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RECORD OF DECISION

FORT PECK DAM TEST RELEASE ENVIRONMENTAL IMPACT STATEMENT
FORT PECK DAM, MONTANA

The Fort Peck Dam Test Release Final Environmental Impact Statement (EIS) dated 24 September 2021, assesses the ability of test flows out of Fort Peck Dam, Montana to promote growth and survival of pallid sturgeon (*Scaphirynchus albus*) to its free-swimming juvenile stage before settling out in the headwaters of Lake Sakakawea, North Dakota. Pallid sturgeon are listed as endangered under the Endangered Species Act (ESA) of 1973. The United States Army Corps of Engineers (USACE) has prepared this EIS as part of its commitment in the January 19, 2018 amendment to the October 30, 2017 Biological Assessment (BA) for the Operation of the Missouri River Mainstem Reservoir System (System), the Operation and Maintenance of the Bank Stabilization and Navigation Project (BSNP), the Operation of Kansas River Reservoir System, and the implementation of the Missouri River Recovery Management Plan (MRRMP).

USACE has responsibility for the operation and maintenance of the System, including Fort Peck Dam in Montana and five dams and reservoirs on the mainstem of the Missouri River in North Dakota, South Dakota, and Nebraska. USACE operates the System for the Congressionally authorized project purposes of flood control, navigation, irrigation, hydropower, water supply, water quality, recreation, and fish and wildlife. Authorization for the construction and operation of the projects can be found in the following legislation: The Rivers and Harbors Act of 1935, the Fort Peck Power Act of 1938, and the Flood Control Act of 1944. The operation of the System is guided by the Missouri River Mainstem Reservoir System Master Water Control Manual (Master Manual). Compliance with the ESA is required to continue operating the System for its authorized purposes.

The authority to implement the preferred alternative is inherent in USACE's discretion and authority to operate the System for its purposes under the Flood Control Act of 1944. Implementation of the test flow outlined in the preferred alternative would occur through a Master Manual deviation(s) that would be coordinated with the public by the Missouri River Basin Water Management office. The EIS serves as the National Environmental Policy Act (NEPA) compliance process for this potential deviation. A permanent change in operations to implement any flow changes would require additional analyses and a separate public involvement process.

The final EIS, incorporated herein by reference, evaluated various alternatives to test hypotheses that flow releases from Fort Peck Dam could attract, retain, and aggregate reproductive ready pallid sturgeon on the Upper Missouri River, leading to successful spawning, drift, larval development, and recruitment. The recommended plan

is Alternative 1 (including variations 1, 1A, and 1B). To avoid and minimize some of the adverse effects associated with the test flow, it would only be implemented in years when the hydrologic conditions described in Table 1 are met. Because the test flow is experimental, it is anticipated that the test flow would only be run 3-5 times.

Table 1: Test Flow Constraints Designed to Avoid/Minimize Impacts

Constraint Type	Numeric Constraint
Forecasted Fort Peck to Garrison Runoff	Less than the upper quartile of runoff*
Minimum Forecasted Fort Peck Lake Elevation	2,227 feet
Flow Limit at Wolf Point and Culbertson Gages	35,000 cfs
Minimum in-river flow at Wolf Point gage	8,000 cfs
Maximum Forecasted Garrison Pool	1,850 feet
Minimum Forecasted Williston Levee Freeboard	6.38 feet
Maximum Forecasted Williston Stage	22.0 feet
Maximum flow reduction rate	3,000 cfs per day

*upper quartile of runoff = 25 percent of the observed runoff record is greater, and 75 percent is less than the number.

When implemented, the test flow would consist of the following:

- Attraction flows beginning on April 16, with the peak flow being approximately twice as large as the typical spring release from Fort Peck Dam for the given conditions. For example, the typical early spring release from Fort Peck Dam is approximately 8,000 cubic feet per second (cfs); therefore, the attraction flow peak would be approximately 16,000 cfs as measured at the Wolf Point gage. Beginning on April 16, spring release flows are increased by approximately 1,700 cfs per day until the peak flow is reached at the Wolf Point gage. The peak flow is held for 3 days and then decreases by approximately 1,300 cfs per day until the retention flow is reached. The retention flow is approximately 1.5 times the Fort Peck Dam early spring release as measured at the Wolf Point gage (approximately 12,000 cfs using the above example). The retention flow is held until May 28, when the spawning cue flow regime is initiated.

- Spawning cue flows would begin on May 28 and peak at approximately 3.5 times the Fort Peck Dam spring flow release for the given conditions. Assuming approximately 8,000 cfs as the typical spring flow, this equates to a peak of approximately 28,000 cfs at the Wolf Point gage. Beginning on May 28, the release is increased by approximately 1,100 cfs per day until the peak flow is reached at Wolf Point. The peak is held for 3 days, decreased by approximately 1,000 cfs per day for the next 12 days, then reduced by approximately 3,000 cfs per day until the flow target for drift (approximately 8,000 cfs) is reached. The approximately 8,000 cfs drifting flow regime is held until the drift phase is complete (typically by mid-July), when normal operations resume.

