APPENDIX A

AGENCY CORRESPONDENCE

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NORTHWESTERN DIVISION
PO BOX 2870
PORTLAND OR 97208-2870

Programs Directorate

January 19, 2018

Michael Thabault
Assistant Regional Director, Ecological Services
U.S. Fish and Wildlife Service
Mountain-Prairie Region
134 Union Blvd.
Lakewood, CO 80228

Dear Mr. Thabault:

On October 30, 2017, the U.S. Army Corps of Engineers (Corps) submitted the 2017 Biological Assessment for the Operation of the Missouri River Mainstem Reservoir System, the Operation and Maintenance of the Bank Stabilization and Navigation Project, the Operation of the Kansas River Reservoir System and the Implementation of the Missouri River Recovery Management Plan, commonly known as the "2017 BA," to the U.S. Fish and Wildlife Service (Service). Based on consultations with the Service during In Progress Review (IPR) meetings and weekly staff level calls since that date, the Corps has decided to amend the proposed action in the 2017 BA and update the draft Adaptive Management (AM) Plan. These changes specifically demonstrate the Corps' commitment to (1) address new information related to pallid sturgeon condition in the lower Missouri River and (2) prioritize hypotheses related to flows out of Fort Peck Dam to benefit the pallid sturgeon in the Upper Basin. The Corps acknowledges that by its very nature the AM process is intended to identify subsequent and substantive actions. The Corps affirms its intent to pursue actions identified through the AM process within the governance structure set forth in the AM Plan, its authorities, and in compliance with the other environmental laws. This letter serves to formally amend the proposed action in the 2017 BA. Below is a summary of the modifications to the BA and draft AM Plan.

1) Lower Missouri River

a. Applying the procedure for addressing significant new information described in the draft AM Plan, (section 2.5.4), and at direction of and with funding provided by the Corps, the United States Geological Survey led a rigorous analysis of pallid sturgeon condition trends (see Randall et al. 2017)[1]. This report documented

[1] Randall, M.T., Colvin, M.E., Steffensen, K.D., Welker, T.L., Pierce, L.L., and Jacobson, R.B., 2017, Assessment of adult pallid sturgeon fish condition, Lower Missouri River—Application of new information to the Missouri River Recovery Program: U.S. Geological Survey Open-File Report 2017–1121, 103 p., https://doi.org/10.3133/ofr20171121.

declining condition in some lower Missouri River pallid sturgeon and provided recommendations which would narrow the field of hypotheses explaining these conditions. The Service has also identified pallid sturgeon condition as a concern and has recommended a higher priority be given to hypotheses related to declining condition.

b. On January 4, 2018, Corps and Service field staff met to discuss appropriate next steps and both agencies agreed to advance the recommendations in the pallid condition report, consistent with the process highlighted in the AM Plan. Specifically, the Corps proposes to accelerate consideration of condition-related hypotheses under a new Big Question in the AM Plan. Recommendations from Randall et al. (2017) will be included in the appropriate text, tables, and figures (e.g. Table 44, Figure 82) in the AM Plan and the recommendations will be incorporated into the Missouri River Recovery Program Strategic Plan following discussion at the Missouri River Recovery Implementation Committee (MRRIC) AM Workshop on February 6-8, 2018. Corps staff, in coordination with the Service, discussed this approach on a recent MRRIC Fish Workgroup call in preparation for the AM Workshop.

