



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO ATTENTION OF:
Regional Planning and Environmental Division North
Environmental Compliance Section (CEMVP-PD-C)

23 April 2024

RE: Lake Shelbyville Whitley Creek Area Sediment Management Project

Dear Sir or Madam:

The St. Louis District, U.S. Army Corps of Engineers has prepared a Draft Environmental Assessment (EA) and unsigned Finding of No Significant Impact (FONSI) for the Whitley Creek Area Sediment Management Project, Lake Shelbyville, Moultrie County, Illinois. Please note that the Finding of No Significant Impact is unsigned.

Under the National Environmental Policy Act of 1969, as amended, the St. Louis District is distributing this letter to notify concerned agencies, interest groups, and individuals of the proposed project and to solicit comments from those persons or organizations who may be interested in or affected by the project. The FONSI is unsigned and would only be signed after comments received as a result of this public review have been given full consideration.

An electronic copy of the EA and unsigned FONSI can be obtained from the St. Louis District's website at:

<https://www.mvs.usace.army.mil/Portals/54/docs/pm/Reports/EA/WhitleyCreekAreaSedimentManagementProject2024.pdf>

Lake Shelbyville and the St. Louis District of the U.S. Army Corps of Engineers propose sediment management by dredging from the Whitley Creek Recreation Area to the Strickland Boat Ramp. The boating channel would be between 100'- 150' wide and would follow the historic river channel as practicable to reestablish natural contours to a minimum elevation of 586'. This proposed project would help improve boat and vessel access for flood risk management and erosion control operation and maintenance O&M activities at Lake Shelbyville, avoid potential impacts to water quality, increase user safety, and assist in sustaining the types of recreational lake activities that have historically taken place in this area for visitors. Environmental impacts associated with the proposed project are outlined in the draft EA.

Please provide any comments you may have regarding this project to Zachary Day of the Environmental Compliance Section, e-mail Zachary.a.day2@usace.army.mil, or at the **address listed above** (ATTN: Zachary Day). **In order for comments to be considered prior to a final decision being made, they must be received by this office by close of business on 24 May 2024.**

Thank you,

Teri C. Allen, Ph.D.
Chief, Environmental Compliance & Planning Sections

**Draft Environmental Assessment
with
Finding of No Significant Impact (FONSI)**

**Whitley Creek Area Sediment Management Project
Lake Shelbyville
Moultrie County, Illinois**



April 2024

**U.S. Army Corps of Engineers
St. Louis District
Regional Planning & Environmental Division North
Environmental Compliance Section
1222 Spruce Street
St. Louis, Missouri 63103-2833**



**US Army Corps
of Engineers®**

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1 INTRODUCTION

The U.S. Army Corps of Engineers is one of the nation's leading federal providers of outdoor recreation with more than 400 lake and river projects in 43 states. Visitors of all ages can enjoy traditional activities like hiking, boating, fishing, camping and hunting. Recreational programs and activities at USACE lakes also help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self-esteem; and increase water safety.

Lake Shelbyville is located in Shelby and Moultrie counties in east-central Illinois. The 51-acre Whitley Creek area is designated for picnicking and boat launching (USACE 2017). Facilities include a fish cleaning station, comfort station, fountain/hydrant, information board, lift station, picnic sites, and a four-lane boat launching ramp with a courtesy dock. Additionally, the Sullivan Marina and Campground, located at the north end of the lake, is one of three marinas on Lake Shelbyville and is located 3.2 miles south of Sullivan. It features 265 covered and open slips, boating and fishing supplies, boat launching, and fishing guide services.

1.1 PROJECT AUTHORITY

Lake Shelbyville was authorized by the Flood Control Act of 1958 in accordance with the Chief of Engineer's recommendations contained in House Document #232, 85th Congress, 1st session. The lake is managed and operated by the U.S. Army Corps of Engineers (USACE) for the authorized purposes of flood risk management, recreation, water supply, navigation, and fish and wildlife conservation. Water quality improvements was added as an authorized purpose in 1972 under PL 92-500.

1.2 PURPOSE AND NEED OF THE PROPOSED ACTION

In and around the Whitley Creek section of Lake Shelbyville, the USACE has established several publicly and privately (leased concession) operated facilities to promote recreational activities on the lake. These include boat ramps, hiking trails, picnic areas, a public beach, and a leased marina. In fifty (50) plus years since the lake was established, terrestrial sediment from upland areas and fields, streambank erosion from the Kaskaskia River and its tributaries, as well as bank erosion due to wind and wave wash has accumulated on the lake bottom. The accumulated sediment causes the lake to be shallower in areas where it deposits. This negatively impacts the ability of USACE to access managed lands and water areas by boat for flood risk management and erosion control operation and maintenance (O&M) purposes. In addition, when lake levels are low, boat hulls and their engines and propellers hit and scratch the bottom of the lake. This not only creates boater safety issues, but it also stirs up bottom sediments and suspended solids into the water column thus negatively impacting local water quality in the lake. Action is needed to reduce the negative impacts caused by accumulated sediment in the Whitley Creek portion of Lake Shelbyville. Thus, the purpose of the proposed action is to manage sediment in a way that reestablishes sufficient depth in this portion of the lake. This is needed in order to maintain aquatic access for O&M activities, avoid potential impacts to water quality, increase user safety, and sustain the types of recreational lake activities that have historically taken place in this area for visitors.

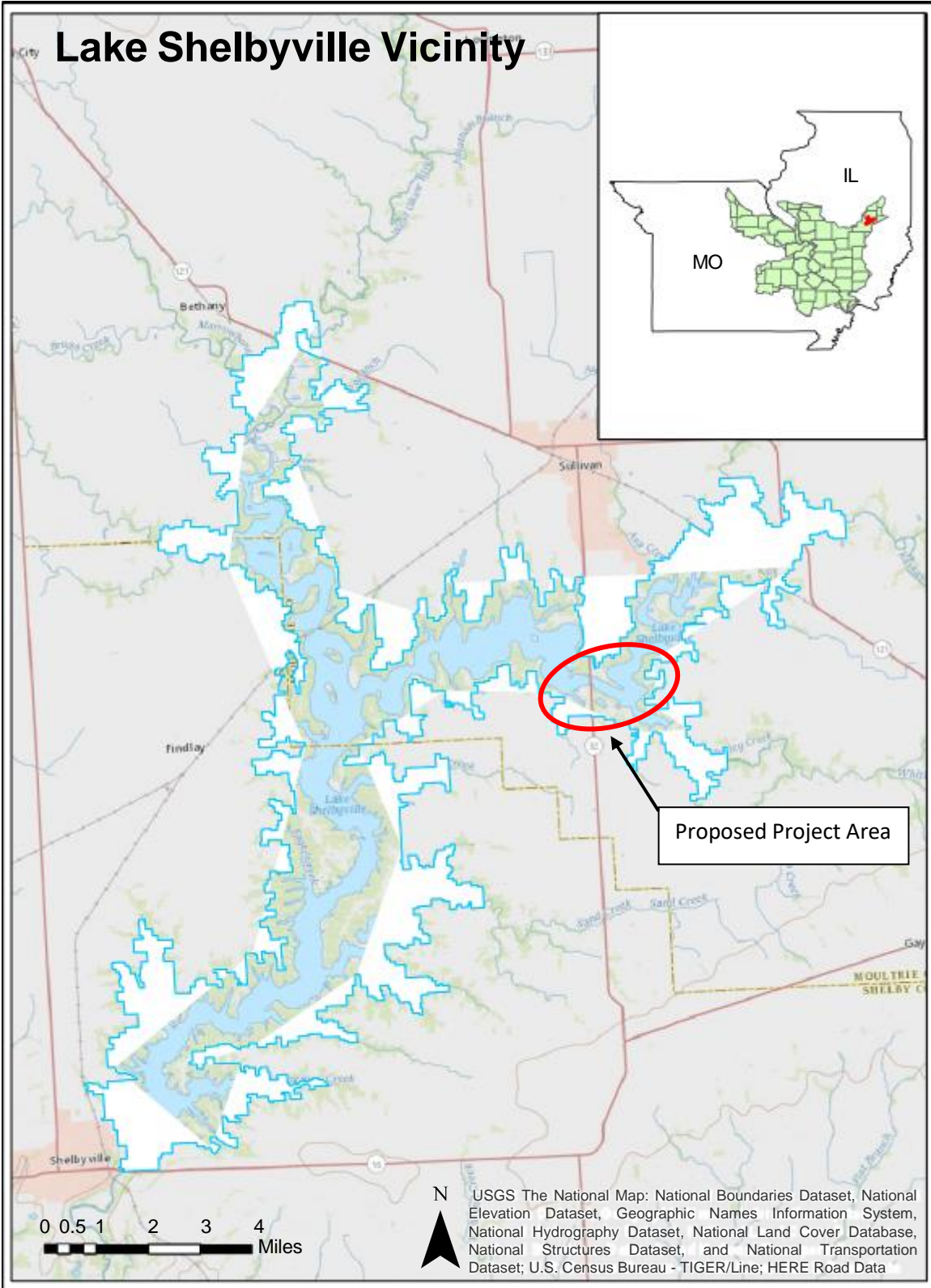


Figure 1. General vicinity map for the project area on Lake Shelbyville, Shelby and Moultrie Counties, in east-central Illinois.

2 ALTERNATIVES

CEQ Regulation Section 1502.14 requires the Environmental Analysis to evaluate reasonable alternatives to the proposed action, and, for alternatives that were eliminated from detailed study, briefly discuss the reasons for their elimination. Reasonable alternatives include those that are technically and economically feasible, and meet the purpose and need for the proposed action, rather than simply desirable from the standpoint of the applicant. No specific number of alternatives is required or prescribed to be carried forward for detailed analysis in the Environmental Assessment (EA). (36 CFR 220.7(b)(2)).

2.1 ALTERNATIVES CONSIDERED

This section describes the initial array of potential management measures that were considered to address sedimentation that is starting to limit boat access, increasing the risk of boating hazards in the area, limiting aquatic access for O&M activities, and impacting water quality and Lake Shelbyville concessions. Specific screening criteria included cost/efficiency, effectiveness, environmental impacts, O&M considerations, and visitor safety. The initial array of seven potential sediment management measures are briefly described below and are summarized in Table 1.

2.1.1 No Action

The National Environmental Policy Act (NEPA), ER 1110-2-1156, and ER 1105-2-103, require that the No Action plan be included in a final array of Alternatives. Under NEPA, the No Action Alternative is used as a baseline against which all other Alternatives are evaluated for environmental impacts. This alternative has been carried forward for evaluation and consideration in this EA.

2.1.2 Dredging

Dredging was reviewed as a potential alternative to provide consistent access to the Whitley Creek area. Two routes were considered for dredging to provide better access through the Whitley Creek area. The Channel Option 1 follows the route that is currently used by most recreational boaters in and around the Whitley area. This channel is near the historic Kaskaskia River channel location prior to the inundation of Lake Shelbyville. Channel Option 2 is the shortest reasonable distance that could be dredged for sufficient access. Both routes were calculated as roughly 300-ft. wide channels for evaluation purposes only (Figure 2). While a dredged channel would provide access to the Whitley Creek area, dredging can be expensive, is naturally temporary due to shifting sediments, and is spatially-limited by design. A dredged channel naturally fills in with sediment over time, thus requiring periodic maintenance dredging to maintain access. This alternative is being carried forward for additional consideration in this EA.

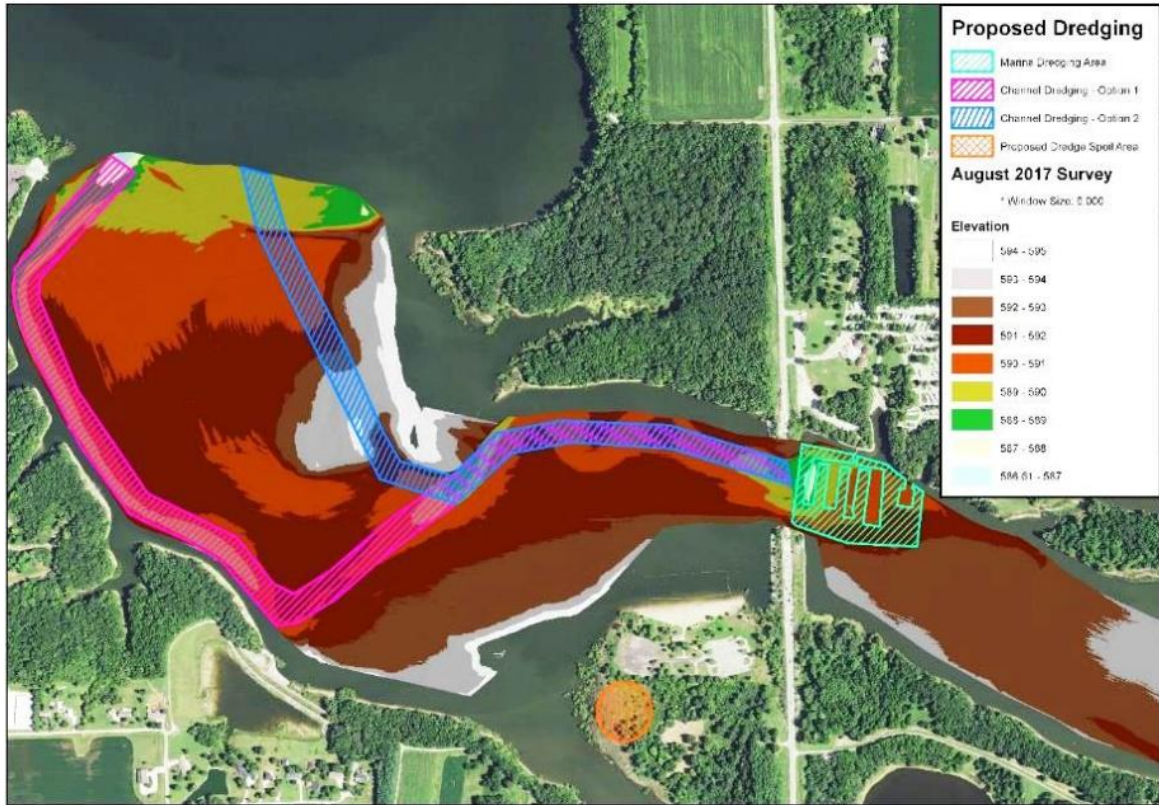


Figure 2. Hydrographic survey of proposed dredging cut options in the Whitley Creek Recreation Area (USACE 2018). Note that the survey covered a 300' wide channel for study purposes only. The area in green is not part of the proposed action as it is the responsibility of the lessee.

2.1.3 Sediment Trap/Basin

The construction of one or more sediment capture features was considered for reducing sediment inputs to the lake. Three types of traps/basins were evaluated: 1) in-lake retention basin, 2) in-stream pit trap, and 3) off-channel trap. Sediment traps/basins would reduce the volume of sediment entering the Whitley Creek area and Lake Shelbyville. Once a trap/basin is constructed, it would require periodic and diligent maintenance in order to remain effective. Sediment traps/basins would have a high initial cost and would be expensive to maintain. While this alternative may somewhat reduce the overall sedimentation rate of Lake Shelbyville, including the Whitley Creek area, it would not improve O&M or recreational boater access in the Whitley Creek area. Thus, this alternative is not being carried forward for additional consideration in this EA.

