

PROSPECTUS FOR THE
ARDOT MORO CREEK MITIGATION BANK
CLEVELAND & DALLAS COUNTIES, ARKANSAS

PREPARED BY:
ENVIRONMENTAL DIVISION
ARKANSAS DEPARTMENT OF TRANSPORTATION



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The Arkansas Department of Transportation (ARDOT) proposes the establishment of a wetland and stream mitigation bank in Cleveland and Dallas Counties, Arkansas. The mitigation area is located approximately 1.0 mile east of Bunn, Arkansas and just east of Highway 229 and west of Highway 167 (Figure 1). The 944.70-acre site includes portions of sections 12, 13, 18, 19, 24, 25, and 30, Township 8 South, Range 13 and 14 West (Figure 2). The property was purchased by ARDOT expressly to mitigate wetland and stream impacts resulting from highway construction and maintenance activities. The property would be used for compensatory mitigation for unavoidable impacts resulting from ARDOT highway activities authorized under Section 404 of the Clean Water Act.

A. Management Goal and Objectives: The management goal for the mitigation bank is the restoration, enhancement, and preservation of wetlands and riparian areas along with associated uplands. Objectives include the preservation of existing forested wetlands and riparian areas and the restoration of wetlands and riparian areas through reforestation of clear cut land with bottomland hardwood tree species. Stream function will be restored by the removal of several creek crossings that were constructed during the logging of the property. The site was control burned in September 2019 to aid in the removal of existing logging debris and vegetation control. There is a total of 532.4 acres of wetlands (preservation and restoration) located on the property. There are 30.1 acres of wetland preservation and 502.3 acres of wetland restoration. There is a total of 299.2 acres of riparian stream buffer located on the property. There are 235.2 acres of riparian restoration and 64 acres of riparian preservation (Figure 3). The proposed bank was aerially sprayed with herbicide and burned to prepare the area for the planting of bottomland hardwood trees.

B. Establishment and Operation: An Interagency Review Team (IRT) would facilitate the establishment of the mitigation bank. The IRT would allow review and seek consensus from Federal, state, and public entities on the Mitigation Banking Instrument (MBI). The US Army Corps of Engineers Little Rock District (SWL) and Vicksburg District (MVK) would serve as Chair of the IRT and will make final decisions regarding the terms and conditions of the MBI. ARDOT would be the sponsor of the bank and owner of the mitigation property and would be responsible for all mitigation and monitoring actions.

Agencies invited to participate on the IRT include the U.S. Environmental Protection Agency, Region VI (EPA); the U.S. Fish and Wildlife Service, Southeast Region (FWS); the Federal Highway Administration, Arkansas Division (FHWA); the Natural Resources Conservation Service (NRCS), the Arkansas Department of Environmental Quality (ADEQ); the Arkansas Game and Fish Commission (AGFC); the Arkansas Natural Heritage Commission (ANHC); and the Arkansas Natural Resources Commission (ANRC).

