	ce (F13) (LR	RR P, T, U)			
Sandy Mu	uck Mineral (S1) (LRR O), S)	Delta Ochric	(F17) (MLRA	A 151)		3,	
Sandy Gle	eyed Matrix (S4)		Reduced Vert	ic (F18) (MI	LRA 150A,	150B)	Indicator wetland	rs of hydrophytic vegetation and d hydrology must be present,
Sandy Re	dox (S5)		Piedmont Flo	odplain Soils	s (F19) (M	LRA 149A)		ss disturbed or problematic.
Stripped I	Matrix (S6)		Anomalous B	right Loamy	Soils (F20) (MLRA 14	9A, 153C, 153D)	
Dark Surf	face (S7) (LRR P, S, T, I	U)						
Restrictive L	ayer (if observed):							
Type:	, (0.00							
Depth (inc	hes):			_			Hydric Soil Present	? Yes 💿 No 🔾
Remarks:								
Remarks.								

Sampling Point Labeled on Map: 3-2





DATA FORM ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

- 1. **Type of alteration:** The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural management techniques (e.g. tilling, disking, mowing, herbicide, leveling, leveling) and anthropogenic force flooding for rice production. The site is currently fallow and rice field levees remain intact, ponding water.
- 2. **Effect on the Vegetation:** Ponded water has resulted in a very wet hydroperiod with aquatic species and OBL hydrophytes occurring throughout the fallow crop fields.
- 3. **Previous Vegetation:** Prior to 2011, soybeans, sweet potatoes, rice, corn, and other commodity crops. Prior to 1960's, the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate that bottomland hardwood forested wetlands were present at that time.
- 4. Hydrophytic Vegetation? Yes

B. SOILS:

- 1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil has been routinely disturbed on site due to tilling, disking, etc. leveling and leveling, as part of an agricultural management regime. Micro and macro topographic features have been largely eliminated due to leveling.
- 2. **Effect on the Soil:** Microtopography has been mostly eliminated with exception to rice field levees. Presence of rice field levees ponds water excessively.
- 3. **Previous Soils:** Prior to clearing, the soils likely exhibited wetland characteristics and a hydroperiod more similar to that as the intact forested community abutting the Bank.

4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Levees were constructed to allow for control of the hydrologic connectivity between Wattensaw Bayou and the Bank. Force flooding and subsequent drawdowns for the promotion of commodity crops and fallow periods constitute normal *conditions* for agricultural/cropland.
- 2. **Effect on the Hydrology:** Rice field levees have altered the natural hydrologic regime for the Bank.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County:	onoke/Lonoke	Sampling Da	ate: 12-Sep-17		
Applicant/Owner: Mitigation Management	St	tate: Ar	Sampling Point: 3-3			
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Towns	ship, Range: S 18	T 3N	R 8W		
Landform (hillslope, terrace, etc.): Floodplain	Local relief (con-	cave, convex, none)	: concave Slope:	1.0 % / 0.6°		
Subregion (LRR or MLRA): LRR O	Lat.: 34,8899 N	Long.:	-91.90924 W	Datum: Nad 83		
Soil Map Unit Name: _Tichnor Silt Loam			NWI classification:			
Are climatic/hydrologic conditions on the site typical for this ti	me of year? Yes	● No ○ (If I	no, explain in Remarks.)			
	gnificantly disturbed?	-	, ,	Yes No		
	aturally problematic?		nin any answers in Remark			
SUMMARY OF FINDINGS - Attach site map show	ving sampling point	locations, trans	sects, important feat	tures, etc.		
Hydrophytic Vegetation Present? Yes No	Is the S	ampled Area				
Hydric Soil Present? Yes ● No ○		Voc	● No ○			
Wetland Hydrology Present? Yes ● No ○	within a	Wetland?				
Remarks: HYDROLOGY						
Wetland Hydrology Indicators:			and a Tadiankan (asiaina	- 6.2		
Primary Indicators (minimum of one required; check all tha	it apply)	Sec	condary Indicators (minimum Surface Soil Cracks (B6)	or 2 requirea)		
	Fauna (B13)	<u> </u>	Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2) Marl De		Drainage Patterns (B10)				
Saturation (A3)		Moss Trim Lines (B16)				
✓ Water Marks (B1) ✓ Oxidized	oots (C3)	Dry Season Water Table (C2)				
	e of Reduced Iron (C4)		Crayfish Burrows (C8)			
	Iron Reduction in Tilled Soils ((C6)	Saturation Visible on Aerial Imagery (C9)			
	ıck Surface (C7)		Geomorphic Position (D2)			
	Explain in Remarks)		Shallow Aquitard (D3)			
☐ Inundation Visible on Aerial Imagery (B7) ✓ Water-Stained Leaves (B9)		✓	FAC-Neutral Test (D5)	- 10		
_		<u> </u>	Sphagnum moss (D8) (LRR 1	, U)		
Field Observations: Surface Water Present? Yes No Depth	(inches):					
California Tracella	(Iliciles).					
l	(inches):	Wetland Hydrolog	y Present? Yes •	No O		
Saturation Present? (includes capillary fringe) Yes No Depth	(inches):	li celana riyarolog	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Describe Recorded Data (stream gauge, monitoring well, ae Remarks:	rial photos, previous inspe	ections), if available	:			

• • •		ninant	Sampling Point: 3-3
	Absolute Rel	ecies? .Strat. Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover C	over Status	Number of Dominant Species
1 Salix nigra	25	50.0% OBL	That are OBL, FACW, or FAC: 9 (A)
2. Quercus phellos	15	30.0% FACW	Total Number of Descipant
3. Liquidambar styraciflua	10	20.0% FAC	Total Number of Dominant Species Across All Strata: 10 (B)
4		0.0%	
5		0.0%	Percent of dominant Species That Are OBL FACW or FAC: 90.0% (A/B)
6		0.0%	That Are OBL, FACW, or FAC: 90.0% (A/B)
7		0.0%	Prevalence Index worksheet:
8		0.0%	Total % Cover of: Multiply by:
50% of Total Cover: 25 20% of Total Cover: 10	50 = Tot	al Cover	OBL species <u>220</u> x 1 = <u>220</u>
Sapling or Sapling/Shrub Stratum (Plot size: 30)		FACW species $45 \times 2 = 90$
1 Diospyros virginiana	5 💌 _	50.0% FAC	FAC species $15 \times 3 = 45$
Planera aquatica	5 🔽 _	50.0% OBL	FACU species $\underline{5}$ x 4 = $\underline{20}$
3	0	0.0%	UPL species $0 \times 5 = 0$
4	0	0.0%	Column Totals: 285 (A) 375 (B)
5		0.0%	
3		0.0%	Prevalence Index = B/A = 1.316
7	0	0.0%	Hydrophytic Vegetation Indicators:
3		0.0%	1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 5 20% of Total Cover: 2	10 = Tot	al Cover	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)			✓ 3 - Prevalence Index is ≤3.0 ¹
1 Cephalanthus occidentalis	60	63.2% OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
) Dianora aquatica	20	21.1% OBL	- Problematic Hydrophytic Vegetation (Explain)
) Lucario limustrino		15.8% FACW	¹ Indicators of hydric soil and wetland hydrology must
3tyonia iigustrina 4		0.0%	be present, unless disturbed or problematic.
5.		0.0%	Definition of Vegetation Strata:
6.		0.0%	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 47.5 20% of Total Cover: 19		al Cover	approximately 20 ft (6 m) or more in height and 3 in.
			(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30			Sapling - Woody plants, excluding woody vines,
1. Juncus effusus		66.7% OBL	approximately 20 ft (6 m) or more in height and less
2. Carex crus-corvi		12.5% OBL	than 3 in. (7.6 cm) DBH.
3. Rhynchospora corniculata		8.3% OBL	Capling/Chruh Woody plants evaluding vines loss
4. Commelina virginica	5	4.2% FACW	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5. Coleataenia rigidula	5	4.2% FACW	
6. Persicaria hydropiper	5	4.2% OBL	Shrub - Woody plants, excluding woody vines,
7		0.0%	approximately 3 to 20 ft (1 to 6 m) in height.
8		0.0%	Herb - All herbaceous (non-woody) plants, including
9		0.0%	herbaceous vines, regardless of size, and woody
10		0.0%	plants, except woody vines, less than approximately
11		0.0%	3 ft (1 m) in height.
12		0.0%	Woody vine - All woody vines, regardless of height.
50% of Total Cover: 60 20% of Total Cover: 24	120 = Tot	al Cover	Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30			
1 Brunnichia ovata	_ 5 🗸 _	50.0% FACW	
Ipomoea hederacea	_ 5 🗸 _	50.0% FACU	
3	0 🗆	0.0%	
1		0.0%	
5	0	0.0%	Hydrophytic Vegetation
50% of Total Cover: 5 20% of Total Cover: 2	10 = Tot	al Cover	Present? Yes No
Demander (76 absenced list assemble in the control of the control			<u> </u>
Remarks: (If observed, list morphological adaptations below).			
*Indicator suffix = National status or professional decision assigned because R	egional status not de	fined by FWS.	

SOIL Sampling Point: 3-3

Profile Descr	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	onfirm the	absence of indicators.)	
Depth								
(inches)	Color (moist)	<u> </u>	Color (moist)	%	Type 1	Loc2	Texture	Remarks
0-18	10YR 6/2	80	7.5YR 5/8	20	C	_M	Silt Loam	
			<u> </u>	1				`
	$\overline{}$							·
								· ·
								`
			<u></u>		-			· ·
						. —		
		n. RM=Reduc	ed Matrix, CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	Matrix
Hydric Soil I							Indicators for Prob	olematic Hydric Soils ³ :
Histosol (Polyvalue Belo				1 cm Muck (A9)	(LRR O)
	pedon (A2)		Thin Dark Sur	face (S9) (LRR S, T, I	J)	2 cm Muck (A10) (LRR S)
Black Hist			Loamy Mucky			1	Reduced Vertic (F18) (outside MLRA 150A,B)
	Sulfide (A4)		Loamy Gleyed	d Matrix (F2	2)		Piedmont Floodp	olain Soils (F19) (LRR P, S, T)
	Layers (A5)		✓ Depleted Mat	rix (F3)			Anomalous Brigh	nt Loamy Soils (F20) (MLRA 153B)
Organic B	Bodies (A6) (LRR P, T, I	J)	Redox Dark S	urface (F6)			Red Parent Mate	rial (TF2)
5 cm Muc	ky Mineral (A7) (LRR P	P, T, U)	Depleted Dark	k Surface (F	7)		Very Shallow Da	rk Surface (TF12)
Muck Pres	sence (A8) (LRR U)		Redox Depres	sions (F8)			Other (Explain in	
1 cm Muc	ck (A9) (LRR P, T)		☐ Marl (F10) (Li	RR U)				
Depleted	Below Dark Surface (A	11)	Depleted Och	ric (F11) (N	1LRA 151)			
☐ Thick Dar	k Surface (A12)		☐ Iron-Mangane	ese Masses	(F12) (LR	R O, P, T)		
Coast Pra	irie Redox (A16) (MLRA	A 150A)	Umbric Surfac	e (F13) (LF	RR P, T, U))		
Sandy Mu	ıck Mineral (S1) (LRR C), S)	Delta Ochric (F17) (MLR/	A 151)		2	
Sandy Gle	eyed Matrix (S4)		Reduced Vert	ic (F18) (M	LRA 150A,	150B)		of hydrophytic vegetation and hydrology must be present,
Sandy Re	dox (S5)		Piedmont Floo	odplain Soil	s (F19) (M	LRA 149A)		s disturbed or problematic.
Stripped N	Matrix (S6)						9A, 153C, 153D)	·
☐ Dark Surfa	ace (S7) (LRR P, S, T,	U)		,		, ,	,,	
	ayer (if observed):							
Type:				_			Hydric Soil Present?	Yes No
Depth (incl	hes):						Trydric 3011 Fresent:	
Remarks:								

Sampling Point Labeled on Map: 3-3





WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County. Lond	JRE/ LUTIONE	Sampling Da	12-Sep-17
Applicant/Owner: _Mitigation Management	State	e: Ar	Sampling Point: 3-4	
Investigator(s): _CG,CK,HS,TW,GW,KK	Section, Townshi	p, Range: S 18	T 3N	R 8W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concav	ve, convex, none): concave Slope:	1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR O Lat	 .: 34.8898 N	Long.:	-91.90735 W	Datum: Nad 83
Goil Map Unit Name: Tichnor Silt Loam			NWI classification: NOI	ne
Are climatic/hydrologic conditions on the site typical for this time of	year? Yes •	No O (If	no, explain in Remarks.)	
	-	•		Yes ● No ○
	•		ain any answers in Remark	(6.)
SUMMARY OF FINDINGS - Attach site map showing		. , .	•	,
Hydrophytic Vegetation Present? Yes No	Is the Sam	ınled Area		
Hydric Soil Present? Yes ● No ○		Voc	s ● No ○	
Wetland Hydrology Present? Yes No	within a W	/etland?		
Remarks: This tract has been farmed regularly since at least before 1960's. altered site conditions from that of historic condition prior to converge the condition of the condition of the converge that the condition of the condition of the converge that the condition of the converge that the condition of the converge that the condition of the c		field planing, and	1 levees have	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that appl	v)	Sec	condary Indicators (minimum of Surface Soil Cracks (B6)	of 2 required)
Surface Water (A1) Aquatic Fauna			Sparsely Vegetated Concave	Surface (B8)
High Water Table (A2) Marl Deposits (` ,		Drainage Patterns (B10)	Surface (BO)
Saturation (A3) Hydrogen Sulfi	de Odor (C1)		Moss Trim Lines (B16)	
☐ Water Marks (B1) ✓ Oxidized Rhizo	spheres along Living Root	rs (C3)	Dry Season Water Table (C2))
Sediment Deposits (B2)	educed Iron (C4)		Crayfish Burrows (C8)	
	eduction in Tilled Soils (C6) <u> </u>	Saturation Visible on Aerial Ir	nagery (C9)
Algal Mat or Crust (B4) Thin Muck Surl	` '		Geomorphic Position (D2)	
☐ Iron Deposits (B5) ☐ Other (Explain☐ Inundation Visible on Aerial Imagery (B7)	in Remarks)		Shallow Aquitard (D3) FAC-Neutral Test (D5)	
✓ Water-Stained Leaves (B9)			Sphagnum moss (D8) (LRR T	r. u)
Field Observations:			Springfrum moss (DO) (Likk i	, 0)
Surface Water Present? Yes No Depth (inche	s):			
Water Table Present? Yes No Depth (inche	c).			
Cohumation Duscout?	- V	Wetland Hydrolog	gy Present? Yes 💿	No O
Saturation Present? (includes capillary fringe) Yes No Depth (inche Describe Recorded Data (stream gauge, monitoring well, aerial ph				
Remarks:				

,		Dominant Species?	Sampling Point: 3-4
	Absolute	Rel.Strat. Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cover Status	Number of Dominant Species
1	0		That are OBL, FACW, or FAC: 4 (A)
2	0	0.0%	Total Number of Dominant
3	0		Species Across All Strata: 4 (B)
4	0	0.0%	
5	0	0.0%	Percent of dominant Species That Are OBL FACW or FAC: 100.0% (A/B)
6	0	0.0%	That Are OBL, FACW, or FAC: 100.0% (A/B)
7	0	0.0%	Prevalence Index worksheet:
8.	0	0.0%	Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	OBL species $0 \times 1 = 0$
Sapling or Sapling/Shrub Stratum (Plot size: 30)		FACW species 110 x 2 = 220
1	_ ′ 0	0.0%	FAC species 45 x 3 = 135
2		0.0%	FACU species $0 \times 4 = 0$
3.		0.0%	
A -		0.0%	or species
4 5		0.0%	Column Totals: <u>185</u> (A) <u>505</u> (B)
			Prevalence Index = $B/A = 2.730$
6		0.0%	Hydrophytic Vegetation Indicators:
7		0.0%	Tryarophytic regetation indicators.
8			1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)			3 - Prevalence Index is ≤3.0 ¹
1 Diospyros virginiana	5	✓ 100.0% FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2.	0	0.0%	
3.		0.0%	$^{ m 1}$ Indicators of hydric soil and wetland hydrology must
4.		0.0%	be present, unless disturbed or problematic.
E		0.0%	Definition of Vegetation Strata:
6		0.0%	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 2.5 20% of Total Cover: 1		= Total Cover	approximately 20 ft (6 m) or more in height and 3 in.
		- Total Cover	(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30)			Sapling - Woody plants, excluding woody vines,
1 _. Carex vulpinoidea	80	✓ 50.0% FACW	approximately 20 ft (6 m) or more in height and less
2. Iva annua	40	✓ 25.0% FAC	than 3 in. (7.6 cm) DBH.
3. Lespedeza virginica	30	18.8% UPL	
4. Persicaria pensylvanica	10	6.3% FACW	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5. Dichanthelium clandestinum	0	0.0% FACW	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0	0.0%	Shrub - Woody plants, excluding woody vines,
7	0	0.0%	approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%	
9	0	0.0%	Herb - All herbaceous (non-woody) plants, including
10	0	0.0%	herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11	0	0.0%	3 ft (1 m) in height.
12.	0	0.0%	
50% of Total Cover: 80 20% of Total Cover: 32	160 =	Total Cover	Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30			
1. Brunnichia ovata		<u>✓ 100.0% FACW</u>	
2			
3			
4	0		Hydronhytic
5	0		Hydrophytic Vegetation
50% of Total Cover: 20% of Total Cover: 4	=	Total Cover	Present? Yes No
Remarks: (If observed, list morphological adaptations below).			•
Passiflora incarnata present in Woody Vine stratum- 30% co	ver, no ind	icator status listed	
, , , , , , , , , , , , , , , , , , , ,			
*Indicator suffix = National status or professional decision assigned because Re	egional status i	not defined by FWS.	

SOIL Sampling Point: 3-4

Profile Descri	iption: (Des	cribe to	the depth	needed to docume	nt the indic	cator or co	nfirm the	absence of indicators.)		
Depth	-	Matrix		R	edox Featu					
(inches)	Color (ı		%	Color (moist)	%	Type 1	Loc ²	Texture	Remarks	
0-2	10YR	5/3	100					Silt Loam	,	
2-12	10YR	5/2	80	7.5YR 5/8	20	С	М	Silt Loam		
									•	
						_				
				1						
									`	
1 Tymor C—Cons	antrotion D	Doplotion	. DM_Dad	used Matrix, CC—Cove	and on Coate	ad Cand Cra	ing 21 occ	tion, DI Doro Lining M-N	Antric	
		=Depletior	i. RM=Rea	uced Matrix, CS=Cove	ered or Coate	ed Sand Gra	ains ²Loca	tion: PL=Pore Lining. M=N		
Hydric Soil I								Indicators for Prob	lematic Hydric Soils ³ :	
Histosol (A	•				elow Surface			1 cm Muck (A9) ((LRR O)	
Histic Epip					urface (S9) (2 cm Muck (A10)	(LRR S)	
☐ Black Histi					ky Mineral (F			Reduced Vertic (F	F18) (outside MLRA 150A,B)	
_	Sulfide (A4)				ed Matrix (F	2)		Piedmont Floodpl	ain Soils (F19) (LRR P, S, T)	
	ayers (A5)			✓ Depleted Ma				Anomalous Bright	Loamy Soils (F20) (MLRA 153B)	
	odies (A6) (LI		•		Surface (F6	•		Red Parent Mater	ial (TF2)	
	ky Mineral (A		T, U)		ark Surface (Very Shallow Dar	k Surface (TF12)	
	ence (A8) (LI	,			essions (F8)			Other (Explain in	Remarks)	
	(A9) (LRR P			Marl (F10) (LRR U)					
	Below Dark S	-	.1)		chric (F11) (I	-				
	Surface (A1	-		☐ Iron-Manga	nese Masses	(F12) (LRF	R O, P, T)			
	rie Redox (A		-	Umbric Surf	ace (F13) (L	RR P, T, U)				
	ck Mineral (S		, S)	Delta Ochrid	(F17) (MLR	A 151)		3 _{Indicators}	of hydrophytic vogotation and	
	yed Matrix (S	64)		Reduced Ve	Reduced Vertic (F18) (MLRA 150A, 150B)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present,		
Sandy Red				Piedmont Fl	oodplain Soi	ls (F19) (MI	LRA 149A)		disturbed or problematic.	
Stripped M				Anomalous	Bright Loam	y Soils (F20) (MLRA 14	9A, 153C, 153D)		
Dark Surfa	ice (S7) (LRR	P, S, T, L	J)							
Restrictive La	wer (if obse	arved):								
Type:	iyei (ii obse	aveu).								
Depth (inch	200):				_			Hydric Soil Present?	Yes No	
	les):									
Remarks:										

Sampling Point Labeled on Map: 3-4







DATA FORM
ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

 Type of alteration: The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural

management techniques (e.g. tilling, disking, mowing, herbicide, leveling). The site is

currently fallow.