2.1.4 Bankline Revetment

Consideration was given to two shoreline stabilization methods: Stone Toe Protection (STP) and stone revetment (riprap). Shoreline stabilization applied to the Whitley Creek area would directly reduce the quantity of sediment that enters the Whitley Creek area as a result of wind and wave induced erosion of banklines. In addition to the construction cost, revetment requires maintenance to remain effective. This alternative may be viable in certain areas to reduce local erosion and sedimentation rates. However, this

alternative does not remove the sediment that has already accumulated in the Whitley Creek area, and would not improve O&M or recreational boater access. Thus, this alternative is not being carried forward for additional consideration in this EA.

2.1.5 Dikes

The construction of river training structures was evaluated as a way to scour a reliable channel and/or keep sediment in suspension through the Whitley Creek area. Two river training structure options were evaluated: 1) a network of river training structures designed to constrict the channel to increase the sediment transport capabilities of through the reach, and 2) a sediment deflection structure around the marina area designed to “block” sediment from entering the Whitley Creek area and local facilities. However, local conditions indicate that structures would not be effective in creating or maintaining access to the Whitley Creek area. The construction of river training structures would be costly, would require maintenance, and could pose a hazard to recreational vessels. Further, this alternative would push the problem downstream to be dealt with in another area of the Lake. River training structures are not a viable option for reducing sedimentation and maintaining boat access to the Whitley Creek area of Lake Shelbyville. Thus, this alternative is not being carried forward for additional consideration in this EA.

2.1.6 Basin-Wide Best Management Practices

The watershed approach of Best Management Practices (BMPs) aims to reduce overall watershed contributions of sediment and nutrients into the tributaries and rivers that flow into Lake Shelbyville. Sediment and associated pollutants are generated in the watershed and delivered to Lake Shelbyville through natural transport mechanisms. Public and private interests are involved in an ongoing effort to reduce the volume and impact of sediment and associated pollutants delivered to the lake. This effort involves the implementation of BMPs such as conservation buffers, use of cover crops, and grassed waterways. Enactment of BMPs not only reduces the annual sediment contributions (which preserves flood storage in the lake), but also improves water quality by reducing nutrient loads and other pollutants. Sediment derived from the Upper Kaskaskia above Lake Shelbyville is generated from multiple sources. The major sources are sheet and rill erosion from cropland, ephemeral gully erosion, streambank erosion, and lake shoreline erosion. Sediment from each of these sources can be reduced, but not eliminated, by applying proven BMPs at the source. There are efforts underway through various agencies and programs to provide both technical and financial assistance to encourage voluntary implementation of BMPs to improve water quality and reduce sediment in the Upper Kaskaskia watershed. Such efforts should be applauded and supported as a means of reducing the sediment loading in Lake Shelbyville.

While the watershed approach of BMPs is beneficial at the local scale and to the lake as a whole, it would provide limited value in reducing sediment into the Whitley Creek area. A huge number of BMPs would need to be implemented throughout the watershed to see a measurable reduction in sediment transported into the Whitley Creek area. Implementing the BMPs at the locations and scale recommended by the IEPA (Illinois Environmental Protection Agency, 2018) could reduce sediment that reaches Lake Shelbyville by up to 7%. While the implementation of this alternative would reduce overall sedimentation rate, it would not remove current sediments to restore historic capacities nor would it

improve area access or increase boater safety in the Whitley Creek area. This alternative is not being carried forward for additional consideration in this EA.

2.1.7 Change in Lake Operation

Since the effects of sedimentation are felt primarily during low lake elevations, the water control plan could be amended to allow for flexibility in dealing with sedimentation. Operational adjustments, reservoir flushing and a permanent lake level change were considered as a way to address sedimentation in the Whitley area. However, due to the size of Lake Shelbyville and the distance of the Whitley Creek area from the main dam, reservoir flushing is not a viable alternative. Additional topics for consideration include the impacts of reservoir flushing on the downstream portion of the Kaskaskia River, Lake Carlyle, and the tributaries to Lake Shelbyville. Permanent changes to lake levels is not a viable alternative, as the cost (monetary/economic, risk management, and environmental) is not anticipated to outweigh the benefit of improving access to the Whitley Creek area. Thus, this alternative is not being carried forward for additional consideration in this EA.

2.1.8 Relocation of Facilities in the Whitley Area

Sedimentation in the Whitley Creek area would continue to occur, and would continue to impact facilities that support boat access to USACE managed land for O&M activities related to flood risk management and erosion control. It would also continue to impact boating, fishing, and recreational safety at the lake. An option would be to move facilities to an area of Lake Shelbyville that has fewer sedimentation and access issues. However, the obvious drawback of this option include the likely significant costs involved with relocating USACE managed and leased facilities; the loss of facilities in this portion of the lake for visitors; and loss of boat access required for USACE O&M activities.

2.1.9 Evaluation and Comparison of Alternatives

Table 1 summarizes the features and impacts of the alternatives considered. Considerations for sediment management selection included:

- Meeting regulatory requirements for water quality
- Minimizing the construction footprint, construction cost, and operation and maintenance costs (O&M)
- Potential requirements for specialized equipment
- Maintaining access to USACE managed lands and waterways by boat for O&M activities related to flood risk management and erosion control
- Avoiding or minimizing any cultural or environmental impacts
- Safety for recreationists, including boaters

Table 1. Summary of alternatives considered and results of screening evaluation.

Alternative	Environmental / Cultural Impacts	Estimated Project / Annual O&M Cost	Restores Access for Water Based O&M	Improves Water Quality	Improves Visitor Safety	Effective	Screening
No Action (required)	Low	Low/Medium	No	No	No	No	Retained - required
Dredging	Low	Medium/Low	Yes	Yes	Yes	Yes	Retained for evaluation
Sediment Trap/Basin	Low-Medium	Medium/Medium	No	Yes	No	No	Screened - Does not permit continued water based O&M activities; does not improve visitor safety; requires high annual maintenance cost; ineffective
Bankline Revetment	Low-Medium	Medium/Low	No	Yes	No	No	Screened - Does not permit continued water based O&M activities; does not improve visitor safety; ineffective.
Basin-Wide BMPs	Undetermined; off USACE property	Undetermined; off USACE property	No	Yes	No	No	Screened - Lack of ability to implement offsite; does not permit continued water based O&M activities; does not improve visitor safety.
Change in Lake Operation	Low - High	Medium/High	No	No	No	No	Screened - Does not permit continued water based O&M activities; does not improve visitor safety; high economic, risk management, and environmental impacts; ineffective.
Relocation of Commercial and Visitor Activities in the Whitney Creek Area	Low - High	High/Medium	No	No	No	No	Screened - Does not permit continued water based O&M activities; does not improve visitor safety as this will not stop attempted access in this area; high economic impacts; ineffective.

3 ALTERNATIVES CARRIED FORWARD FOR ANALYSIS

Alternatives carried forward for further evaluation in this EA include No Action and Dredging.

3.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the Whitley Creek area of Lake Shelbyville would not be dredged to remove sediment. USACE would be unable to access USACE managed land for O&M activities related to flood risk management and erosion control, which could potentially lead to degraded water quality in the vicinity. Additionally, safety risks associated with boating hazards created by shallow water conditions in the channel would remain. Furthermore, while use of facilities are expected to continue when possible, boater safety risks may impact recreational visitors. Additionally, sedimentation of the Whitley Creek area may result in the loss of recreation and facilities in this section of the lake, contributing to loss of visitorship and an adverse impact on the local economy. USACE would continue to manage lake water levels as described in the current water control manual.

3.2 DREDGING (TENTATIVELY SELECTED PLAN)

The Tentatively Selected Plan (TSP) for the Proposed Action is Alternative 2 - Dredging (Figure 3). Under the Tentatively Selected Plan, dredging is proposed to occur from the Whitley Creek Recreation Area to the Strickland Boat Ramp (approximately 4.5 miles). The boating channel would be between 100' - 150' wide and would follow the historic river channel as practicable to reestablish natural contours to a minimum elevation of 586'. In areas where it is deemed impracticable to follow the historic river channel due to boater safety concerns and O&M equipment access issues, a slight realignment of the contour would be necessary. Preliminary design indicates alignment concerns in four (4) areas (Figures 4-8). Overall dredging would result in the recovery of approximately 900,000 cu yards of lake bottom sediment being removed from the project area (Figure 3). Lake bottom sediment would be removed by hydraulic dredge unless mechanical dredging is required, and dried within one of eight upland placement areas. Dredge material placement would involve approximately 1 acre of tree clearing to access placement sites from the lake. Approximately another 13 acres of tree removal would occur where recovered sediment is being placed in Placement Areas 1 and 2.

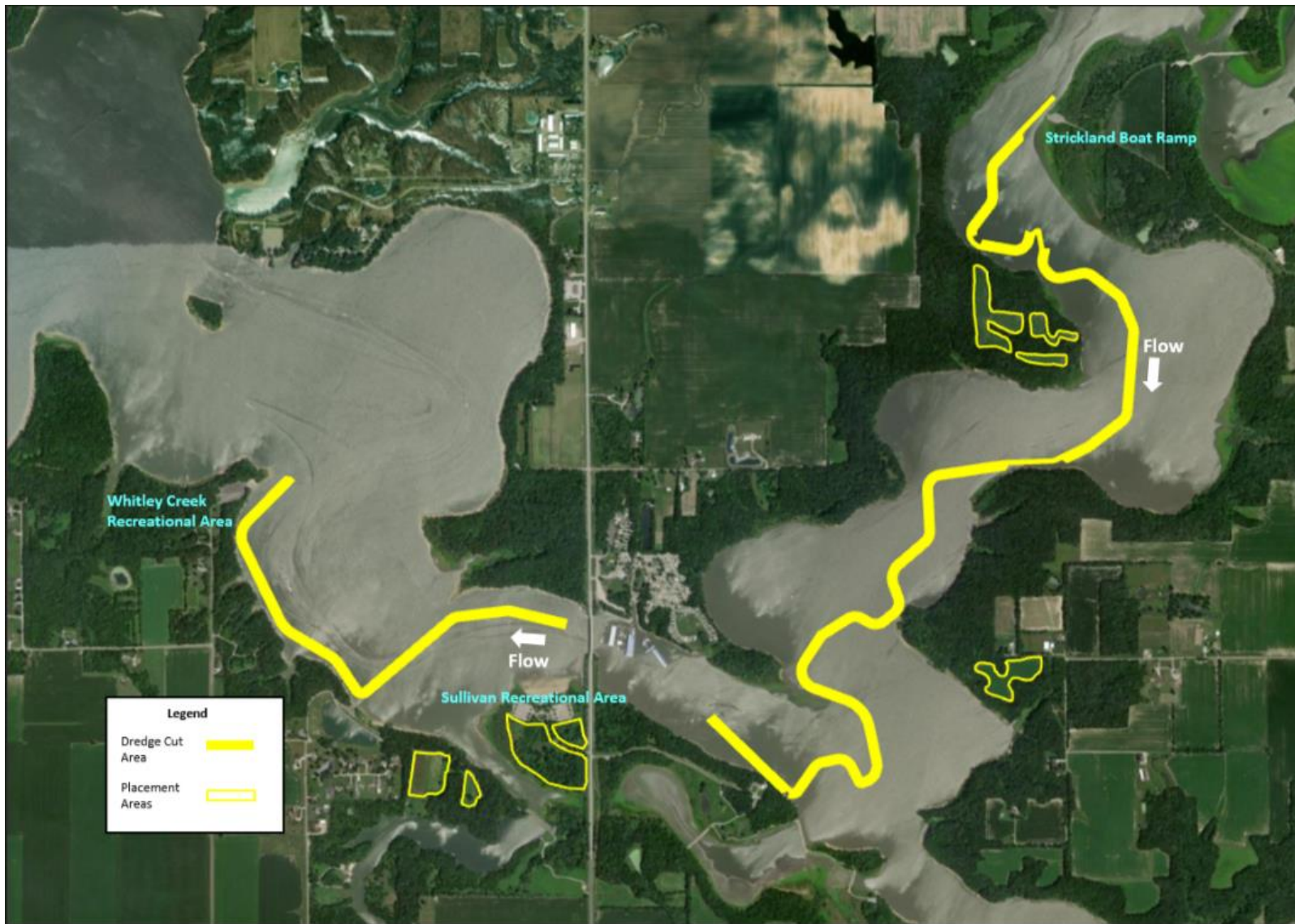


Figure 3. Tentatively Selected Plan project area, identifying dredge area and potential recovered sediment placement areas, for the Lake Shelbyville Sediment management project.

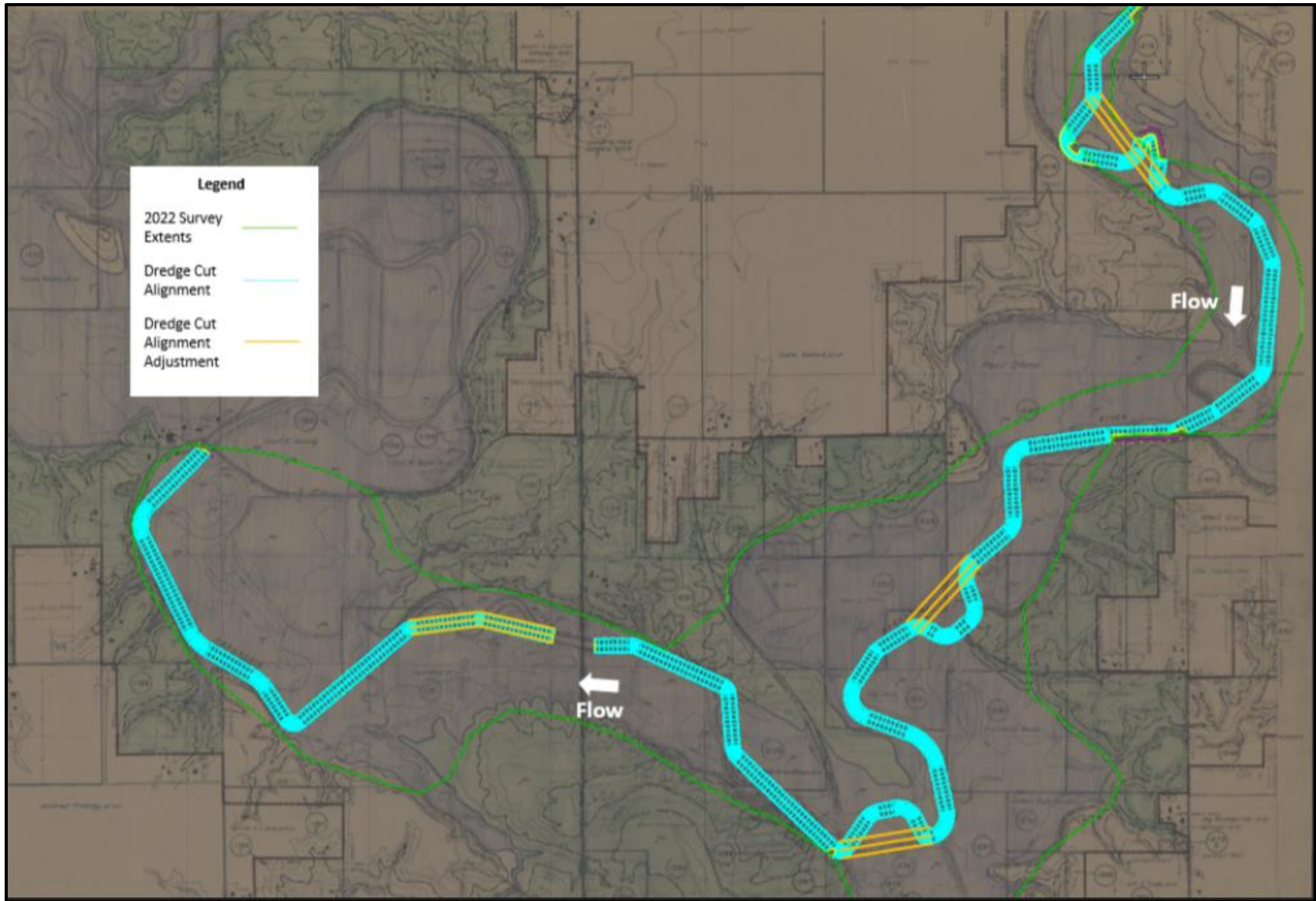


Figure 4. Proposed dredge cut alignment at the lake Shelbyville Whitley Creek area.