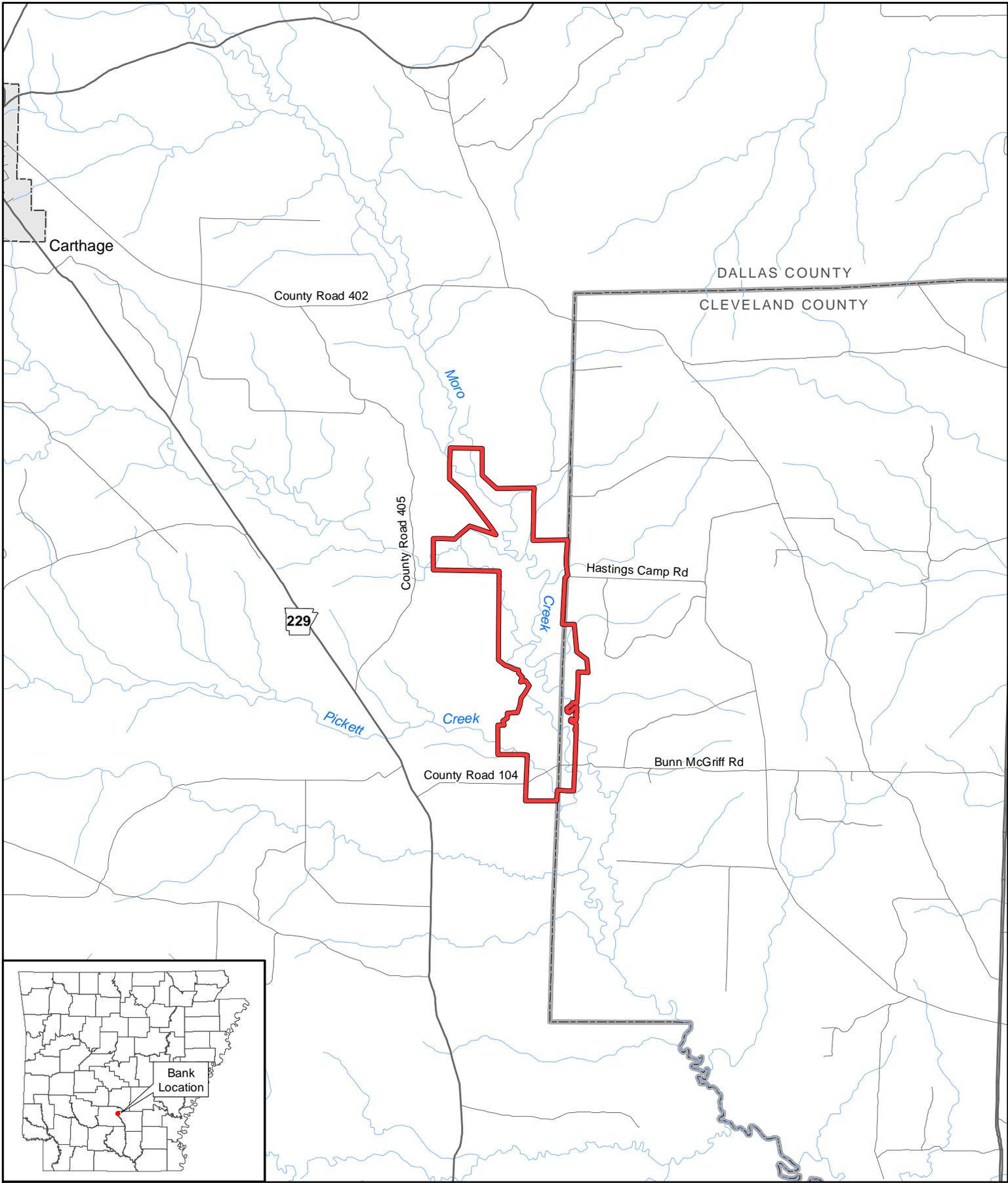
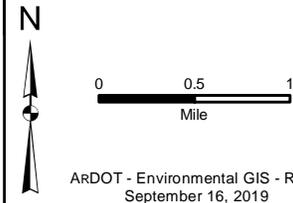