2. Effect on the Vegetation: Regular tilling, disking, mowing, herbicide, and leveling have

prevented natural succession.

3. **Previous Vegetation:** Prior to 2011, wheat, hay, and other commodity crops. Prior to 1960's,

the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate

that bottomland hardwood forested wetlands were present at that time.

4. Hydrophytic Vegetation? Yes

B. SOILS:

1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil

has been routinely disturbed on site due to tilling, disking, etc. leveling, as part of an agricultural management regime. Micro and macro topographic features have been largely

eliminated due to leveling.

2. Effect on the Soil: Microtopography has been mostly eliminated with exception to old fence

lines.

3. Previous Soils: Prior to clearing, the soils likely exhibited wetland characteristics and a

hydroperiod more similar to that as the intact forested community abutting the Bank.

4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Remnant fence lines have caused minor topographic alterations across the community which impedes natural movement of water across the site. In addition, microtopography has been largely reduced due to agricultural practices.
- 2. **Effect on the Hydrology:** Fence lines and leveling of microtopography have altered the natural hydrologic regime for the area.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County:	Lonoke/Lonoke		Sampling Date:	12-Sep-	-17
Applicant/Owner: Mitigation Management		State: Ar	Sampling Po	oint: R-1		
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Tow	nship, Range: S 18	3 T	3N R	8W	
Landform (hillslope, terrace, etc.): Floodplain	Local relief (co	ncave, convex, none): flat	Slope:	1.0 % /	0.6°
Subregion (LRR or MLRA): LRR O	Lat.: 34,8928 N	Long.:	-91.90915 W		atum: Nad 8	83
Goil Map Unit Name: Tichnor Silt Loam			NWI classifi			
Are climatic/hydrologic conditions on the site typical for this t	time of year? Yes	s ● No ○ (If	no, explain in			
	significantly disturbed?	Are "Normal Circ		, ,	● No ○)
	naturally problematic?	(If needed, expl	•	, cocinc.		
SUMMARY OF FINDINGS - Attach site map show	wing sampling poin		-	_	es, etc.	
Hydrophytic Vegetation Present? Yes ○ No ●	Totale	Commission Arras				
Hydric Soil Present? Yes No		Sampled Area	s ○ No •			
Wetland Hydrology Present? Yes No •	within	a Wetland?				
Remarks: HYDROLOGY						
Wetland Hydrology Indicators:		Se		ors (minimum of 2	required)	
Primary Indicators (minimum of one required; check all th			Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)			
	c Fauna (B13) eposits (B15) (LRR U)		Sparsely Vege Drainage Patte		race (B8)	
	gen Sulfide Odor (C1)		Moss Trim Line	` '		
	ed Rhizospheres along Living	Roots (C3)		ater Table (C2)		
	nce of Reduced Iron (C4)		Crayfish Burro	` '		
	t Iron Reduction in Tilled Soils	s (C6)		ible on Aerial Image	ery (C9)	
Algal Mat or Crust (B4)	luck Surface (C7)		Geomorphic Po	osition (D2)	, , ,	
☐ Iron Deposits (B5) ☐ Other ((Explain in Remarks)		Shallow Aquita	ard (D3)		
Inundation Visible on Aerial Imagery (B7)			FAC-Neutral To	est (D5)		
Water-Stained Leaves (B9)			Sphagnum mo	oss (D8) (LRR T, U))	
Field Observations:						
	h (inches):					
Water Table Present? Yes O No O Deptl	h (inches):					
Saturation Present? (includes capillary fringe) Yes No Depti	h (inches):	Wetland Hydrolo	gy Present?	Yes O No		
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous ins	pections), if available	e:			
Demarks						
Remarks:						

,		Dominant Species?		Sampling Point: R-1
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cover	Status	Number of Dominant Species
1 Pinus taeda	70	70.0%	FAC	That are OBL, FACW, or FAC: 7 (A)
2. Liquidambar styraciflua	20	✓ 20.0%	FAC	Takel Number of Densirent
3. Ulmus alata	10	10.0%	FACU	Total Number of Dominant Species Across All Strata: 15 (B)
4	0	0.0%		
5		0.0%		Percent of dominant Species
6	0	0.0%		That Are OBL, FACW, or FAC: 46.7% (A/B)
7.	0	0.0%		Prevalence Index worksheet:
8.	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 50 20% of Total Cover: 20	100 =	= Total Cover		OBL species 0 x 1 = 0
Sapling or Sapling/Shrub Stratum (Plot size: 30	1			FACW species $30 \times 2 = 60$
1 Cercis canadensis	=- ′ 15	✓ 33.3%	UPL	FAC species 98 x 3 = 294
2. Carya tomentosa		✓ 22.2%	UPL	50 200
3. Ulmus alata		✓ 22.2% ✓ 22.2%	FACU	25 425
		✓ 22.2% ✓ 22.2%		UPL species $\frac{25}{}$ x 5 = $\frac{125}{}$
	_ 10		FACU	Column Totals: <u>203</u> (A) <u>679</u> (B)
5		0.0%		Prevalence Index = B/A = 3.345
6		0.0%		Hydrophytic Vegetation Indicators:
7		0.0%		nyurophytic vegetation indicators.
8				1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 22.5 20% of Total Cover: 9	45 =	= Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)				\Box 3 - Prevalence Index is ≤3.0 1
1 Fraxinus pennsylvanica	10	✓ 50.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Juniperus virginiana		25.0%	FACU	
3. Ulmus alata		25.0%	FACU	¹ Indicators of hydric soil and wetland hydrology must
		0.0%	17100	be present, unless disturbed or problematic.
		0.0%		Definition of Vegetation Strata:
6		0.0%		Tree - Woody plants, excluding woody vines,
				approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 10 20% of Total Cover: 4	=	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30)				
1 Carex cherokeensis	15	✓ 50.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2. Fraxinus pennsylvanica	5	16.7%	FACW	than 3 in. (7.6 cm) DBH.
3. Quercus alba	5	16.7%	FACU	
4. Chasmanthium latifolium	5	16.7%	FAC	Sapling/Shrub - Woody plants, excluding vines, less
5.	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.	0	0.0%		Shrub Woody plants, evaluding woody vines
7.	0	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8.	0	0.0%		
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including
10	0	0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12.	0	0.0%		, , , ,
50% of Total Cover: 15 20% of Total Cover: 6		= Total Cover		Woody vine - All woody vines, regardless of height.
	30 =	= Total Cover		
Woody Vine Stratum (Plot size: 30		_		
1 Parthenocissus quinquefolia	5	62.5%	FACU	
2. Toxicodendron radicans	2	✓ 25.0%	FAC	
3. Bignonia capreolata	1_	12.5%	FAC	
4	0	0.0%		
5	0	0.0%		Hydrophytic Vegetation
50% of Total Cover: 4 20% of Total Cover: 1.6	8 =	= Total Cover		Present? Yes No •
Remarks: (If observed, list morphological adaptations below).	. 1:-4 1			
Pyus calleryana in shrub layer- 5% cover, no indicator status	iisted			
*Indicator suffix = National status or professional decision assigned because Re	egional status	not defined by FV	VS.	

SOIL Sampling Point: R-1

Profile Descr	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	onfirm the	absence of indicators.)	
Depth								
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type 1	Loc2	Texture	Remarks
0-8	10YR 4/3	60	7.5YR 5/6	40	C	_M	Silt Loam	
			<u>'</u>	1				`
								·
								· ·
								`
								·
				,——				
		n. RM=Reduc	ed Matrix, CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	Matrix
Hydric Soil I							Indicators for Prol	olematic Hydric Soils ³ :
Histosol (•		Polyvalue Belo	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)	(LRR O)
	pedon (A2)		Thin Dark Sur	face (S9) (LRR S, T, l	J)	2 cm Muck (A10) (LRR S)
Black Hist			Loamy Mucky	Mineral (F	1) (LRR O)	1	Reduced Vertic (F18) (outside MLRA 150A,B)
	Sulfide (A4)		Loamy Gleyed	d Matrix (F2	2)		Piedmont Flood	olain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Mati	rix (F3)				nt Loamy Soils (F20) (MLRA 153B)
Organic B	odies (A6) (LRR P, T, U	J)	Redox Dark S	urface (F6)			Red Parent Mate	
5 cm Muc	ky Mineral (A7) (LRR P	P, T, U)	Depleted Dark	k Surface (F	7)			rk Surface (TF12)
☐ Muck Pres	sence (A8) (LRR U)		Redox Depres	sions (F8)			Other (Explain in	
1 cm Muc	k (A9) (LRR P, T)		Marl (F10) (LF	RR U)			Outer (Explain ii	Tremano,
Depleted	Below Dark Surface (A	11)	Depleted Och	ric (F11) (N	1LRA 151)			
Thick Dar	k Surface (A12)		☐ Iron-Mangane			R O, P, T)		
Coast Pra	irie Redox (A16) (MLRA	A 150A)	Umbric Surfac					
Sandy Mu	ıck Mineral (S1) (LRR C), S)	Delta Ochric (_	
Sandy Gle	eyed Matrix (S4)		Reduced Verti		-	150B)		of hydrophytic vegetation and
Sandy Re			☐ Piedmont Floo					hydrology must be present, s disturbed or problematic.
	Matrix (S6)						9A, 153C, 153D)	o albiandou di prodicinacio
	ace (S7) (LRR P, S, T,	U)	Anomalous bi	igne Louiny	30113 (1 20)) (MEION I I	JA, 155C, 155D)	
		•						
	ayer (if observed):							
Type:				_			Hydric Soil Present?	Yes O No •
Depth (incl	hes):			_			nyunc son Present	
Remarks:								
1								

Sampling Point Labeled on Map: R1





WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County:	Lonoke/Lonoke		Sampling Date:	13-Sep-17	
Applicant/Owner: Mitigation Management		State: Ar	Sampling F	oint: R-2		
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Tow	nship, Range: S 1	8 Т	3N R	8W	
Landform (hillslope, terrace, etc.): Floodplain	Local relief (co	ncave, convex, none	e): flat	Slope:	1.0 % / 0.6 °	
Subregion (LRR or MLRA): LRR O	Lat.: 34.8963 N	Long.:	-91.9123 W		atum: Nad 83	
Soil Map Unit Name: _Tichnor Silt Loam			NWI classi	ification: none		
Are climatic/hydrologic conditions on the site typical for this tir	ne of year? Yes	s • No O	no, explain i			
	nificantly disturbed?	Are "Normal Cir			No ○	
	turally problematic?			vers in Remarks.)		
SUMMARY OF FINDINGS - Attach site map show	ing sampling poin		-	-	es, etc.	
Hydrophytic Vegetation Present? Yes No	Tatho	Samulad Avas				
Hydric Soil Present? Yes No		Sampled Area	s O No O			
Wetland Hydrology Present? Yes O No •	withir	a Wetland?	3 0 110 0			
Remarks:						
HYDROLOGY						
Wetland Hydrology Indicators:		Se	econdary Indica	ators (minimum of 2	required)	
Primary Indicators (minimum of one required; check all that	t apply)		Surface Soil (•		
Surface Water (A1)	Fauna (B13)		Sparsely Veg	etated Concave Surf	face (B8)	
High Water Table (A2)		Drainage Pat	terns (B10)			
Saturation (A3) Hydroge	n Sulfide Odor (C1)		Moss Trim Li	nes (B16)		
Water Marks (B1) Oxidized	Rhizospheres along Living	ng Roots (C3)				
Sediment Deposits (B2)	e of Reduced Iron (C4)		Crayfish Burr	ows (C8)		
Drift Deposits (B3)	ron Reduction in Tilled Soil	s (C6)	Saturation Vi	sible on Aerial Image	ery (C9)	
Algal Mat or Crust (B4)	ck Surface (C7)		Geomorphic	Position (D2)		
Iron Deposits (B5) Other (E	xplain in Remarks)		Shallow Aqui	tard (D3)		
Inundation Visible on Aerial Imagery (B7)			FAC-Neutral	Test (D5)		
Water-Stained Leaves (B9)			Sphagnum m	noss (D8) (LRR T, U)	ı	
Field Observations:						
Surface Water Present? Yes No Depth	(inches):					
Water Table Present? Yes No Depth	(inches):					
Saturation Present? (includes conillant frince) Yes No Depth	(inches):	Wetland Hydrolo	gy Present?	Yes O No	, •	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aer	` '	unactions) if availab	loi			
Describe Recorded Data (stream gauge, monitoring well, ael	nai priotos, previous ins	spections), ii avallab	ie:			
Remarks:						

		Domi			Sampling Point: R-2
	Absolute	Rel.S		dicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cov	/er s	Status	Number of Dominant Species
1. Pinus taeda	90	✓ _ 94	4.7% F	AC	That are OBL, FACW, or FAC: 4 (A)
2. Liquidambar styraciflua	5	5	5.3% F	AC	
3	0		0.0%		Total Number of Dominant Species Across All Strata: 6 (B)
4			0.0%		(-)
5.			0.0%		Percent of dominant Species
6.			0.0%		That Are OBL, FACW, or FAC: 66.7% (A/B)
7.	0	\bigcap_{0}	0.0%	_	Prevalence Index worksheet:
8.	0		0.0%	_	Total % Cover of: Multiply by:
50% of Total Cover: 47.5 20% of Total Cover: 19		= Total			OBL species $0 \times 1 = 0$
	73	- 10441	COVCI		FACW species $5 \times 2 = 10$
Sapling or Sapling/Shrub Stratum (Plot size: 30 1 Pinus taeda	_ [/] 5	✓ 50	0.0% F	۸.	
		\neg		AC	
2 Catalpa bignonioides		\equiv		IPL	FACU species $\frac{6}{x^4} \times 4 = \frac{24}{x^5}$
3		\neg	0.0%		UPL species $\frac{5}{}$ x 5 = $\frac{25}{}$
4		$\overline{-}$	0.0%		Column Totals: <u>136</u> (A) <u>419</u> (B)
5	0	0).0%		Prevalence Index = $B/A = 3.081$
6	0	0).0%		
7		<u></u>	0.0%		Hydrophytic Vegetation Indicators:
8	0	□ <u></u> 0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 5 20% of Total Cover: 2	10 =	= Total	Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)					3 - Prevalence Index is ≤3.0 ¹
1 Pinus taeda	10	✓ 43	3.5% F.	AC	Problematic Hydrophytic Vegetation ¹ (Explain)
O Ougreus phollos				ACW	
Our foliants				ACU	¹ Indicators of hydric soil and wetland hydrology must
A District of the section of the sec		\equiv			be present, unless disturbed or problematic.
4. Liquidambar styraciflua		\neg		AC	Definition of Vegetation Strate.
5			0.0%		Definition of Vegetation Strata:
6			0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 11.5 20% of Total Cover: 4.6	=	= Total	Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30					
1. Quercus falcata	1	<u>25</u>	5.0% F	ACU	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2. Liquidambar styraciflua	1	25	5.0% F	AC	than 3 in. (7.6 cm) DBH.
3. Diospyros virginiana	1	25	5.0% F	AC	,
4. Pinus taeda	1		5.0% F	AC	Sapling/Shrub - Woody plants, excluding vines, less
5.	0		 0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0		0.0%		Charle Mandy plants evaluation was abovined
7	0	\neg	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
		\neg	0.0%		approximately a to 20 it () to a m/ in noight
8		\neg	0.0%		Herb - All herbaceous (non-woody) plants, including
9 10		\neg	0.0%		herbaceous vines, regardless of size, and woody
10		\neg).0% .0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.
11 12.	0	\neg			
			0.0%		Woody vine - All woody vines, regardless of height.
50% of Total Cover: 2 20% of Total Cover: 0.8	4 =	= Total	cover		,
Woody Vine Stratum (Plot size: 30		_		ŀ	
1 Campsis radicans	2		0.0% F	AC	
2. Vitis rotundifolia	2	50	0.0% F	AC	
3.	0	0	0.0%		
4.	0		0.0%		
5.	0		0.0%		Hydrophytic Vegetation
50% of Total Cover: 2 20% of Total Cover: 0.8	4 :	= Total	Cover		Present? Yes No
Remarks: (If observed, list morphological adaptations below).					
Pyrus calleryana in tree stratum- 15% cover, no indicator sta	tus listed				
*Indicator suffix = National status or professional decision assigned because Re	egional status	not defin	ed by FWS.		