Monitoring of the test flow will include biological and physical monitoring. Biological monitoring of the test flow will focus on collecting information to determine pallid sturgeon response. Pallid sturgeon monitoring will include measuring conditions in the river (e.g., temperature, discharge, and turbidity), tracking of adult movement and spawning, as well as monitoring early life stages (e.g., free embryo and larvae). Pallid sturgeon monitoring is described in Section 4.2 of the final EIS and the Fort Peck Adaptive Management Framework (Appendix H).

Physical monitoring will be performed during the test flow for the purpose of providing further information on impacts to bank erosion, water surface elevations, water intakes, the Fort Peck Dam spillway, and similar concerns. Fort Peck Dam spillway monitoring information will be used to assess dam safety and spillway reliability. Monitoring information is a critical component for assessing the capability to conduct future flow tests. Goals and methods of physical monitoring include:

- Bank Erosion - representative locations will be selected for bank erosion monitoring. Repetitive channel and bank surveys will be used to evaluate conditions before, during, and after the flow test.

- Water Intakes - representative municipal and irrigation water intakes will be monitored to evaluate sandbar migration, turbidity, and similar geomorphic processes to evaluate potential impact on function. Other areas identified as critical features will be monitored on an as-needed basis.

- Water Surface Elevation Profiles - water surface profiles before, during, and after the flow test will be collected to evaluate hydraulic model accuracy, flood inundation extent, and to identify changes in water surface elevations in the reach.

- Aerial Photography - before, during, and after test flow aerial photos will be collected for use in identifying bank erosion.

- Equipment would be installed on the Fort Peck Dam spillway to monitor flow within the discharge channel sub-drain system to help estimate uplift pressures due to the test flow.

- Structure walls would be surveyed on the Fort Peck Dam spillway to determine if they move because of the test flow.

- The downstream unlined channel below the Fort Peck Dam spillway would be monitored to determine the amount of channel scour and bank erosion due to the test flow.

- Flow measurement and velocity information will be collected with the Fort Peck Dam spillway exit channel and the Missouri River to assess velocity distribution

and magnitude. This information will be used to evaluate risk during sustained releases and drawdown.

In addition to a “no action” alternative, two test flow alternatives (Alternatives 1 and 2) were evaluated. Each Action alternative consists of three variants (1, 1a, 1b, and 2, 2a, 2b) with the variants reflecting slightly different implementation schedules. Section 2.6 of the EIS provides a comparison of these alternatives. Alternative 1 was identified as both the preferred alternative and environmentally preferable alternative.

SUMMARY OF POTENTIAL EFFECTS

For all alternatives, the potential effects were evaluated, as appropriate. Chapter 3 of the final EIS describes potential effects in detail. A summary assessment of the potential effects of the recommended plan are listed in Table 2:

Table 1: Summary of Potential Effects of Recommend Plan

	Significant adverse effect	Non-significant adverse effects	No adverse effects
River Infrastructure and Hydrologic Processes	☐	☒	☐
Pallid Sturgeon	☐	☐	☒
Flood Risk Management	☐	☒	☐
Hydropower	☒	☐	☐
Irrigation	☒	☐	☐
Water Supply	☐	☒	☐
Water Quality	☐	☒	☐
Recreation	☐	☒	☐
Fish and Wildlife	☐	☒	☐
Cultural Resources	☐	☒	☐
Environmental Justice	☐	☒	☐
Thermal Power	☐	☒	☐

Under the recommended plan, it is anticipated that overall adverse impacts to Missouri River hydropower would be small compared to the No Action Alternative; however, the modeling results from some test flow years showed significant impacts specific to hydropower at Fort Peck Dam. During implementation, the USACE would coordinate with the Western Area Power Administration and test flows could be halted if it is determined that significant hydropower impacts are occurring or anticipated to occur in a given test flow year.

Under the recommended plan, it is anticipated that irrigation impacts would include potential increases in costs associated with damages to irrigation intakes, increases in operations and maintenance costs, and potential reductions in crop productivity during

test flow years. There is remaining uncertainty on how each respective intake would be impacted by the test flows; therefore, the EIS presents a range of potential impacts. Modeling indicates that impacts to some intakes could be significant in test flow years. During implementation of a test flow, the USACE would monitor irrigation intakes to reduce the uncertainty in forecasted level of impacts during test flow years. The results of monitoring would inform potential additional test flow releases.

All practicable means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. The range of alternatives were developed considering a suite of planning constraints that were determined during the scoping phase of the study. Constraints help to define the range or intensity of measures selected to build alternatives, and often reflect sensitive issues or represent critical thresholds to minimize or avoid negatively impacting resources identified as important. Appropriate conditions to run the test flow would be assessed on a year-to-year basis. The constraints identified in Table 1 are focused on avoiding or minimizing biological and Human Consideration impacts and were informed by stakeholder input.