Figure 1.
Proposed Moro Creek
Mitigation Bank

 Bank Location



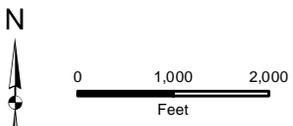
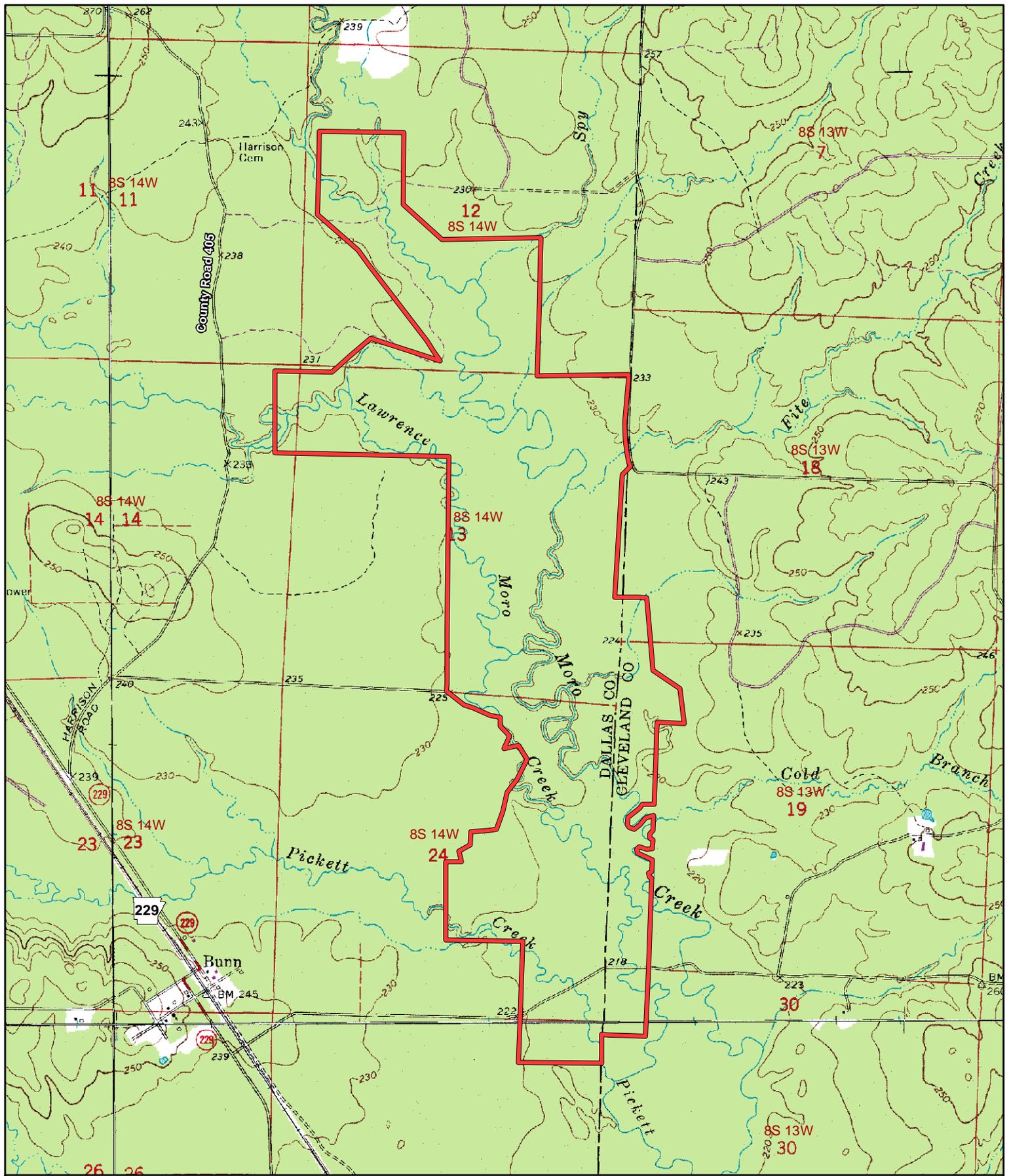
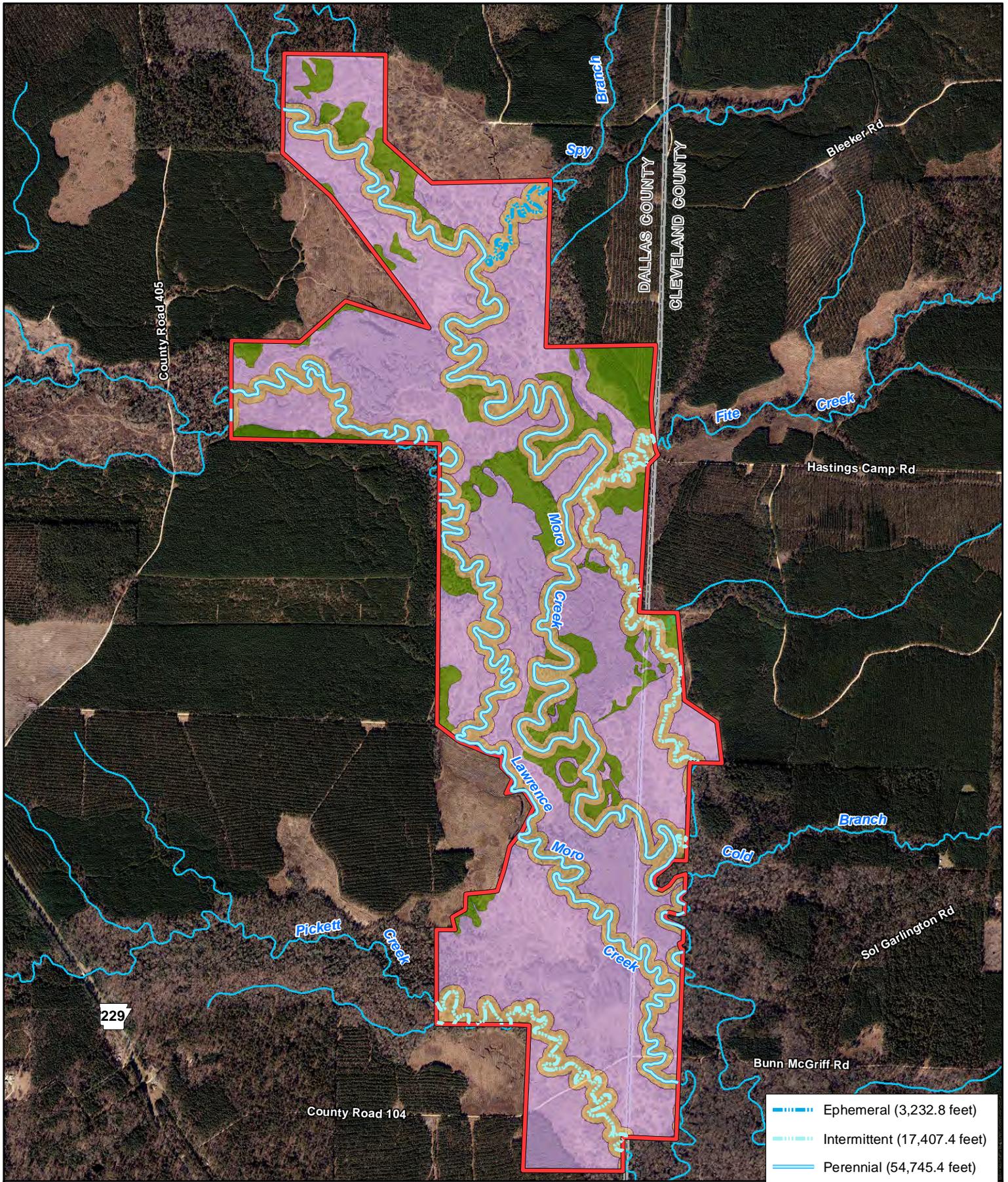