SOIL Sampling Point: R-2

Profile Descr	ription: (Describe to	the depth ne	eded to document	the indic	ator or co	onfirm the	absence of indicators.)	
Depth	epth Matrix Redox Features							
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type 1	Loc²	Texture	Remarks
0-12	10YR 6/2	70	10YR 6/8	30	C		Silt Loam	
				1				`
								·
								·
								`
					-			· ·
						. —		
		n. RM=Reduce	ed Matrix, CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	Matrix
Hydric Soil I							Indicators for Prob	lematic Hydric Soils ³ :
Histosol (•		Polyvalue Belo	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)	(LRR O)
	pedon (A2)		Thin Dark Sur	face (S9) (LRR S, T, I	J)	2 cm Muck (A10) (LRR S)
Black Hist			Loamy Mucky	Mineral (F	1) (LRR O)	1	Reduced Vertic (F18) (outside MLRA 150A,B)
	Sulfide (A4)		Loamy Gleyed	d Matrix (F2	2)			lain Soils (F19) (LRR P, S, T)
	Layers (A5)		✓ Depleted Matı	rix (F3)				t Loamy Soils (F20) (MLRA 153B)
Organic B	odies (A6) (LRR P, T, l	J)	Redox Dark S	urface (F6)			Red Parent Mate	
5 cm Muc	ky Mineral (A7) (LRR P	P, T, U)	Depleted Dark	k Surface (F	7)		Very Shallow Da	rk Surface (TF12)
Muck Pres	sence (A8) (LRR U)		Redox Depres	sions (F8)			Other (Explain in	
1 cm Muc	k (A9) (LRR P, T)		☐ Marl (F10) (LF	RR U)				,
Depleted	Below Dark Surface (A	11)	Depleted Och	ric (F11) (M	1LRA 151)			
☐ Thick Dar	k Surface (A12)		☐ Iron-Mangane	ese Masses	(F12) (LRI	R O, P, T)		
Coast Pra	irie Redox (A16) (MLRA	A 150A)	Umbric Surfac	e (F13) (LF	RR P, T, U)		
Sandy Mu	ick Mineral (S1) (LRR C), S)	Delta Ochric (2	
Sandy Gle	eyed Matrix (S4)		Reduced Verti		-	150B)		of hydrophytic vegetation and
Sandy Re	dox (S5)		Piedmont Floo			•		hydrology must be present, s disturbed or problematic.
Stripped N	Matrix (S6)						9A, 153C, 153D)	
	ace (S7) (LRR P, S, T,	U)		.g 20a,	000 (. 20	, (5. 1, 1000, 1000,	
		•						
	ayer (if observed):							
Type:				_			Hydric Soil Present?	Yes No
Depth (incl	hes):						nyuric Soil Present?	res 😌 No 🔾
Remarks:								

Sampling Point Labeled on Map: R2



WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County:	_onoke/Lonoke	Sar	mpling Date:	13-Sep-1	17	
Applicant/Owner: Mitigation Management	s	tate: Ar	Sampling Point:	R-3			
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Town	ship, Range: S 12	T 3N	R 9\	W		
Landform (hillslope, terrace, etc.): Floodplain	Local relief (cor	cave, convex, none): concave	Slope: 1	.0 % /	0.6 °	
Subregion (LRR or MLRA): LRR O	Lat.: 34.8962 N	Long.:	-91.91234 W	— Datı	um: Nad 83	3	
Soil Map Unit Name: Calhoun silt loam			NWI classificati				
Are climatic/hydrologic conditions on the site typical for this ti	me of year? Yes	● No ○ (If	no, explain in Ren				
	gnificantly disturbed?	-	cumstances" prese	· @	No O		
	aturally problematic?		ain any answers i	ciic.			
SUMMARY OF FINDINGS - Attach site map show	ving sampling point	locations, trans	sects, importa	ant features,	, etc.		
Hydrophytic Vegetation Present? Yes ● No ○	Tathof	Sampled Area					
Hydric Soil Present? Yes No		Voc	;				
Wetland Hydrology Present? Yes No	within	a Wetland?					
Remarks:							
HYDROLOGY							
Wetland Hydrology Indicators:		Sec	condary Indicators (minimum of 2 req	quired)		
Primary Indicators (minimum of one required; check all that	t apply)		Surface Soil Cracks (B6)				
	Fauna (B13)		Sparsely Vegetated		e (B8)		
	posits (B15) (LRR U)		Drainage Patterns (B10) Moss Trim Lines (B16)				
	en Sulfide Odor (C1)	\	Moss Trim Lines (B	-			
	Rhizospheres along Living F	coots (C3)	Dry Season Water				
	e of Reduced Iron (C4) Iron Reduction in Tilled Soils	(C6)	Crayfish Burrows (•	(CO)		
	ck Surface (C7)	(CO)	Saturation Visible of Geomorphic Position		(C9)		
	Explain in Remarks)		Shallow Aquitard (I				
Inundation Visible on Aerial Imagery (B7)	Apiairi iri Keriarks)		FAC-Neutral Test (•			
✓ Water-Stained Leaves (B9)			Sphagnum moss (I				
Field Observations:			Spriagram moss (E	30) (Elik 1, 0)			
.,	(inches):						
Water Table Present? Yes No Depth	(inches):						
Saturation Precent?		Wetland Hydrolog	gy Present?	Yes 💿 No 🖯)		
(includes capillary fringe) Yes V No V Depth	(inches):						
Describe Recorded Data (stream gauge, monitoring well, ae	rial photos, previous insp	ections), if available					
Remarks:							

	-		Dominant Species?		Sampling Point: R-3
		Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tre	e Stratum (Plot size: 30)	% Cover	Cover	Status	Number of Dominant Species
1.	Liquidambar styraciflua	40	1 00.0%	FAC	That are OBL, FACW, or FAC: 6 (A)
2.		0	0.0%		
3.		_	0.0%		Total Number of Dominant Species Across All Strata: 7 (B)
4			0.0%		Species Across All Strata:
5.			0.0%		Percent of dominant Species
6			0.0%		That Are OBL, FACW, or FAC: 85.7% (A/B)
7		0			Barrelone Valence delle de
0.		- —			Prevalence Index worksheet:
8. ,			0.0%_		Total % Cover of: Multiply by:
50	% of Total Cover: 20 20% of Total Cover: 8	40 =	Total Cove	er	OBL species $0 \times 1 = 0$
Sap	ling or Sapling/Shrub Stratum (Plot size: 30)			FACW species $5 \times 2 = 10$
1. ,	Liquidambar styraciflua	5	✓ 100.0%	FAC	FAC species $225 \times 3 = 675$
2		0	0.0%		FACU species $75 \times 4 = 300$
3.		0	0.0%		UPL species $0 \times 5 = 0$
4.			0.0%		Column Totals: 305 (A) 985 (B)
5.			0.0%		Column locals: 305 (A) 985 (P)
6.			0.0%		Prevalence Index = $B/A = 3.230$
7			0.0%		Hydrophytic Vegetation Indicators:
8.			0.0%		
1					1 - Rapid Test for Hydrophytic Vegetation
50	% of Total Cover: 2.5 20% of Total Cover: 1	5 =	Total Cove	er	✓ 2 - Dominance Test is > 50%
Shr	ub Stratum (Plot size: 30)				\Box 3 - Prevalence Index is ≤3.0 1
1.	Baccharis halimifolia	35	✓ 63.6%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2	Liquidambar styraciflua	15	✓ 27.3%	FAC	
3.	Ulmus americana	5	9.1%	FAC	¹ Indicators of hydric soil and wetland hydrology must
4.			0.0%	1710	be present, unless disturbed or problematic.
1 . ,		- —			Definition of Vegetation Strata:
			0.0%_		_
6. ,			0.0%_		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50	% of Total Cover: 27.5 20% of Total Cover: 11	55 =	Total Cove	er	(7.6 cm) or larger in diameter at breast height (DBH).
Her	b Stratum (Plot size: 30)				
	Bidens bipinnata	80	✓ 45.7%	FAC	Sapling - Woody plants, excluding woody vines,
	Monarda fistulosa		40.0%	FACU	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
	Iva annua	20	11.4%	FAC	
٠.,	Juncus marginatus	5	2.9%	FACW	Sapling/Shrub - Woody plants, excluding vines, less
	Juicus maiginatus			FACVV	than 3 in. DBH and greater than 3.28 ft (1m) tall.
5.					
6.			0.0%		Shrub - Woody plants, excluding woody vines,
7.,					approximately 3 to 20 ft (1 to 6 m) in height.
8.,		0			
9.,					Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10.,		0	0.0%_		plants, except woody vines, less than approximately
11.		0	0.0%		3 ft (1 m) in height.
12.		0	0.0%		
50	% of Total Cover: 87.5 20% of Total Cover: 35	175 =	Total Cove	er	Woody vine - All woody vines, regardless of height.
	(0)-1-1-20				
	ody Vine Stratum (Plot size: 30				
	Rubus argutus		83.3%	-	
	Lonicera japonica	5	16.7%	FACU	
3. ,		0			
4.		0	0.0%		
5.		0	0.0%		Hydrophytic Vegetation
	% of Total Cover: 15 20% of Total Cover: 6	30 =	Total Cove	er	Present? Yes • No
	arks: (If observed, list morphological adaptations below).				
Pyru	s calleryana in tree stratum: 10% cover, no indicator sta	atus listed			
*Ind	icator suffix = National status or professional decision assigned because Re	egional status	not defined by	FWS.	

SOIL Sampling Point: R-3

Color (moist) % 10YR 6/2 70 ation. D=Depletion. RM=Reduction (A2) 3) ide (A4) rs (A5) is (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) in (LRR P, T) w Dark Surface (A11)	Polyvalue Belo	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	Grains ² Locati		atic Hydric Soils ³ :
ation. D=Depletion. RM=Reduce cators: In (A2) 3) Ide (A4) Irs (A5) Is (A6) (LRR P, T, U) Ineral (A7) (LRR P, T, U) Ineral (A7) (LRR P, T, U) Ineral (A8) (LRR U) 9) (LRR P, T) IN Dark Surface (A11)	Polyvalue Bela Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ed or Coated Sand (Cook Surface (S8) (LR S, Towns of Matrix (F2) rix (F3) urface (F6)	Grains ² Locati	ion: PL=Pore Lining. M=Matri: Indicators for Problema: 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRI Reduced Vertic (F18)	atic Hydric Soils ³ : O) R S)
rators: n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Polyvalue Beld Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	RR S, T, U)	Indicators for Problema 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRR Reduced Vertic (F18)	atic Hydric Soils³: O) R S)
rators: n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Polyvalue Beld Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	RR S, T, U)	Indicators for Problema 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRR Reduced Vertic (F18)	atic Hydric Soils ³ : O) R S)
rators: n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Polyvalue Beld Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	RR S, T, U)	Indicators for Problema 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRR Reduced Vertic (F18)	atic Hydric Soils ³ : O) R S)
rators: n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Polyvalue Beld Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	RR S, T, U)	Indicators for Problema 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRR Reduced Vertic (F18)	atic Hydric Soils ³ : O) R S)
rators: n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Polyvalue Beld Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	RR S, T, U)	Indicators for Problema 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRR Reduced Vertic (F18)	atic Hydric Soils ³ : O) R S)
rators: n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Polyvalue Beld Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	RR S, T, U)	Indicators for Problema 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRR Reduced Vertic (F18)	atic Hydric Soils ³ : O) R S)
rators: n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Polyvalue Beld Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	RR S, T, U)	Indicators for Problema 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRR Reduced Vertic (F18)	atic Hydric Soils ³ : O) R S)
rators: n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Polyvalue Beld Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	RR S, T, U)	Indicators for Problema 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRR Reduced Vertic (F18)	atic Hydric Soils ³ : O) R S)
rators: n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Polyvalue Beld Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mate Redox Dark S	ow Surface (S8) (LF face (S9) (LRR S, T Mineral (F1) (LRR d d Matrix (F2) rix (F3) urface (F6)	RR S, T, U)	Indicators for Problema 1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRR Reduced Vertic (F18)	atic Hydric Soils ³ : O) R S)
n (A2) 3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	☐ Thin Dark Sur ☐ Loamy Mucky ☐ Loamy Gleyed ☑ Depleted Mat ☐ Redox Dark S ☐ Depleted Darl	face (S9) (LRR S, T Mineral (F1) (LRR d Matrix (F2) rix (F3) urface (F6)	, U)	1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRI Reduced Vertic (F18)	O) R S)
3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	☐ Thin Dark Sur ☐ Loamy Mucky ☐ Loamy Gleyed ☑ Depleted Mat ☐ Redox Dark S ☐ Depleted Darl	face (S9) (LRR S, T Mineral (F1) (LRR d Matrix (F2) rix (F3) urface (F6)	, U)	2 cm Muck (A10) (LRI Reduced Vertic (F18)	R S)
3) ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Loamy Mucky Loamy Gleyed Depleted Mati Redox Dark S Depleted Darl	Mineral (F1) (LRR I Matrix (F2) rix (F3) urface (F6)		2 cm Muck (A10) (LRI Reduced Vertic (F18)	R S)
ide (A4) rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) O) (LRR P, T) w Dark Surface (A11)	Loamy Gleyed Depleted Mate Redox Dark S Depleted Darl	d Matrix (F2) rix (F3) urface (F6)	0)	Reduced Vertic (F18)	
rs (A5) s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) d) (LRR P, T) w Dark Surface (A11)	Depleted Mate	rix (F3) urface (F6)			
s (A6) (LRR P, T, U) ineral (A7) (LRR P, T, U) e (A8) (LRR U) g) (LRR P, T) w Dark Surface (A11)	Redox Dark S Depleted Dark	urface (F6)			Soils (F19) (LRR P, S, T)
ineral (A7) (LRR P, T, U) e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)	Depleted Dark	` '			amy Soils (F20) (MLRA 153B)
e (A8) (LRR U) 9) (LRR P, T) w Dark Surface (A11)				Red Parent Material (
9) (LRR P, T) w Dark Surface (A11)	Redox Depres	k Surface (F7)		Very Shallow Dark Sui	rface (TF12)
w Dark Surface (A11)		ssions (F8)		Other (Explain in Rem	
	☐ Marl (F10) (Li	RR U)			,
C (440)	Depleted Och	ric (F11) (MLRA 15	1)		
face (A12)	☐ Iron-Mangane	ese Masses (F12) (L	RR O, P, T)		
ledox (A16) (MLRA 150A)	Umbric Surfac	ce (F13) (LRR P, T,	U)		
ineral (S1) (LRR O, S)	Delta Ochric (F17) (MLRA 151)		3	
Matrix (S4)	Reduced Vert	ic (F18) (MLRA 150	A, 150B)		ydrophytic vegetation and ology must be present,
(S5)	☐ Piedmont Floo	odplain Soils (F19) (MLRA 149A)		curbed or problematic.
x (S6)	Anomalous Br	ight Loamy Soils (F	20) (MLRA 149	A, 153C, 153D)	
S7) (LRR P, S, T, U)					
(if observed):					
		_		Hydric Sail Brocont?	Yes No
		_		Hydric Soil Present?	Yes ♥ No ∪
(lineral (S1) (LRR O, S) Matrix (S4) (S5) x (S6) (S7) (LRR P, S, T, U) (if observed):	Ilineral (S1) (LRR O, S) Matrix (S4) (S5) Piedmont Floo X (S6) (S7) (LRR P, S, T, U) (if observed):	Ilineral (S1) (LRR O, S) Matrix (S4) (S5) Piedmont Floodplain Soils (F19) (X (S6) (S7) (LRR P, S, T, U) (If observed):	Ilineral (S1) (LRR O, S) Matrix (S4) Reduced Vertic (F18) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) x (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149C) (S7) (LRR P, S, T, U)	Ilineral (S1) (LRR O, S) Matrix (S4) Reduced Vertic (F18) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) x (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) (S7) (LRR P, S, T, U)

Sampling Point Labeled on Map: R3



WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County: Lor	noke/Lonoke	Sampling I	Date: 13-Sep-17	
Applicant/Owner: Mitigation Management	Sta	te: Ar	Sampling Point: R-4		
Investigator(s): _CG,CK,HS,TW,GW,KK	Section, Townsh	nip, Range: S 12	T 3N	R 9W	
Landform (hillslope, terrace, etc.): Floodplain	Local relief (conca	ave, convex, none)	: concave Slope	1.0 % / 0.6°	
Subregion (LRR or MLRA): LRR O La	at.: 34.8961 N	Long.: -	-91.91878 W	Datum: Nad 83	
Soil Map Unit Name: Tichnor Silt Loam			NWI classification:	one	
Are climatic/hydrologic conditions on the site typical for this time of	of year? Yes	No O (If n	no, explain in Remarks.)		
	icantly disturbed?	•	umstances" present?	Yes ● No ○	
Are Vegetation , Soil , or Hydrology natura	ally problematic?		in any answers in Rema	rks.)	
SUMMARY OF FINDINGS - Attach site map showing	sampling point k		-	-	
Hydrophytic Vegetation Present? Yes No	To the Co.				
Hydric Soil Present? Yes No		mpled Area	● No ○		
Wetland Hydrology Present? Yes No	within a \	Wetland?			
Remarks: HYDROLOGY					
Wetland Hydrology Indicators:			andam. Tadiaatawa (wainina.		
Primary Indicators (minimum of one required; check all that ap	nlv)		ondary Indicators (minimun Surface Soil Cracks (B6)	1 or 2 required)	
Surface Water (A1) Aquatic Faun			Sparsely Vegetated Concave Surface (B8)		
	s (B15) (LRR U)		Drainage Patterns (B10)	c 5aa65 (56)	
Saturation (A3) Hydrogen Su	ılfide Odor (C1)		Moss Trim Lines (B16)		
☐ Water Marks (B1) ✓ Oxidized Rhiz	zospheres along Living Roo	ots (C3)	Dry Season Water Table (C	2)	
Sediment Deposits (B2)	Reduced Iron (C4)	✓	✓ Crayfish Burrows (C8)		
Drift Deposits (B3)	Reduction in Tilled Soils (C	.6)	Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4)	urface (C7)		Geomorphic Position (D2)		
	in in Remarks)		Shallow Aquitard (D3)		
☐ Inundation Visible on Aerial Imagery (B7)			FAC-Neutral Test (D5)		
✓ Water-Stained Leaves (B9)			Sphagnum moss (D8) (LRR	T, U)	
Field Observations: Surface Water Present? Yes No Depth (inch	,				
Surface Water Fresche.	ies):				
Water Table Present? Yes No Depth (inch	nes):	Matian dilbudualan	y Present? Yes •	No O	
Saturation Present? (includes capillary fringe) Yes No Depth (includes capillary fringe)	nes):	Wetland Hydrolog	y Present? Tes 😊	NO C	
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspec	ctions), if available	:		
Remarks:					

		Dominant Species 2		Sampling Point: R-4
	Absolute	Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cover	Status	Number of Dominant Species
1	0 [0.0%		That are OBL, FACW, or FAC:4 (A)
2.	0	0.0%		
3	0 [0.0%		Total Number of Dominant Species Across All Strata: 4 (B)
4.	0 [0.0%		Species Across Air Strata.
5.	0 [0.0%		Percent of dominant Species
5. 5.	0	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
7.	0	0.0%		Prevalence Index worksheet:
3.	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		: Total Cover		
		· Iotai Covei		
Sapling or Sapling/Shrub Stratum (Plot size: 30	_,	¬		FACW species $30 \times 2 = 60$
l				FAC species $30 \times 3 = 90$
2	,			FACU species $0 \times 4 = 0$
3				UPL species $0 \times 5 = 0$
1	0			Column Totals: 140 (A) 230 (B)
5	_ 0 [0.0%		Drovalence Index - B/A - 1 C42
3	[0.0%		Prevalence Index = B/A = 1.643
7.	0	0.0%		Hydrophytic Vegetation Indicators:
3	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		✓ 2 - Dominance Test is > 50%
				l <u> </u>
Shrub Stratum (Plot size: 30	. [¬		y 3 - Prevalence Index is ≤3.0 ¹
l.,	,			Problematic Hydrophytic Vegetation ¹ (Explain)
2	,			1
3				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	0			
5		0.0%		Definition of Vegetation Strata:
3		0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover:020% of Total Cover:0	0 =	Total Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30)				(7.0 only of larger in diameter at breast height (bbh).
Persicaria hydropiperoides	50 [✓ 45.5%	OBL	Sapling - Woody plants, excluding woody vines,
Rhynchospora corniculata		✓ 43.3%		approximately 20 ft (6 m) or more in height and less
3 Xanthium strumarium			OBL	than 3 in. (7.6 cm) DBH.
•			FAC	Sapling/Shrub - Woody plants, excluding vines, less
4	_ <u>0</u>			than 3 in. DBH and greater than 3.28 ft (1m) tall.
5				
<u>o</u>				Shrub - Woody plants, excluding woody vines,
7				approximately 3 to 20 ft (1 to 6 m) in height.
8				Liante All handrassa (san cuando) intenta includina
9				Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10	0			plants, except woody vines, less than approximately
l1		0.0%		3 ft (1 m) in height.
12	0 [0.0%		
50% of Total Cover: 55 20% of Total Cover: 22	110 =	Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30)				
1 Mikania scandens	20	✓ 100.0%	FACW	
• •		\neg	FACW	
2	0			
3	- <u>0</u>			
4	_ <u> </u>			Hydronbydia
5				Hydrophytic Vegetation
50% of Total Cover: 15 20% of Total Cover: 6	30=	: Total Cover		Present? Yes No
Demandra, /The phenomenal limit are such all and a second a second and				I
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	nional status r	not defined by FV	NS	

SOIL Sampling Point: R-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Red	lox Featu					
(inches)	Color (moist)		Color (moist)	%	Type 1	Loc ²	Texture	Remarks	
0-18	10YR 5/2	70	7.5YR 5/8	30	С	М	Silt Loam		
				-				.	
									
