

DRAFT

Weldon Spring Conservation

Area

Ten-Year Area Management Plan

FY 2017-2026



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OVERVIEW

- **Official Area Name:** Weldon Spring Conservation Area, #7404
- **Year of Initial Acquisition:** 1978
- **Acreage:** 8,398 acres
- **County:** St. Charles
- **Division with Administrative Responsibility:** Wildlife
- **Division with Maintenance Responsibility:** Wildlife
- **Statements of Purpose:**
 - A. Strategic Direction**

Manage for floodplain, grassland, woodland, and aquatic resources while providing recreational opportunities compatible with natural resource management.
 - B. Desired Future Condition**

The desired future condition of Weldon Spring Conservation Area (CA) is a mix of grassland, openland, woodland, and bottomland forest that promotes natural resource recreation.
 - C. Federal Aid Statement**

This area, or a portion thereof, was acquired with an existing Emergency Wetland Reserve Program (EWRP) easement in place as part of the buy-out of eligible farmland affected by the 1993 Flood to provide wetland habitat.

GENERAL INFORMATION AND CONDITIONS

I. Special Considerations

- A. Priority Areas:** Priority Forest Landscape
- B. Natural Areas:** Weldon Spring Hollow Natural Area features 385 acres of upland and bottomland forest, and rugged riverbreaks topography. Other features include limestone cliffs and bluff escarpments.
- C. Other:** The area has 10 miles of trail that is part of the Katy Trail State Park and Great Rivers Greenway trail networks. The area is also part of Audubon Missouri's Busch/Weldon/Howell Conservation Area Complex Important Bird Area.

II. Important Natural Features and Resources

- A. Species of Conservation Concern:** Species of conservation concern are known from this area. Area managers should consult the Natural Heritage Database annually and review all management activities with the natural history biologist.
- B. Caves:** None
- C. Springs:** Yes, records kept with Missouri Department of Conservation (Department) natural history biologist.

D. Other: Weldon Spring CA is located within two Ecological Sections of Missouri, three Subsections, and three land type associations.

- A portion of the area is within the Mississippi River Hills Subsection of the Central Dissected Till Plains Ecological Section of Missouri. The land type association for this portion is the St. Charles County Prairie/Woodland Low Hills. The land type association consists of loess-covered hills in the north that become more steep-sided nearer the Missouri River. Historically, prairie dominated the uplands and graded into oak savanna and woodland in the valleys. Currently, the area is highly urbanized with undeveloped areas consisting of cropland, old field, and second-growth timber.
- Another portion of the area is within the Outer Ozark Border Subsection of the Ozark Highlands Ecological Section of Missouri. The specific land type association for this portion is the Montgomery-Warren Oak Woodland/Forest Rugged Hills. The land type association consists of narrow, loess-covered ridges that give way to steep slopes and deep, narrow valleys. Historically, oak woodland on uplands graded into oak and mixed-hardwood forests in the valleys. Currently, some of the ridges are cleared old field with some cropland. Steeper lands are timbered in second growth forest.
- The final portion of the area is within the Missouri River Alluvial Plain Subsection of the Ozark Highlands Ecological Section of Missouri. The specific land type association for this portion is the Lower Missouri River Alluvial Plain and is along the six mile stretch of the Missouri River that makes up the areas southern boundary. The land type association consists of a river channel half of its former width and of a relatively narrow alluvial plain restricted by bluffs. Historically, shifting river channels created a variety of habitats, ranging from sandbars to riverfront forests of willow, eastern cottonwood, elm, hackberry, and silver maple mixed with wetland habitats. Currently, much of the area is in agriculture or early successional riverfront forest growth mixed with heavy sand deposits.

III. Existing Infrastructure

- Nine parking lots
- One concrete boat ramp
- Wildlife maintenance shop
- Clark Trail (5.3 mile, natural surface, hiking only)
- Lewis Trail (8.2 mile, natural surface, hiking only)
- Lost Valley Trail (11 mile, gravel and natural surface, hiking and biking)
- Hamburg Trail (6 mile, gravel and asphalt surface, hiking and biking)
- Busch Greenway Trail (4.5 mile, asphalt surface, hiking and biking)
- Square Pond (4.1-acre fishing pond)
- Fire Lake (4-acre fishing pond)
- Prairie Lake (24-acre fishing lake)
- 12 fishless ponds (3 acres total)

IV. Area Restrictions or Limitations

A. Deed Restrictions or Ownership Considerations: Missouri Department of Natural Resources groundwater well drilling restrictions. There are U.S. Department of Energy/U.S. Army Corps of Engineers groundwater contamination and well drilling restrictions at the conservation area.

B. Federal Interest:

- Federal funds were used in the development of this area, or a portion thereof. The Department must maintain the developed project throughout its useful life. Fish and wildlife agencies may not allow recreational activities and related facilities that would interfere with the purpose for which the State is managing the land. Other uses may be acceptable and must be assessed in each specific situation.
- The wetland conservation easements permanently prohibit use of the affected land as cropland and require permanent maintenance of the wetland conditions, except in the case of natural disaster. After the easement has been perfected, no change will be made in the easement without a written request by the participant and the written consent of the Natural Resources Conservation Service Chief. Federal funds may also be used in the management of this land. Fish and wildlife agencies may not allow recreational activities and related facilities that would interfere with the purpose for which the State is managing the land. Other uses may be acceptable and must be assessed in each specific situation.
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C. Easements:

- The Explorer Pipeline Company has an easement across the Darst Bottom Tract and Weldon Springs CA for an underground fuel transport pipeline.
- Enbridge has an easement across Weldon Spring CA for an underground fuel transport pipeline.
- Public Water Supply District #2 has easements for powerline rights of way and wells in the Weldon Spring Bottom.
- Ameren UE has easements for powerlines that run to the Missouri State Highway Patrol radio tower, the Wildlife maintenance shop and along Highway 94.
- Missouri State Highway Patrol has an easement for a radio tower and ingress/egress.
- The University of Missouri Research Park has an easement for a trail connection between them and the Katy Trail.
- AT&T has an easement for telephone service to the Wildlife maintenance shop.
- The Department of Natural Resources has a groundwater restriction easement on a portion of the Weldon Spring CA.
- The U.S. Department of Energy and U.S. Army Corps of Engineers have easements for numerous groundwater monitoring wells throughout the Weldon Spring CA.
- The Missouri Department of Transportation has a right of way easement for Highway 94.
- Hamburg Hike and Bike Trail has a special-use agreement.