2) Upper Missouri River

a. Due to uncertainty regarding the timing for implementation of the Intake Fish Passage Project because of ongoing litigation, the agencies identified the need to accelerate consideration of hypotheses pertaining to recruitment of pallid sturgeon on the Missouri River between Fortt Peck Dam and Lake Sakakawea.

b. Revisions to the BA and AM Plan:

i. Recognizing the scientific uncertainty still surrounding the specific flow adjustments needed at Fort Peck to provide favorable conditions to encourage pallid recruitment in the Upper Basin, by November 2018, the Corps will work with the Service and MRRIC to review previous information and information generated since the Effects Analysis to formulate test flows from Fort Peck and an AM framework for their implementation. Level 1 actions under the framework may include additional drift studies, tracking of fish and documentation of spawning locations, telemetry evaluations and methodology improvements, risk analysis, and engineering studies. Level 2 actions include implementation of identified hydrograph(s) to test hypotheses.

ii. Also by November 2018, following completion of the MRRIC Fall Science Meeting, the Corps will revise the draft AM Plan to reflect this increased priority of Fort Peck actions and present the implementation framework for related level 1 and 2 actions. Revisions to the draft AM Plan will include development of additional decision trees and criteria reflecting next steps based on outcomes of the test flows. The Corps will identify additional processes (i.e. NEPA) required in order to implement actions.

iii. In Fiscal Year 2019, the Corps will initiate NEPA if any of the proposed actions are outside the scope of the existing Missouri River Recovery

Management Plan Environmental Impact Statement (EIS). This follows the process described in the draft AM Plan. Additionally, the Corps commits to seek funding and implement feasible actions within the agency's existing authorities.

Upon receipt of the final Biological Opinion from the Service, expected in April 2018, the Corps will complete the Final Missouri River Recovery Management Plan-EIS and a Record of Decision (ROD), anticipated to be signed in the fall 2018. Completion of the Management Plan and ROD will allow the Corps to continue fulfilling our obligations under ESA. We look forward to our continued collaboration to achieve this goal.

David J. Ponganis, SES
Director, Programs

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NORTHWESTERN DIVISION
PO BOX 2870
PORTLAND OR 97208-2870

December 17, 2018

Michael Thabault
Assistant Regional Director, Ecological Services
U.S. Fish and Wildlife Service
Mountain-Prairie Region
134 Union Blvd.
Lakewood, Colorado 80228

Dear Mr. Thabault,

On April 13, 2018 the U.S. Fish and Wildlife Service (USFWS) provided a final Biological Opinion concerning the Operation of the Missouri River Mainstem Reservoir System, the Operation and Maintenance of the Bank Stabilization and Navigation Project, the Operation of Kansas River Reservoir System, and the Implementation of the Missouri River Recovery Management Plan (final Biological Opinion) to the U.S. Army Corps of Engineers (USACE). Subsequent to receiving the final Biological Opinion, USACE has completed the final Environmental Impact Statement for the Missouri River Recovery Management Plan (MRRMP-EIS). The final MRRMP-EIS was filed with the U.S. Environmental Protection Agency and its availability was announced in the Federal Register on August 31, 2018.

This letter serves as the USACE acceptance of the final Biological Opinion. USACE has formalized its commitment to implementation of the Proposed Action described in our 2017 Biological Assessment as amended in our letter of January 19, 2018 through the Record of Decision (ROD) for the final MRRMP-EIS, signed on November 20, 2018 (attached).

Additionally, as mentioned in your April 13, 2018 letter, our staffs coordinated on the development of processes to (1) establish periodic BiOp implementation progress reviews and (2) facilitate any further coordination that may be needed when specific management actions are carried out. Both of those documents are attached here. It is our intention that both agencies may choose to refine these documents over time to incorporate lessons learned during implementation.

I would like to thank you and USFWS staff for your collaboration with USACE during the consultation process. Completion of the MRRMP-EIS and ROD allows USACE to continue fulfilling our obligations under ESA. We look forward to our continued collaboration as we move into implementation of the proposed action described in our 2017 Biological Assessment as amended in our letter of January 19, 2018.