Figure 2.
Proposed Moro Creek
Mitigation Bank

Proposed Mitigation Bank



	Ephemeral (3,232.8 feet)
	Intermittent (17,407.4 feet)
	Perennial (54,745.4 feet)
	Riparian (299.2 acres)
	Upland (113.1 acres)
	Wetland (532.4 acres)
	Proposed Mitigation Bank (944.7 acres)

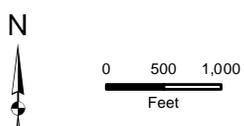


Figure 3.
Wetland and
Stream Locations

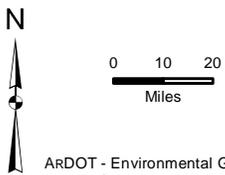
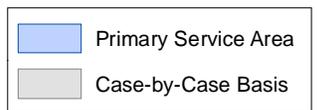
C. Proposed Service Area: The primary service and secondary service areas would include the sub-basins (8 digit HUCs) in the South Central Plains Ecoregion from Interstate 30 to the Arkansas/Louisiana state line. The primary service area includes all portions of: Bayou D’Arbonne (08040206), Lower Ouachita-Bayou DeLoutre (08040202), and Lower Ouachita-Smackover (08040201). The secondary service area includes all portions of: Upper Ouachita (08040102), Lower Saline (08040204), and Bayou Bartholomew (08040205). These sub-basins all are included in the Lower Red – Ouachita sub-region (0804). For accounting purposes, the corresponding USGS cataloging codes are listed below in Table 1.

**Table 1
USGS Hydrologic Unit
Codes For Sub-Basins
In the Geographic Service Area**

HUC	Sub-basin Name	Service Area
08040206	Bayou D’Arbonne	Primary
08040202	Lower Ouachita-Bayou DeLoutre	Primary
08040201	Lower Ouachita-Smackover	Primary
08040102	Upper Ouachita	Secondary
08040204	Lower Saline	Secondary
08040205	Bayou Bartholomew	Secondary



Figure 4.
Proposed Service
Area Watersheds



- D. General Need and Feasibility:** ARDOT is required to mitigate unavoidable losses to wetlands and streams due to highway construction and maintenance projects in the proposed service area.
- E. Ownership:** ARDOT is the owner of the property and has recorded a restriction on the Warranty Deed to the property. The restriction requires that any activity on the property complies with the terms of a mitigation plan or banking instrument. ARDOT will manage the property for the operational life of the bank. The operational life of the bank terminates when compensatory mitigation credits have been exhausted, and the bank site is self-sustaining. Subsequently, ARDOT may deed the property to or enter into a management agreement with an appropriate state or Federal agency provided the agency manages the property in accordance with the provisions of the MBI.
- F. Long-term management:** ARDOT is responsible for securing adequate funding to monitor and maintain the mitigation bank throughout its operational life, as well as beyond the operational life if not self-sustaining. ARDOT would be responsible for securing sufficient funds to cover contingency actions in the event of default or failure. Additionally, ARDOT would be responsible for providing alternative compensatory mitigation if it is determined necessary by the US Army Corps of Engineers.
- G. Qualifications of the sponsor:** ARDOT is presently the owner and sponsor of ten mitigation banks, totaling 2,869 acres of wetland and stream mitigation property managed according to approved banking instruments.
- H. Ecological Suitability:** The primary considerations for site selection were watershed needs, baseline conditions, and habitat connectivity. The proposed mitigation bank includes Moro Creek, Lawrence Moro Creek, and the wetlands/riparian areas associated with the creek channels. The Arkansas Department of Natural Heritage records indicate there are historic records of Red-Cockaded Woodpecker (*Leuconotopicus borealis*) located north and south of the proposed mitigation bank.

Much of the property lies within the 100 year floodplain of the Moro Creek. A 1956 aerial image illustrates that the areas identified for riparian and wetland restoration were historically forested (Figure 5). These areas were clear cut during standard silviculture operations. Upland areas of the property will function as a buffer and wildlife sanctuary for terrestrial wildlife and migratory birds in times of flooding.

The proposed Moro Creek Mitigation Bank is in the Tertiary Uplands (Level IV Ecoregion, 35a) of the South Central Plains (Level III Ecoregion, 35). Potential natural vegetation is oak-hickory-pine forest. Mixed shortleaf pine-loblolly pine forest and upland deciduous forest is native. In riparian areas, potential natural vegetation is bottomland forest.