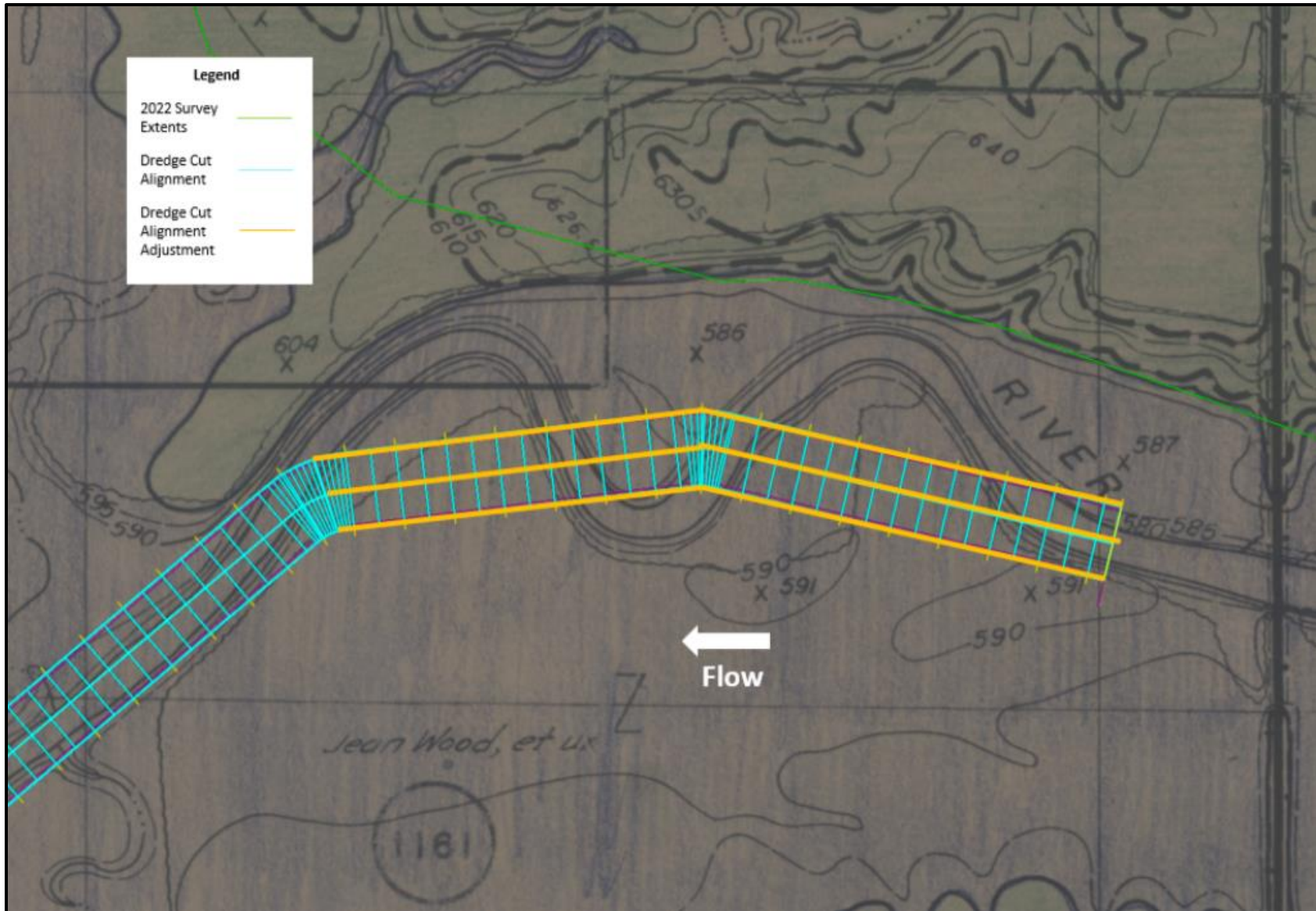


Figure 5. Proposed dredge cut realignment #1 at the lake Shelbyville Whitley Creek area.

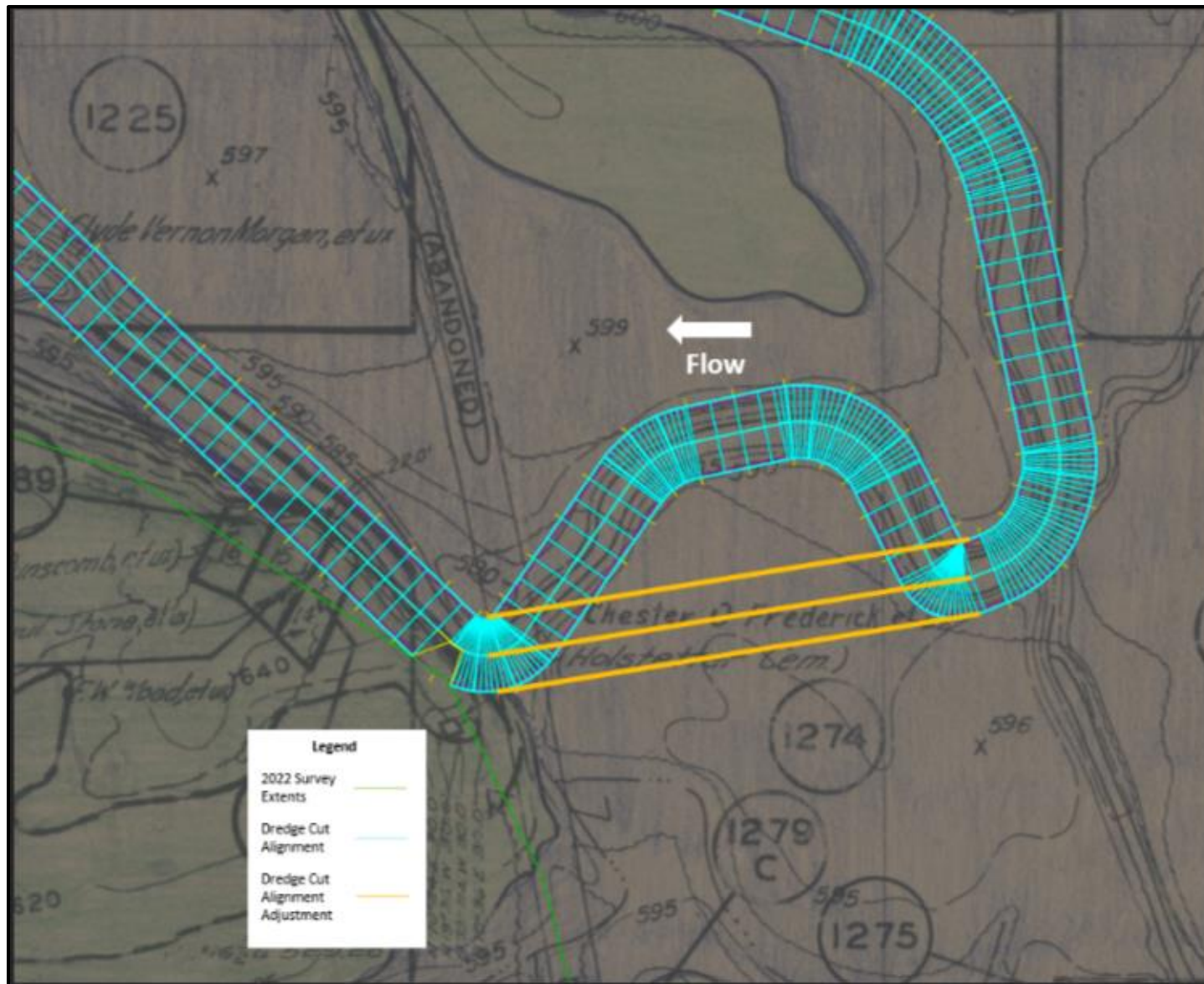


Figure 6. Proposed dredge cut realignment #2 at the lake Shelbyville Whitley Creek area.

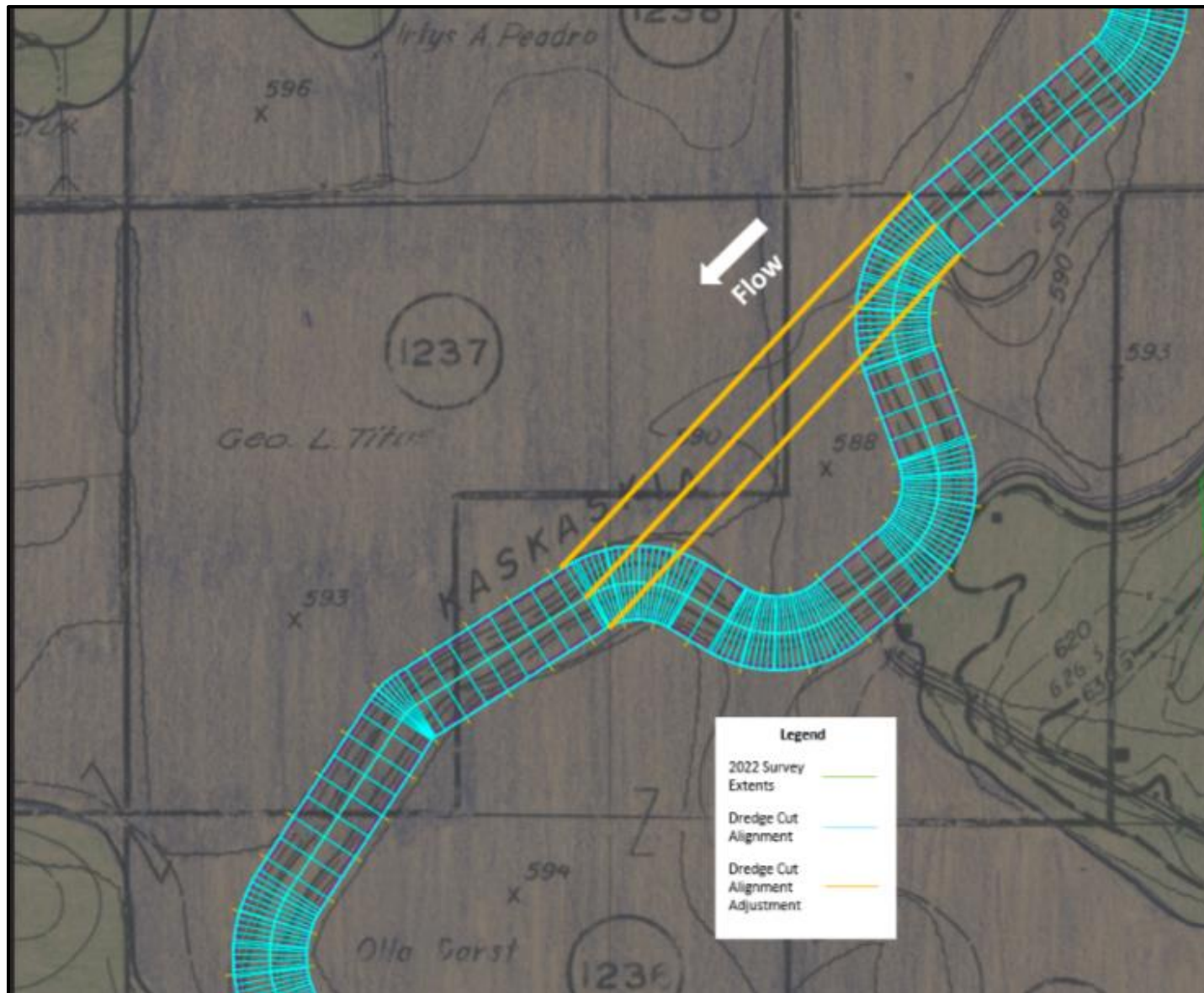


Figure 7. Proposed dredge cut realignment #3 at the lake Shelbyville Whitley Creek area.

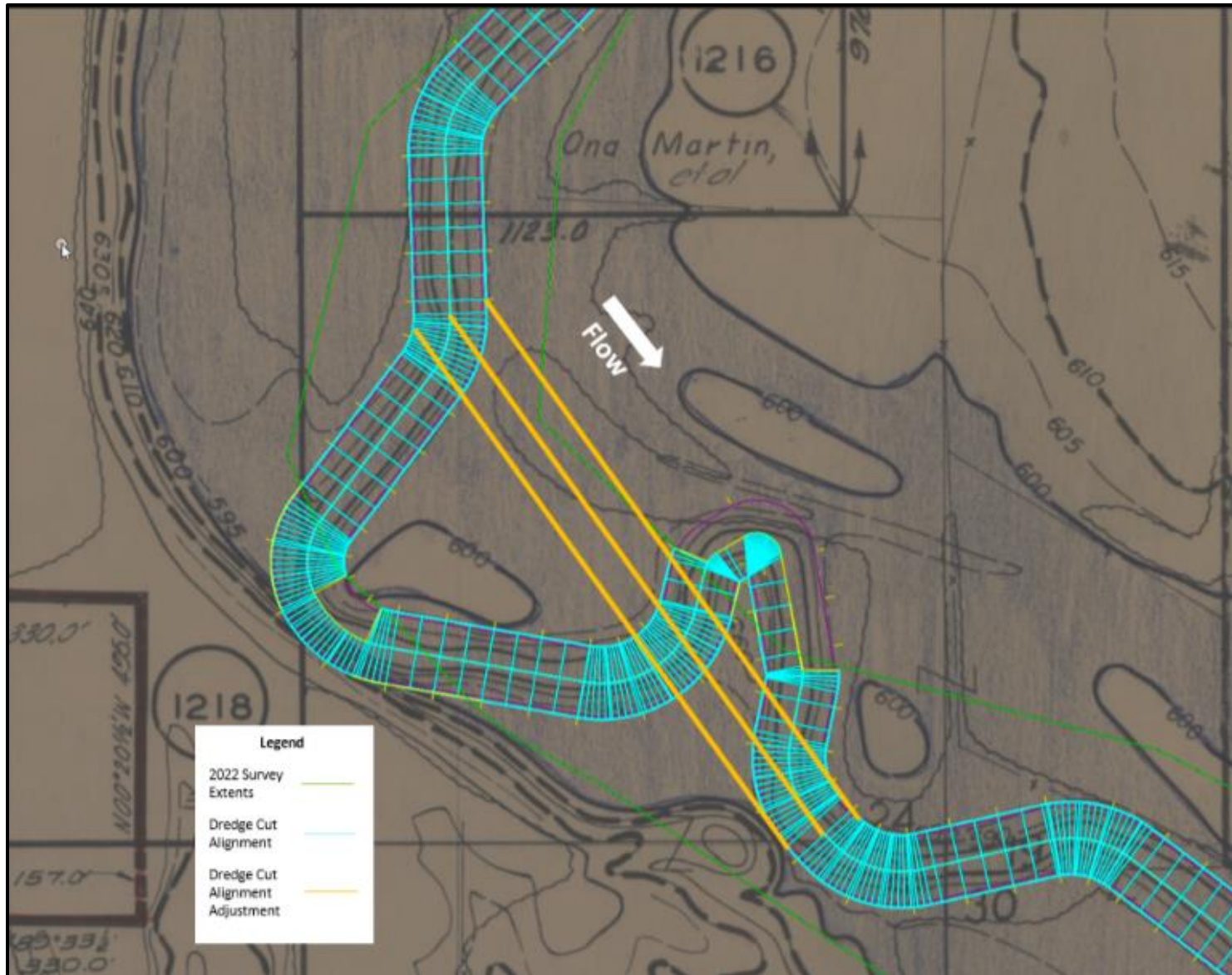


Figure 8. Proposed dredge cut realignment #4 at the lake Shelbyville Whitley Creek area.