DAVID J. PONGANIS, SES
Director, Programs

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NORTHWESTERN DIVISION
PO BOX 2870
PORTLAND, OR 97208-2870

February 4, 2019

Mr. Michael Thabault
Assistant Regional Director, Ecological Services
U.S Fish and Wildlife Service
Mountain-Prairie Region
134 Union Blvd.
Lakewood, Colorado 80228

Dear Mr. Thabault,

Enclosed is the Fort Peck Adaptive Management Framework (Framework) which the U.S. Army Corps of Engineers (USACE) committed to completing in our letter of January 19, 2018, which formally amended the proposed action in the 2017 Biological Assessment for the Operation of the Missouri River Mainstem and Kansas River Reservoir systems, the Operation and Maintenance of the Bank Stabilization and Navigation Project, and Implementation of the Missouri River Recovery Management Plan. This amendment was the result of our two agencies identifying the need to accelerate consideration of hypotheses pertaining to recruitment of pallid sturgeon on the Missouri River between Fort Peck and Lake Sakakawea.

The Framework was developed using information in the Effects Analysis, information generated from the ongoing science activities on the Missouri and Yellowstone Rivers, and ongoing discussions with the Missouri River Recovery implementation Committee. Specifically, the Framework addresses the Corps commitment to formulate test flows from Fort Peck, and describes the steps for their implementation and evaluation. In addition, in order to carryout test flows, the USACE is initiating a National Environmental Policy Act (NEPA) process to further refine the test hydrographs that are included in Section 2 of the Framework, to identify conditions when test flow releases would be achievable and beneficial, and to evaluate the impacts on the environment and the Missouri River Mainstem System authorized purposes.

It is important to note this Framework recognizes the importance of the Yellowstone River, including the fish passage project at Intake Dam, to the Upper Missouri River Basin pallid population. It is structured to be complementary to the Intake fish passage project to provide the best chance for meeting species objectives, considering the entire Upper Basin pallid sturgeon population as a whole.

As indicated in our January 2018 letter, we will also update the Missouri River Recovery Program's (MRRP) Science and Adaptive Management Plan (SAMP) to

include the Framework. Our detailed SAMP will be amended as needed to reflect the priority science activities identified in the Framework to ensure we maximize the learning opportunity afforded by test flow releases. Ongoing science efforts already include key components which will support formulation and evaluation of a test flow such as a maintained group of telemetered sturgeon, evaluations of telemetry capabilities including recommendations for refinement, ongoing monitoring efforts tracking sturgeon on both the Yellowstone and Missouri Rivers, ongoing evaluations of spawning habitat and spawning success, standardized monitoring of the pallid population, and modeling of sturgeon free embryo drift dynamics including a drift study in 2016. These efforts ensure we are well positioned to implement and evaluate a test flow when warranted.

We look forward to our continued partnership as we implement the Fort Peck Adaptive Management Framework.

David J. Ponganis, SES
Director, Programs

United States Department of the Interior

US FISH AND WILDLIFE SERVICE
MRNRC & Pallid Sturgeon Recovery Coordinator
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To: Aaron Quinn. Tiffany Vanosdall, Clayton Ridenour

Cc: Zach Shattuck, Casey Kruse

From: Wayne Nelson-Stastny – MRNRC & Pallid Sturgeon Recovery Coordinator

Date: May 4, 2019

Re: Fort Peck naturalized flow alternatives – impacts to native (non-listed) species

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The USFWS appreciates the USACE efforts to test more naturalized flow regimes from Fort Peck to work towards achieving MRRP pallid sturgeon objectives. The USACE's cooperative process engaging river scientist, resource agencies, tribes and stakeholders is commendable.

We provide the following brief comments in coordination with MT FWP per FWCA roles and responsibilities as initial input on naturalized flow alternatives impacts to other native (non-listed) species.