D. Cultural Resources Findings: Yes, records kept with the Department environmental compliance specialist. Managers should follow best management practices for Cultural Resources found in the Department Policy Manual.

E. Endangered Species: Endangered Species are known from this area. Area Managers should consult the Natural Heritage Database annually and review all management activities with the natural history biologist.

F. Boundary Issues: Establishing accurate and identifiable boundary markers is a priority for this property.

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations

Challenges and Opportunities:

- 1) Manage impact of invasive plant species (bush honeysuckle, Japanese honeysuckle, garlic mustard, fescue, sericea lespedeza, and others) to different habitats.
- 2) Use of fire for natural community management.
- 3) Overstocked woodlands have reduced understory herbaceous vegetation.
- 4) Expand prairie/grassland habitat and maintain adequate plant diversity in prairie stands.
- 5) Manage Agricultural Crop Program/open fields and the potential for loss of permittee interest in the future.
- 6) Demonstrate to the public the benefits of important habitat management practices such as invasive species control, open field management, prescribed fire, woodland thinning, small game management, etc.
- 7) Expand the Weldon Spring Hollow Natural Area to include an additional 100-plus acres.

Management Objective 1: Maintain high quality natural communities.

Strategy 1: Reduce invasive plant species to levels that will have negligible impact to natural communities, and work to keep invasive plants from invading new areas. Extensive control and follow-up treatment are needed on substantial acreage. This work will be completed using a combination of Department staff, volunteers, and contractors. Aerial spraying of bush honeysuckle will also be used as a means to control bush honeysuckle more efficiently. (Wildlife)

Strategy 2: Utilize prescribed fire to manage herbaceous vegetation in prairies and woodlands, to increase oak regeneration in woodlands, and to control bush honeysuckle and other invasive plants. Write area burn plans to include larger burn units that contain multiple habitat types. In addition, design burn units to include areas where bush honeysuckle populations are young or have been previously treated to help prevent re-establishment. (Wildlife)

Strategy 3: Control invasive species (e.g., bush honeysuckle, garlic mustard, etc.) on the Darst Bottom tract and use management techniques such as prescribed fire and woody removal to maintain open areas. (Wildlife)

Management Objective 2: Expand prairie/grassland habitat located in the northeast part of the area by approximately 100 acres and maintain adequate plant diversity in prairie stands.

Strategy 1: Remove agriculture from 10 to 20 acres of open land, adjacent to the existing complex, and establish prairie grasses and forbs in the area. (Wildlife)

Strategy 2: Remove or thin tree rows between prairie fields and agricultural fields to allow establishment of sufficient herbaceous vegetation that will allow prescribed fire to burn through tree stands. (Wildlife)

Strategy 3: Periodically evaluate restored prairie fields for forb diversity and prevalence. In the event that warm-season grasses begin to dominate fields, the grasses will be suppressed through discing, herbicide, or prescribed fire, and forb seed will be added to the field. (Wildlife)

Management Objective 3: Manage existing woodlands to increase the number and diversity of native herbaceous and woody species.

Strategy 1: Manage woody and herbaceous invasive species, such as bush honeysuckle, multiflora rose, garlic mustard, etc. through the use of herbicides, prescribed fire, and other methods. (Wildlife)

Strategy 2: Conduct woodland/forest thinning activities to increase mast production and native species diversity. This work is to be conducted after successful management of the larger, woody invasive species. (Wildlife)

Strategy 3: Conduct a forest inventory on the Darst Bottom tract and continue conversion to a bottomland forest community through regeneration and selected tree plantings. (Forestry, Wildlife)

Management Objective 4: Expand the current Weldon Spring Hollow Natural Area to include an additional 100-plus acres.

Strategy 1: Propose a 100-plus-acre expansion of the current Weldon Spring Hollow Natural Area by working through the natural area addition process with assistance from the natural history biologist and natural areas coordinator. (Wildlife)

VI. Aquatic Resource Management Considerations

Challenges and Opportunities:

- 1) Maintain adequate fish habitats for healthy, sustainable fish populations.
- 2) Portions of streams within Weldon Spring CA may have narrow riparian forest buffers.
- 3) Some pond dams, stream banks, or structures may suffer from erosion or damage.
- 4) Potential for additional small fishless pond and wetland habitats may exist.

- 5) Access to some pond/lake embankments could be improved.

Management Objective 1: Establish, maintain, or expand aquatic habitats.

Strategy 1: Install and/or maintain brush piles in lakes managed for multiple species fishing opportunities, where appropriate. (Fisheries)

Strategy 2: Establish and maintain native aquatic vegetation in lakes, where appropriate. (Fisheries)

Strategy 3: Explore options to create additional small fishless ponds. (Wildlife)

Strategy 4: Inspect condition of Femme Osage Slough water control structure and propose repairs to increase connectivity with the Missouri River. (Wildlife)

Strategy 5: Conserve, expand, or establish riparian forest buffers to a minimum of 100-foot wide, on both sides of area streams, according to Department riparian guidelines (Missouri Department of Conservation, 2009). (Fisheries, Wildlife)

Management Objective 2: Improve or maintain embankments and access.