4 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section of the EA describes existing conditions (Affected Environment) and discussion of impacts (Environmental Consequences) in the proposed project area. The resources described in this section are those recognized as significant by laws, executive orders, regulations, and other standards of national, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public.

Numerous site visits were conducted between 2022 and 2024 in order to examine environmental resources and determine potential impacts that may result from the proposed action. The proposed action area is shown in Figure 3. Qualitative impact descriptions are explained by accompanying text. Qualitative definitions/descriptions of impacts as used in this section of the report include:

- Intensity
 - Negligible – No noticeable effects to the resource in the project area
 - Minor – Noticeable impacts to the resource in the project area, but the resource is still mostly functional
 - Moderate – The resource is impaired, so that it cannot function normally
 - Major – The resource is severely impaired so that it is no longer functional in the project area
- Duration
 - Short term – Temporary effects caused by the construction and/or implementation of a selected alternative
 - Long term – Lasting effects caused by an alternative after the action has been completed and/or after the action is in full and complete operation

4.1 HYDROLOGY AND HYDRAULICS

Existing Conditions

Lake Shelbyville captures runoff from 674,560 acres (1,054 sq. mi.) of watershed, of which 419,200 acres (655 sq. mi.) drains into the Whitley Creek area. The lake pool level is regulated between 594.0 and 626.5 feet in elevation. Summer pool is maintained at 599.7 ft., while winter pool is maintained at 594.0 ft. All elevations mentioned in this report are given with respect to the 1929 National Geodetic Vertical Datum, or NGVD29.

The water surface at Lake Shelbyville is forecasted using gaged inflow from river data and precipitation data. Gages used for forecasting are as follows: on the Kaskaskia River – Chesterville and Cooks Mills; on the West Okaw – Lovington; and on Whitley Creek – Allenville. Downstream gages are also taken into consideration of lake outflows. Flow at the Chesterville, Cooks Mills, and Allenville gages eventually passes the Whitley Creek study area.

Targeted and historical operations are graphically summarized in Figure 9 and targeted operations are briefly described below. Further detail is available in Chapter 7 of the Lake Shelbyville Water Control Manual (USACE 2008).

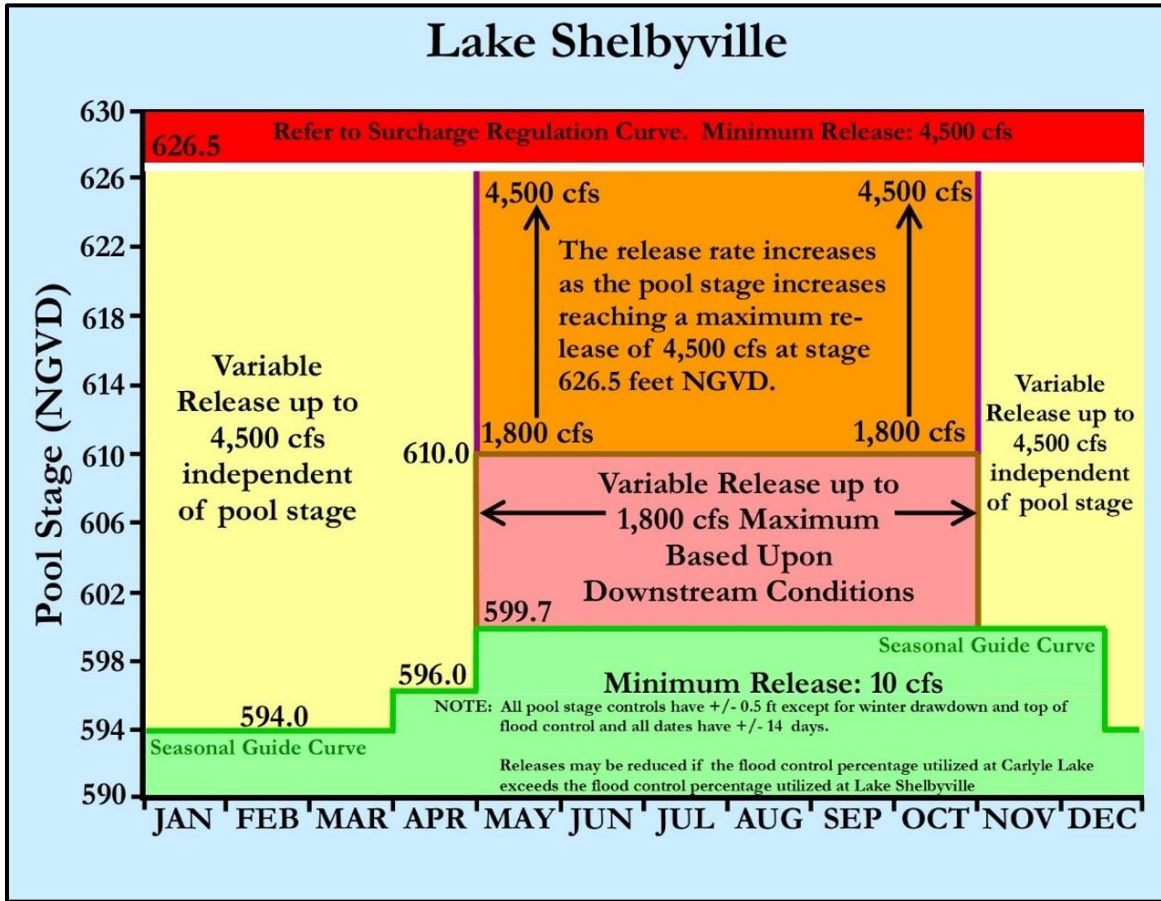


Figure 9: Monthly breakdown of average pool depths at Lake Shelbyville

- May 1st to November 1st is considered growing season. During this time, the target elevation of the lake is raised from 596.0 ft. to 599.7 ft., which is also known as summer pool. Downstream conditions are evaluated to determine a non-damaging rate of release, which is normally less than 1,800 cfs and not increasing more than 500 cfs per day.
- November 1st to May 1st is considered dormant season. During this time, the target elevation of the lake is lowered from 599.7 ft. to 594.0 ft., which is also known as winter pool. On April 1st, the target elevation is raised from 594.0 ft. to 596.0 ft. Downstream roads are usually taken into consideration by limiting releases below 4,000 cfs.
- During low flow conditions, a minimum release of 10 cfs will be maintained at all times for water quality purposes.

- Releases from the dam are limited to 4,500 cfs when the pool is below 626.5 ft. During surcharge flow conditions, if the pool exceeds 626.5 ft., the release rate may be raised up to the spillway capacity.

Major sources of sediment include, but are not limited to upland fields, riverbanks and beds, and lake banks. Upland soil contributions from the watershed were evaluated using two different methods. Riverbank erosion was assessed over the main-stem Kaskaskia River, which spans 75 miles from the headwaters in Champaign County, IL, to the upper end of Lake Shelbyville. Riverbank erosion was also assessed at strategic locations on the approximately 545 miles of tributaries to the main-stem Kaskaskia River. These areas are contained within portions of Champaign, Coles, Douglas, Macon, Moultrie, Piatt, and Shelby counties. Lake bankline erosion was also evaluated over a length of 27.8 miles in the Whitley Creek area.

Different combinations of river inflow, lake levels, and controlled outflow discharges result in different sediment transport rates through the lake. The trends described below are general trends that were observed.

- A low energy condition occurs when Lake Shelbyville is high, and the Kaskaskia River is low. During this condition, a high rate of deposition occurs, sediment from the river is deposited quickly, and no previously deposited lake sediment is mobilized.
- An intermediate energy condition occurs when Lake Shelbyville is high and the flow from the Kaskaskia River is high, sediment from the river may remain in suspension longer and previously deposited sediment may be mobilized again.
- The condition with the most energy is when Lake Shelbyville is low, and the Kaskaskia River is high. This condition will result in the most sediment transport through the Whitley area, and previously deposited lake sediment may be mobilized.
- Hydrographic surveys were performed in April and August 2022 to determine depths throughout the Whitley Creek area. An Acoustic Doppler Current Profile (ADCP) survey was performed in March 2018 to estimate the velocity of water flowing through the Whitley area.

Several different analyses and resources were reviewed and evaluated to analyze the sedimentation extent, rate, and composition. Those detailed analyses can be found in the Whitley Area Sedimentation Study (USACE 2018). The report provides a basic analysis of historic sedimentation trends, sources of sediment, and their magnitudes. The report also provided alternatives considered to reduce sedimentation and increase boat access to the Whitley area.

General sources of sediment that reach the Whitley Creek area of Lake Shelbyville include:

- sheet and rill erosion from upland areas and fields
- streambank erosion in the Kaskaskia River and its tributaries
- lake bank erosion due to wave-wash

On average, Lake Shelbyville traps 98% of sediment; the other 2% of sediment remains in suspension as it passes through the dam. Sediment deposition into the Whitley Creek area of Lake Shelbyville is beginning to impact O&M access, recreation, infrastructure, water quality, and boater safety. Currently, there are areas of the lake upstream from the Highway 32 bridge which are very shallow, such that they are no longer accessible by boats at most lake levels.

No Action Alternative

Under No Action, Lake Shelbyville would not be dredged to remove lake bottom material from the areas surrounding the Whitley Creek area. Sediment would continue to deposit into the area over time exacerbating the negative effects of a reduction in lake capacity, reduction in depths for boat access, and eventual elimination of aquatic access to USACE managed areas requiring O&M. Seasonal use of the Whitley Creek area is expected to continue if possible, which would continue to impact the safety of boat recreationists. USACE would continue to control lake water levels with the current conditions. The impacts of the No Action Alternative would be major and long term.

Dredging (Tentatively Selected Plan)

Under the Action Alternative, dredging would occur from the Whitley Creek area to the Strickland Boat Ramp, to provide a boating channel between 100'- 150' wide, following the historic river channel to as practicable to a minimum elevation of 586', resulting in approximately 900,000 cu yards of lake bottom material being removed from the project area. Lake bottom sediment would be removed by hydraulic dredge unless mechanical dredging is needed, and placed and dried within one of eight upland, confined placement locations. The quantity of material calculated to be removed includes a contingency factor of 10% to capture the uncertainty associated with changing lake-bottom conditions, dredged material placement cost and location, the dredging route itself, and enhanced safety margins for boaters and Lake Shelbyville authorities via water.

Dredging for this area is recommended to be to elevation 586 ft. to account for future sedimentation. The dredging alignment follows the route that is currently used by most recreational boaters in and around the Whitley Creek area. This boating channel follows the original river Kaskaskia River channel location which existed prior to the inundation of Lake Shelbyville as practicable.

The impacts of the Tentatively Selected Plan would be minor and long term.

4.2 WATER QUALITY

Existing Conditions

The Illinois EPA Section 303(d) list includes Lake Shelbyville (HUC 0714020107) as impaired for fish consumption due to mercury, and for aesthetic quality due to Total Phosphorus and Total Suspended Solids (IEPA, 2018).

A water quality monitoring program is conducted during the months of March through October dependent on funding. Samples are collected at three lake sites, two tributary sites, and one downstream

site in the outlet channel in accordance with Engineering Regulation 1110-2-8154 Water Quality & Environmental management for USACE Civil Works Projects, and Engineer Technical Letter 1110-2-362 Environmental Engineering Initiatives for Water Management. This includes updating the water quality management priorities for the district's projects to ensure water quality meets the state and federal regulations for protection of human health and the environment, and for the safety and economic welfare of those at USACE projects. Ongoing goals include ensuring that downstream water quality meets all state and federal regulations, is suitable for aquatic and human life, and continuing to evaluate trend analysis in relation to baseline conditions at all projects.

The Illinois Environmental Protection Agency in Title 35, Subtitle, C, classifies water quality criteria based on end usage. Subpart B contains regulations for general use water, while subparts C and D delineate those for public and food processing water and secondary contact and indigenous aquatic life standards, respectively. These standards are used to determine the water quality of the lake. The water quality sampling conducted reflects the parameters needed to indicate if the water is able to sustain adequate plant and animal growth and to ensure safety for human recreation. Sampling sites include incoming stream sites, several lake sites, and a discharge site below the dam. This combination of sites effectively represents the incoming contaminants and their effects on the lake. Monitoring includes parameters such as pH, dissolved oxygen, Redox, temperature, and conductivity are taken at 1-meter intervals at all the lake sites. Analytical samples are taken at all sites and near the bottom at the site in front of the dam and are analyzed for the following parameters: total organic carbon (TOC), iron, manganese, ammonia-nitrogen, nitrate-nitrogen, ortho-phosphate, total phosphate, total suspended solids (TSS), total volatile suspended solids (TVSS), and *E. coli* bacteria.

No Action

Under the No Action Alternative, the decreasing depth and increasing amount of sediment stirred up as a result of boat propeller mixing and wind-wave action on the lake bottom would continue to occur. The water quality will decrease due to the increase of suspended sediments which contain excess nutrients and metals that can be harmful to aquatic life at higher concentrations. The impacts of the No Action Alternative would be moderate and long term.

Dredging (Tentatively Selected Plan)

Construction activities associated with proposed dredging may temporarily increase sediment suspended in the water column. Once construction is completed, it is anticipated that the water quality of the project area would remain similar to or be better than the existing conditions. A 401 Water Quality Certification would be obtained prior to construction, and the Notice to Proceed would not be given until a 401 Certification is received. As a result of the proposed dredging, a significant benefit is achieved by removing excess nutrients and metals from the lake. Based on bulk sediment analysis samples, it is estimated that approximately 678 metric tons of total Phosphorus, 23.43 metric tons of total Chromium, and 20,688.8 metric tons of total Iron would be removed from the lake bottom and placed into upland dredge placement areas. Impacts to water quality from the Tentatively Selected Plan are anticipated to be minor and short term.