Soils on the site are mapped (Figure 6) into five soil units by the USDA (*Soil Survey of Calhoun and Dallas Counties, Arkansas 1980; Soil Survey of Cleveland County, Arkansas 1968*). Guyton soils consist of very deep, poorly drained to very poorly drained, slowly permeable soils that formed in thick loamy sediments. Guyton soils are typically found on Coastal Plain local stream floodplains and in depressional areas on late Pleistocene age terraces; slopes range from 0 to 1 percent (Guyton OSD 2019). Amy silt loam is described as very deep, poorly drained, slowly permeable soils that formed in alluvium high in silt. Amy soils are found on Pleistocene terraces in the Western and Southern Coastal Plains; slopes range from 0 to 3 percent (Amy OSD 2019). Wehadkee soils are described as very deep, poorly to very poorly drained that formed in loamy sediments. Wehadkee soils are typical soils on floodplains along streams that drain from the mountains and piedmont; slopes range from 0 to 2 percent (Wehadkee OSD 2019). Ouachita soils consist of deep, well drained, moderately slowly permeable soils that formed in loamy alluvium. These level to nearly level soils—slopes range from 0 to 3 percent—are on floodplains and natural levees along streams in the Western Coastal Plains (Ouachita OSD 2019). Pheba soils are described as deep, nearly level to very gently sloping somewhat poorly drained soils with moderately slowly permeability that formed in loamy sediments. Pheba soils are typical in broad uplands and terraces in the Southern Coastal Plains Major Land Resource Area; slopes range from 0 to 3 percent (Pheba OSD 2019). Savannah soils consist of very deep, moderately well drained, moderately slowly permeable soils that formed in loamy marine or fluvial terrace deposits. Savannah soils are typically found on uplands and terraces in the Southern Coastal Plain, where slopes range from 0 to 15 percent (Savannah OSD 2019). See Figure 6.

Native vegetation in the clear-cut areas; e.g. warty panicgrass (*Panicum verrucosum*) (FACW), fowl mannagrass (*Glyceria striata*) (OBL), clammy hedgehyssop (*Gratiola neglecta*) (OBL), false nettle (*Boehmeria cylindrica*) (FACW), bearded beggarticks (*Bidens aristosa*) (FACW), cypress panicgrass (*Dichanthelium dichotomum*) (FAC), variable panicgrass (*Dichanthelium commutatum*) (FAC). Native woody vegetation on the natural levees and forested preservation areas; e.g. red maple (*Acer rubrum*) (FAC), ironwood (*Carpinus caroliniana*) (FAC), sweetgum (*Liquidambar styraciflua*) (FAC), deciduous holly (*Ilex decidua*) (FACW), blackgum (*Nyssa sylvatica*) (FAC), persimmon (*Diospyros virginiana*) (FAC), water oak (*Quercus nigra*) (FAC), cherrybark oak (*Quercus pagoda*) (FACW), American holly (*Ilex opaca*) (FAC), willow oak (*Quercus phellos*) (FACW), water oak (*Quercus nigra*) (FAC), swamp chestnut oak (*Quercus michauxii*) (FACW), Nuttall's oak (*Quercus texana*)(FACW).