Strategy 1: Explore opportunities to improve access to Prairie Lake shorelines to decrease steepness and improve mowing safety. (Wildlife)

Strategy 2: Improve protection of dam faces and outflow structures of fishless ponds. (Wildlife, Design and Development)

Strategy 3: Maintain fishing access to dams and shorelines through mowing. (Wildlife)

Strategy 4: Monitor Little Femme Osage Creek stream bank stability adjacent to the Katy Trail and consider setting back levees, if conditions change. (Fisheries)

VII. Public Use Management Considerations

Challenges and Opportunities:

- 1) Educate diverse users about area regulations related to hunting, fishing, and other recreational activities.
- 2) Provide a diverse array of hunting and fishing opportunities of a wide variety of species for the public.
- 3) Manage multiple public user group activities to avoid conflicts between the groups.
- 4) The area includes considerable infrastructure (lakes, roads, trails, etc.) that require maintenance.
- 5) Constructed pools adjacent to Lost Valley Spring may provide limited cold water habitat.

Management Objective 1: Educate area users about area regulations, using a variety of media (area brochures, Department website, area signage), to reduce *Wildlife Code of Missouri* violations and enhance enjoyment of area resources.

Strategy 1: Maintain area signage (boundary, fishing regulation, trail signs, etc.) to inform the public and reduce violations. (Wildlife)

Management Objective 2: Provide sustainable hunting opportunities for a wide variety of species on a high public use area.

Strategy 1: Conduct managed hunts for deer and spring turkey to control hunting pressure. (Wildlife)

Management Objective 3: Maintain healthy deer populations to provide ample hunting opportunities.

Strategy 1: Conduct surveys of the deer population on the area to periodically assess density. (Wildlife)

Strategy 2: Conduct a variety of managed hunts to help manage deer numbers and provide several options for hunters to enjoy the resource. (Wildlife)

Management Objective 4: Manage large and special requests user groups through the special use permit process to help minimize conflicts between groups.

Strategy 1: Follow Department special use permit guidelines when evaluating special use permit applications to determine if activities can be allowed or not. (Wildlife)

Strategy 2: Follow the special use permit policy and establish local guidelines to monitor athletic competitions (running and bike races) to ensure they do not conflict with hunting seasons and general area users. (Wildlife)

Public Use Strategy 3: Work with Missouri Department of Natural Resources and University of Missouri Research Park staffs to coordinate events on the Hamburg Trail, Katy Trail, Research Park Trail loop and ensure proper permits are issued. (Wildlife)

Management Objective 5: Provide high-quality fishing opportunities.

Strategy 1: Maintain multi-species fish communities (with bluegills and largemouth bass), where appropriate. (Fisheries)

Strategy 2: Explore options for developing limited coldwater fisheries potential at Lost Valley Spring branch. (Fisheries)

VIII. Administrative Considerations

Challenges and Opportunities:

- 1) Work with neighboring homeowners to reduce encroachment (tree cutting, yard waste dumping, and other activities) along property boundaries.
- 2) Provide adequate parking for area trails to accommodate increased usage.
- 3) Consider acquiring land from willing sellers adjacent to the Weldon Spring CA.

Management Objective 1: Maintain well marked, accurate boundary lines.

Strategy 1: Maintain signage along boundary lines every five years. (Wildlife)

Strategy 2: Work with neighboring homeowners to provide education about area regulations and request compliance. (Wildlife)

Strategy 3: Obtain administrative guidance on resolving minor boundary issues. (Wildlife)

Management Objective 2: Provide adequate parking for area users.

Strategy 1: Explore the feasibility of increasing the parking lot size at the Lewis and Clark Trail and the Weldon Spring boat ramp to accommodate increased area usage. (Wildlife)

Strategy 2: Explore opportunities to purchase property from willing sellers adjacent to the Darst Bottom Tract that would allow the development of a public parking area to increase access to the area. (Wildlife)

Lands Proposed for Acquisition:

When available, adjacent land may be considered for acquisition from willing sellers. Tracts that improve area access, provide public use opportunities, contain unique natural communities and/or species of conservation concern, or meet other Department priorities, as identified in the annual Department land acquisition priorities, may be considered.

APPENDICES

Area Background:

Weldon Spring Conservation Area (CA) is in St. Charles County, near the town of Weldon Spring. The area is named after John Weldon, who came to this region in 1796 with a Spanish land grant for 425 acres. This acreage included the spring after which Weldon Spring is named.

From settlement until the early 1940s, the primary land use was small farms. During the 1940s, the U.S. Department of Army took control of 17,000 acres to construct the world's largest TNT (trinitrotoluene) munitions plant to serve the World War II effort. In addition, the Atomic Energy Commission (now the U.S. Department of Energy) operated a uranium feed materials plant on land adjacent to Weldon Spring CA in the 1960s. The affected portions were part of a federal environmental cleanup project and were required to meet certain environmental health and safety standards. The area is now considered safe for all recreational pursuits allowed on the area, as well as the wildlife found within the area. Most of this area is now the August A. Busch Memorial CA and Weldon Spring CA. Weldon Spring CA was given to the University of Missouri in 1948. The University of Missouri used the land as an agricultural experiment farm until it was sold to the Missouri Department of Conservation (Department) in 1978. The original tract of land was 7,356 acres.

The Darst Bottom Tract is located south of Weldon Spring CA. The area is located in the Missouri River bottom, upstream from the bottomland portion of the conservation area. The area is comprised of 1,056 acres in the floodplain. Two tracts totaling 839 acres were purchased in 1995 as a result of flood buyout opportunities. In 2002, St. Louis County and the Spirit of Saint Louis Airport donated 217 additional acres in the Darst Bottom Tract that connected the two existing tracts of land. This area is separate from the main portion of the Weldon Spring CA, but has been managed as part of the Weldon Spring CA. Public access to the Darst Bottom Tract is by boat via the Missouri River.