4.3 TOPOGRAPHY, GEOLOGY, AND SOIL

Existing Conditions

The floodplain in the upper reaches of the Kaskaskia River is narrow, with a long and thin drainage basin. The river is a slow, turbid, meandering stream that has an average fall of less than one foot per mile. Tributaries are few and small, and the uplands are mainly undissected. Remnants of terrace deposits, which are very similar in composition to the recent alluvium, are scattered along the valley. Glacial drift of Illinoian and Wisconsin age blankets most of the uplands and forms the drift hills that consist of an intimate mixture of clay with pebbles and a few small rocks. Bedrock in the area consists of Pennsylvanian age strata that occur in sequences of sandstones and shale. Mineral resources consist of oil, coal, sand, and gravel. Potential for future ground subsidence and subsequent reparations exists due to collapse of abandoned coal mines. The surficial soils in the immediate project area consist of alluvial deposits in the valleys and floodplains of the major streams and Wisconsin age glacial tills in the uplands. Sandy and gravelly clay tills are the predominant soil types in the uplands and silt and lean clays in the bottomlands.

The present topography is largely a result of the past glacial deposition and subsequent stream erosion. The vertical change in relief is quite extensive in this portion of the Kaskaskia Valley. Here narrow, deep valleys have been submerged by the formation of Lake Shelbyville. Shoreline erosion has occurred since the creation of the lake, primarily during periods of sustained high pool levels.

No Action Alternative

The topography, geology, and soil composition of the project area would not be expected to change as a result of taking no action. Erosion and sediment deposition into the lake are anticipated to continue at the present rate. The impacts of the No Action Alternative to topography, geology, and soil are minor and long term.

Dredging (Tentatively Selected Plan)

The placement of dredged sediment would cause minor non-adverse changes to topography and soil composition within dredge placement sites. Geology of the project area would not be expected to change as a result of the Action Alternative. Impacts to topography, geology, and soil from the Tentatively Selected Plan are anticipated to be negligible and short term.

4.4 LAND COVER/LAND USE

Existing Condition

In 1964, Shelby and Moultrie Counties were almost entirely agricultural with the exception of scattered incorporated areas. This pattern remained reasonably intact until the construction of Lake Shelbyville. Commercial construction since 1970 has also resulted in some changes in land use to allow for recreation-oriented commercial activities. The principal businesses are bait shops, marinas, and storage sheds for recreational vehicles. There has also been some new public and industrial construction in the towns around the lake, particularly Shelbyville and Sullivan, but land use changes in these categories have not been significant in terms of size. According to the 2019 National Land Cover Database (Yang, 2018), the

proposed project area is primarily classified as open water, with sections of deciduous forest and cultivated crop land.

No Action Alternative

Land-use practices and land cover within the project area (Figure 3) may change as a result of taking no action. Recreational land use in the vicinity of the Whitley Creek is anticipated to decrease due to the continued sediment erosion in the lake preventing boat access. The impacts of the No Action Alternative to land cover / land use are anticipated to be moderate and long term.

Dredging (Tentatively Selected Plan)

Under the TSP, approximately 122.5 acres of agricultural land would be converted to dredge placement areas and would include approximately 1 acre of tree removal for access. This would only minimally change land cover types within the project vicinity. Dredging the lake to keep it accessible to water recreationists would keep its current land use the same and prevent land cover conversion from aquatic to terrestrial. Impacts to land use / land cover as a result of the Tentatively Selected Plan are anticipated to be moderate and long term.

4.5 PRIME AND UNIQUE FARMLAND

Prime and unique farmland is important in meeting the Nation's short- and long-range needs for food and fiber. Prime farmland soils, as defined by the U.S. Department of Agriculture (USDA), are soils that are best suited for food, feed, forage, fiber, and oilseed crops. Prime farmland soils may presently be used as cropland, pasture, forestland, or for other purposes. Soils that have a high-water table, are subject to flooding, or are droughty may qualify as prime farmland where these limitations are overcome by drainage measures, flood control, or irrigation. The USDA uses the following characteristics to classify prime farmland soils:

- Adequate and dependable supply of moisture from precipitation or irrigation.
- Temperature and growing season are favorable.
- Level of acidity or alkalinity and the content of salts and sodium are acceptable.
- Few, if any, rocks and permeable to water and air.
- Not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding.
- Slopes range mainly from 0 to 6 percent.

According to the Natural Resource Conservation Service (NRCS), USDA, Web Soil Survey (USDA, 2019), prime farmland, or farmland of statewide importance accounts for approximately 122.5 acres (8.9%) of the soils within the project area. Approximately 660 acres (47.9%) of the project area is defined as "not prime farmland", and that classified as water makes up 593.4 acres (43.1%).

No Action Alternative

Agricultural land use practices are not expected to change as a result of taking no action. Thus, the impacts of the No Action Alternative to prime and unique farmland are anticipated to be negligible and long term.

Dredging (Tentatively Selected Plan)

Agricultural land use changes under the TSP would be restricted to the dredge placement areas. An analysis of the soil classifications for the Action Alternative shows that the placement of dredged sediment would result in the temporary loss of approximately 122.5 acres of soils considered “prime farmland” or “farmland of statewide importance”. The farmland located in the placement sites is not being permanently converted to non-farmland. Once the dredged material dries, it would be leveled out for future use. Impacts to prime and unique farmland are anticipated to be minor and short term.

4.6 RECREATION AND AESTHETICS

Existing Conditions

Aesthetic resources are natural and human environments that are pleasing or pleasant for most people to look at and visually enjoy. The lake itself is the largest, strongest visual element in this geographic area. The Kaskaskia and Okaw River Valleys in the vicinity of Lake Shelbyville have been shaped by water erosion creating a deep valley with steep banks. The steep wooded slopes of the valley are covered with predominately oak-hickory forest, providing a visually contrasting shoreline. These steep wooded slopes and ravines provide the camper, boater, angler, naturalist, and the casual visitor with aesthetically pleasing views of wooded vistas in this largely agricultural section of Central Illinois. Developed lookout points take advantage of the excellent scenic qualities along the lake edge. Scenic views can also be seen from some off project roads as the wooded project lands provide stark contrast to the adjacent flat agricultural lands. These visual qualities add a unique aesthetic experience to recreational activities at Lake Shelbyville.

Recreation opportunities within the project vicinity include campgrounds, cabins, resorts, lodges, day-use areas, tournament fishing, and nature trails; however, recreation within the project area is primarily boating and fishing. The leased marina facility on USACE managed land includes a boat ramp, 200 dock slips, beach, campground, hotel suites, pool, and restaurant. Marina boat slip and parking capabilities reach capacity during summer months. For the 2024 summer recreation season all 265 boating slips are currently reserved. There are currently nine (9) scheduled and approved fishing tournaments in the Whitley Creek area in 2024 (<https://www.ifishillinois.org/profiles/waterbody.php?waternum=00272>).

No Action Alternative

Aesthetics and recreational use would transition over time from a predominately lentic aquatic system to a mud flat, and eventually to a vegetated terrestrial system. Lake visitors would not be provided with the facilities they have become accustomed to since the development of the lake. It is likely that the facilities would not meet demands anticipated for future summer recreation seasons, due to restricted recreational use. Thus, the impacts of the No Action Alternative to aesthetics and recreation are anticipated to be major and long term.

Dredging (Tentatively Selected Plan)

Under the TSP, the area in the vicinity of the working dredge and placement sites would be restricted for visitor safety. After the dredging is complete in a given area, recreationists would be allowed use of the area once again. Dredging is anticipated to occur over an 18 month period. The removal of approximately one (1) acre of trees to gain access to dredge placement areas is anticipated to have a negligible impact on the aesthetic value of the vicinity, considering the remaining natural space within the surrounding area. The majority of lake sediment would be placed on agricultural land changing the appearance of the topsoil in those areas. A total of thirteen (13) acres of trees would be removed in placement site 1 and placement site 2. Once the dredged material dries out, it would be flattened out and reseeded with an approved grass mix in accordance with the contract specifications. Materials placed may be utilized and removed in the future for beneficial use in such activities as construction only after testing in accordance with all local, state, and federal laws and regulations indicate that material is acceptable for reuse. Impacts to recreation and aesthetics are anticipated to be minor and short term.

4.7 WETLANDS

Existing Conditions

Wetlands are areas where the frequent and prolonged presence of water at or near the ground surface dictates the kinds of soils that form, the plants that grow, and the fish and/or wildlife that use the habitat. Wetland habitats are important ecosystems because they provide flood control and storm barriers. Under Section 404 of the Clean Water Act, wetlands are a protected habitat type and the alteration, or destruction, of wetlands requires mitigation. The National Wetland Inventory (NWI) identified a 17.25-acre freshwater emergent wetland along the shoreline surrounding Placement Area 1 and Placement Area 2, as well as freshwater emergent wetlands along the majority of the Lake Shelbyville shoreline within the project area. During a site visit on 25 August 2022, approximately 10.36 acres of the identified freshwater emergent wetland within Placement Area 1 were delineated by USACE Regulatory and Environmental Specialists.

No Action Alternative

Freshwater emergent wetland habitat use is anticipated to transition over time from a predominately wet area to a vegetated terrestrial system with the continued input of sediment. This impact is determined to be minor and long term.

Dredging (Tentatively Selected Plan)

All construction activities would avoid the identified jurisdictional wetland along the shoreline within the project area. The recovered sediment placement areas were designed to avoid any wetlands in the project area to help avoid impacts on said habitat. Specifically, Placement Area 1 and Placement Area 2 were designed to avoid the wetlands that exist around Sullivan Beach. The TSP would not impact the wetland habitat nor its function within the ecosystem. Therefore, it is anticipated impacts to wetlands within the project area as a result of the Tentatively Selected Plan would be negligible and short term. No compensatory mitigation is required.

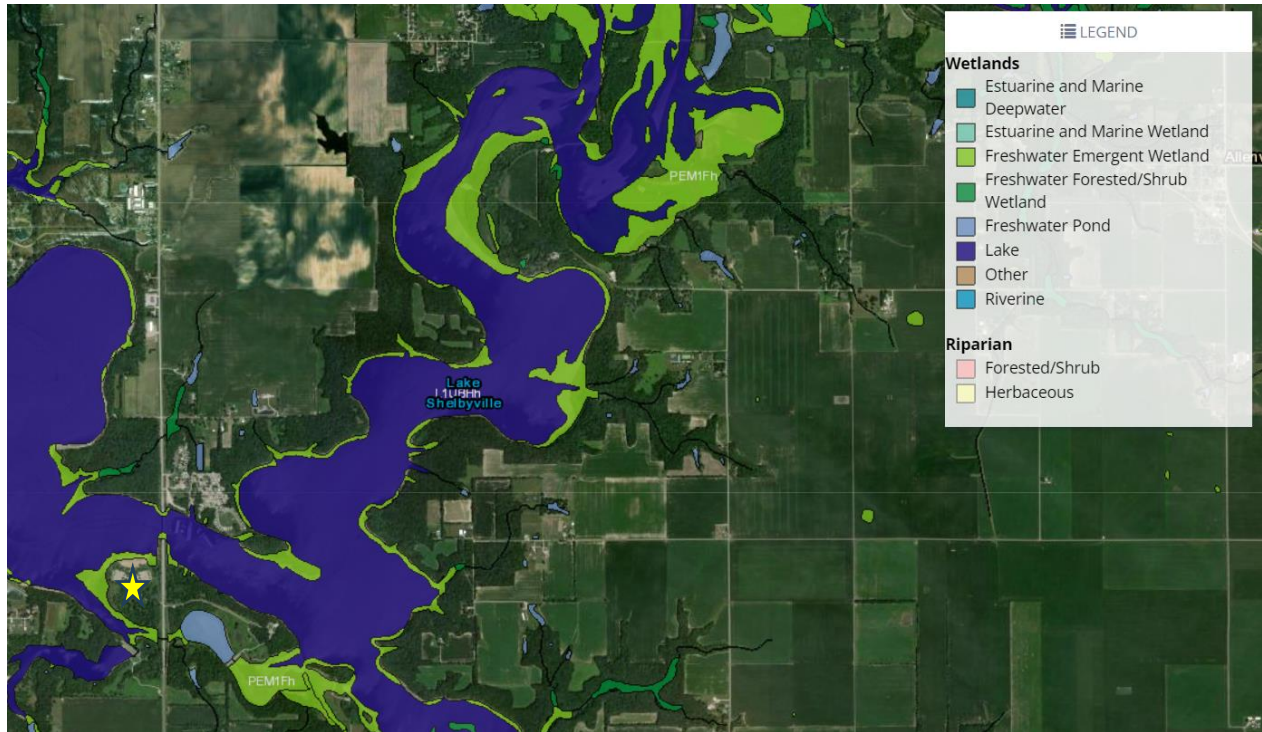


Figure 10. Wetlands identified by the USFWS NWI Wetlands Mapper in the vicinity of the Whitley Creek area. Yellow star indicates the general vicinity of Placement Area 1 and Placement Area 2.

4.8 AQUATIC ORGANISMS AND HABITAT

Existing Conditions

Common fish in Lake Shelbyville include white and black crappie, largemouth bass, white bass, bluegill, redear sunfish, warmouth, green sunfish, longear sunfish, channel catfish, and flathead catfish. Aquatic habitat within the project area consists primarily of open water lake and cove lentic habitat. The area is commonly disturbed by contemporary recreational use, bank erosion and associated sedimentation, and Lake Shelbyville flooding and water control practices.

No Action Alternative

Under the No Action Alternative erosion would continue to build up restricting access to nearby bodies of water for larger aquatic organisms. The impacts of the No Action Alternative are anticipated to be major and long term.

Dredging (Tentatively Selected Plan)

Approximately 900,000 cubic yards of sediment from Lake Shelbyville would be dredged to provide boating recreationalists a safer channel to traverse. Dredging would likely eliminate the benthic macroinvertebrate community in the impacted area. The benthic community is anticipated to repopulate the dredged area from adjacent undredged sites over a period of several months to several years (Wilber, 2007). While there are various environmental conditions that are commonly identified as influencing

benthic recovery rates, such as sediment type, depth of overburden, frequency and timing of dredging, the relative importance of these factors in influencing benthic recovery is not known. Mobile aquatic organisms are likely to avoid the proposed project area during construction activities. Impacts to aquatic resources are anticipated to be negligible and short term.

4.9 TERRESTRIAL ORGANISMS AND HABITAT

Existing Conditions

Common terrestrial species in the project area include white-tailed deer, coyotes, gray and red fox, bobcats, skunks, river otters, weasels, minks, opossums, eastern cottontail rabbits, eastern gray and fox squirrels, chipmunks, beavers, muskrats, eastern wild turkeys, bobwhite quail, as well as several mouse, bat, and other species. Common bird species for the area include waterfowl, songbirds, and raptors.

No Action Alternative

Under the No Action Alternative, no trees would be removed, and no material would be placed in the proposed dredge material placement sites. Impacts to terrestrial organisms and their habitat would be negligible.