									
¹ Type: C=Conc	entration. D=Depletion	n. RM=Reduced	d Matrix, CS=Covered	d or Coate	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	-Matrix	
Hydric Soil In	ndicators:						Indicators for Pro	blematic Hydric Soils ³ :	
Histosol (A	1)		Polyvalue Belo	w Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)		
Histic Epip	edon (A2)		Thin Dark Surf				2 cm Muck (A10		
Black Histic	c (A3)		Loamy Mucky					(F18) (outside MLRA 150A,B)	
Hydrogen	Sulfide (A4)		Loamy Gleyed					plain Soils (F19) (LRR P, S, T)	
Stratified L	ayers (A5)		✓ Depleted Matri		,				
	odies (A6) (LRR P, T, U)	Redox Dark Su					ht Loamy Soils (F20) (MLRA 153B)	
	xy Mineral (A7) (LRR P,	-	Depleted Dark	. ,	. 7)		Red Parent Mate		
	ence (A8) (LRR U)	., -,	Redox Depress		<i>'</i>)			ark Surface (TF12)	
	(A9) (LRR P, T)		Marl (F10) (LR				Other (Explain i	n Remarks)	
	Below Dark Surface (A1	1)			U DA 1E1\				
	Surface (A12)	1)	Depleted Ochr) O D T)			
	rie Redox (A16) (MLRA	1504)	☐ Iron-Manganes						
		-	Umbric Surface)			
	ck Mineral (S1) (LRR O	. 3)	Delta Ochric (F				³ Indicator	s of hydrophytic vegetation and	
	yed Matrix (S4)		Reduced Vertic				wetland	I hydrology must be present,	
Sandy Red			☐ Piedmont Floo					ss disturbed or problematic.	
Stripped M			Anomalous Bri	ght Loamy	Soils (F20) (MLRA 149	9A, 153C, 153D)		
☐ Dark Surfa	ce (S7) (LRR P, S, T, L	1)							
Postrictive La	yer (if observed):								
Type:	iyei (ii observed).								
-).			_			Hydric Soil Present?	Yes No	
Depth (inch	es):								
Remarks:									

Sampling Point Labeled on Map: R4







DATA FORM ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

- 1. **Type of alteration:** The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural management techniques (e.g. tilling, disking, mowing, herbicide, leveling, leveling) and anthropogenic force flooding for rice production. The site is currently fallow and rice field levees remain intact, ponding water.
- Effect on the Vegetation: Ponded water has resulted in a very wet hydroperiod with aquatic species and OBL hydrophytes occurring throughout the fallow crop fields. Native herbaceous species adapted to disturbances as pioneer species, currently occupy drier portions of the site.
- 3. **Previous Vegetation:** Prior to 2011, soybeans, sweet potatoes, rice, corn, and other commodity crops. Prior to 1960's, the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate that bottomland hardwood forested wetlands were present at that time.
- 4. Hydrophytic Vegetation? Yes

B. SOILS:

- 1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil has been routinely disturbed on site due to tilling, disking, etc. leveling and leveling, as part of an agricultural management regime. Micro and macro topographic features have been largely eliminated due to leveling.
- 2. **Effect on the Soil:** Microtopography has been mostly eliminated with exception to rice field levees. Presence of rice field levees ponds water excessively.
- 3. **Previous Soils:** Prior to clearing, the soils likely exhibited wetland characteristics and a hydroperiod more similar to that as the intact forested community abutting the Bank.

4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Levees were constructed to allow for control of the hydrologic connectivity between Wattensaw Bayou and the Bank. Force flooding and subsequent drawdowns for the promotion of commodity crops and fallow periods constitute normal *conditions* for agricultural/cropland.
- 2. **Effect on the Hydrology:** Rice field levees have altered the natural hydrologic regime for the Bank.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

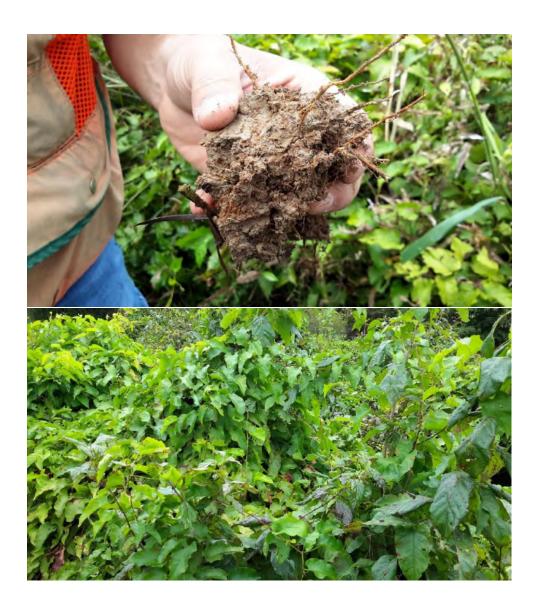
Project/Site: Wattensaw Bayou	City/County. Echloke/Lorlok	Sampling Date: 13-Sep-1/		
Applicant/Owner: _Mitigation Management	State: Ar	Sampling Point: R-5		
Investigator(s): _CG,CK,HS,TW,GW,KK	Section, Township, Range	e: S 18		
andform (hillslope, terrace, etc.): Floodplain	Local relief (concave, conve	ex, none): concave Slope: 1.0 % / 0.6 °		
Subregion (LRR or MLRA): LRR O	Lat.: 34.8907 N L	Long.: -91.9065 W Datum: Nad 83		
Goil Map Unit Name:Tichnor Silt Loam		NWI classification: none		
Are climatic/hydrologic conditions on the site typical for this time	of year? Yes No	(If no, explain in Remarks.)		
	•	mal Circumstances" present? Yes No		
	•	ed, explain any answers in Remarks.)		
Are vegetation, 5011, of fryurology flatt	rany problematic: (11 needs	eu, expiain any answers in Kemarks.)		
SUMMARY OF FINDINGS - Attach site map showing	ng sampling point locations	s, transects, important features, etc.		
Hydrophytic Vegetation Present? Yes No	Is the Sampled Are	-		
Hydric Soil Present? Yes ● No ○	_	Vac (No (
Wetland Hydrology Present? Yes No	within a Wetland?			
Remarks:				
This tract has been farmed regularly since at least before 196		ning, and levees have		
altered site conditions from that of historic condition prior to o	onversion.			
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)		
Primary Indicators (minimum of one required; check all that a	apply)	Surface Soil Cracks (B6)		
Surface Water (A1) Aquatic Fa		Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)	sits (B15) (LRR U)	✓ Drainage Patterns (B10)		
Saturation (A3) Hydrogen	Sulfide Odor (C1)	Moss Trim Lines (B16)		
✓ Water Marks (B1) ✓ Oxidized R	hizospheres along Living Roots (C3)	☐ Dry Season Water Table (C2)		
✓ Sediment Deposits (B2)	f Reduced Iron (C4)	✓ Crayfish Burrows (C8)		
✓ Drift Deposits (B3) Recent Iro	n Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)		
	Surface (C7)	Geomorphic Position (D2)		
☐ Iron Deposits (B5) ☐ Other (Exp	lain in Remarks)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)		✓ FAC-Neutral Test (D5)		
✓ Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)		
Field Observations:				
Surface Water Present? Yes No Depth (ir	ches):			
Water Table Present? Yes No Depth (in		.		
Saturation Present? (includes capillary fringe) Yes No Depth (in	ches):0 Wetland I	Hydrology Present? Yes No		
Describe Recorded Data (stream gauge, monitoring well, aeria		available:		
	· p·······, p········			
Remarks:				
Remarks:				
I				

,		Dominant Species?	Sampling Point: R-5
	Absolute	Rel.Strat. Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cover Status	Number of Dominant Species
1	0		That are OBL, FACW, or FAC: 6 (A)
2	0		Total Number of Dominant
3	_ 0	0.0%	Species Across All Strata: 7 (B)
4	0	0.0%	
5	0	0.0%	Percent of dominant Species That Are OBL_FACW_or_FAC: 85.7% (A/B)
6	0	0.0%	That Are OBL, FACW, or FAC: 85.7% (A/B)
7	0	0.0%	Prevalence Index worksheet:
8.	0	0.0%	Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	OBL species 30 x 1 = 30
Sapling or Sapling/Shrub Stratum (Plot size: 30)		FACW species $170 \times 2 = 340$
1	0	0.0%	FAC species $50 \times 3 = 150$
2		0.0%	FACU species $10 \times 4 = 40$
3.		0.0%	A I =
A -		0.0%	ore species x s =
4 5		0.0%	Column Totals: <u>260</u> (A) <u>560</u> (B)
			Prevalence Index = $B/A = 2.154$
6		0.0%	Hydrophytic Vegetation Indicators:
7		0.0%	Tryarophytic Vegetation Indicators.
8			1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)			✓ 3 - Prevalence Index is \leq 3.0 ¹
1 Cephalanthus occidentalis	30	✓ 75.0% OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Diospyros virginiana	10	✓ 25.0% FAC	
3.		0.0%	¹ Indicators of hydric soil and wetland hydrology must
4.		0.0%	be present, unless disturbed or problematic.
E	0	0.0%	Definition of Vegetation Strata:
6		0.0%	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 20 20% of Total Cover: 8		= Total Cover	approximately 20 ft (6 m) or more in height and 3 in.
	40 =	- Total Cover	(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30			Sapling - Woody plants, excluding woody vines,
1 Persicaria pensylvanica	70	✓ 38.9% FACW	approximately 20 ft (6 m) or more in height and less
2. Coleataenia rigidula	40	✓ 22.2% FACW	than 3 in. (7.6 cm) DBH.
3. Iva annua	40	✓ 22.2% FAC	
4 _. Commelina virginica	30	16.7%FACW	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5	0	0.0%	than 3 in. DBH and greater than 3.26 it (1111) tall.
6	0	0.0%	Shrub - Woody plants, excluding woody vines,
7	0	0.0%	approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%	
9	0	0.0%	Herb - All herbaceous (non-woody) plants, including
10	0	0.0%	herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11	0	0.0%	3 ft (1 m) in height.
12.	0	0.0%	
50% of Total Cover: 90 20% of Total Cover: 36	180 =	Total Cover	Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30			
1 Brunnichia ovata		✓ 75.0% FACW	
2. Lonicera japonica		✓ 25.0% FACU	
3		0.0%	
4			Hydrophytic
5			Vegetation
50% of Total Cover: 20 20% of Total Cover: 8	40 =	Total Cover	Present? Yes • No ·
Remarks: (If observed, list morphological adaptations below).			
Passiflora incarnata present in Woody Vine stratum- 30% co	ver, no ind	icator status listed	
*Indicator suffix = National status or professional decision assigned because Re	egional status i	not defined by FWS.	

SOIL Sampling Point: R-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth Matrix Redox Features									
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type 1	Loc2	Texture	Remarks	
0-18	10YR 5/1	80	7.5YR 5/8	20	C	_M	Silt Loam		
			<u>'</u>					`	
								· ·	
								· ·	
								`	
								·	
				,——					
		n. RM=Reduc	ed Matrix, CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	Matrix	
Hydric Soil I							Indicators for Prob	olematic Hydric Soils ³ :	
Histosol (•		Polyvalue Belo	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)	(LRR O)	
	pedon (A2)		Thin Dark Sur	face (S9) (I	LRR S, T, l	J)	2 cm Muck (A10) (LRR S)	
Black Hist			Loamy Mucky	Mineral (F	1) (LRR O)	1	Reduced Vertic (F18) (outside MLRA 150A,B)	
	Sulfide (A4)		Loamy Gleyed	d Matrix (F2	2)			olain Soils (F19) (LRR P, S, T)	
	Layers (A5)		✓ Depleted Matı	rix (F3)				nt Loamy Soils (F20) (MLRA 153B)	
Organic B	odies (A6) (LRR P, T, l	J)	Redox Dark S	urface (F6)			Red Parent Mate		
5 cm Muc	ky Mineral (A7) (LRR P	P, T, U)	Depleted Dark	k Surface (F	7)		Very Shallow Da	rk Surface (TF12)	
Muck Pres	sence (A8) (LRR U)		Redox Depres	sions (F8)			Other (Explain in		
1 cm Muc	k (A9) (LRR P, T)		Marl (F10) (LF	RR U)			Outer (Explain ii	Tremano,	
Depleted	Below Dark Surface (A	11)	Depleted Och	ric (F11) (M	1LRA 151)				
Thick Darl	k Surface (A12)		☐ Iron-Mangane			R O, P, T)			
Coast Prai	irie Redox (A16) (MLR/	A 150A)	Umbric Surfac						
Sandy Mu	ıck Mineral (S1) (LRR C), S)	Delta Ochric (_		
Sandy Gle	eyed Matrix (S4)		Reduced Verti		-	150B)		of hydrophytic vegetation and	
Sandy Red			☐ Piedmont Floo					hydrology must be present, s disturbed or problematic.	
	Matrix (S6)						9A, 153C, 153D)	o albiandou di prodicinacio	
	ace (S7) (LRR P, S, T,	U)	Anomalous bi	igne Louiny	30113 (1 20)) (MEION I I	JA, 1330, 1330)		
		,							
Restrictive La	ayer (if observed):								
Type:				_			Undria Cail Brasanta	Yes No	
Depth (incl	hes):			_			Hydric Soil Present?	Yes • No O	
Remarks:						•			

Sampling Point Labeled on Map R5:



DATA FORM
ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

 Type of alteration: The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural

management techniques (e.g. tilling, disking, mowing, herbicide, leveling). The site is

currently fallow.

2. Effect on the Vegetation: Regular tilling, disking, mowing, herbicide, and leveling have

prevented natural succession.

3. **Previous Vegetation:** Prior to 2011, wheat, hay, and other commodity crops. Prior to 1960's,

the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate

that bottomland hardwood forested wetlands were present at that time.

4. Hydrophytic Vegetation? Yes

B. SOILS:

1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil

has been routinely disturbed on site due to tilling, disking, etc. leveling, as part of an agricultural management regime. Micro and macro topographic features have been largely

eliminated due to leveling.

2. Effect on the Soil: Microtopography has been mostly eliminated with exception to old fence

lines.

3. Previous Soils: Prior to clearing, the soils likely exhibited wetland characteristics and a

hydroperiod more similar to that as the intact forested community abutting the Bank.

4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Remnant fence lines have caused minor topographic alterations across the community which impedes natural movement of water across the site. In addition, microtopography has been largely reduced due to agricultural practices.
- 2. **Effect on the Hydrology:** Fence lines and leveling of microtopography have altered the natural hydrologic regime for the area.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	Sampling Date: 13-Sep-1/
Applicant/Owner: Mitigation Management	State: Ar Sampling Point: R-6
Investigator(s): CG,CK,HS,TW,GW,KK	Section, Township, Range: S 18 T 3N R 8W
andform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): concave Slope: 1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR O Lat.:	34.8908 N Long.: -91.9064 W Datum: Nad 83
Soil Map Unit Name: Tichnor Silt Loam	NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of yea	r? Yes No (If no, explain in Remarks.)
Are Vegetation ✓ , Soil ✓ , or Hydrology ✓ significantl	ly disturbed? Are "Normal Circumstances" present? Yes No O
	roblematic? (If needed, explain any answers in Remarks.)
	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No	inpining point locations, transects, important reactives, etc.
Hydric Soil Present? Yes • No •	Is the Sampled Area
Wetland Hydrology Present? Yes No	within a Wetland? Yes No
,	
Remarks: This tract has been farmed regularly since at least before 1960's. The altered site conditions from that of historic condition prior to convers	
HYDROLOGY	
Sediment Deposits (B2)	Drainage Patterns (B10) Dodor (C1) Drainage Patterns (B16) Drainage Patterns (B10) Moss Trim Lines (B16) Drainage Patterns (B10) Drainage Patterns (B1
Remarks:	

, , , , , , , , , , , , , , , , , , , ,		Dominant Species?	Sampling Point: R-6		
		Rel.Strat. Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30)	% Cover	Cover Status	Number of Dominant Species		
1		0.0%	That are OBL, FACW, or FAC: 3 (A)		
2			Total Number of Dominant		
3			Species Across All Strata:5(B)		
4		0.0%			
5			Percent of dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)		
6	0		That Are Obl., FACW, OF FAC.		
7			Prevalence Index worksheet:		
8			Total % Cover of: Multiply by:		
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover	OBL species $0 \times 1 = 0$		
Sapling or Sapling/Shrub Stratum (Plot size: 30	_)		FACW species $100 \times 2 = 200$		
1			FAC species $80 \times 3 = 240$		
2			FACU species $70 \times 4 = 280$		
3	0		UPL species $0 \times 5 = 0$		
4	0		Column Totals: <u>250</u> (A) <u>720</u> (B)		
5			Prevalence Index = B/A = 2.880		
6	0				
7			Hydrophytic Vegetation Indicators:		
8			1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover	✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30)			✓ 3 - Prevalence Index is ≤3.0 ¹		
1	0	0.0%	Problematic Hydrophytic Vegetation ¹ (Explain)		
2.	•	0.0%			
3.		0.0%	¹ Indicators of hydric soil and wetland hydrology must		
4.		0.0%	be present, unless disturbed or problematic.		
5.	0	0.0%	Definition of Vegetation Strata:		
6.	0	0.0%	Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: 30)					
1 Iva annua	80	✔ 40.0% FAC	Sapling - Woody plants, excluding woody vines,		
2. Kummerowia striata		✓ 25.0% FACU	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.		
3. Coleataenia rigidula		✓ 25.0% FACW			
4. Persicaria pensylvanica	10	5.0% FACW	Sapling/Shrub - Woody plants, excluding vines, less		
5. Dichanthelium clandestinum	10	5.0% FACW	than 3 in. DBH and greater than 3.28 ft (1m) tall.		
6	0	0.0%	Observity Wilderstand and a state of the sta		
7.		0.0%	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
8.	0	0.0%			
9.	0	0.0%	Herb - All herbaceous (non-woody) plants, including		
10.	0	0.0%	herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately		
11.	0	0.0%	3 ft (1 m) in height.		
12.	0	0.0%			
50% of Total Cover: 100 20% of Total Cover: 40	200 =	Total Cover	Woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: 30					
1. Brunnichia ovata	30	✓ 60.0% FACW			
Lonicera japonica		✓ 40.0% FACU			
	0	0.0% PACO			
4		0.0%			
5	0	0.0%	Hydrophytic		
			Vegetation Present? Yes No		
50% of Total Cover: 25 20% of Total Cover: 10	50 =	Total Cover	Tresent:		
Remarks: (If observed, list morphological adaptations below).					
*Indicator suffix = National status or professional decision assigned because Re	gional status i	not defined by FWS.			