The Darst Bottom Tract received heavy damage due to flooding and levee breaks in the 1990s. As a result, large sections of the area have sand deposits of varying depth. Most of the area is protected from flooding by a Missouri River levee. Existing habitat on the area is composed of mature bottomland forest located outside of the levee; young (approximately 20 years) stands of bottomland forest located inside of the levee; open sandy areas with sporadic vegetation; idle fields; and crop fields.

To find out more about the history of the U.S. Army and U.S. Department of Energy activities on the area, you can visit the Weldon Spring Site Interpretive Center located at 7295 Highway 94 South, St. Charles, Missouri, 63304.

Current Land and Water Types:

Land/Water Type	Acres	Miles	% of Area
Forest and Woodland	6,752		80
Open Land	744		9
Other(sparsley vegetated sand flats)	500		6
Grassland	300		4
Lakes/Ponds	66		<1
Glade	20		<1
Wetland	16		<1
Total	8,398		100
Stream Frontage		15.5	

References:

Missouri Department of Conservation. (2009). *Watershed and stream management guidelines for lands and waters managed by Missouri Department of Conservation*. Jefferson City, MO: Missouri Department of Conservation.

Maps:

- Figure 1: Weldon Spring CA Area Map
- Figure 2: Weldon Spring CA Darst Bottom Tract Area Map
- Figure 3: Weldon Spring CA Aerial Map
- Figure 4: Weldon Spring CA Easement Map
- Figure 5: Darst Bottom Tract Easement Map
- Figure 6: Weldon Spring CA Landtype Association Map
- Figure 7: Weldon Spring CA Cover Type Map