Dredging (Tentatively Selected Plan)

Under the TSP, approximately 14 acres of trees would be removed, decreasing available habitat for terrestrial species within the project area. Common species associated with the proposed project area are likely to avoid the area during construction. Once the recovered sediment dries out, the material would be flattened out and reseeded with an approved grass mix in accordance with the contract specifications. Materials placed may be utilized and removed in the future for beneficial use in such activities as construction only after testing in accordance with all local, state, and federal laws and regulations indicate that material is acceptable for reuse. Impacts to recreation and aesthetics are anticipated to be minor and short term. Impacts to terrestrial resources are anticipated to be minor and short term.

4.10 MIGRATORY BIRDS

Existing Conditions

The Migratory Bird Treaty Act (MBTA) of 1918 provides protection for bird species native to North America. The project area is in the Mississippi Flyway, a bird migration route which follows the Mississippi River, the Missouri River, and the Lower Ohio River in the United States. A variety of migratory birds might occur in the project areas, some as migrants and some as breeders, depending on the time of year. Year-round residents would also be present.

No Action Alternative

Under the No Action Alternative, no trees would be removed, and no material would be placed in the proposed dredge material placement sites. The existing trees would help keep a stable roosting and nesting habitat for migratory birds in the project area. Sediment accumulation would take place in the

project area decreasing the amount of suitable habitat for their aquatic food resources. The sediment accumulation would also result in an overall decrease the amount of prey available to avian species which feed on fishes.

Dredging (Tentatively Selected Plan)

Under the TSP, approximately 14 acres of trees would be removed, decreasing the available habitat for migratory birds. The construction disturbance could cause temporary adverse minor impacts to birds using the habitats around the Kaskaskia River. Impacts to migratory birds are anticipated to be minor and short term.

4.11 BALD EAGLES

Existing Conditions

Bald eagles (*Haliaeetus leucocephalus*) winter along the major rivers of Illinois and Missouri, and at scattered locations some remain throughout the year to breed. Perching and feeding occurs along the edge of open water, from which eagles obtain fish. The bald eagle is protected under the Bald and Golden Eagle Protection Act and by the Migratory Bird Treaty Act. Recommendations to minimize potential project impacts to the bird and nests are provided by the USFWS in the agency's National Bald Eagle Management Guidelines publication (USFWS, 2010). The guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. Specifically, construction activity is prohibited within 660 feet of an active nest during the nesting season, which in the Midwest is generally from late January through late July. There is one documented bald eagle nest in the project vicinity, approximately 0.44 miles west of the proposed project area's furthest western extent.

No Action Alternative

Under the No Action Alternative, no impacts to bald eagles or their nests are anticipated.

Dredging (Tentatively Selected Plan)

No impacts to eagles or their nests are anticipated. If a nest is located within 660 feet of the proposed project area, the USFWS would be contacted immediately.

4.12 STATE LISTED SPECIES

Existing Conditions

The Illinois Department of Natural Resources (IDNR) was contacted via the Ecological Compliance Assessment Tool (EcoCAT) website on 29 June 2023, for a list of Illinois state threatened and endangered (T&E) species that could potentially be located in the proposed project area (IDNR project number: 2317798). The EcoCAT report identified the Coneflower Hill Prairie INAI Site and the Osprey (*Pandion haliaetus*) as potentially occurring in the vicinity of the project area. The 2016 Lake Shelbyville Master Plan

identifies Coneflower Hill Prairie as an Environmentally Sensitive Areas because of its biological significance. The Coneflower Hill Prairie, located at the south edge of the Kaskaskia Unit in the State managed wildlife area, is a high-quality prairie remnant intensively managed by the Illinois Department of Natural Resources (IDNR). The Coneflower Hill Prairie is located outside of the area that would be impacted by dredging or placement of material.

No Action Alternative

Under the No Action Alternative, erosion would cause sedimentation to fill in the aquatic habitat in the project area causing a loss in fish population on which the Osprey feed. However, there is a potential for an increase in habitat suited for amphibian species on which the Osprey also feed. No impacts to the Coneflower Hill Prairie site is anticipated.

Dredging (Tentatively Selected Plan)

Under the Action Alternative 14 acres of trees would be removed, decreasing available habitat for Osprey. No impacts to osprey or their nests are anticipated. Dredging would increase suitable habitat for fish species in the area, thus potentially increasing the amount of aquatic prey available for Ospreys. No impacts to the Coneflower Hill Prairie site is anticipated. Overall, impacts to state listed species are anticipated to be negligible and short term.

In an email dated 17 July 2023, IDNR provided the following comment in response to partner agency coordination efforts: The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is terminated. However, any areas proposed for tree removal should be surveyed for Osprey nests. If nests sites are identified, further coordination with the Department would be required.

4.13 FEDERALLY LISTED SPECIES

In accordance with Section 7(a)(2) of the Endangered Species Act (ESA) of 1973 (as amended), federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed and proposed threatened or endangered species. The U.S. Fish and Wildlife Service (USFWS) was contacted via USFWS Information for Planning and Consultation (IPaC) website on 04 April 2024, for a list of Federal threatened, endangered and candidate species (Appendix A) that could potentially be located in the project area (Project Code: 2024-0072935; Table 2).

Table 2. List of federally listed threatened and endangered species potentially occurring within the proposed project area.

Common Name	Scientific Name	Listing Status	Habitat
Indiana bat	<i>Myotis sodalis</i>	Endangered	Hibernate in caves or mines during winter; Summer roost in forest and woodland habitats
Northern long-eared bat	<i>Myotis septentrionalis</i>	Endangered	Hibernate in caves or mines during winter; Summer roost in forest and woodland habitats and human-made structures
Tricolored bat	<i>Perimyotis subflavus</i>	Endangered	Hibernate in caves or mines during winter; Summer roost in forest and woodland habitats
Piping Plover	<i>Charadrius melodus</i>	Endangered	Coastal beaches, inland lakes, and rivers in North America
Whooping Crane	<i>Grus americana</i>	Experimental Population, Non-Essential	Coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate	North America

Indiana bat (*Myotis sodalis*) has been listed as endangered by the USFWS since March 11, 1967, and is still in danger of extinction throughout all or a significant portion of its range. This species has been noted as occurring in several Missouri and Illinois counties and are considered to potentially occur in any area with forested habitat (USFWS, 2007b). Indiana Bats migrate seasonally between winter hibernacula and summer roosting habitats. Winter hibernacula include caves and abandoned mines. Summer roosts include loose bark and cavities of dead or alive trees. During the summer, most reproductive females occupy roost sites in forested areas under the exfoliating bark of dead or dying trees that retain large, thick slabs of peeling bark (USFWS, 2024a). Indiana bats typically forage in semi-open to closed forested habitats with open understory, forest edges, and riparian areas (USFWS, 2024a). Approximately 14 total acres of trees would be removed from several sites for site access and recovered sediment placement. Suitable summer roost and foraging habitat may be located in the forested areas in the vicinity of the project area. In order to minimize impacts to bat species, tree clearing would be restricted to the bat non-active period between 1 October and 31 March. Therefore, the St. Louis District has determined that the Action Alternative “**may affect, but is not likely to adversely affect**” the Indiana bat.

Northern long-eared bat (*Myotis septentrionalis*) has been listed as endangered by the USFWS since November 30, 2022, and is still in danger of extinction throughout all or a significant portion of its range. Over the winter, they typically hibernate in small crevices or cracks within caves and mines with no air

currents, high humidity, and constant temperatures. During summers northern long-eared bats roost singly or in colonies underneath exfoliating bark, in crevices, or in cavities of both live and dead trees. Foraging occurs in interior upland forests (USFWS, 2024d). Forest fragmentation, logging and forest conversion are major threats to the species (USFWS, 2024d). One of the primary threats to the northern long-eared bat is the fungal disease, white-nose syndrome, which has killed an estimated 5.5 million cave hibernating bats in the Northeast, Southeast, Midwest and Canada. Suitable summer roost and foraging habitat may be located in the forested areas vicinity of the project area. Approximately 14 total acres of trees would be removed from several sites for site access and recovered sediment placement. Suitable summer roost and foraging habitat may be located in the forested areas in the vicinity of the project area. In order to minimize impacts to bat species, tree clearing would be restricted to the bat non-active period between 1 October and 31 March. Therefore, the St. Louis District has determined that the Action Alternative “**may affect, but is not likely to adversely affect**” the northern long-eared bat.

Tricolored bat (*Perimyotis subflavus*) On September 13, 2022, the USFWS announced a proposal to list the tricolored bat as endangered since it is in danger of extinction throughout all or a significant portion of its range. The tricolored bat is a small insectivorous bat that is distinguished by its unique tricolored fur and often appears yellowish to nearly orange. The once common species is wide ranging across the eastern and central United States and portions of southern Canada, Mexico, and Central America. During the winter, tricolored bats are often found in caves and abandoned mines, although in the southern United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts. During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures (USFWS, 2024c). Tricolored bats face extinction due primarily to the range wide impacts of white-nose syndrome, which has caused estimated declines of more than 90 percent in affected tricolored bat colonies across the majority of the species range. Suitable summer roost and foraging habitat may be located in the forested areas in vicinity of the project area. Approximately 14 total acres of trees would be removed from several sites for site access and recovered sediment placement. Suitable summer roost and foraging habitat may be located in the forested areas in the vicinity of the project area. In order to minimize impacts to bat species, tree clearing would be restricted to the bat non-active period between 1 October and 31 March. Therefore, the St. Louis District has determined that the Action Alternative “**may affect, but is not likely to adversely affect**” the tricolored bat.

Piping Plover (*Charadrius melodus*) has been listed as endangered by the USFWS since December 11, 1985, and is still in danger of extinction throughout all or a significant portion of its range (USFWS, 2024e). The piping plover is a small migratory shorebird that nests and feeds along coastal beaches, inland lakes, and rivers in North America. Wintering piping plovers use a variety of habitats and move among these patches in response to environmental conditions. Piping plovers breed in April, nesting on the unvegetated shorelines of lakes, reservoirs, or river sandbars. Piping plovers forage by collecting invertebrates from substrate, with their prey base including various macroinvertebrates. The greatest threats to piping plovers are destruction and modification of reservoirs, channelization of rivers, and modification of river flows. Agricultural development, insecticide use, and increases in invasive species

also have negative impacts to piping plover populations. Despite its rarity, the Piping Plover is included on the Illinois Ornithological Society's Field Checklist, which means the bird has been seen in Illinois (IOS,2024). Piping plovers may use the mudflats and beaches in the proposed project vicinity, and thus may be disturbed by construction activities and noise. Based on this site specific information, the St. Louis District has determined that the proposed project "**may affect, but is not likely to adversely affect**" the Piping Plover.

Whooping Crane (*Grus americana*) occurs only in North America and is North America's tallest bird. The whooping crane adult plumage is primarily snowy white except for some black or grayish feathers. The common name "whooping crane" probably originated from the loud, single-note vocalization given repeatedly by the birds when they are alarmed. Whooping cranes are a long-lived species; current estimates suggest a maximum longevity in the wild of at least 30 years. Whooping cranes currently exist in the wild at 3 locations and in captivity at 12 sites. The whooping crane breeds, migrates, winters, and forages in a variety of habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields (USFWS, 2024f). Whooping Cranes do not breed at Lake Shelbyville, although they may migrate through eastern Illinois. Therefore, the St. Louis District has determined that the Action Alternative is "**not likely to jeopardize the continues existence of**" the Whooping Crane.

Monarch Butterfly (*Danaus plexippus*) has been a candidate species since December 2020. Much of the monarch butterfly's life is spent migrating between Canada, Mexico, and the United States. Grasslands of central North America, particularly the area known as the Corn Belt, and areas vegetated by milkweed (*Asclepias syriaca L.*) comprise the majority of its summer breeding areas. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant and larvae emerge after two to five days (USFWS, 2024g). Nectar sources are also required by the butterflies to fuel fall migration and spring flights northward. Monarch populations of eastern North America have declined 90%, due primarily to deforestation, illegal logging, increased development, agricultural expansion, livestock raising, forest fires, and other threats to their migratory paths and summer and overwintering habitats. Chemical-intensive agriculture, increasing acreage converted to row crops, and mowing/herbicide treatment of roadsides have contributed to a decline of milkweed, the only plant eaten by monarch caterpillars. The proposed project area primarily consists of water and agricultural areas. Milkweed is unlikely to establish due to agricultural practices at the dredge placement areas and the dredge placement access route's dense overstory. Therefore, the St. Louis District has determined that the Action Alternative is "**not likely to jeopardize the continues existence of**" the Monarch Butterfly.

Should the scope, timing, or manner of activity change, the USFWS Missouri Field Office would be contacted immediately.

4.14 AIR QUALITY AND NOISE

Existing Conditions

The Clean Air Act of 1963 requires the USEPA to designate National Ambient Air Quality Standards (NAAQS). The USEPA has identified standards for six pollutants: lead, sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, particulate matter (less than 10 microns and less than 2.5 microns in diameter), along with some heavy metals, nitrates, sulfates, volatile organic and toxic compounds (Table). Moultrie County is in attainment for all six criteria pollutants (USEPA, 2024).

Table 3. Six pollutants and their standard criteria designated by the USEPA.

Pollutant	Averaging time	Criteria	Form
Carbon monoxide	8 hours	9 ppm	Not to be exceeded more than once per year
	1 hour	35 ppm	
Lead	Rolling 3 month	0.15 µg/m ³	Not to be exceeded
Nitrogen dioxide	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	1 year	53 ppb	Annual Mean
Ozone	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM _{2.5})	1 year	12.0 µg/m ³	Annual mean, averaged over 3 years
	24 hours	35 µg/m ³	98th percentile, averaged over 3 years
Sulfur dioxide	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years

Recreational areas are located within the project vicinity. There are no major population centers near the project area. Residential and recreational areas typically have noise levels in the range of 30-70 decibels (dB) depending on their proximity to major transportation facilities. Noise associated with major transportation facilities such as highways and railroads would be greater than those in rural areas. Figure 11 illustrates common sounds and their associated noise levels.