More naturalized flows will benefit large river obligate aquatic and terrestrial fauna. In general, focusing on what is 'good' for one species may not be of benefit to the suite of native riverine fauna (Poff et al. 1997). While the more naturalized flows are focused on benefits to pallid sturgeon there may be some additional considerations put in place through the adaptive management process that could benefit the suite of native riverine fauna and potentially, in turn, pallid sturgeon. Long-term studies of naturally variable systems show that some species do best in wet years, and that other species do best in dry years, and that overall biological diversity and ecosystem function benefit from these variations in species success (Tilman et al. 1994). It is known that a range of flows is necessary to scour and revitalize river channels, to import wood and organic matter from the floodplain, and to provide access to productive riparian wetlands. Inter-annual variation in these flow peaks is also critical for maintaining channel and riparian dynamics. The implementation of only a fixed high-flow level each year would simply result in the equilibration of in channel and floodplain habitats to these constant peak flows (Poff et al. 1997). As this effort matures through the adaptive management process efforts for inter-annual or inter-implementation variation in timing and magnitudes may be of benefit to not only the suite of native riverine fauna including pallid sturgeon. Actions to improve the Missouri River

ecosystem and associated native riverine flora and fauna will aid in achieving pallid sturgeon MRRP objectives. We look forward to a broader review of the draft EIS on Fort Peck test flows.

Poff, N. L., Allan, J. D., Bain, M. B., Karr, J. R., Prestegaard, K. L., Richter, B. D., Sparks, R. E., Stromberg, J. 1997. The natural flow regime: A paradigm for river conservation and restoration. *BioScience*, *47*(11), 769-784.

Tilman D, Downing JA, Wedin DA. 1994. Does diversity beget stability? Nature 371:257-264.

United States Department of the Interior

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In reply refer to:
21/0119

May 25, 2021

Aaron Quinn, Environmental Resources Specialist
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Subject: Comments on the Fort Peck Dam Test Releases Draft Environmental Impact Statement

Dear Mr. Quinn,

The U.S. Department of the Interior (Department), including the U.S. Fish and Wildlife Service (USFWS), has reviewed the U.S. Army Corps of Engineers' (USACE) Fort Peck Dam Test Releases – Draft Environmental Impact Statement (FPDTR DEIS). The purpose of the FPDTR EIS is to assess the capacity of test flows out of Fort Peck Dam to promote growth and survival of pallid sturgeon to free swimming juvenile stage before settling out in the headwaters of Lake Sakakawea USFWS thank you for the opportunity to offer the following comments and suggestions.

USFWS' COMMENTS

USFWS commends USACE's continued efforts to meet our joint responsibilities to conserve the endangered pallid sturgeon (*Scaphirhynchus albus*) under the Endangered Species Act.

Specifically, the USFWS appreciates USACE's commitment to implementing test flow releases from Fort Peck Dam in an effort to achieve the fundamental objective described in our 2018 Biological Opinion: to avoid jeopardizing the continued existence of pallid sturgeon in the Missouri River (USFWS 2018). The actions proposed in the FPDTR DEIS will improve our understanding of the potential for flow management from Fort Peck Dam to restore natural recruitment to the Upper Missouri River (UMR) demographic unit of pallid sturgeon (defined in the FPDTR DEIS, page 2-4).

USFWS offers the following comments on the FPDTR DEIS to improve the science and learning outcomes that will result from assessing the capacity of test flows out of Fort Peck Dam to promote growth and survival to the free swimming juvenile stage before settling out in the

headwaters of Lake Sakakawea – the stated purpose of the action described in the FPDTR DEIS (FPDTR DEIS, page 1-5).

Flow adjustments to minimize harm to the Yellowstone River:

Two coinciding management actions on the Yellowstone (Intake Fish Bypass Project) and Missouri (Fort Peck Dam test flow releases) rivers may contribute to restoring natural recruitment to the UMR demographic unit of pallid sturgeon. Both management actions have a high degree of uncertainty regarding their potential to restore natural recruitment to the population, and strategic implementation and effectiveness monitoring will be required to understand their relative and collective benefits.