Figure 1: Weldon Spring CA Area Map

WELDON SPRING CONSERVATION AREA

SAINT CHARLES COUNTY
7,390 ACRES

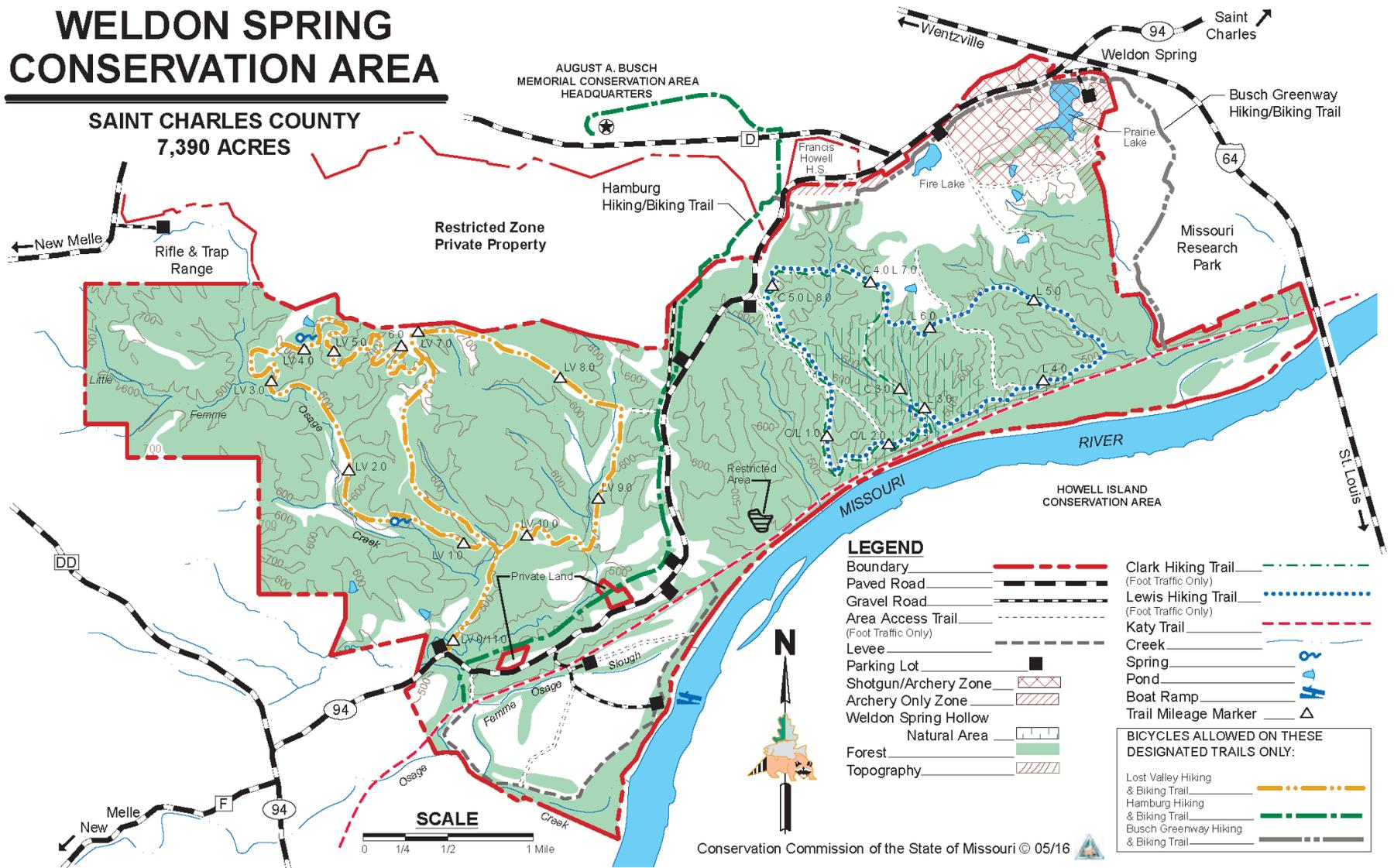


Figure 2: Weldon Spring CA Darst Bottom Tract Area Map