SOIL Sampling Point: R-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix			Red	lox Featu	res				
(inches)	Color (moist)		Color (ı	moist)	%	Type 1	Loc2	Texture	Remarks	
0-18	10YR 5/1	70	10YR	4/6	10	С	М	Silt Loam		
			7.5YR	5/8	10	С	М	Silt Loam		
			10YR	2/1	10	С	М	Silt Loam		
						1			· ·	
¹ Type: C=Conc	entration. D=Depletion	i. RM=Redu	ced Matrix, C	: S=Covere	d or Coate	d Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=	Matrix	
Hydric Soil In	ndicators:							Indicators for Prob	olematic Hydric Soils ³ :	
Histosol (A	1)		Poly	value Belo	w Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)		
Histic Epip	edon (A2)		Thin	n Dark Surf	ace (S9) (LRR S, T, I	J)			
Black Histic	c (A3)			my Mucky				2 cm Muck (A10) (LRR S)		
	Sulfide (A4)			my Gleyed					(F18) (outside MLRA 150A,B)	
Stratified L						-)			plain Soils (F19) (LRR P, S, T)	
		`		leted Matr					nt Loamy Soils (F20) (MLRA 153B)	
	odies (A6) (LRR P, T, U	-		ox Dark Su				Red Parent Mate	erial (TF2)	
	xy Mineral (A7) (LRR P,	1, 0)		leted Dark		=7)		Very Shallow Da	rk Surface (TF12)	
	ence (A8) (LRR U)		L Red	ox Depres	sions (F8)			Other (Explain in	n Remarks)	
1 cm Muck	(A9) (LRR P, T)		Mar	l (F10) (LR	RU)				•	
Depleted E	Below Dark Surface (A1	1)	☐ Dep	leted Ochr	ic (F11) (N	1LRA 151)				
Thick Dark	Surface (A12)		☐ Iron	-Mangane	se Masses	(F12) (LRI	R O, P, T)			
Coast Prair	rie Redox (A16) (MLRA	150A)		bric Surface						
Sandy Muc	ck Mineral (S1) (LRR O,	S)		a Ochric (F			'			
	yed Matrix (S4)	-,		uced Verti		-	1 FOD)	³ Indicators	s of hydrophytic vegetation and	
Sandy Red							-		hydrology must be present,	
							LRA 149A)		s disturbed or problematic.	
Stripped M			∟ Ano	malous Bri	ght Loamy	Soils (F20)) (MLRA 14	9A, 153C, 153D)		
☐ Dark Surfa	ce (S7) (LRR P, S, T, U	1)								
								T		
Restrictive La	yer (if observed):									
Type:					_			Under Call Barrer	v (a) v (
Depth (inch	es):							Hydric Soil Present?	Yes • No O	
Remarks:										

Sampling Point Labeled on Map R6:



DATA FORM
ATYPICAL SITUATIONS

Project Name: Wattensaw Bayou Mitigation Bank

Location: Lonoke, AR Date: September 11-13, 2017

A. VEGETATION:

 Type of alteration: The site has been in agricultural production since the 1960's. Some clearing had occurred prior to 1949, remaining areas were cleared between 1949 and the 1970's. The vegetation has been significantly disturbed on site due to past agricultural

management techniques (e.g. tilling, disking, mowing, herbicide, leveling). The site is

currently fallow.

2. Effect on the Vegetation: Regular tilling, disking, mowing, herbicide, and leveling have

prevented natural succession.

3. **Previous Vegetation:** Prior to 2011, wheat, hay, and other commodity crops. Prior to 1960's,

the majority of the site was forested. Historic aerials (1949) and geomorphic position indicate

that bottomland hardwood forested wetlands were present at that time.

4. Hydrophytic Vegetation? Yes

B. SOILS:

1. **Type of alteration:** The site has been in agricultural production for the past 50 years. The soil

has been routinely disturbed on site due to tilling, disking, etc. leveling, as part of an agricultural management regime. Micro and macro topographic features have been largely

eliminated due to leveling.

2. Effect on the Soil: Microtopography has been mostly eliminated with exception to old fence

lines.

3. Previous Soils: Prior to clearing, the soils likely exhibited wetland characteristics and a

hydroperiod more similar to that as the intact forested community abutting the Bank.

4. Hydrophytic Soils? Yes

C. HYDROLOGY:

- 1. **Type of alteration:** Remnant fence lines have caused minor topographic alterations across the community which impedes natural movement of water across the site. In addition, microtopography has been largely reduced due to agricultural practices.
- 2. **Effect on the Hydrology:** Fence lines and leveling of microtopography have altered the natural hydrologic regime for the area.
- 3. **Previous Hydrology:** Historic aerials, soils and topographic maps, indicate site hydrology was primarily associated with out-banking events of Wattensaw Bayou and Locust Creek.
- 4. Wetland Hydrology? Yes

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County:	Lonoke/Lonoke	Sa	mpling Date:	14-Jun-18		
Applicant/Owner: Mitigation Management	:	State: Ar	Sampling Point	: R-7			
Investigator(s): CG, TW	Section, Tow	nship, Range: S 13	T 3N	R 9V	N		
Landform (hillslope, terrace, etc.): Floodplain	Local relief (co	ncave, convex, none): concave	Slope: 1.	.0 % / 0.6°		
Subregion (LRR or MLRA): LRR O	Lat.: 34.889 N	Long.:	-91.9139 W	— Datu	ım: Nad 83		
Soil Map Unit Name: _ Tichnor Silt Loam			NWI classificat				
Are climatic/hydrologic conditions on the site typical for this	s time of year? Yes	● No ○ (If	no, explain in Rei				
Are Vegetation , Soil , or Hydrology	significantly disturbed?	•	cumstances" pres	, , , , , , , , , , , , , , , , , , ,	No 🔾		
Are Vegetation , Soil , or Hydrology	naturally problematic?		ain any answers i	-Circ-			
SUMMARY OF FINDINGS - Attach site map sh	owing sampling poin		-	-	etc.		
Hydrophytic Vegetation Present? Yes No	Tatha	Sampled Area					
Hydric Soil Present? Yes No		Voc	s • No O				
Wetland Hydrology Present? Yes No	within	a Wetland?	, . 140				
Remarks: HYDROLOGY							
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all	that annly)	Se	Secondary Indicators (minimum of 2 required) Surface Soil Cracks (B6)				
	atic Fauna (B13)			parsely Vegetated Concave Surface (B8)			
	Deposits (B15) (LRR U)		Drainage Patterns		(50)		
Saturation (A3)	ogen Sulfide Odor (C1)		Moss Trim Lines (B16)			
☐ Water Marks (B1) ✓ Oxidi	ized Rhizospheres along Living	Roots (C3)	Dry Season Water	Table (C2)			
	ence of Reduced Iron (C4)	✓	Crayfish Burrows ((C8)			
	ent Iron Reduction in Tilled Soils	s (C6)	1	on Aerial Imagery	(C9)		
	Muck Surface (C7)		Geomorphic Positi				
☐ Iron Deposits (B5) ☐ Othe ☐ Inundation Visible on Aerial Imagery (B7)	er (Explain in Remarks)		Shallow Aquitard (
✓ Water-Stained Leaves (B9)			FAC-Neutral Test (Sphagnum moss (` ,			
Field Observations:		T	Spriagrium moss (D6) (LRR 1, U)			
	pth (inches):						
Catamatica Duccenti	pth (inches):	Wetland Hydrolo	gy Present?	Yes 💿 No 🗆)		
Saturation Present? (includes capillary fringe) Yes No Del	pth (inches): 11.5						
Describe Recorded Data (stream gauge, monitoring well, Remarks:	aeriai priotos, previous ins	pecuons), ii avallabii	e: 				

VEGETATION (Five/Four Strata) - Use scientific names of plants.

,		Dominant Species?		Sampling Point: R-7
	Absolute	Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	% Cover	Cover	Status	Number of Dominant Species
1. Liquidambar styraciflua	10	✓ 100.0%	FAC	That are OBL, FACW, or FAC: 5 (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: 5 (B)
4	0	0.0%		
5	0	0.0%		Percent of dominant Species That Are OBL_FACW_or_FAC: 100.0% (A/B)
6	_ 0	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
7	0 [0.0%		Prevalence Index worksheet:
8	_ 0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 5 20% of Total Cover: 2	10 =	Total Cover		OBL species 95 x 1 = 95
Sapling or Sapling/Shrub Stratum (Plot size: 30)			FACW species $70 \times 2 = 140$
1. Diospyros virginiana	10	✓ 66.7%	FAC	FAC species $20 \times 3 = 60$
2. Cephalanthus occidentalis	5	✓ 33.3%	OBL	FACU species $0 \times 4 = 0$
3	0	0.0%		UPL species $0 \times 5 = 0$
4		0.0%		Column Totals: 185 (A) 295 (B)
5		0.0%		
6		0.0%		Prevalence Index = B/A = 1.595
7		0.0%		Hydrophytic Vegetation Indicators:
8.	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 7.5 20% of Total Cover: 3	15 =	: Total Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30)				✓ 3 - Prevalence Index is ≤3.0 ¹
4	0	0.0%		
1 2.		0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)
<u> </u>				¹ Indicators of hydric soil and wetland hydrology must
1		0.0%		be present, unless disturbed or problematic.
		0.0%		Definition of Vegetation Strata:
5		0.0%		I -
6.				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 0 20% of Total Cover: 0	=	: Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30)				
1. Persicaria hydropiper	90	✓ 100.0%	OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2	0	0.0%		than 3 in. (7.6 cm) DBH.
3	0	0.0%		
4	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
5	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0	0.0%		Shrub - Woody plants, excluding woody vines,
7	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%		
9		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10	0	0.0%		plants, except woody vines, less than approximately
11		0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 45 20% of Total Cover: 18	90 =	Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30)				
1 Brunnichia ovata	70	✓ 100.0%	FACW	
2.	0	0.0%		
3.	0	0.0%		
4.	0	0.0%		
5.	0	0.0%		Hydrophytic
50% of Total Cover: 35 20% of Total Cover: 14		Total Cover		Vegetation Present? Yes No
20/0 01 10tal cover	70	10tal COVE		
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because R	egional status r	not defined by FV	VS.	

SOIL Sampling Point: R-7

Profile Descr	ription: (De	scribe to	the depth	needed to d	ocument	the indic	ator or co	onfirm the	absence of indicators.)			
Depth		Matrix			Red	dox Featu	res					
(inches)	Color (moist)	%	Color (moist)	%	Type 1		Texture	Remarks		
0-6	GLEY	6/10Y	40	2.5YR	3/6	40	С	М	Silt Loam			
				2.5YR	7/2	20	С	<u> M</u>		•		
6-12	GLEY 6	6/10Y	60	2.5YR	3/6	30	С	М	Silt Loam			
				2YR	7/2	10	С	М				
		•				1	`	1		·		
					-					`		
		-								•		
1 Type: C=Cond	centration. D	-Depletion	n. RM=Redu	iced Matrix, C	S=Covere	ed or Coate	d Sand Gra	ains ² Loca	ntion: PL=Pore Lining. M=N	 Natrix		
Hydric Soil I										lematic Hydric Soils ³ :		
Histosol (A1)			Poly	value Belo	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9) (
Histic Epig	pedon (A2)											
Histic Epipedon (A2) Black Histic (A3) Thin Dark Surface (S9) (LRR S, T, U) Loamy Mucky Mineral (F1) (LRR O)									2 cm Muck (A10)			
	Sulfide (A4)							,		F18) (outside MLRA 150A,B)		
										ain Soils (F19) (LRR P, S, T)		
☐ Stratified Layers (A5) ☐ Depleted Matrix (F3) ☐ Organic Bodies (A6) (LRR P, T, U) ☐ Redox Dark Surface (F6)										: Loamy Soils (F20) (MLRA 153B)		
	cky Mineral (A		-			, ,			Red Parent Mater			
	sence (A8) (L		, 1, 0)	_		Surface (F	-/)		Very Shallow Dar	k Surface (TF12)		
						sions (F8)			Other (Explain in	Remarks)		
	ck (A9) (LRR I		11)		l (F10) (LF							
	Below Dark S	-	11)			ric (F11) (N						
	k Surface (A1		.=		_	ese Masses						
	irie Redox (A			Uml	bric Surfac	e (F13) (LF	RR P, T, U)				
	ıck Mineral (S		, S)	☐ Delt	ta Ochric (F17) (MLR/	A 151)		3 _{Indicators}	of hydrophytic vegetation and		
	eyed Matrix (S	S4)		Red	luced Verti	ic (F18) (M	LRA 150A,	150B)	wetland hydrology must be present,			
Sandy Red				Pied	lmont Floo	odplain Soil	s (F19) (M	LRA 149A)		disturbed or problematic.		
Stripped N	Matrix (S6)			Ano	malous Br	ight Loamy	Soils (F20)) (MLRA 14	9A, 153C, 153D)			
☐ Dark Surfa	ace (S7) (LRF	R P, S, T, L	J)									
Restrictive La	ayer (if obs	erved):										
Type:						_			Uvdvia Cail Dragant?	Yes No		
Depth (incl	hes):								Hydric Soil Present?	tes © No C		
Remarks:												

Sampling Point Labeled on Map R7:



WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Wattensaw Bayou	City/County:	Lonoke/Lonoke		Sampling Date:	14-Jun-18		
Applicant/Owner: Mitigation Management		State: Ar	Sampling P	oint: R-8			
Investigator(s): CG, TW	Section, Town	nship, Range: S 1	3 T	3N R	9W		
Landform (hillslope, terrace, etc.): Floodplain	Local relief (co	ncave, convex, none	e):	Slope:	0.0 % / 0.0		
Subregion (LRR or MLRA): LRR O	Lat.: 34.8934 N	Long.:	-91.9119 W	Di	atum: Nad 83		
Soil Map Unit Name: Stuttgart silt loam			NWI classi	ification: none			
Are climatic/hydrologic conditions on the site typical for this tim	ne of year? Yes	● No ○ (If	no, explain i				
	nificantly disturbed?	Are "Normal Cir			No ○		
	curally problematic?			vers in Remarks.)			
SUMMARY OF FINDINGS - Attach site map showi			-	•	es, etc.		
Hydrophytic Vegetation Present? Yes No		-			•		
Hydric Soil Present? Yes No	Is the	Sampled Area	A O				
Wetland Hydrology Present? Yes No	within	a Wetland? Ye	s • No O				
Remarks:							
Remarks.							
HYDROLOGY							
Wetland Hydrology Indicators:		Se	econdary Indica	tors (minimum of 2 i	required)		
Primary Indicators (minimum of one required; check all that	apply)		Secondary Indicators (minimum of 2 required) Surface Soil Cracks (B6)				
Surface Water (A1)	auna (B13)		_	etated Concave Surfa	ace (B8)		
☐ High Water Table (A2) ☐ Marl Depo	osits (B15) (LRR U)		Drainage Patterns (B10)				
Saturation (A3) Hydrogen	Sulfide Odor (C1)		Moss Trim Lines (B16)				
	Rhizospheres along Living	Roots (C3)	5 (C3) Dry Season Water Table (C2)				
	of Reduced Iron (C4)		Crayfish Burr	ows (C8)			
	on Reduction in Tilled Soils	(C6)	Saturation Visible on Aerial Imagery (C9)				
	k Surface (C7)		Geomorphic	` '			
	plain in Remarks)		Shallow Aquit				
Inundation Visible on Aerial Imagery (B7)			FAC-Neutral	• •			
Water-Stained Leaves (B9)			Sphagnum m	noss (D8) (LRR T, U)			
Field Observations: Surface Water Present? Yes No Depth (i	to the all						
The second of th	ncnes):						
Water Table Present? Yes No Depth (i	nches):	Wetland Hydrolo	av Brocont?	Yes • No			
Saturation Present? Yes No Depth (i	nches):	Wedana nyarok	gy Fresent:	165 110			
Describe Recorded Data (stream gauge, monitoring well, aeri	al photos, previous ins	pections), if availab	le:				
Remarks:							
Remarks.							

VEGETATION (Five/Four Strata) - Use scientific names of plants.

,	Dominant Sampling Point: R-8 Species?						
	Absolute		Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: 30	% Cover	Cover	Status	Number of Dominant Species			
1. Liquidambar styraciflua	60	50.0%	FAC	That are OBL, FACW, or FAC:5(A)			
2. Fraxinus pennsylvanica	30	25.0%	FACW	Total Number of Dominant			
3. Ulmus alata	20	16.7%	FACU	Species Across All Strata: 7 (B)			
4. Quercus phellos	10	8.3%	FACW				
5	0	0.0%		Percent of dominant Species That Are OBL_FACW_or_FAC: 71.4% (A/B)			
6	0	0.0%		That Are OBL, FACW, or FAC:			
7	0	0.0%		Prevalence Index worksheet:			
8	0	0.0%		Total % Cover of: Multiply by:			
50% of Total Cover: 60 20% of Total Cover: 24	120 =	= Total Cover		OBL species 60 x 1 = 60			
Sapling or Sapling/Shrub Stratum (Plot size: 30)			FACW species $40 \times 2 = 80$			
1 Ulmus alata	40	✓ 53.3%	FACU	FAC species $125 \times 3 = 375$			
2. Liquidambar styraciflua	20	40.0%	FAC	FACU species $65 \times 4 = 260$			
3. Quercus nigra		6.7%	FAC	UPL species $0 \times 5 = 0$			
4	_	0.0%		ore species x s =			
		0.0%		Column Totals: <u>290</u> (A) <u>775</u> (B)			
e		0.0%		Prevalence Index = $B/A = \underline{2.672}$			
7		0.0%		Hydrophytic Vegetation Indicators:			
7 8		0.0%					
				1 - Rapid Test for Hydrophytic Vegetation			
50% of Total Cover: 37.5 20% of Total Cover: 15	<u>75</u> =	= Total Cover		✓ 2 - Dominance Test is > 50%			
Shrub Stratum (Plot size: 30		_		✓ 3 - Prevalence Index is ≤3.0 ¹			
1	0			Problematic Hydrophytic Vegetation ¹ (Explain)			
2	0	0.0%					
3	0	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
4	0	0.0%		be present, unless disturbed of problematic.			
5	0	0.0%		Definition of Vegetation Strata:			
6.	0	0.0%		Tree - Woody plants, excluding woody vines,			
50% of Total Cover:0 20% of Total Cover:0	0 =	Total Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).			
Herb Stratum (Plot size: 30)				(7.0 dill) di larger in diameter at breast height (BBH).			
1 Carex crus-corvi	60	✓ 66.7%	OBL	Sapling - Woody plants, excluding woody vines,			
2 Chasmanthium latifolium		33.3%	FAC	approximately 20 ft (6 m) or more in height and less			
3.		0.0%	TAC	than 3 in. (7.6 cm) DBH.			
4.		0.0%		Sapling/Shrub - Woody plants, excluding vines, less			
				than 3 in. DBH and greater than 3.28 ft (1m) tall.			
5		0.0%					
6		0.0%		Shrub - Woody plants, excluding woody vines,			
7		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.			
8		0.0%		Herb - All herbaceous (non-woody) plants, including			
9	0	0.0%		herbaceous vines, regardless of size, and woody			
10	0			plants, except woody vines, less than approximately			
11				3 ft (1 m) in height.			
12				Woody vine - All woody vines, regardless of height.			
50% of Total Cover: 45 20% of Total Cover: 18	90 =	= Total Cover		Woody ville - All woody villes, regardless of fielght.			
Woody Vine Stratum (Plot size: 30)							
1 Parthenocissus quinquefolia	5	✓ 100.0%	FACU				
2.	0	0.0%					
3.	0	0.0%					
4.	0	0.0%					
5.	0	0.0%		Hydrophytic			
50% of Total Cover: 2.5 20% of Total Cover: 1	- — 5 =	= Total Cover		Vegetation Present? Yes No			
25% of Total Cover. 2.5 25% of Total Cover. 1		. Juli Cove					
Remarks: (If observed, list morphological adaptations below).							
*Indicator suffix = National status or professional decision assigned because Re	egional status	not defined by FV	VS.				

