



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
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KANSAS CITY, MO 64106-2824

FINDING OF NO SIGNIFICANT IMPACT

GRAND RIVER ECOSYSTEM RESTORATION STUDY FINAL INTEGRATED FEASIBILITY REPORT AND ENVIRONMENTAL ASSESSMENT

LOWER GRAND RIVER SUB-BASIN, MISSOURI

The U.S. Army Corps of Engineers (USACE) Kansas City District, has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The Final Integrated Feasibility Report and Environmental Assessment (IFR/EA) dated 18 August 2020 and revised on 16 October 2020, for the Grand River Ecosystem Restoration Study addresses Ecosystem Restoration opportunities and feasibility in the Lower Grand River Sub-Basin, Missouri. The final recommendation is contained in the report of the Chief of Engineers, dated 18 November 2020.

The Final IFR/EA, incorporated herein by reference, evaluated various alternatives that would achieve ecosystem restoration benefits in three focused study areas in the Lower Grand River sub-basin, Locust Creek, Fountain Grove, and Yellow Creek. The recommended plan is the National Ecosystem Restoration Plan and includes the following actions in the focused study areas to increase the quality and quantity of bottomland forest, in-stream aquatic habitat, wet prairie, and emergent wetlands.

- The Locust Creek measures include construction of an approximately 1,800-acre sediment detention basin to trap sediment and large logs; a diversion berm to prevent the progression/formation of additional upstream avulsions that might divert water and bypass the sediment detention basin, to divert flows into the sediment basin while allowing water to continue downstream, and to provide fish and aquatic organism passage; notching of several existing levees to allow for the movement of water, sediment, and logs within the detention basin; dredging of approximately 23,500 feet of Muddy and Locust creeks to provide channel dimensions sufficient to accommodate the historic bank full flow and provide appropriate channel slope; small levee modifications and habitat enhancements; partial removal of a levee to help restore floodplain connectivity between Higgins Ditch and the Locust Creek channel; construction of grade control along Higgins Ditch to further reduce downstream sediment deposition; and bank stabilization or similar cost-effective measures upstream of the sediment detention basin to reduce sediment loading.
- The Fountain Grove features include a suite of actions to enhance wetlands through increased natural ecosystem form and function, improved habitat

development, and improved water management capability. Measures include creation of sloughs and habitat mounds; modification of existing pools to provide more naturally shaped wetlands; water control structure removals and modifications; levee setbacks; construction of a new levee to direct flows towards a controlled overtopping point; removal of a railroad berm; and placement of two groundwater pumps to facilitate wetland development and improve hydrology.

- Within the Yellow Creek study area, the main feature of the recommended plan is a levee setback to increase the conveyance of flows and reduce the effects of floodplain inundation within the Swan Lake National Wildlife Refuge. The plan would include existing levee and culvert removal, raising a portion of the existing levee, constructing new levee setback portions, and the addition of two 3-foot diameter concrete culverts with flap gates.

In addition to a “no action” plan, six Locust Creek, 49 Fountain Grove, and one Yellow Creek alternatives were evaluated. The alternatives included a wide array of proposed ecosystem restoration measures at each of the three study areas to address problems associated with flooding, sedimentation, log jams, avulsions, river de-watering, and associated loss of emergent wetland, bottomland forest, wet prairie, and aquatic riverine habitats. Section 4.0 of the IFR/EA, entitled “Formulation and Evaluation of Alternative Plans”, provides detailed information for the alternative formulation process and rationale used for final selection of the recommended plan.

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1.

Table 1: Summary of Potential Adverse Effects of the Recommended Plan

	Insignificant effects	Insignificant effects because of mitigation*	Resource unaffected by action
Aesthetics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aquatic resources/wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Invasive species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fish and wildlife habitat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Threatened/Endangered species/critical habitat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Insignificant effects	Insignificant effects because of mitigation*	Resource unaffected by action
Historic properties	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other cultural resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floodplains	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous, toxic & radioactive waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hydrology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Navigation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Noise levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public infrastructure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Socioeconomics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental justice	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Soils	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tribal trust resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climate change	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flood Risk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prime and Unique Farmlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in Section 5.0, “Environmental Consequences”, of the IFR/EA will be implemented, if appropriate, to minimize impacts. For water quality, BMPs would be implemented during and following construction to reduce potential negative effects to water quality. Disturbed areas would be replanted with native plant species to avoid bare ground and exposed soils. For threatened & endangered species/critical habitat, conservation measures to avoid or mitigate potential effects to federally listed bat species have been incorporated into the plan including restriction of tree clearing to the non-active period of 1 November to 31 March. For invasive species, BMPs would be implemented during construction to reduce the potential spread of invasive species such as reed canary grass while construction areas are being disturbed. All previously used construction equipment would be required to be cleaned prior to being brought onto construction sites.

No compensatory mitigation is required as part of the recommended plan.

Public review of the draft IFR/EA and Finding of No Significant Impact (FONSI) was completed on 20 November 2019. All comments submitted during the public review period were responded to in the final IFR/EA and FONSI. A 30-day state and agency review of the Final IFR/EA was completed on 16 November 2020. Comments from state and federal agency review did not result in any changes to the final IFR/EA.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, USACE determined that the recommended plan may affect but is not likely to adversely affect the following federally listed species or their designated critical habitat: pallid sturgeon, gray bat, Indiana bat, and northern long-eared bat. The U.S. Fish and Wildlife Service concurred with USACE's determination on 16 December 2019.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, USACE determined that historic properties may be adversely affected by the recommended plan. USACE and the Missouri State Historic Preservation Office, the Advisory Council on Historic Preservation BMPs, federally recognized Native American Tribes, and other interested parties entered into a Programmatic Agreement, dated 29 June 2020. All terms and conditions resulting from the agreement shall be implemented to minimize adverse impacts to historic properties.

Pursuant to the Clean Water Act of 1972, as amended, the discharge of dredged or fill material associated with the recommended plan has been found to be compliant with section 404(b)(1) guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in Appendix K of the IFR/EA.

A water quality certification pursuant to section 401 of the Clean Water Act was obtained from the Missouri Department of Natural Resources on 27 May 2020. All conditions of the water quality certification shall be implemented to minimize adverse impacts to water quality.

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed.

Technical, environmental, and cost effectiveness criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report,

the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.


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Date

William C. Hannan, Jr.
Colonel, Corps of Engineers
District Commander