WELDON SPRING CONSERVATION AREA DARST BOTTOM TRACT

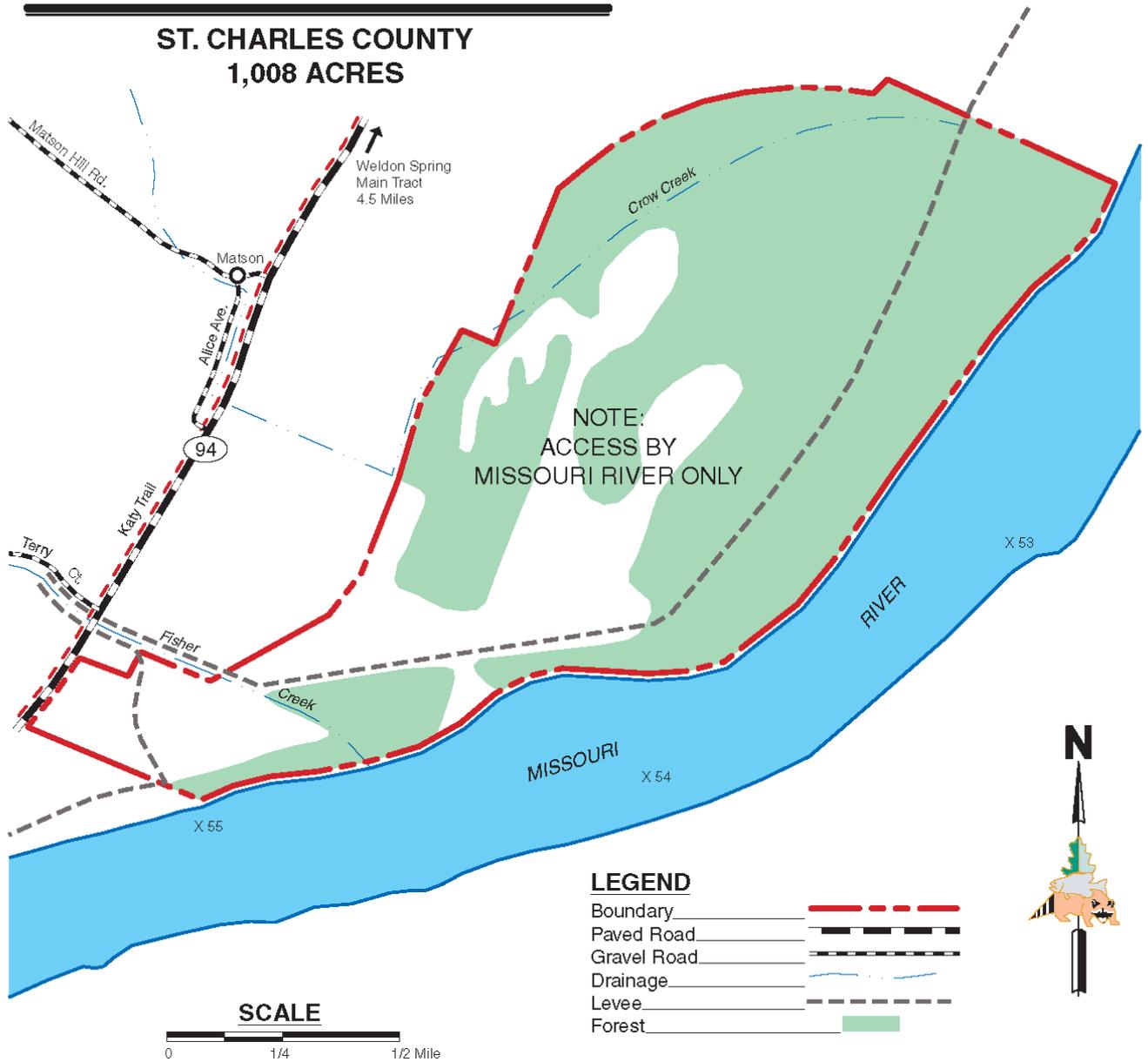


Figure 3: Weldon Spring CA Aerial Map

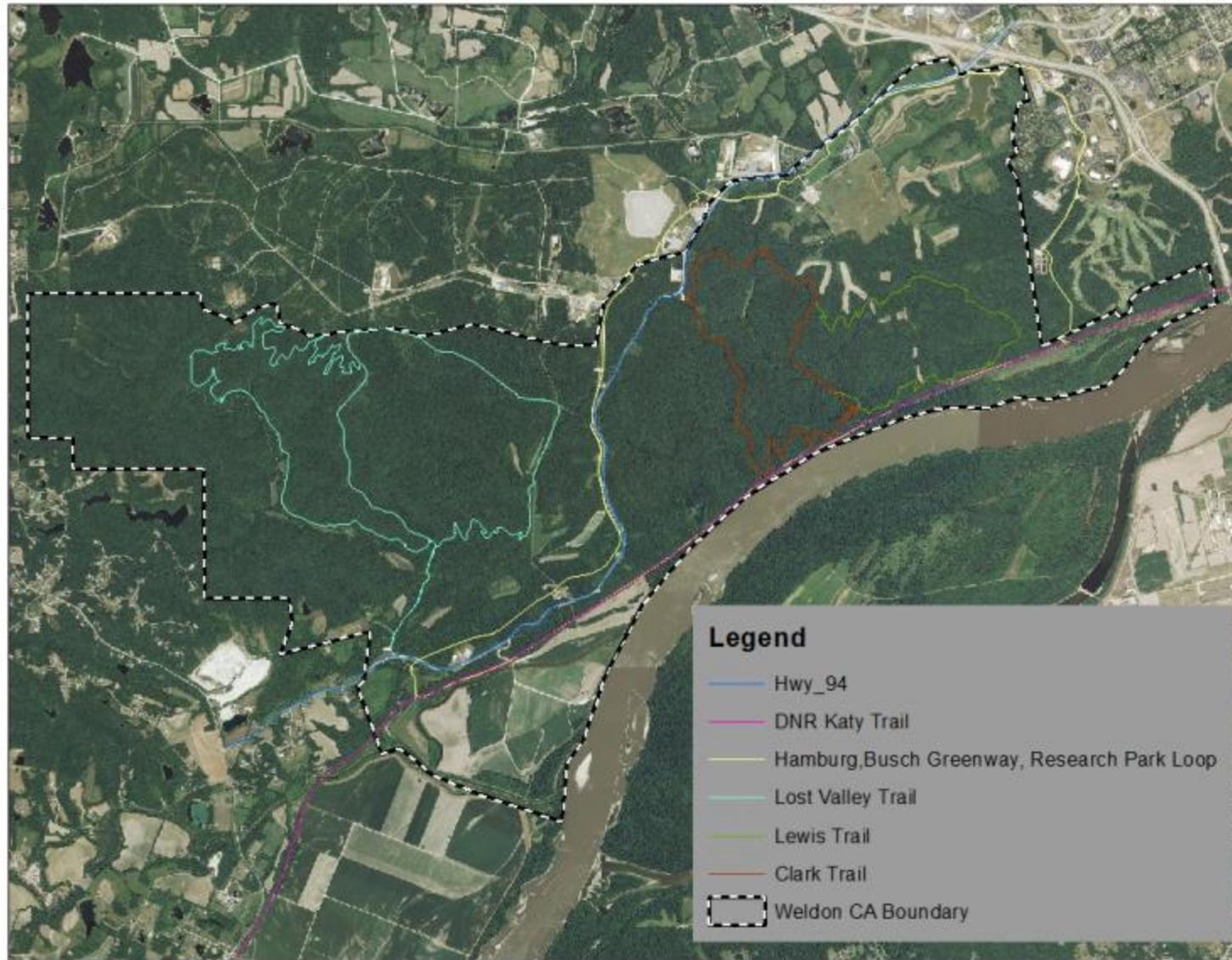