Unavoidable adverse impacts are those impacts that cannot be avoided or fully mitigated should a test flow be implemented. Section 3.14 of the EIS describes these impacts. The recommended plan will result in unavoidable adverse impacts to several resources including River Infrastructure and Hydrologic Processes, Fish and Wildlife Habitat, Water Quality, Cultural Resources, Flood Risk Management, Hydropower, Irrigation, and Recreation. The location and intensity of unavoidable impacts would be similar between the alternatives analyzed in detail. Most unavoidable impacts would be short-term and restricted to years in which a test flow release occurs. Some impacts would be longer term and last several years or more after test releases are implemented. No compensatory mitigation is required as part of the recommended plan; however, the recommended plan was designed to avoid or minimize adverse impacts by restricting the conditions under which a test flow release is implemented. Despite avoidance and minimization measures, certain disturbances would likely still occur (e.g., increased erosion, temporary adverse impacts to flood risk management, hydropower, and irrigation).

PUBLIC REVIEW

Public review of the draft EIS was completed on 25 May 2021. All comments submitted during the public comment period were responded to in the final EIS. A 30-day waiting period and state and agency review of the final EIS was completed on 25 October 2021. Comments did not result in any changes to the final EIS.

OTHER ENVIRONMENTAL and CULTURAL COMPLIANCE

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed. Endangered Species Act, Fish and Wildlife Coordination Act, and National Historic Preservation Act compliance related to the recommended plan are summarized below. Chapter 6 of the final EIS describes

compliance with numerous other federal statutes, implementing regulations, and executive orders potentially applicable to the EIS.

The Fort Peck Dam test release EIS was undertaken in accordance with the ESA and the 2018 BiOp. The USACE reinitiated consultation with the USFWS under the ESA in 2015 as part of the MRRMP-EIS process. The selected alternative from the MRRMP-EIS included developing test flow releases from Fort Peck Dam to benefit pallid sturgeon. The 2018 BiOp relied on development of test flow releases from Fort Peck Dam to support its determination that the implementation of the USACE Proposed Action as amended is not likely to jeopardize the pallid sturgeon, interior least tern, or piping plover. The consultation history for the pallid sturgeon is further summarized in Chapter 1, Section 1.8 of the final EIS. Discussions between the USACE and the USFWS are ongoing, both agencies are committed and actively involved in the Science and Adaptive Management Plan process, and the USFWS provided significant input to the Fort Peck AM Framework (see Appendix H of the final EIS) that was specifically designed to guide the development and implementation of Fort Peck Dam test flows. The 2018 BiOp referenced above is provided as accompanying documents to the MRRMP-EIS and available at https://www.nwo.usace.army.mil/MRRP/. Copies of correspondence related to the ESA are provided in Appendix A of the final Fort Peck Dam Test Release EIS.

The Fish and Wildlife Coordination Act (16 USC 661 et seq.) requires federal agencies to coordinate with USFWS or the National Marine Fisheries Service and appropriate state wildlife agencies to avoid or minimize adverse impacts of federal actions that propose to modify any stream or water body. Modification of a stream or water body includes impoundment, diversion, and deepening of channels. USACE has coordinated with USFWS and Montana Department of Fish, Wildlife and Parks biologists throughout the development of this EIS and has received and incorporated the resource agencies' input into the development of the EIS. The resource agencies support the naturalization of the hydrograph in the Missouri River downstream of Fort Peck Dam as beneficial for pallid sturgeon, and for improving natural variability of the system to improve robustness of the ecosystem and species populations. The resource agencies are also supportive of the adaptive management framework and process and expressed their desire to continue their involvement as the adaptive management process matures. Copies of the correspondence referenced above are available in the final EIS Appendix A.

Section 106 of the National Historic Preservation Act (16 USC 470) requires federal agencies to evaluate the effects of federal undertakings on historical, archeological, and cultural resources. Risks to cultural resources sites were modeled using locations of known cultural resources sites and hydrologic and hydraulic modeling software. Potential effects are presented in Section 3.11 of the final EIS. Additionally, the USACE Omaha District has developed a programmatic agreement (PA) in consultation with Tribes, Tribal Historic Preservation Officers (THPOs), State Historic Preservation Officers (SHPOs), agencies, and interested parties to address cultural and historic resource impacts involved with the ongoing operation and maintenance of the Missouri

River System. Several Tribes have not signed the PA; however, these Tribes received the same correspondence as signatories during the EIS process. The PA was followed during development of the EIS (see Appendix B for PA letters) and will be followed during test flow implementation. The PA is available online at:(https://www.nwo.usace.army.mil/Missions/Civil-Works/Cultural-Resources/Programmatic-Agreement/).

FINDING

The USACE considered comments from other agencies, Tribes, stakeholders, and the public during the public comment period in determining the recommended plan. The recommended plan is to implement Alternative 1 including the ability to implement variants 1a and 1b which would occur one week sooner or later respectively. Alternative 1 is the recommended plan because it allows for more flexibility in testing within an adaptive management framework, generally has less overall adverse impacts than Alternative 2, and has a similar level of potential pallid sturgeon benefits as modeled.

All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the review of these evaluations, I find that benefits of the recommended plan outweigh the costs and any adverse effects and certify that all the alternatives, information and analyses submitted by public commenters based on the summary in the final EIS have been considered. This Record of Decision completes the National Environmental Policy Act Process.

12 November 2021
Date

Geoffrey R. Van Epps
Colonel, Corps of Engineers
Division Commander