The Purpose of the Action (FPDTR DEIS, page 1-5) states that *"Test flows would be implemented while accounting for conditions on the Yellowstone River to not harm pallid sturgeon that are or would be utilizing fish passage structures there."*, with that general prioritization being supported throughout the FPDTR DEIS. USFWS suggests that, during test flow years, evaluating the effectiveness of Fort Peck Dam test flow releases should be a higher priority than minimizing harm to individuals that would otherwise migrate into the Yellowstone River for the following reasons:

1. As a Level 2 science action[1], test flow releases from Fort Peck Dam are expected to be implemented intermittently among years (once every 5 – 7 years, on average; FPDTR DEIS, page 4-1) and for a limited number of events (3 – 5 times; FPDTR DEIS, page xiv). In contrast, the effectiveness of the Intake Fish Bypass Project will be evaluated annually after construction is completed, including years when Fort Peck Dam test flow releases are implemented. Because the number of Fort Peck Dam test flow releases will be limited, the effectiveness of each test flow event to promote pallid sturgeon natural recruitment in the Missouri River should be evaluated to the greatest extent possible.

   Delaying initiation of the "attract" phase of the Fort Peck Dam test flow releases relative to the unregulated hydrograph may limit the number of adult pallid sturgeon that occupy the Missouri River during the spawning season. The FPDTR DEIS defines the biological purpose of the "attract" phase as triggering upstream spawning migrations and attracting pallid sturgeon up the Missouri River. Visual comparison of the Yellowstone River hydrograph during the period-of-record (1910 – 2021; USGS gage at Sidney, Montana) and unregulated flows at Fort Peck Dam (FPDTR DEIS, page 2-10) suggests that the timing of the "attract" phase between the two systems should be similar. As such, delaying the "attract" phase of the conceptual hydrographs may unduly predispose the experiment to realize a reduced potential for reproductive individuals to be attracted to and occupy the Missouri River during the

[1] In-river testing – Implementation of actions at a level sufficient to expect a measurable biological, behavioral, or physiological response in pallid sturgeon, surrogate species, or related habitat response (USACE 2018).

spawning period if pallid sturgeon respond to earlier cues from the Yellowstone River.

The extent to which the "attract" phase of the conceptual hydrographs is delayed relative to the unregulated hydrograph is underrepresented. The FPDTR DEIS (page 2-17) states *"…the later initiation date of April 16 is designed to enhance the contrast between the Missouri River and Yellowstone River discharges by moving the start date approximately two weeks later than the initial flow shown in the unregulated hydrograph"*. USFWS notes that there is a discrepancy in the timing of the "attract" phase of the unregulated hydrograph between Figures 2-2 and 2-3 (FPDTR DEIS, pages 2-10 and 2-12); nonetheless, these figures show that the peak of the "attract" phase occurs on either approximately March 20 (Figure 2-2) or April 1 (Figure 2-3), with the initiation of this phase beginning approximately three weeks prior to the peak. The later initiation date of April 16 described in the FPDTR DEIS is approximately two weeks later than the ***peak*** of the "attract" phase of the unregulated hydrograph shown in Figure 2-3 (~3 weeks later than the peak in Figure 2-2); thus, the peak of the "attract" phase in the conceptual hydrographs (April 20) will not occur until approximately three weeks after the peak of the unregulated hydrograph shown in Figure 2-3 (~1 month later than the peak in Figure 2-2). The initial rise of the "attract" phase in the conceptual hydrographs (April 16) will occur approximately one (Figure 2-3) to one and a half (Figure 2-2) months later than the initial rise in the unregulated hydrograph. Substantial delay to the initiation of the "attract" phase of the conceptual hydrographs, as proposed in the FPDTR DEIS, may further limit pallid sturgeon spawning migrations into the Missouri River, thereby limiting the learning potential from the infrequent and limited number of Fort Peck test flow events.