Figure 4: Weldon Spring CA Easement Map

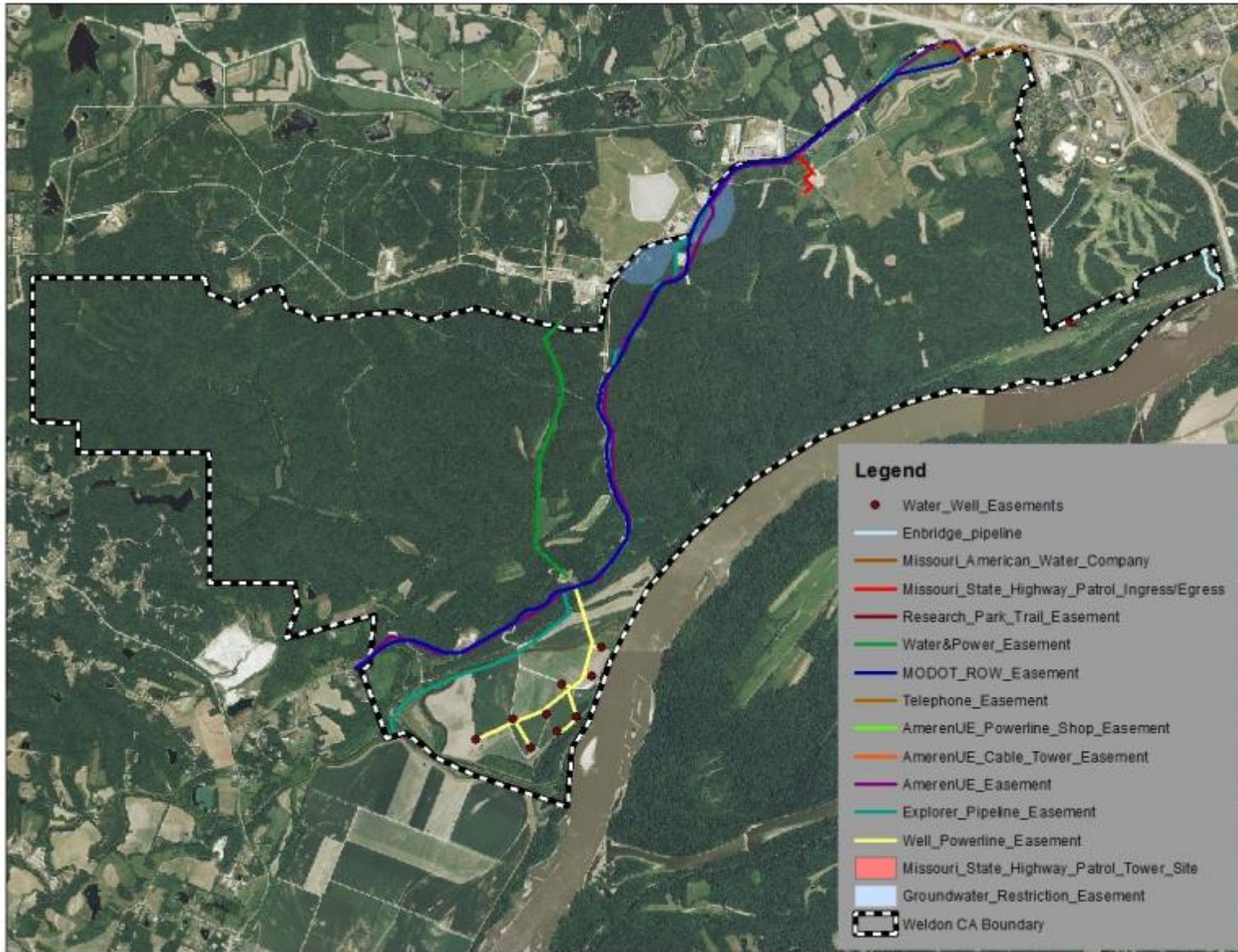


Figure 5: Darst Bottom Tract Easement Map

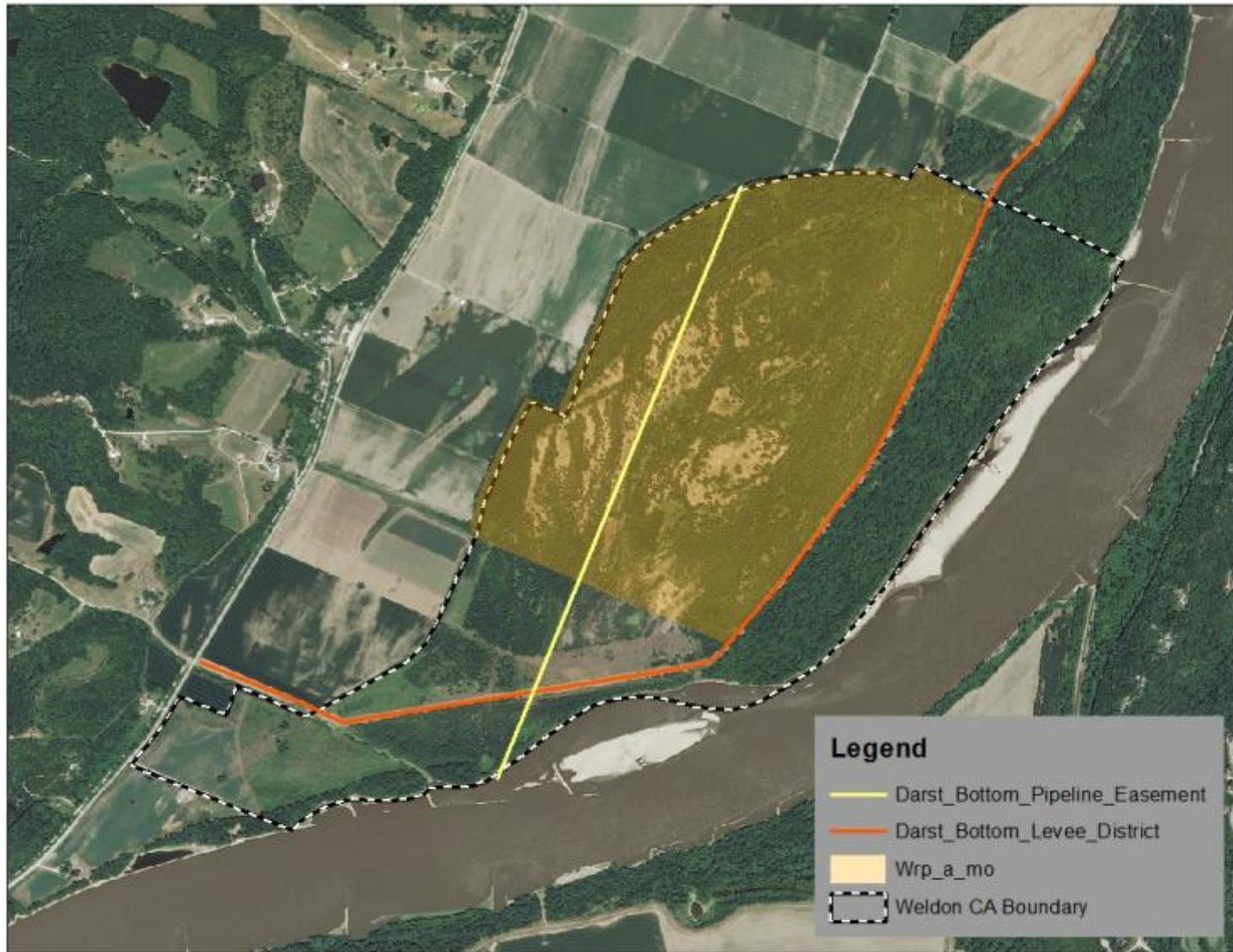


Figure 6: Weldon Spring CA Landtype Association Map