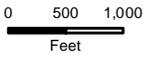
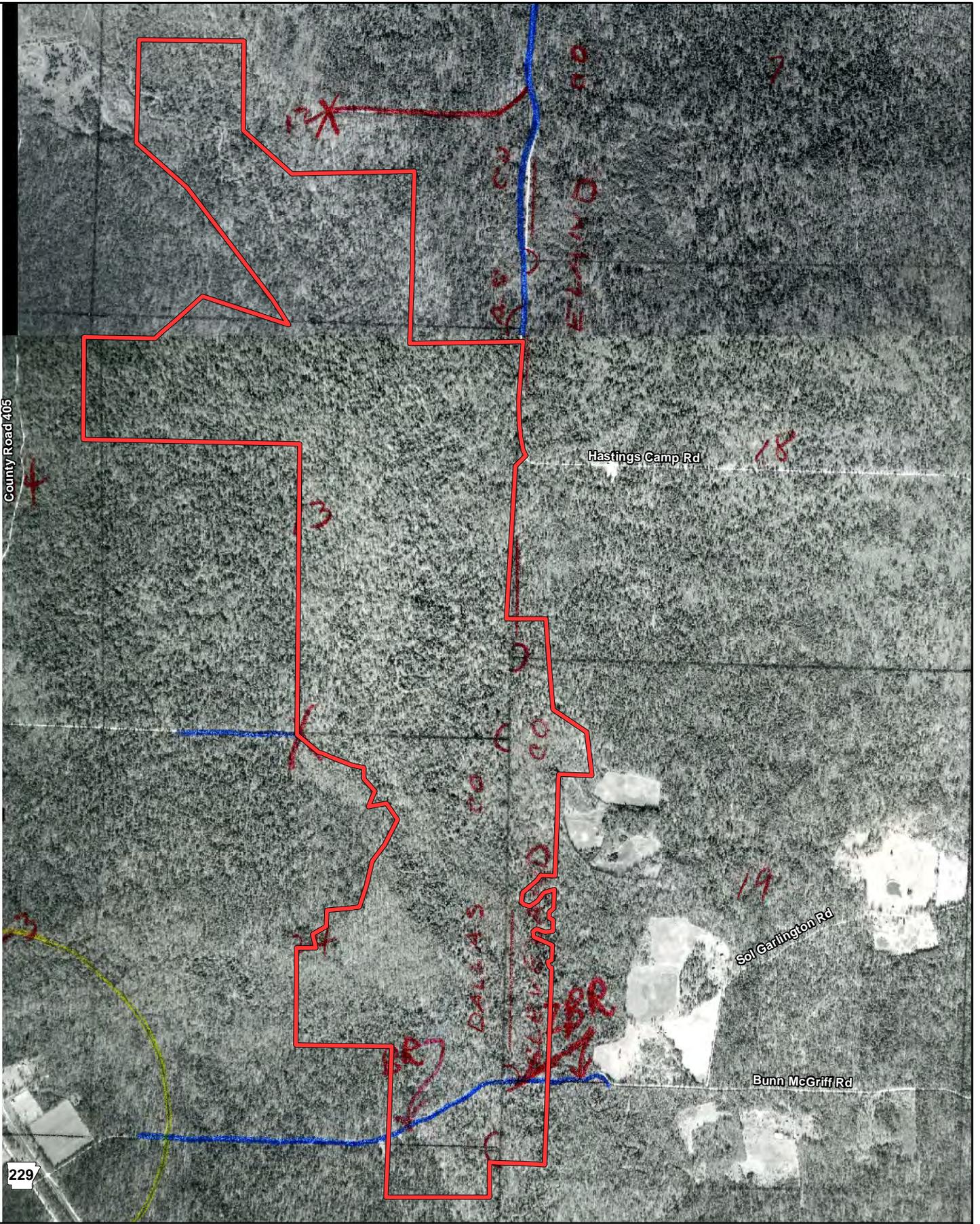
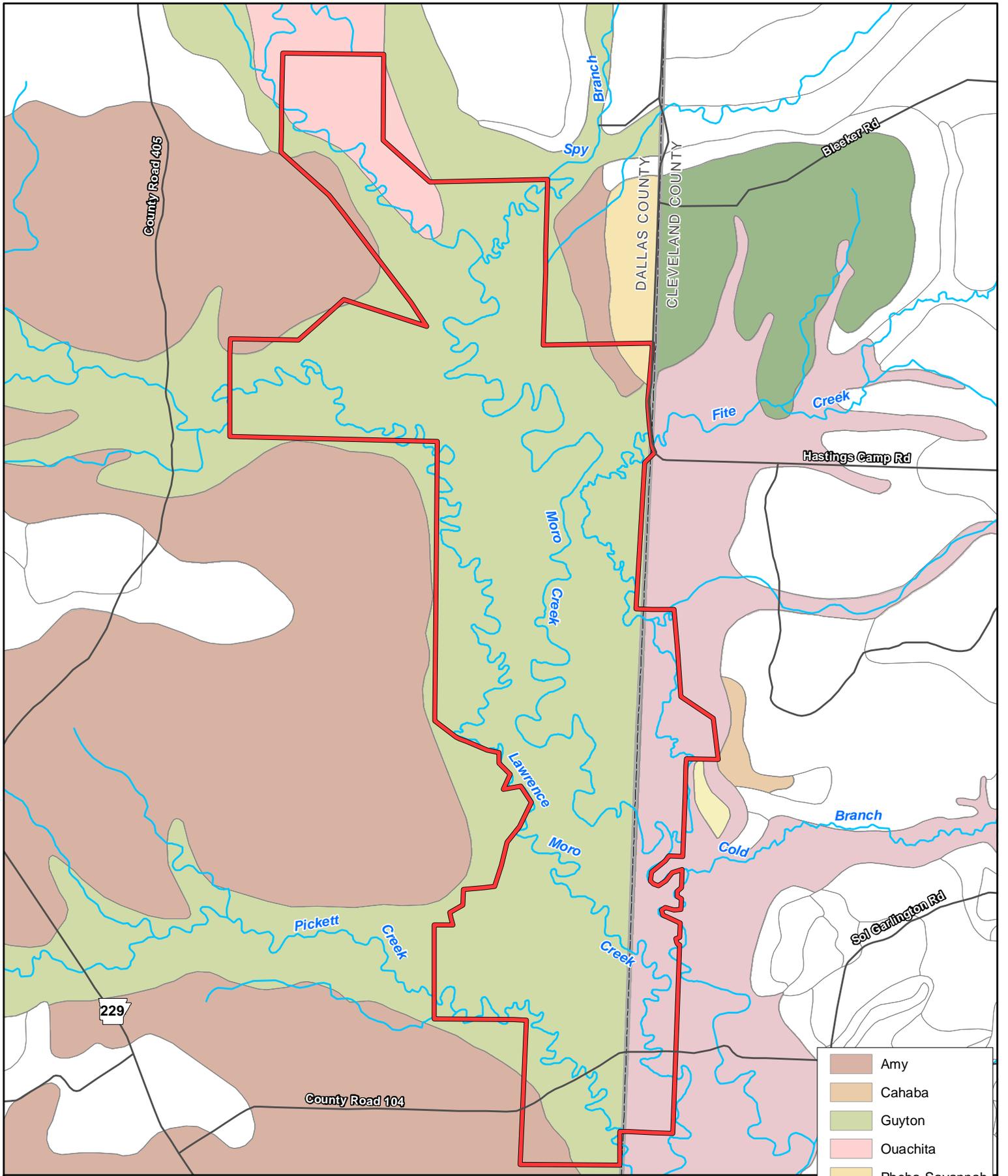


Figure 5.
1956 Historic
Aerial Imagery

 Proposed Mitigation Bank



- Amy
- Cahaba
- Guyton
- Ouachita
- Pheba-Savannah
- Prentiss
- Stough
- Wehadkee
- Proposed Mitigation Bank

Figure 6.
Soils Map



Figure 7. View of wetland restoration area.



Figure 8. Forested wetland preservation area.



Figure 9. View of wetland preservation area



Figure 10. Typical view of wetland restoration area.



Figure 11. Riparian area near stream.



Figure 12. Typical view of the proposed bank site after the control burn.