SOIL Sampling Point: R-8

Profile Descri	-		the depth	needed to do				onfirm the	absence of indicators.)	
Depth (inches)		Matrix		Calar (m		dox Featu	res Type ¹	12	Taratuma	Remarks
(inches) 0-6	Color (r 10YR	5/2	70	Color (m	6/4	% 30	С	Loc² M	Silt Loam	Kemarks
6-10	7.5YR	5/2	90	7.5YR	5/8	10			Silt Loam	
10-15	2.5YR	6/1	70	10YR	5/8	30	С		Silt Loam	
¹ Type: C=Conc	entration D	-Denletio	n RM=Redi	rced Matrix CS	=Covere	ed or Coate	ed Sand Gr	ains 21 oca	ation: PL=Pore Lining. M=N	Matrix
Hydric Soil Ir		-Беріскіо	n. Ri I—Reac	acca Flatrix, Co		d or could	d Sana Gr	umb Locc		
Histosol (A				Polyv	alue Rek	ow Surface	e (S8) (LRR	S T II)		lematic Hydric Soils ³ :
Histic Epip	•								1 cm Muck (A9) (
	☐ Histic Epipedon (A2)☐ Black Histic (A3)☐ Loamy Mucky Mineral (F1) (LRR O)								2 cm Muck (A10)	
	Sulfide (A4)					l Matrix (F		•	_	F18) (outside MLRA 150A,B) ain Soils (F19) (LRR P, S, T)
Stratified L					ted Matr		-)			: Loamy Soils (F20) (MLRA 153B)
	odies (A6) (LI	RR P, T, L	J)	'		urface (F6))		Red Parent Mater	
	xy Mineral (A			_		Surface (•		Very Shallow Darl	
Muck Prese	ence (A8) (Li	RR U)				sions (F8)	-		Other (Explain in	
1 cm Muck	(A9) (LRR P	P, T)			(F10) (LF					Remarks)
Depleted E	Below Dark S	urface (A	11)				MLRA 151)			
Thick Dark	Surface (A1	2)					(F12) (LR			
Coast Prair	rie Redox (A1	L6) (MLRA	A 150A)				RR P, T, U			
Sandy Muc	k Mineral (S	1) (LRR O	, S)			F17) (MLR			2	
Sandy Gley	yed Matrix (S	(4)		Redu	ced Verti	ic (F18) (M	ILRA 150A,	150B)		of hydrophytic vegetation and hydrology must be present,
Sandy Red	ox (S5)			Piedn	nont Floo	odplain Soi	ls (F19) (M	LRA 149A)		disturbed or problematic.
Stripped M	latrix (S6)			Anom	alous Br	ight Loam	y Soils (F20)) (MLRA 14	9A, 153C, 153D)	
Dark Surfa	ce (S7) (LRR	P, S, T, I	J)							
Restrictive La	ver (if ohse	erved):								
Type:	iyer (ii obse	vcu j.								
Depth (inch	es):					_			Hydric Soil Present?	Yes No
Remarks:										
remanor										

Sampling Point Labeled on Map R8:





Appendix C

WETS Analysis

Rainfall Documentation To Determine Climatic/Hydrologic Conditions

Weather Station Cabot, AR

Site Visit: September 2017

Soil Types: Kobel silty clay loam, Tichnor silt loam, Calhoun silt loam, Calloway silt loam,

Growing Season: 365

Location: Lonoke County, Arkansas

Stuttgart silt loam Tract: Wattensaw Bayou MB

		Long term Rainfall Records						
	Month	3 yrs in 10 less than	Average	3 yrs in 10 greater than	Rainfall	*Conditional Value (a)	Weighted Value	Product of (a X b)
1st Prior Month	August	1.69	3.48	4.26	3.83	2	3	6
2nd Prior Month	July	1.55	3.13	3.83	4.78	3	2	6
3rd Prior Month	June	2.22	3.38	4.06	4.35	3	1	3

^{*} Condition Value : Dry (1), Normal (2), and Wet (3)

SUM= 15

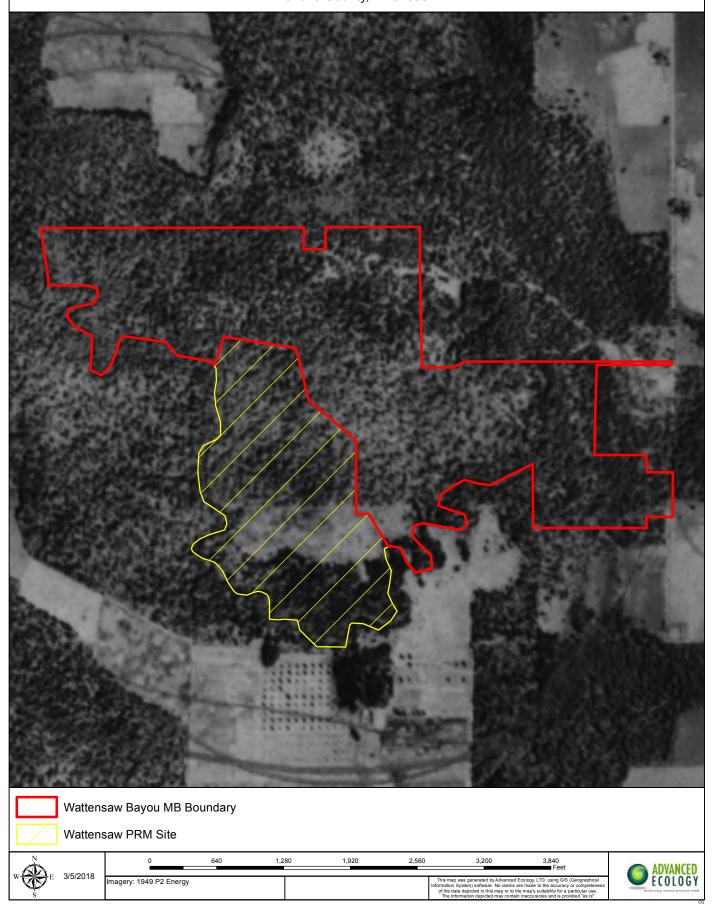
If sum of Products of a X b is 6-9, then period was drier than normal If sum of Products of a X b is 10-14, then period was normal

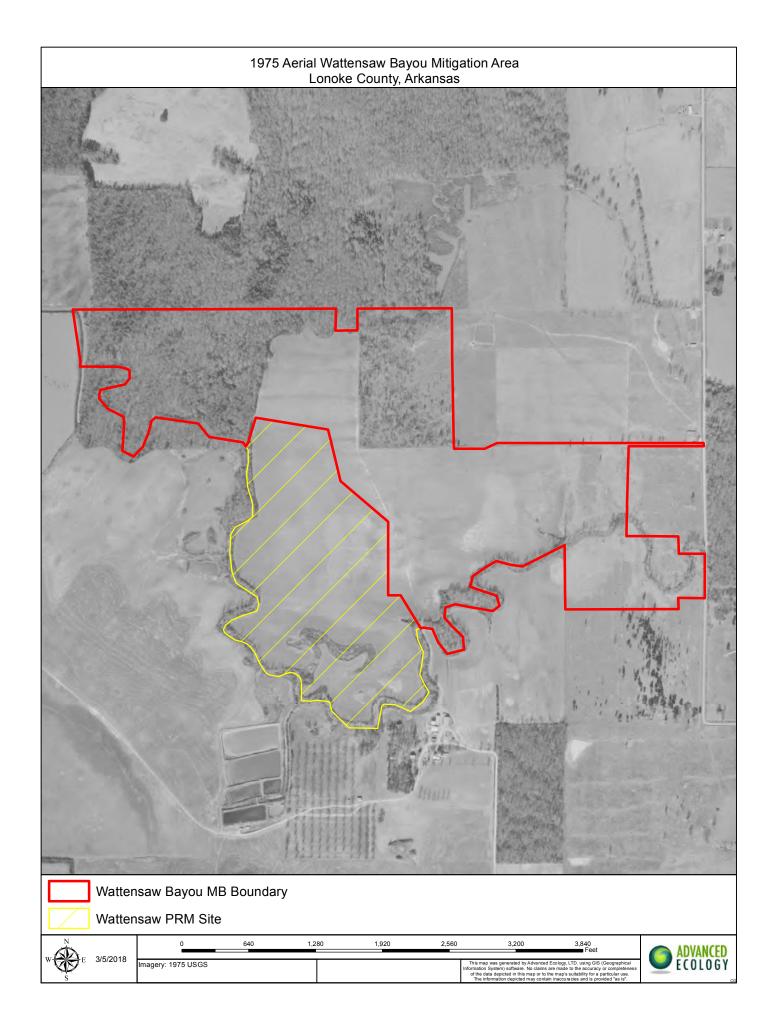
If sum of Products of a X b is 15-18, then period was wetter than normal