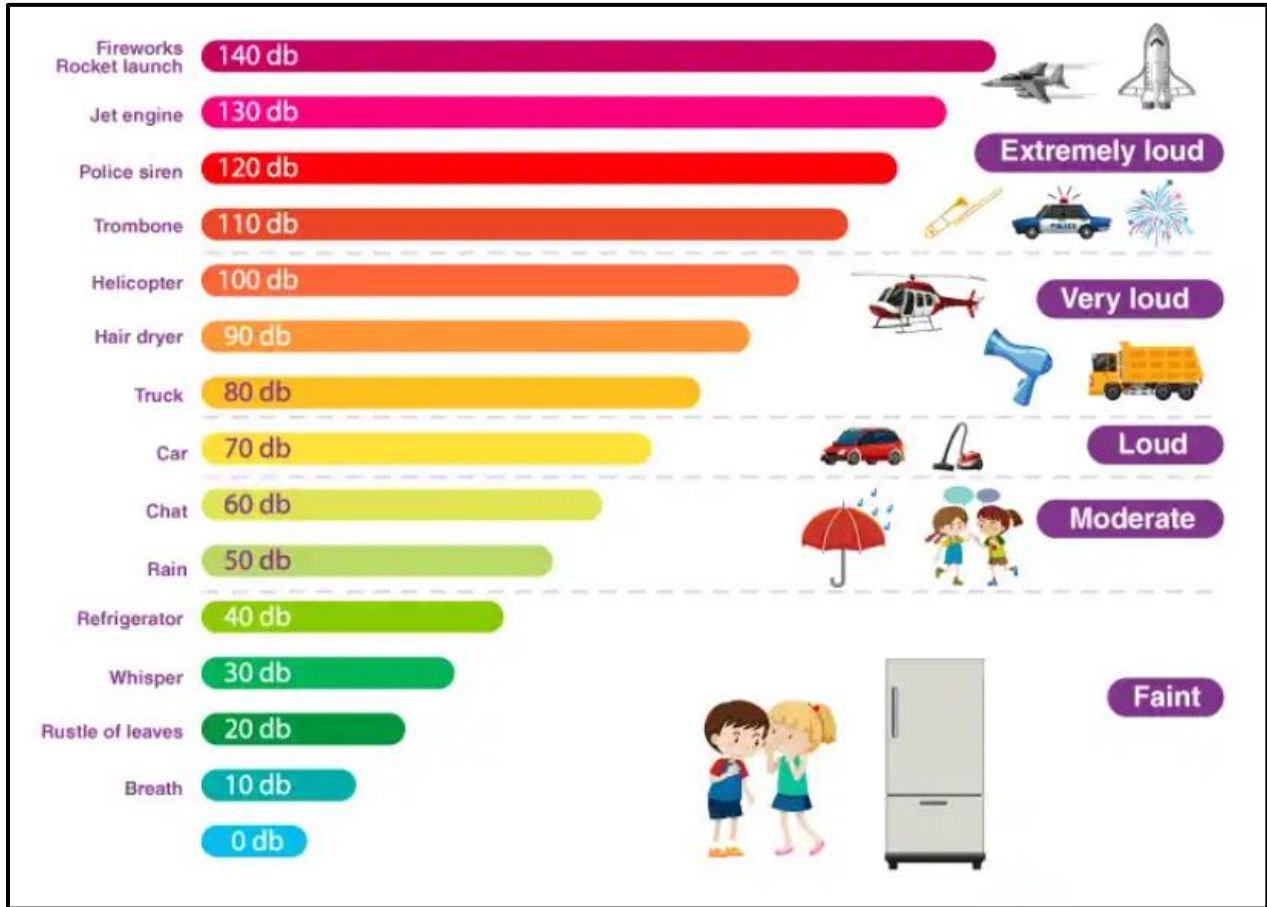


Figure 11. Example indoor and outdoor activities associated with common noise levels ranging 0-110 decibels (dB). Project area and surround noise levels expected to be in the range of 30-80 decibels (dB).

No Action Alternative

Air quality may improve in a negligible manner if fewer recreationists utilize the area. Noise levels within the project area would be expected to decrease as a result of taking no action. As the boating channel fills in with sediment, fewer boats are likely to use the facilities and many visors may abandon the area. Impacts of the No Action Alternative on air quality and noise are anticipated to be negligible and long term.

Dredging (Tentatively Selected Plan)

Construction activities associated with the TSP would cause short term increases in air pollutants and noise levels. Increased vehicle and boat traffic may result in negligible increases in air pollution and noise during the construction and recreational season.

4.15 HAZARDOUS, TOXIC, AND RADIOACTIVE MATERIALS

Existing Conditions

USACE regulations (ER 1165-2-132 and ER 200-2-3), and St. Louis District policy, require procedures be established to facilitate early identification and appropriate consideration of potential hazardous, toxic, or radioactive water (HTRW) in reconnaissance, feasibility, preconstruction engineering and design, land acquisition, construction, operations and maintenance, repairs, replacement, and rehabilitation phases of water resource studies or projects by conducting HTRW Initial Hazard Assessments. USACE specifies that these assessments follow the process/standard practices for conducting Phase I Environmental Site Assessments published by the American Society for Testing and Materials (ASTM). The objective of the Phase I is to identify, to the extent feasible pursuant to the process described, recognized environmental conditions (RECs) in connection with a given property(s). This assessment is prepared using the following ASTM Standards:

- E1527-13: Standard Practice for Environmental Site Assessments – Phase I Environmental Site Assessment process
- E1528-06: Standard Practice for Limited Environmental Due Diligence: Transactions Screen Process (interview questionnaires)
- E2247-08: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property

A Phase I ESA was conducted for the Lake Shelbyville Whitley Creek Area Sediment Management project using methods outlined by ASTM 1527-13. This included a records review, physical site visit, and communications with persons knowledgeable of the project footprint and adjoining properties. Generally, the project area contains no major sites of interest, which pose significant HTRW concerns. The environmental impact for the migration of off-site contaminants onto the project property is negligible. Therefore, no special considerations are being recommended for the project to proceed to construction. It is however recommended that a Site Health and Safety Plan, and a Quality Control Plan are submitted by the awarded contractor, discussed internally by USACE personnel, and implemented to prevent environmental hazards from being developed during construction. CEMVS EC-EQ should be contacted immediately if future development of the property discovers hazardous or toxic materials.

No Action Alternative

No HTRW impacts are anticipated as a result of the No Action Alternative. If any HTRW matter is encountered during construction of this project, USACE would be contacted to coordinate the handling and placement of the material. However, no project measures are located near any known HTRW concerns. No adverse effects would be expected as a result of taking no action.

Dredging (Tentatively Selected Plan)

Given that the HTRW Phase I ESA revealed no concerns, the construction activities associated with the TSP are not expected to encounter any HTRW. No adverse effects would be expected as a result of the

TSP. In the unlikely event that HTRW matter is encountered during construction of this project, USACE would be contacted to coordinate the handling and placement of the material.

4.16 HISTORIC AND CULTURAL RESOURCES

Existing Conditions

The USACE is required under Section 106 of the 1966 National Historic Preservation Act (NHPA) to consider the effects of its undertakings on historic properties. According to 36 Code of Federal Regulation (CFR) § 800.16(y), an undertaking is a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency. This includes those carried out by or on behalf of a federal agency, those carried out with federal financial assistance and those that require a federal permit, license, or approval. According to 36 CFR § 800.1(l)(1) of the NHPA, a historic property is any prehistoric or historic district, site, building, structure, or object that is listed on or eligible for listing on the National Register of Historic Places (NRHP).

Previously recorded archaeological sites 11MT86, 11MT107, and 11MT108 (Moffat 1979; Phillippe & Hodges 1981) were noted within the limits of sediment Placement Area 1. All other sediment placement areas have no record sites or records of being previously systematically surveyed for cultural resources. Therefore, from 22-25 May 2023 and 29-30 August 29-30 2023 the eight sediment placement areas were systematically surveyed to determine if cultural remains are present within the project areas and whether or not they can be considered historic properties. Two different techniques were utilized for these surveys. Where feasible the sediment placement areas were mechanically disked, and subsequent pedestrian surveys, at a five-meter intervals were performed. Within the two sediment placement areas (Placement Area 1 and Placement Area 2) that are currently forested, and therefore could not be disked, systematic shovel testing was performed at a 15-meter interval.

Placement Area 1: An attempt was made to locate and redefine the site boundaries for the three known sites partially within the limits of this placement area. 11MT86, a prehistoric habitation, appears to have been destroyed by the construction of the parking lot and beach and would have no effect on this project (Moffat 1979:66). The site limits of 11MT107 and 11MT108 two possible late woodland lithic scatters recorded in 1981 by Phillippe and Hodges, were expanded based off of surface artifacts and one positive shovel test in site 11MT108. A 100 foot buffer was drawn around the expanded site footprint and the sediment placement area was then redrawn to avoid the archaeological sites. Previous recommendations for these two sites was monitoring. The redesigned sediment placement area would have no effect on historic properties.

Placement Area 2: Shovel tests were performed across sediment Placement Area 2 at a 15-meter interval. A utility corridor was identified running east/west through the placement area. No positive shovel tests were recorded and no historic properties were identified. The sediment placement area would have no effect on historic properties.

Placement Area 3: The placement area was disked prior to the pedestrian survey. The team walked transects across the field at a five-meter interval. No cultural material was identified within the field. Three shovel tests were placed across the disked field confirming the USDA Web soil survey maps. The sediment placement area would have no effect on historic properties.

Placement Area 4: The placement area was disked prior to the pedestrian survey. The team walked transects across the field at a five-meter interval. No cultural material was identified within the field. Two shovel tests were placed across the disked field confirming the USDA Web soil survey maps. The sediment placement area would have no effect on historic properties.

Placement Area 5: The placement area was disked prior to the pedestrian survey. The team walked transects across the field at a five-meter interval. An isolated find (11MT273) of a lithic biface was recorded but left in place in the southern corner of the field. Four shovel tests were placed across the disked field confirming the USDA Web soil survey maps and to look for buried features adjacent to the isolated find. All shovel tests were negative. The sediment placement area would have no effect on historic properties.

Placement Area 6: The placement area was disked prior to the pedestrian survey. The team walked transects across the field at a five-meter interval. A historic domestic scatter (11MT274) is present in the northwestern section of the placement area. A historic plat map from 1875 indicates the presence of a building at this location and that the property was owned by a D. Patterson. Daniel and Ellen Patterson settle in the area in 1870 and the structure on the map potentially represented their home. A building at this location shows up on plat maps up to 1913. No architectural features were identified during the survey only the surface scatter of historic artifacts over a 1.2 acre area. Three shovel tests were placed across the disked field confirming the USDA Web soil survey. All shovel tests were negative.

Placement Area 7: The placement area was disked prior to the pedestrian survey. The team walked transects across the field at a five-meter interval. Three lithic flakes and a lithic core (11MT275) fragment were found at the northeastern end of the field. A shovel test was placed in proximity to the four artifacts. Four shovel tests were placed across the disked field confirming the USDA Web soil survey maps and to look for buried features adjacent to the isolated find. All shovel tests were negative and no buried features were identified.

Placement Area 8: The sediment placement area was disked prior to the pedestrian survey. The team walked transects across the field at a five-meter interval. No cultural material was identified within the field. Two shovel tests were placed across the disked field confirming the USDA Web soil survey maps.

The Phase I reports and letter requesting concurrence with the determination of no adverse effect for the dredge placement areas was sent to the Illinois Historic Preservation Agency (IHPA) on January 29th 2024. In a letter dated 23 February 2024, the IHPA, having reviewed the reports in accordance with 36 CFR Part 800.4, has determined that no historic properties would be affected. IHPA has no objection to the undertaking proceeding as planned.

No Action Alternative

Historic and cultural resources would remain consistent with the existing conditions. No adverse effects would be expected as a result of taking no action.

Dredging (Tentatively Selected Plan)

The St. Louis District found that there is no evidence that previously recorded site 11MT86 still exists. The newly recorded sites 11MT274, 11MT275, and isolates 11MT273 are not eligible to the National Register of Historic Places. Additionally, pre-impoundment cultural resources surveys were performed in the area from 1960 to 1965 (Cross and Remley 1989). A review of the surveys along the original river channel within the proposed project area and GIS based on georeferencing of the early survey maps showed no historic property as having been recorded within the 300 foot wide survey area. Therefore, it is anticipated that the proposed dredging would have no effect on historic properties.

All actions taken would be in accordance with the National Historic Preservation Act of 1966, as amended. In the unlikely event that potentially significant archeological/historic remains are found during dredging, all construction activities and earthmoving actions in the immediate vicinity of the remains would be held in abeyance until the potential significance of the remains could be determined. The precise nature of such investigations would be developed by the Saint Louis District in concert with the professional staff of Illinois State Historic Preservation Office.

4.17 TRIBAL RESOURCES

The St. Louis District consults with 21 federally recognized Indian tribes that have an interest within this area. A letter initiating consultation on the determination of no adverse effects was sent to these Tribes on 14 February 2024. The Nottawaseppi Huron Band of Potawatomi Indians responded on 15 February 2024, stating that no cultural or religious concerns of the Tribe would be affected. They requested to be contacted if the scope of the project significantly changes or if archaeological or human remains are discovered during project implementation. The Caddo Nation of Oklahoma replied on 26 February 2024, stating that they had no additional information to add but wanted to be contacted if projects are proposed in the subject area. The Prairie Band Potawatomi Nation responded on 6 March 2024 and stated that they are unaware of any resources or sites affected. They requested to be contacted if any human or archaeological remains are identified during project activities. The Forest County Potawatomi Community, Wisconsin responded on 12 March 2024, and stated that they concur with the St. Louis District's determination of no historic properties affected. They requested to be contacted if any human or archaeological remains are discovered during construction.

No Action Alternative

Tribal resources would remain consistent with the existing conditions. No adverse effects would be expected as a result of taking no action.

Dredging (Tentatively Selected Plan)

The St. Louis District found that there is no evidence that previously recorded site 11MT86 still exists. The newly recorded sites 11MT274, 11MT275, and isolates 11MT273 are not eligible to the National Register of Historic Places. Tribal Nations consulted did not identify resources they deemed important. Specifically, the Nottawaseppi Huron Band of Potawatomi stated that no cultural or religious concerns of the Tribe would be affected. The Caddo Nation of stated that they had no additional information to add. The Prairie Band Potawatomi Nation stated that they are unaware of any resources or sites affected. The Forest County Potawatomi Community, Wisconsin stated that they concur with the St. Louis District's determination of no historic properties affected. Thus, the TSP is not anticipated to adversely impact tribal resources.

In the unlikely event that archeological human remains are found that were not identified during the pre-work surveys, all actions in the immediate vicinity of the sites would be held in abeyance until the potential significance of the sites could be determined. The precise nature of such investigations would be developed by the Saint Louis District in concert with the professional staff of the Illinois SHPO and Tribes as required.

4.18 ENVIRONMENTAL JUSTICE

Environmental Justice regulations were established to address disproportionately high and adverse human health or environmental effects that projects funded by the federal government may have on minority and low-income populations. The Environmental Justice requirements were established by Executive Order 12898 in 1994 entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." This mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of proposed projects on minority and low-income populations. Environmental Justice has three guiding principles:

- Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental impacts, including social and economic effects on minority and low-income populations.
- Ensure full and fair participation by all potentially affected communities in the decision-making process.
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Environmental Justice analysis applies to both minority and low-income populations. For the analysis of Environmental Justice, minority populations are defined as any person who is Black, Hispanic, Asian American, American Indian, or Alaskan Native.

The US Department of Transportation (USDOT) recommends using the US Department of Health and Human Services (HHS) poverty guidelines when identifying low-income populations. The HHS poverty

guidelines vary by family size and geographic location. The 2024 poverty level in the 48 contiguous states and the District of Columbia is \$15,060 for an individual and \$31,200 for a household of four (ASPE, 2024).

As mentioned above, there are no homes within the project area, however residential areas are located outside the USACE boundaries, and recreational lodging is located within the project vicinity. Five percent of the individuals living in the Census Block containing the project area are considered part of a minority population (Table 4). This is similar to the percent of minorities living in Moultrie County. The median household income is approximately \$72,833 within the Census Block Group containing the project area, higher than the HHS 2022 poverty guidelines for a household of four (ACS, 2020).

Neither the No Action Alternative or the TSP are anticipated to disproportionately adversely impact any minority or low-income populations. Any future actions taken by USACE should avoid, minimize, or mitigate disproportionately high or adverse impacts to these populations.

The Climate and Economic Justice Screening Tool does not identify the proposed project area as being disadvantaged (tract numbers 17139976900 and 17139977100).