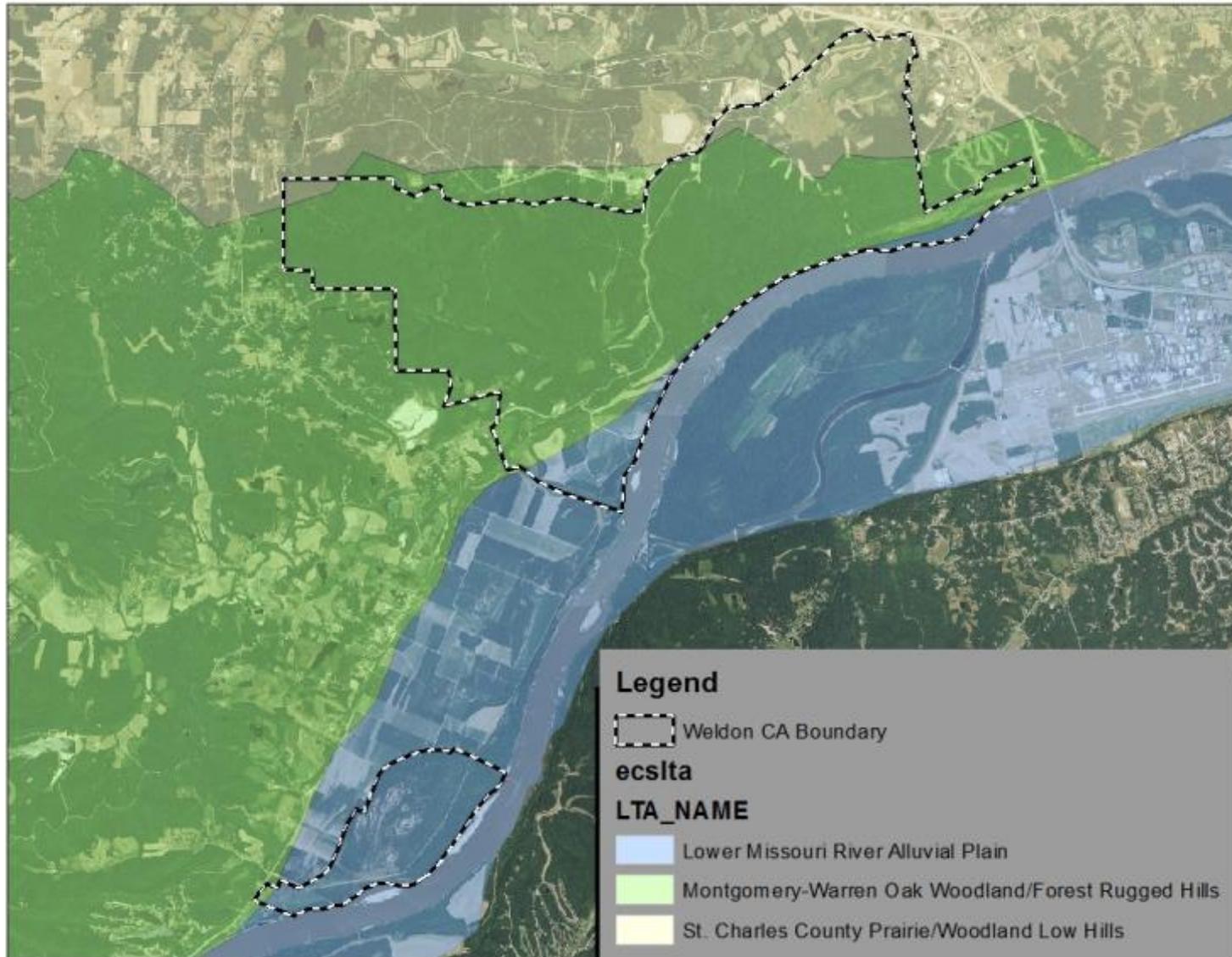
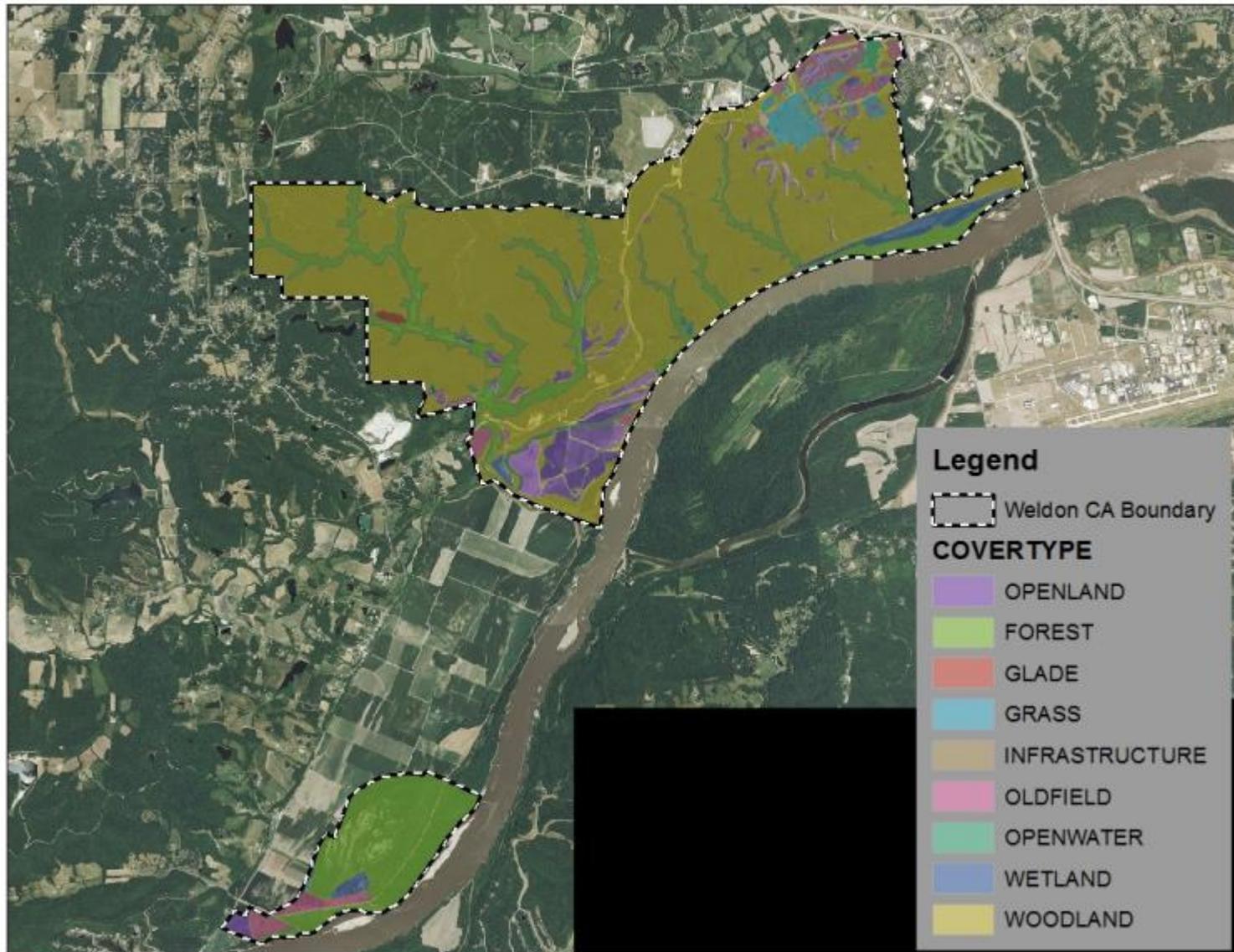


Figure 7: Weldon Spring CA Cover Type Map



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