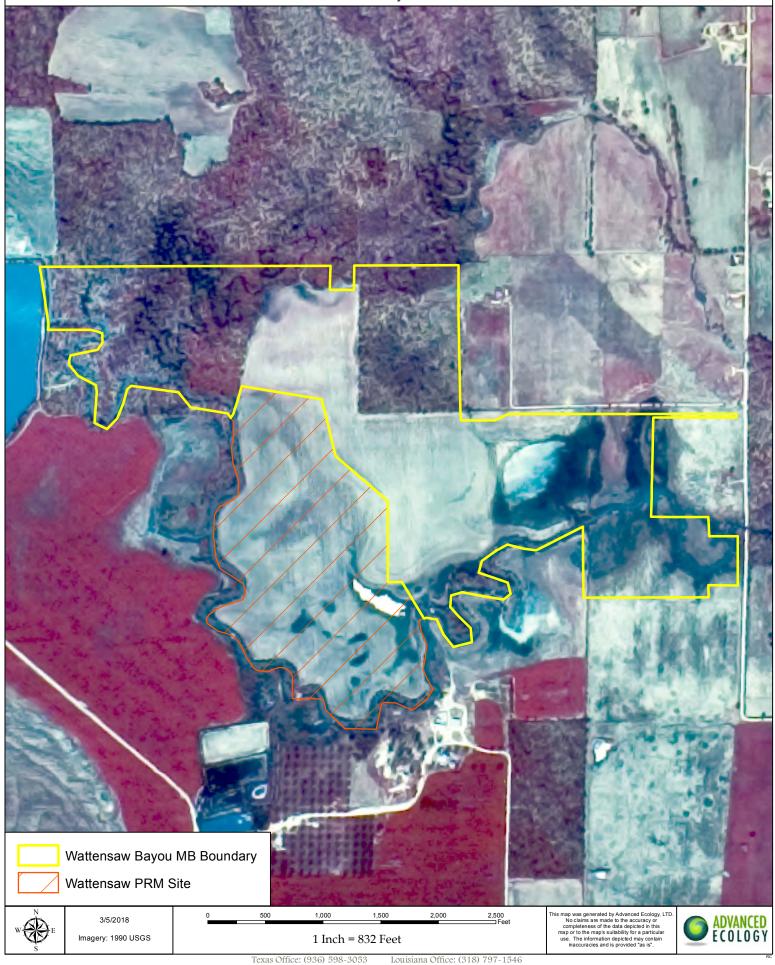
CONCLUSION : Wetter than Normal

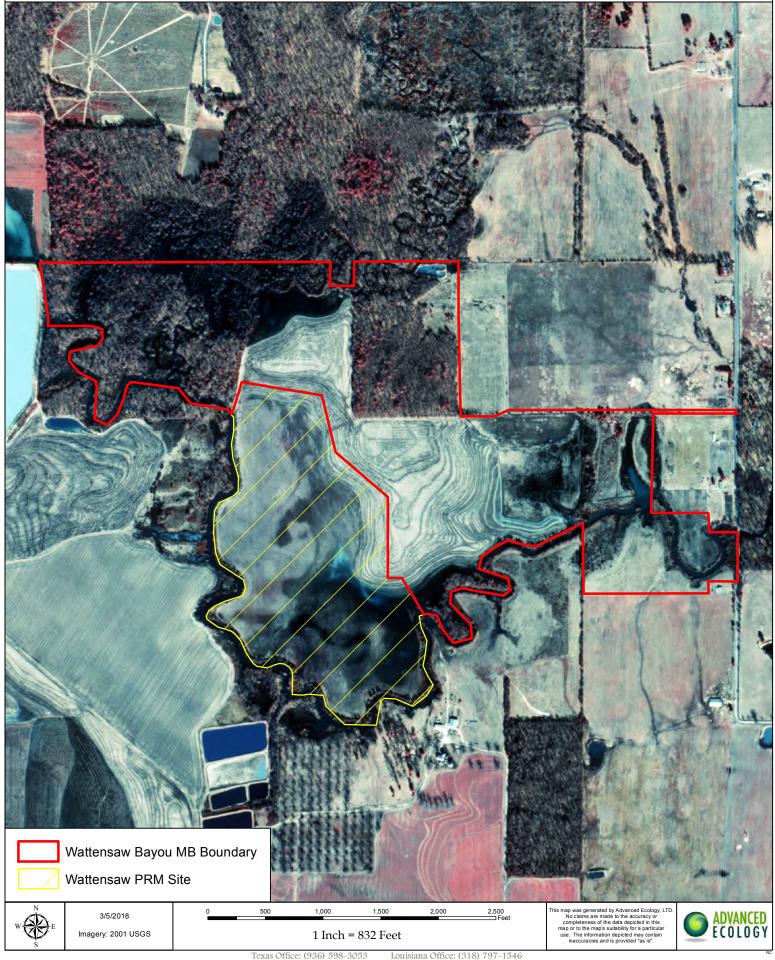
Appendix D

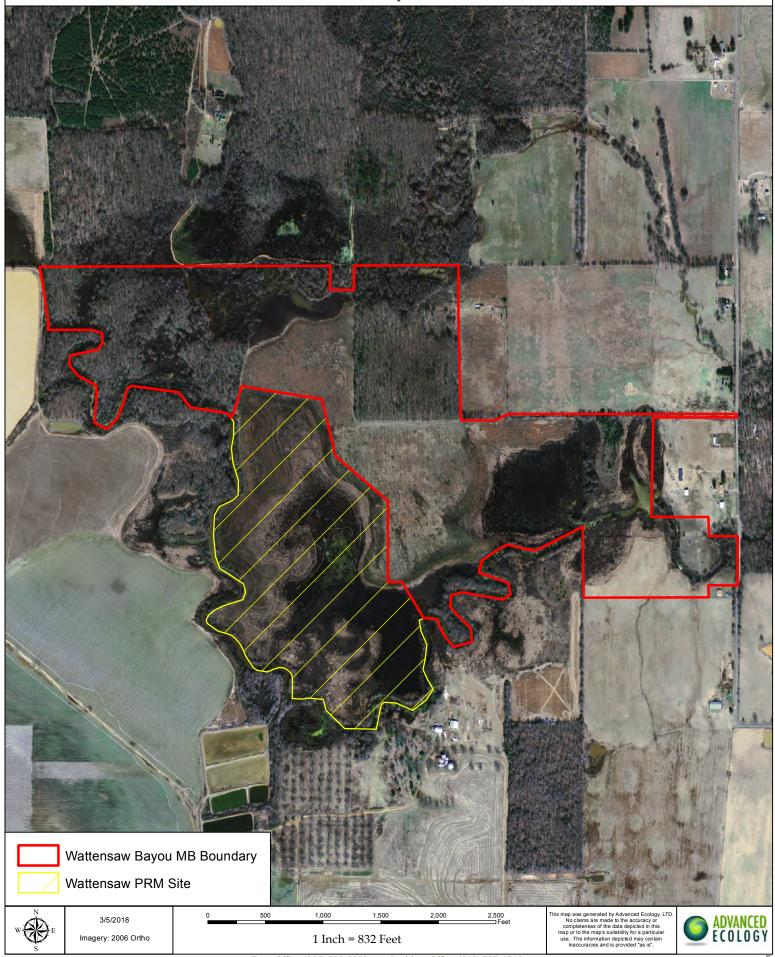
Aerial Imagery

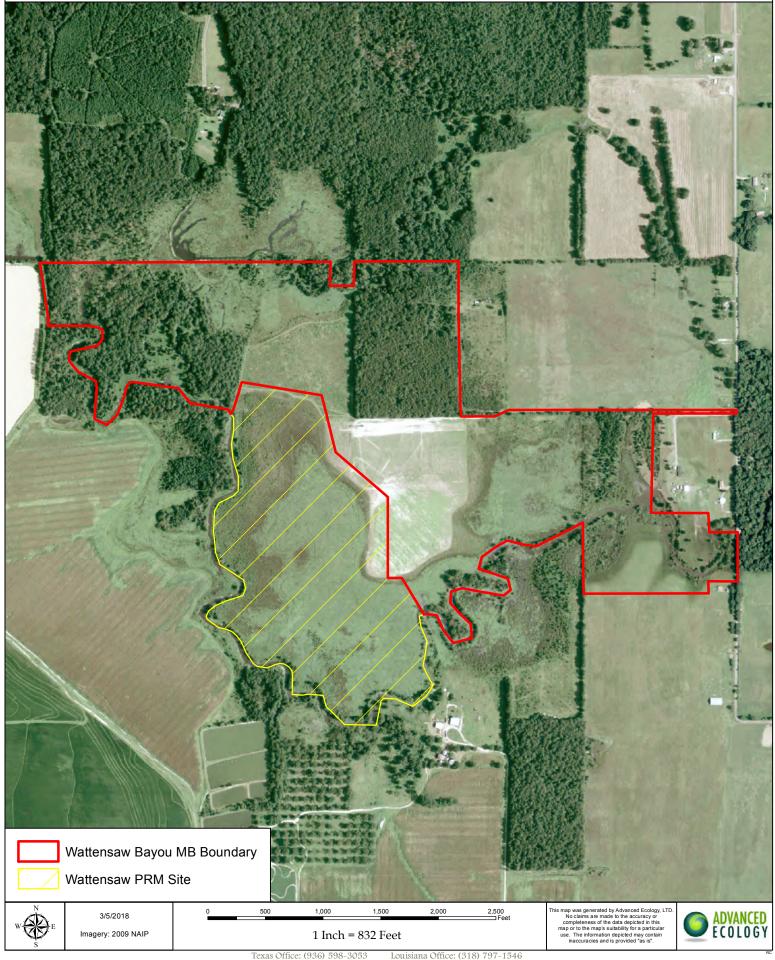


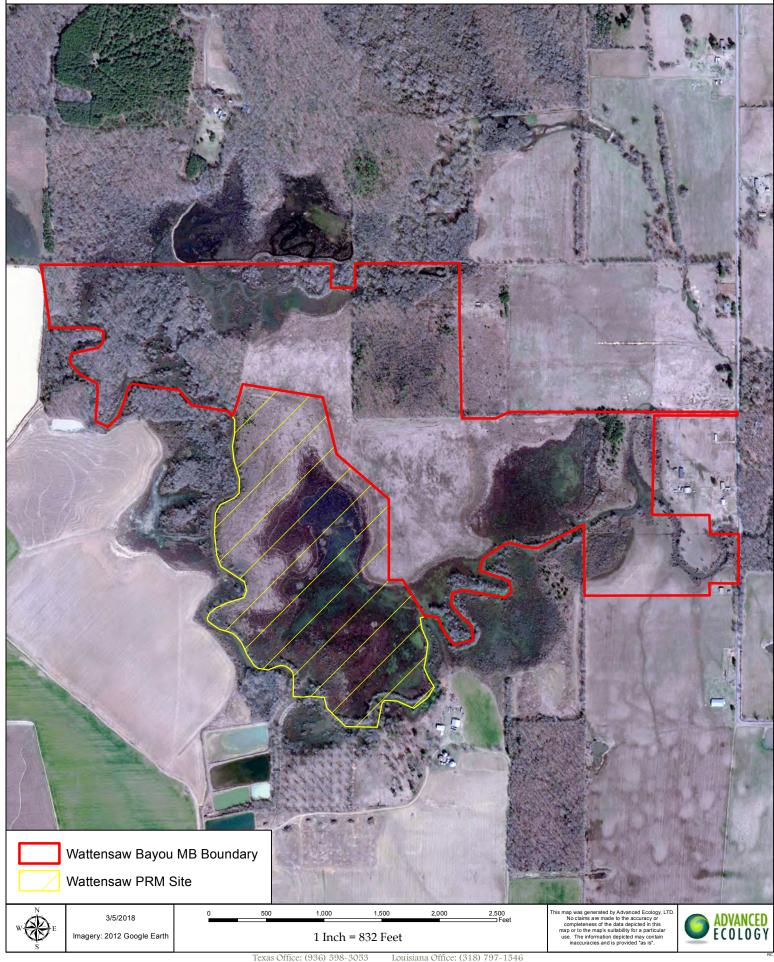


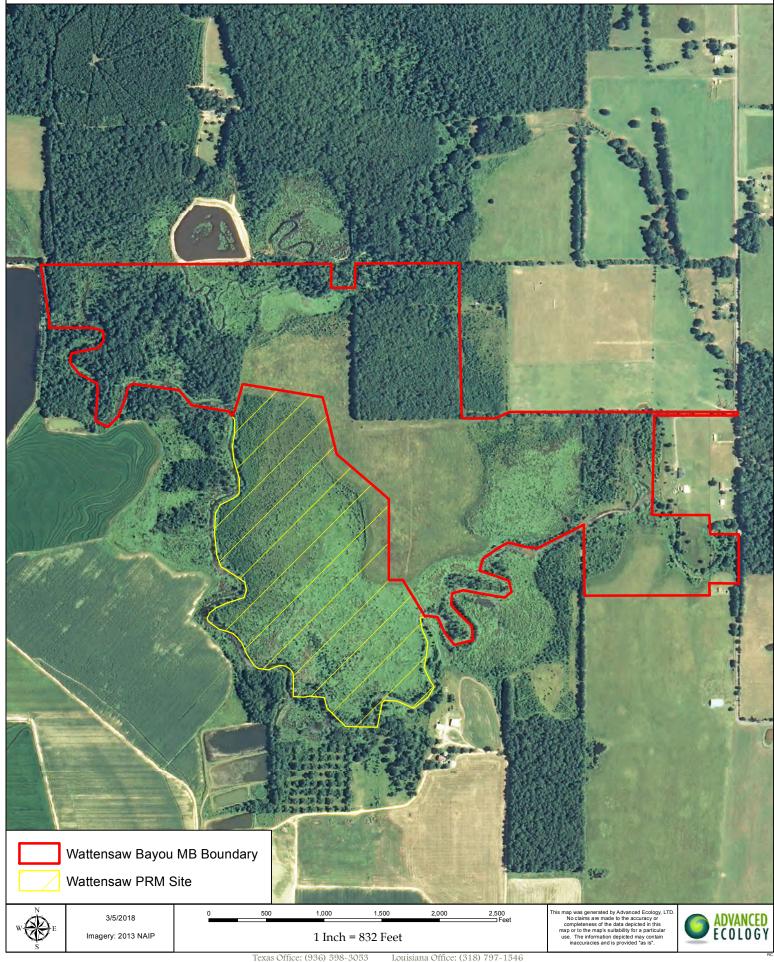


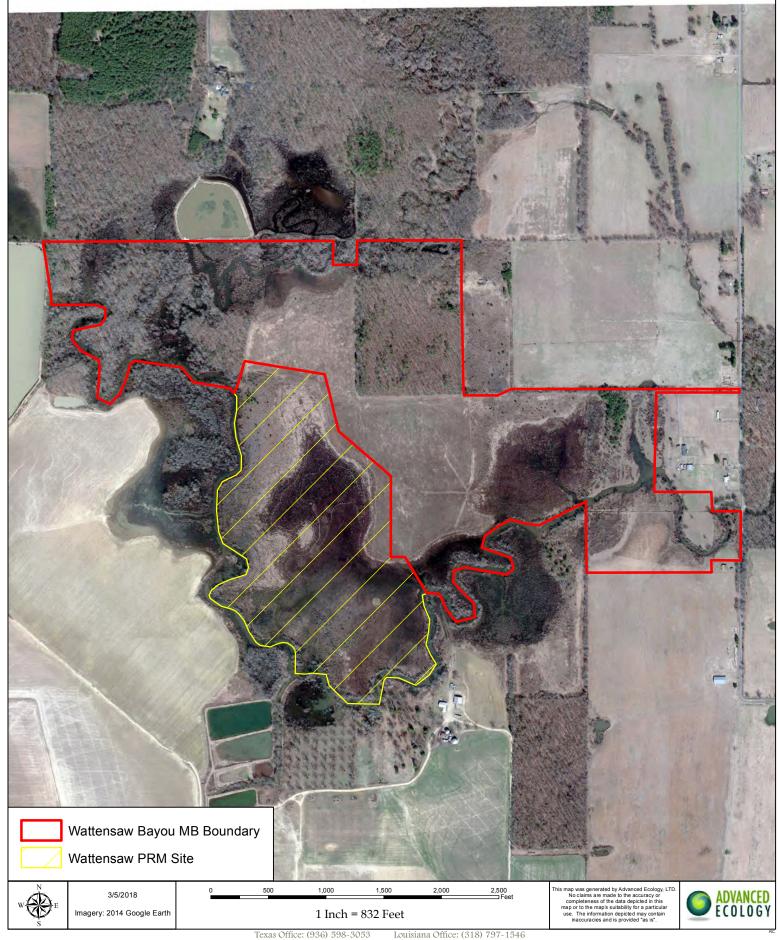












APPENDIX E

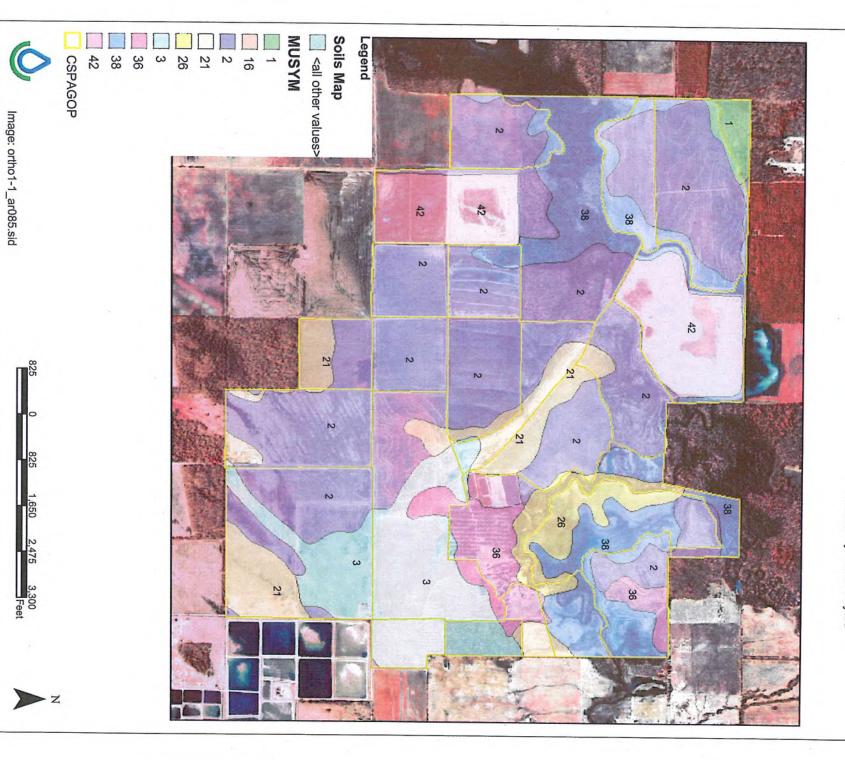
Prior Converted Documentation



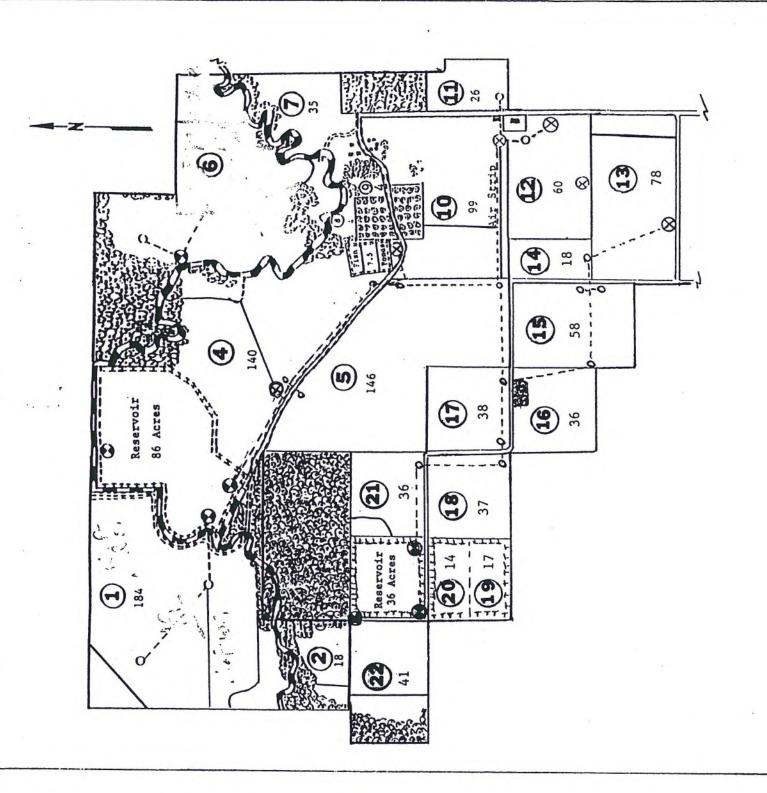
Customer(s): GEORGE W LASSETT III

Field Office: Lonoke Service Center Agency: NRCS

Assisted By: David Vinyard



WATTENSAW FARM, INC. **LONOKE COUNTY, ARKANSAS**



AMERICAN AGRICULTURAL SERVICE ARKANSAS, INC. 7718 VALENTINE ROAD NORTH LITTIE ROCK. ARKANSAS 72117 MANAGED BY:

DATE: SCALE: 13/16 inch

DRAWN BY:

JP

02-23-94

USDA USDA Farm Service Agency

Note: This acreage is for FSA program purposes only. Lonoke County, Arkansas

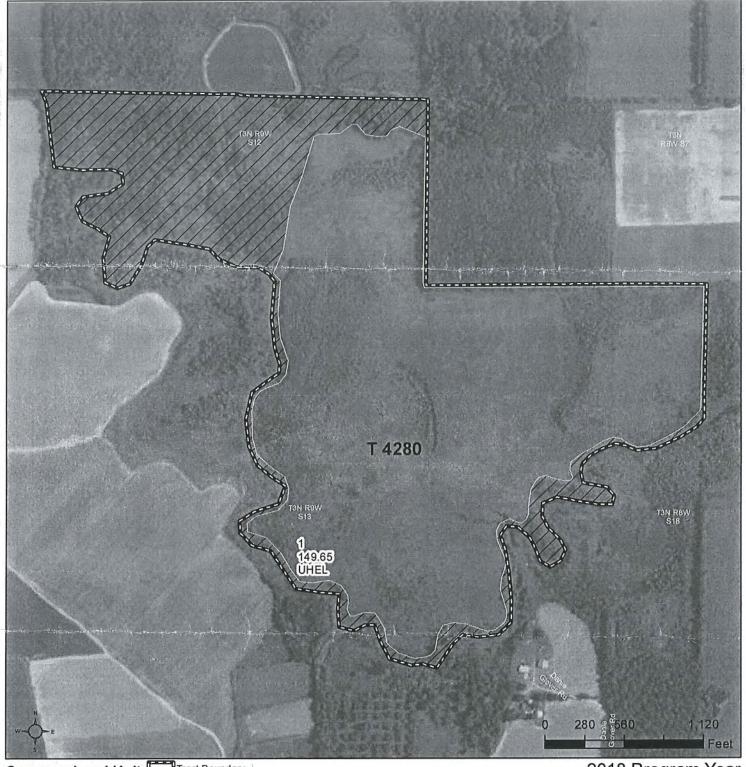
Printed Date:

- □ Limited Restrictions Restricted use

1,600 Feet 1,200 800 200 400

Photography Date: 2010

Lonoke County, Arkansas



Common Land Unit

Tract Boundary

// Non-Cropland Cropland 2018 Program Year Map Created September 27, 2017

Farm **4498** Tract **4280**

Wetland Determination

Restricted Use

Exempt from Conservation Compliance Provisions

Tract Cropland Total: 149.65 acres

United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. Wetland identifiers do not represent the size, shape, or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).

Exempt from Conservation

Compliance Provisions

Printed Date:

Note: This acreage is for FSA program purposes only.

Farm: 4561

Photography Date: 2010

Fiscal Year: 2013

∇ Limited Restrictions ∇ Lonoke County, Arkansas USDA USDA Farm Service Agency Restricted use 000'9 4,500 3,000 1,500 Wetland Determination Identifiers THET 15'8 54 Glover Rd 19EF 36.19 20 Smyrna Rd 2 11EF 19.69 14 39.25 38.19 18 18 13.74 10 OHEL 38.35 **Consistently** TOPET 102'4 138.94 128.94

Tract: ####

ARKANSAS LONOKE

Form: FSA-156EZ

USDA

United States Department of Agriculture Farm Service Agency

FARM: 4498

Prepared: Jul 18, 2018

Crop Year: 2018

Abbreviated 156 Farm Record

Operator Name

: MITIGATION MANAGEMENT LTD

Farms Associated with Operator:

See Page 2 for non-discriminatory Statements.

05-085-4498

CRP Contract Number(s)

None

Recon ID

: None

	Farm Land Data											
Farmland	Cropland	DCP Cropland	WBP	WRP	CRP	GRP	Sugarcane	Farm Status	Number Of Tracts			
210.20	149.65	149.65	0.00	0.00	0.00	0.00	0.00	Active	1			
State Conservation	Other Conservation	Effective DCP Cropland	Double Cropped		MPL	Acre Election	EWP	DCP Ag.Rel. Activity	Broken From Native Sod			
0.00	0.00	149.65	0.	00	0.00		0.00	0.00	0.00			

Crop Election Choice								
ARC Individual	ARC County	Price Loss Coverage						
None	SORGH	WHEAT, RICE-LGR						

DCP Crop Data									
Crop Name	Base Acres	CCC-505 CRP Reduction Acres	CTAP Yield	PLC Yield	HIP				
Wheat	62.70	0.00	0	36					
Grain Sorghum	0.10	0.00	0	45					
Rice-Long Grain	70.20	0.00	0	4737					

TOTAL 133.00 0.00

NOTES

Tract Number

4280

Description

G8

FSA Physical Location :

ARKANSAS/LONOKE

ANSI Physical Location :

ARKANSAS/LONOKE

BIA Unit Range Number :

HEL Status

HEL determinations not completed for all fields on the tract

Wetland Status

Wetland determinations not complete

WL Violations

: None

Owners

: MITIGATION MANAGEMENT LTD

Other Producers

: None

Recon ID

: None

Tract Land Data										
Farm Land	Cropland	DCP Cropland	WBP	WRP	CRP	GRP	Sugarcane			
210.20	149.65	149.65	0.00	0.00	0.00	0.00	0.00			
State Conservation	Other Conservation	Effective DCP Cropland	Double Cropped	MPL	EWP	DCP Ag. Rel Activity	Broken From Native Sod			
0.00	0.00	149.65	0.00	0.00	0.00	0.00	0.00			

DCP Crop Data										
Crop Name	Base Acres	CCC-505 CRP Reduction Acres	CTAP Yield	PLC Yield						
Wheat	62.70	0.00	0	36						

ARKANSAS LONOKE

Form: FSA-156EZ



United States Department of Agriculture Farm Service Agency

FARM: 4498

Prepared: Jul 18, 2018

Crop Year: 2018

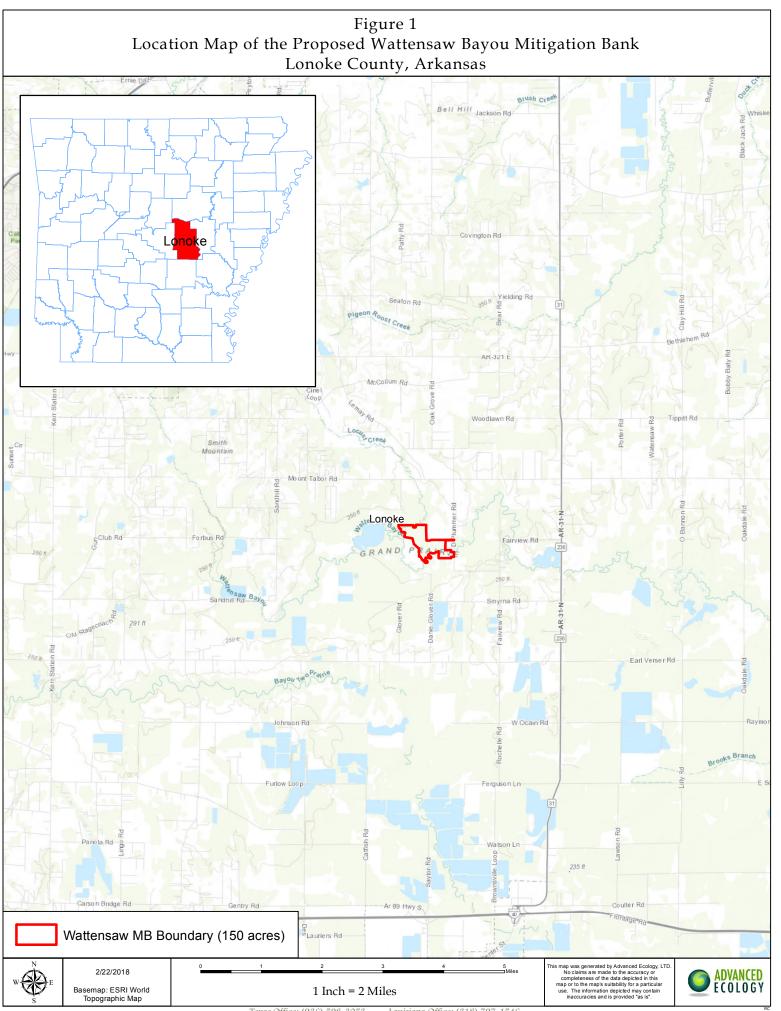
Abbreviated 156 Farm Record

Tract 4280 Continued				
Grain Sorghum	0.10	0.00	0	45
Rice-Long Grain	70.20	0.00	0	4737
TOTAL	133.00	0.00		