Table 4. Ethnicity and Race of individuals within the Census Block Group 3 Tract 9771, Group 3 Tract 9769, and Group 4 Tract 9769, encompassing the project area, and Moultrie County according to the US Census Bureau (US Census 2020).

Ethnicity and Race	Census Blocks		Moultrie County	
	Population	Percentage	Population	Percentage
White Population	6870	95.0	13,815	94.7
African American Population	62	0.8	84	0.5
American Indian Population	10	0.1	43	0.3
Asian Population	26	0.1	49	0.3
Native Hawaiian Population	0	0.0	0	0.0
Other	107	1.2	194	1.3
Two or More Races	229	2.8	466	2.8
Total Persons	7250	100.0	14,651	100.0

4.19 CLIMATE CHANGE

The USACE, Institute of Water Resources (IWR) published a document titled “Recent US Climate Change and Hydrology Literature Applicable to the U.S. Army Corps of Engineers Missions of the Upper Mississippi Region 07 in 2015”. The synopsis included in that document generally describes territory within the St. Paul, Chicago, Rock Island, and St. Louis USACE Districts. The synopsis evaluated, observed, and projected

trends in temperature, precipitation, and stream flow as well as the general consensus in the literature reviewed of the trending parameters.

The USACE IWR (2015) found a general consensus for a moderate to large upward trend in observed average temperature, minimum temperatures, average precipitation, extreme precipitation, and streamflow in the Upper Mississippi Region. There is a reasonable consensus that maximum air temperatures have decreased slightly in the recent past in the region. However, projected extreme precipitation is expected to have only a small increase with moderate consensus in the literature reviewed and forecasts of future hydrology and streamflow are anticipated to be variable, with low overall consensus in the literature reviewed.

No Action Alternative

The No Action Alternative is not anticipated to impact climate change. Because future hydrology and streamflow are anticipated to be variable, and projected extreme precipitation is expected to have only a small increase, climate change is not anticipated to impact the No Action Alternative.

Dredging (Tentatively Selected Plan)

Impacts to climate change as a result of the TSP are anticipated to be negligible and short term. Because future hydrology and streamflow are anticipated to be variable, and projected extreme precipitation is expected to have only a small increase, climate change did not affect the selection of the TSP.

5 CUMULATIVE IMPACTS

Cumulative impacts are defined as those impacts that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes the actions. Cumulative impacts are not caused by a single project but include the effects of a particular project in conjunction with other projects (past, present, and future) on the resource. Cumulative effects are studied to enable the public, decision-makers, and project proponents to consider the “big picture” effects of a given project on the community and the environment. In a broad sense, all impacts on affected resources are probably cumulative; however, the role of the analyst is to narrow the focus of the cumulative impacts analysis to important issues of national, regional, and local significance (CEQ, 1997).

Identify Potentially Affected Resources

In this step, each resource affected by the action alternatives are identified. Resources were not assessed for cumulative impacts if the analysis in the Affected Environment and Environmental Impacts Chapter determined there would be no impact to that resource from the action alternatives. Resources that may be affected by the project actions at Lake Shelbyville could include biological and social resources. Potentially affected biological resources could include the aquatic and terrestrial habitat, bald eagles, migratory birds, invasive species, and the federally-listed and state-listed threatened & endangered species listed in this assessment. Potentially affected social/economic resources could include aesthetics, recreation, and cultural and tribal resources.

Establish Boundaries (Geographic and Temporal)

In identifying past, present, and reasonably foreseeable actions to consider in the cumulative impact analysis, affected resource-specific spatial and temporal boundaries were identified. The spatial boundary is where impacts to the affected resource could occur from the action alternatives and therefore where past, present, and reasonably foreseeable future actions could contribute to cumulative impacts to the affected resource. This boundary is defined by the affected resource and may be a different size than the project area. The spatial boundary includes aquatic and terrestrial habitat from the Whitley Creek area to the Strickland Boat Ramp.

The temporal boundary describes how far into the past and forward into the future actions should be considered in the impact analysis. The temporal boundary is guided by CEQ guidance on considering past action and a rule of reason for identifying future actions. For all resource topics, the consideration of past actions is reflected in the existing condition. A default future temporal boundary of 10 years from the baseline condition was used as an initial timeframe; however, the impacts are based on their likelihood of occurring and whether they can be reasonably predicted.

Identify the Cumulative Action Scenario

In this step, past, present, and reasonably foreseeable future actions to be included in the impact analysis for each specific affected resource were identified. These actions fall within the spatial and temporal boundaries established in Step 2.

The dredging actions at Lake Shelbyville are expected to occur over an 18 month time frame with periodic maintenance. The cumulative impacts resulting from these actions would be expected to be included in reasonably foreseeable future actions. Management of the natural resources on public lands, like those at Lake Shelbyville, are expected continue over the life of the project. In this way, the TSP would have long-term beneficial impacts for the lake recreationalists for years to come.

The alterations to the dredging area could contribute to cumulative impacts by making changes to the species diversity and composition in those areas. Given that the dredging actions are designed to remove sediment from the lake, it is likely that it would cause a long-term beneficial cumulative impact to recreational activities and the migratory birds, eagles, and listed species that rely on larger prey organisms in aquatic habitat.

The aesthetics of the area and the associated recreational opportunities are other potentially affected resources. Cumulative impacts to aesthetics and recreation could, subsequently, contribute to cumulative impacts to local economics as well. Improvements to aquatic habitat could contribute to provide long-term beneficial impacts to aesthetics and recreational opportunities, which would, in turn, contribute to long-term benefits to the local economy. Angling and boating are both recreational activities that could contribute benefits to the local rural economy.

Analyze Cumulative Impacts

For each resource, the actions identified in Step 3 are analyzed in combination with the impacts of the action alternatives being evaluated. This analysis describes the overall cumulative impact related to each resource and the contribution to this cumulative impact of each alternative being evaluated. None of the alternatives were determined to significantly adversely impact the resources discussed. Cumulative impacts to the various resources are summarized in Table 5.

Table 5. Summary of the “No Action” and Tentatively Selected Plan alternatives to physical, biological, and socioeconomic resources.

No Action Alternative Future Effects Compared to Existing Conditions (Effects of Nature)							Symbols: X = Long-Term Effect T = Temporary Effect C = Cumulative Impact	Proposed Alternatives, Effects of Action Alternatives to No Action Effects (Effects of Project)						
BENEFICIAL			ADVERSE				Affected Resource	BENEFICIAL			ADVERSE			
SIGNIFICANT	SUBSTANTIAL	MINOR	NO EFFECT	MINOR	SUBSTANTIAL	SIGNIFICANT		SIGNIFICANT	SUBSTANTIAL	MINOR	NO EFFECT	MINOR	SUBSTANTIAL	SIGNIFICANT
							A. Physical Effects							
				X			Topography, Geology, & Soils			X				
				X			Land Use/Land Cover					X		
			X				Prime Farmland					T		
			X				Noise					T		
				X			Water Quality		X			T		
				X			Hydraulics & Hydrology		X					
			X				Air Quality				X			
			X				Climate				X			
			X				Hazardous Waste				X			
							B. Biological Effects							
					X		Aquatic Habitat		X					
				X			Terrestrial Habitat					T		
			X				Bald Eagle				X			
			X				Migratory Birds					X		
			X				Invasive Species				X			
			X				State-listed Species			X				
			X				Federally-listed Species					X		
							B. Social Effects							
				X			Economics		X					
				X			Aesthetics		X					
				X			Recreation		X					
			X				Cultural Resources, Historic Prop.				X			
			X				Tribal Resources				X			
			X				Environmental Justice				X			

6 RELATIONSHIP OF PLAN TO ENVIRONMENTAL REQUIREMENTS

The relationship of the Recommended Plan (Alternative 2 – Dredging) to environmental requirements, environmental acts, and/or executive orders is shown in Table 6.

Table 6. Compliance status for federal statutes and executive orders applicable to this study.

Guidance	Compliance
Federal Statutes	
Archaeological and Historic Preservation Act, as Amended, 16 U.S.C. 469, et seq.	FC
Bald and Golden Eagle Protection Act, 16 USC 668-668d	PC ²
Clean Air Act, as Amended, 42 U.S.C. 7401-7542	FC
Clean Water Act, as Amended 33 U.S.C. 1251-1375	PC ²
Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC 9601-9675	FC
Endangered Species Act, as Amended, 16 U.S.C. 1531-1544	PC ²
Federal Water Project Recreation Act, as Amended. 16 U.S.C. 4601, et seq.	FC
Fish and Wildlife Coordination Act, as Amended, 16 U.S.C. 661-666c	PC ²
Land and Water Conservation Fund Act, as Amended, 16 U.S.C. 4601, et seq.	FC
National Environmental Policy Act, as Amended, 42 U.S.C. 4321- 4347	PC ³
National Historic Preservation Act, as Amended, 54 U.S.C 300101, et seq.	FC
Noise Control Act, 42 USC 4901, et seq.	FC
Migratory Bird Treaty Act of 1918, 16 USC 703-712	PC ²
Resource Conservation and Recovery Act, 42 USC 6901-6987	FC
Executive Orders	
Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898)	FC
Floodplain Management, E.O. 11988 as amended by E.O. 12148	FC
Protection of Wetlands, E.O 11990 as amended by E.O. 12608	FC
Protection and Enhancement of the Cultural Environment, E.O. 11593	FC
Consultation and Coordination with Indian Tribal Governments E.O. 13175	PC ¹
Protection of Migratory Birds E.O. 13186	PC ²

FC = Full Compliance, PC = Partial Compliance.

1. FC attained after completion of all required archaeological investigations, reports, and coordination.
2. FC attained upon completion of any permitting requirements or coordination with other agencies.
3. FC attained upon signing of the NEPA decision document.

7 COORDINATION, PUBLIC VIEWS, AND RESPONSES

Notification of the Draft Environmental Assessment and unsigned Finding of No Significant Impact is being sent to officials, agencies, organizations, and individuals listed in Appendix B for review and comment. Additionally, an electronic copy is available to all interested parties during the public review period (24 April 2024 – 24 May 2024) on the U.S. Army Corps of Engineers St. Louis District’s website at:

<https://www.mvs.usace.army.mil/Portals/54/docs/pm/Reports/EA/WhitleyCreekAreaSedimentManagementProject2024.pdf>

Please note that the Finding of No Significant Impact is unsigned in this draft version of the EA and would only be signed into effect after careful consideration of the comments received as a result of the public review.

To ensure compliance with the National Environmental Policy Act, Endangered Species Act, and other applicable environmental laws and regulations, coordination with these agencies would continue, as required, throughout the planning and construction phases of the proposed sediment management project.

8 LIST OF PREPARERS

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- Ben Greeling, USACE HTRW Specialist
- Lara Anderson, USACE Cultural Specialist
- Meredith Trautt, USACE Tribal Specialist
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FINDING OF NO SIGNIFICANT IMPACT
Whitley Creek Area Sediment Management Project
Lake Shelbyville
Moultrie County, Illinois

1. In accordance with the National Environmental Policy Act, I have reviewed and evaluated the documents relevant to the Lake Shelbyville Sediment Management Project. The Tentatively Selected Plan would be performed to restore a boating channel at Lake Shelbyville Whitley Creek Area to sufficient depths in which sediment accumulation is impacting access by O&M equipment and recreational vessels.
2. As part of this evaluation, I have considered the following project alternatives:
 - a. No Action Alternative – Under this alternative, no federal action would take place and sediment management at the Lake Shelbyville Whitley Creek area would not take place.
 - b. Six other sediment management options identified in the September 2018 Whitley Area Sedimentation Study were also evaluated, however each was screened out due to not restoring access for O&M activities, not improving visitor safety, lack of effectiveness, and/or high annual maintenance costs. Thus, none would meet the purpose and need of this project as well as the TSP, so they were not carried forward for a more in-depth analysis in the EA.
 - c. Tentatively Selected Plan (Dredging) – Dredging is proposed to occur from the Whitley Creek Recreation Area to the Strickland Boat Ramp (approximately 4.5 miles). The boating channel would be between 100'- 150' wide and would follow the historic river channel as practicable to reestablish natural contours to a minimum elevation of 586'. In areas where it is deemed impracticable to follow the historic river channel due to boater safety concerns and O&M equipment access issues, a slight realignment of the contour would be necessary. Preliminary design indicates alignment concerns in four areas. Overall dredging would result in the recovery of approximately 900,000 cu yards of lake bottom sediment being removed from the project area. Lake bottom sediment would be removed by hydraulic dredge unless mechanical dredging is required, and dried within one of eight upland dredge placement areas. Dredge material placement would involve approximately 1 acre of tree clearing to access placement sites from the lake. Approximately another 13 acres of tree removal would occur where recovered sediment is being placed in areas 1 and 2.

3. The possible consequences of the alternatives have been studied for physical, environmental, cultural, social, economic, aesthetic, and recreational impacts. Significant factors evaluated as part of my review include:
 - a. Recreational and aesthetic resources would accrue benefits as a result of the project.
 - b. The TSP would require the clearing of approximately 14 acres of trees. Tree clearing would only occur between 1 October to 31 March of any year to minimize impacts to federally listed or proposed bat species.
 - c. The 122.5 acres of “prime farmland” or “farmland of statewide importance” located in the sediment placement areas is not being permanently converted to non-farmland. Once the sediment dries out, the material would be flattened out and reseeded with an approved grass mix in accordance with the contract specifications. Materials placed may be utilized and removed in the future for beneficial use in such activities as construction only after testing in accordance with all local, state, and federal laws and regulations indicate that material is acceptable for reuse.
 - d. The TSP is not anticipated to have adverse impact upon archaeological remains or historic properties.
 - e. No impacts to tribal resources are anticipated.
 - f. The TSP would have no significant adverse impacts to the physical environment (e.g., noise, air, and water quality). A 401 Water Quality Certification shall be obtained prior to construction, and the Notice to Proceed shall not be given until the 401 Certification is received.
 - g. The TSP would have no significant adverse impacts on hydrology and hydraulics; topography, geology, or soil; land cover/land use; or aquatic or terrestrial organisms and habitat.
 - h. No significant adverse impacts to state or federally listed, candidate, or proposed species or critical habitat are anticipated.
 - i. Impacts to Bald Eagles and their nests would be avoided.
 - j. Minimal incidental take of migratory birds may occur in accordance with the Migratory Bird Treaty Act.
 - k. The Tentatively Selected Plan would not result in disproportionately high and adverse human health or environmental effects to minority or low-income populations, or disadvantaged communities, or cause other Environmental Justice concerns.
 - l. No significant hazardous, toxic, and radioactive waste issues are anticipated.
 - m. Wetland habitat within the project area would be avoided, and therefore would have no adverse impacts. No compensatory mitigation is required.
 - n. No significant climate change impacts are anticipated.

- o. No significant cumulative impacts are anticipated.
- 4. Based on my analysis and evaluation of the alternative courses of action presented in the Environmental Assessment, I have determined that the implementation of the Tentatively Selected Plan would not have significant effects on the quality of the environment. The proposed action has been coordinated with appropriate resource agencies and there are no significant unresolved issues. Therefore, an Environmental Impact Statement will not be prepared prior to proceeding with this action.

Date

Andy J. Pannier
Colonel, U.S. Army
District Commander