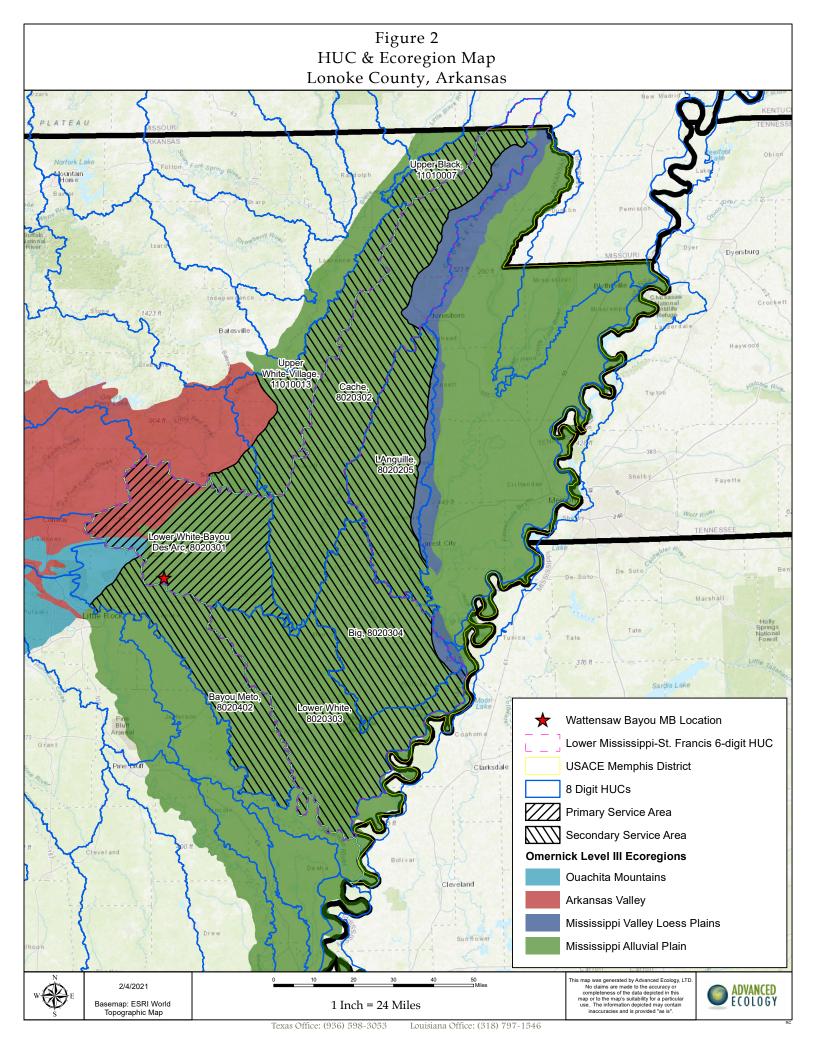
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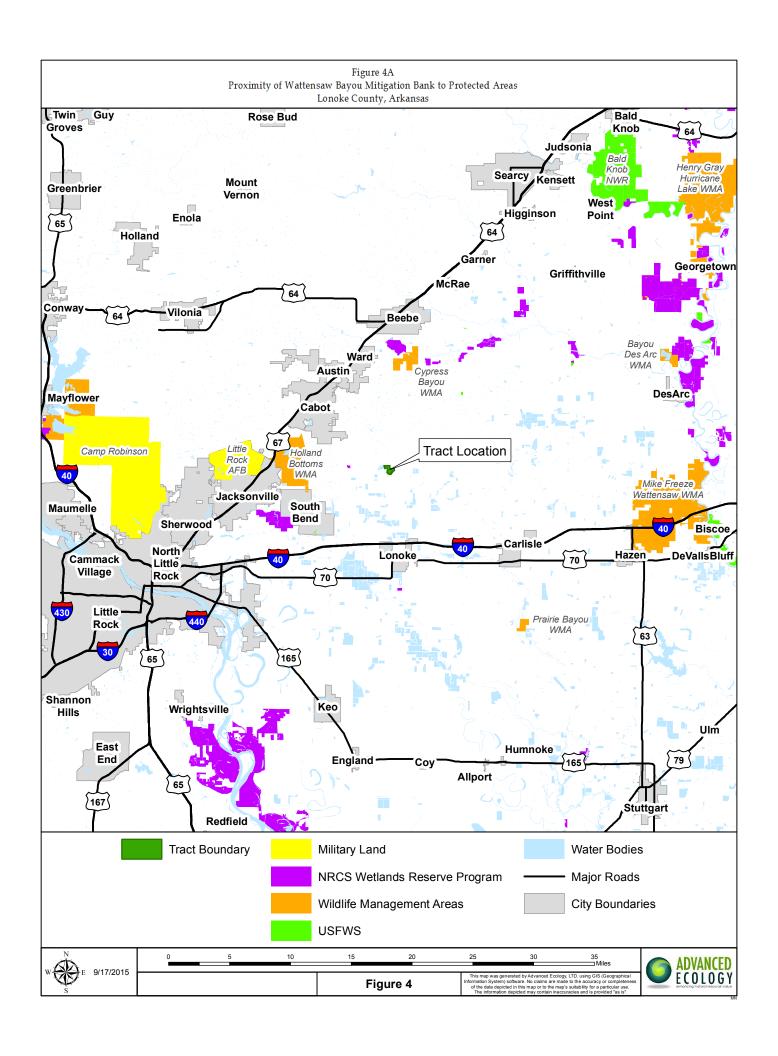


Figure 4b Map of the Wattensaw PRM Site and the Proposed Wattensaw Bayou Mitigation Bank Lonoke County, Arkansas

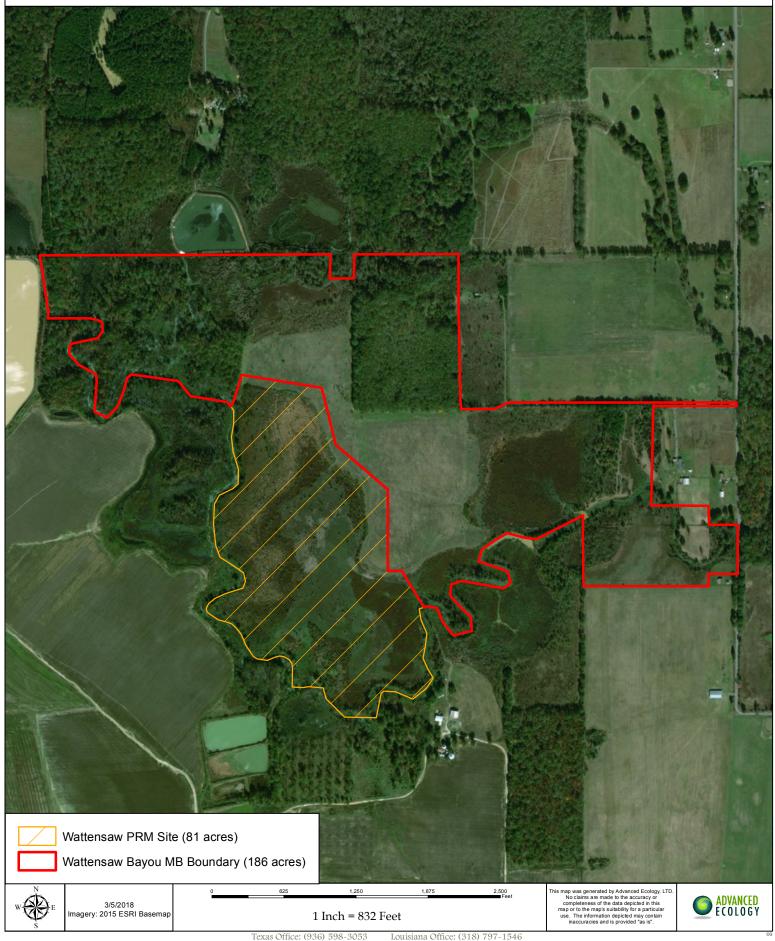


Figure 5 NWI Map of the Proposed Wattensaw Bayou Mitigation Bank Lonoke County, Arkansas

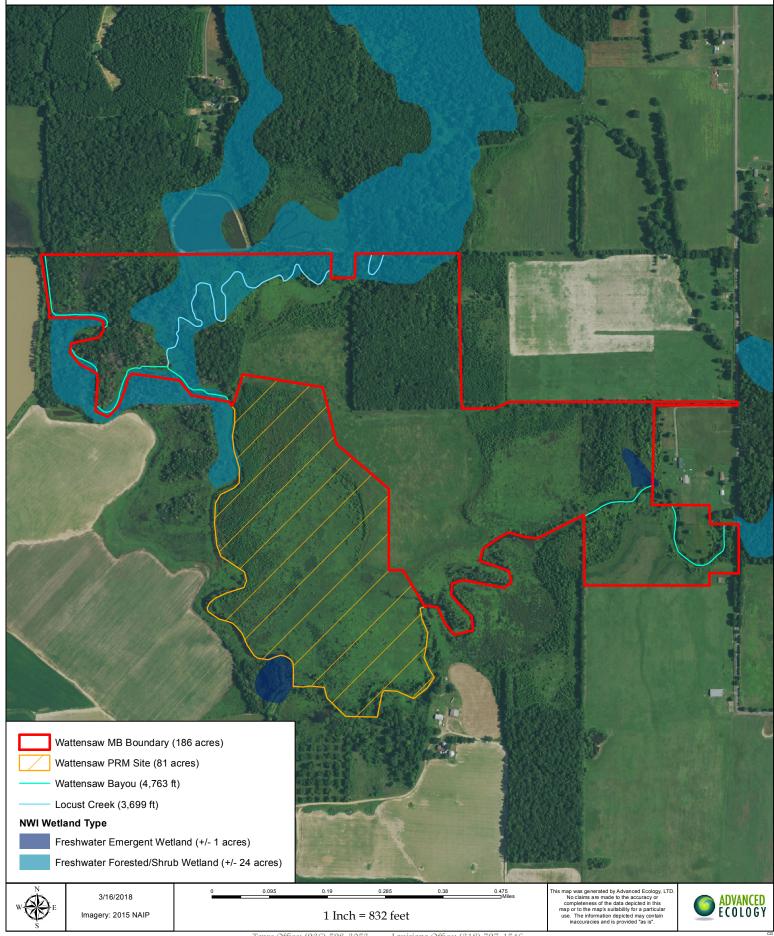


Figure 6 NRCS Soils Map of the Proposed Wattensaw Bayou Mitigation Bank Lonoke County, Arkansas

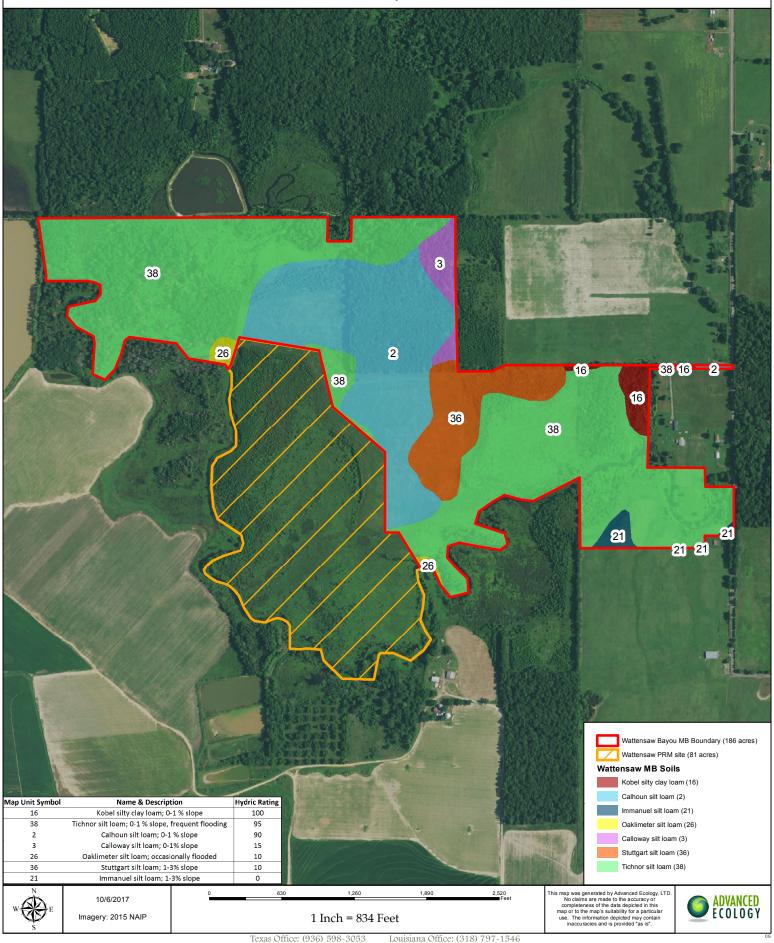


Figure 7 Wetland Delineation Map of the Proposed Wattensaw Bayou Mitigation Bank Lonoke County, Arkansas

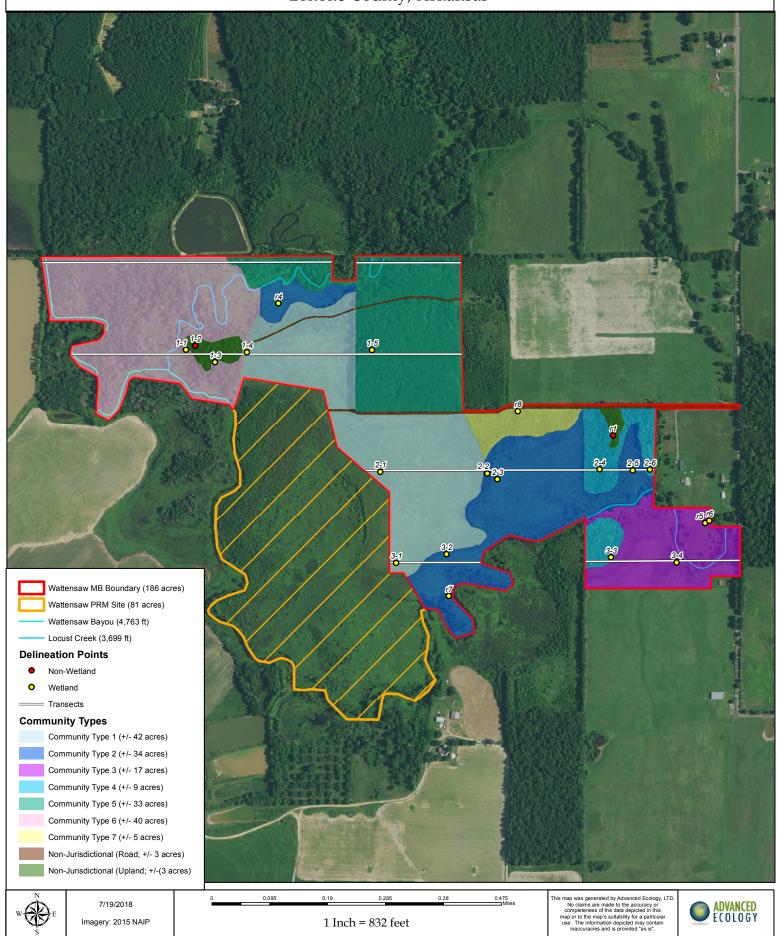


Figure 8 Wattensaw Bayou Mitigation Work Plan Lonoke County, Arkansas

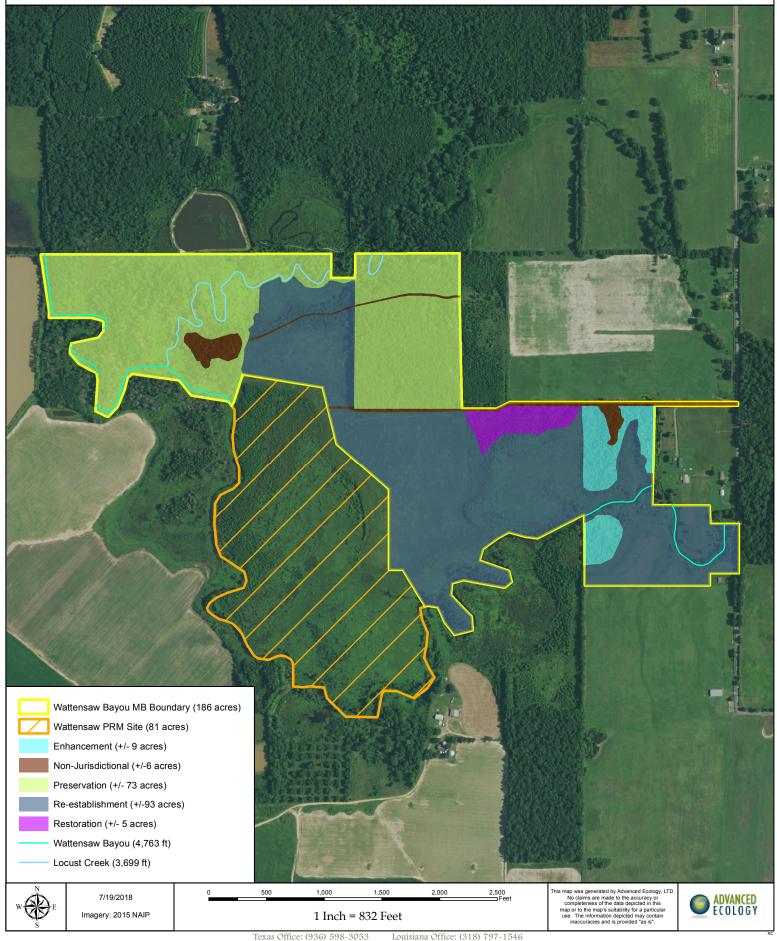
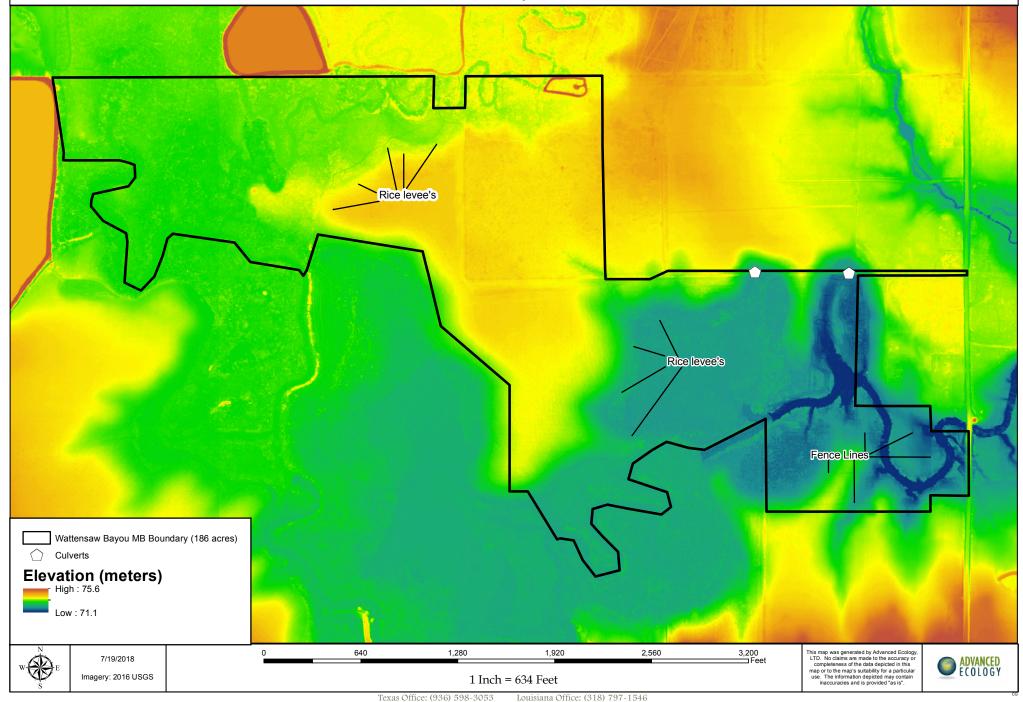


Figure 9 Wattensaw Bayou Eleveation & Structures Map Lonoke County, Arkansas



Texas Office: (936) 598-3053