The timing of the "attract" phase of test flow releases is critical for evaluating the effectiveness of Fort Peck Dam test flow releases because the population of telemetered adult pallid sturgeon is small; the total number of telemetered reproductive female pallid sturgeon in the UMR demographic unit has been less than 10 annually in recent years. While the number of telemetered adult pallid sturgeon may increase in the coming years due to hatchery-origin pallid sturgeon reaching sexually maturity, there is still no certainty that a sufficient number of telemetered adults will migrate into the Missouri River in response to Fort Peck Dam test flow releases such that the proposed action may be sufficiently evaluated. For example, telemetered wild adult pallid sturgeon have preferentially selected (60 – 93%) the Yellowstone River over the Missouri River during the spawning period. If delaying the initiation of the conceptual hydrographs results in a high percentage (e.g., >90%) of reproductive pallid sturgeon using the Yellowstone River, it is plausible that assessing the proposed action will depend on very few reproductive individuals. Given the small number of telemetered adult pallid sturgeon and limited opportunities to implement and evaluate test flow releases from Fort Peck Dam, promoting pallid

sturgeon spawning migrations into the Missouri River to the extent possible during test flow years is likely necessary for evaluating the effectiveness of the proposed action.

2. The perceived harm to reproductive pallid sturgeon that would otherwise migrate into the Yellowstone River during Fort Peck Dam test flow years is unsubstantiated. As stated above, telemetered wild adult pallid sturgeon have preferentially selected the Yellowstone River over the Missouri River in recent years, including during high-water years in the Missouri River. The majority of documented pallid sturgeon spawning in the Yellowstone River has occurred within the lowermost 20 miles at locations that are unlikely to support natural recruitment due the proximity to Lake Sakakawea. From 2011 through 2020, only 9 – 26% of the telemetered wild adult pallid sturgeon that migrated into the Yellowstone moved far enough upstream to encounter the Intake Diversion Dam. Successful spawning upstream of Intake has only been detected twice (2014 and 2020) and did not result in known natural recruitment. Whereas the presence of the Intake Diversion Dam may have precluded additional spawning events during the observed time period, the U.S. Bureau of Reclamation translocated telemetered pallid sturgeon that appeared motivated to migrate upstream of Intake from 2017 – 2020 to mitigate such effects. The intent of the Intake Fish Bypass Project is to increase the available drift distance upstream of Lake Sakakawea by improving access to upstream spawning habitats; however, it is currently unknown whether suitable spawning habitats exist in the Yellowstone River watershed far enough upstream of Lake Sakakawea to support natural recruitment. Further, if such spawning habitats do exist, it is also unknown whether reproductive pallid sturgeon will be motivated to utilize or able to access (e.g., upstream of Cartersville Diversion Dam) those habitats. Because pallid sturgeon natural recruitment from the Yellowstone River watershed has not been documented to-date, there is little evidence to support that influencing reproductive pallid sturgeon into the Missouri River via Fort Peck test flow releases would harm the population as a whole. Thus, USFWS suggests replacing the word “harm” with a term that appropriately characterizes that Fort Peck Dam test flow releases may alter pallid sturgeon behaviors, including spawning migrations into the Yellowstone River.

3. Any “harm” that does occur to pallid sturgeon that would otherwise use the Yellowstone River would be relatively minor, whereas the science and learning outcomes from assessing the capacity of test flows from Fort Peck Dam to support natural recruitment may contribute to the recovery of the UMR demographic unit of pallid sturgeon.

4. Though not the intended purpose of the proposed action, implementing the “attract” phase of the Fort Peck Dam test flow releases to correspond with the unregulated hydrograph (FPDTR DEIS, page 2-10) may provide insight into the pallid sturgeon

response to a pseudo-natural flow regime across the connected Yellowstone-Missouri system. Optimally, both the Yellowstone and Missouri watersheds can support natural recruitment, and future management (e.g., Level 3[2] or 4[3] Fort Peck flow releases) can be used to promote spawning in both systems when conditions allow. Such information would also be useful if natural recruitment is not realized in the Yellowstone watershed.

For the reasons listed above, USFWS suggests beginning discussions to explore Level 2 science actions that mirror the timing of the unregulated Missouri River hydrograph through the annual Missouri River Recovery Program's Science and Adaptive Management process. Potential alternatives may include partial test flow experiments of the "attract" phase or full test flow experiments in which the peak of the "attract" phase corresponds with, or occurs slightly before, the peak of the "attract" phase of the unregulated hydrograph.

USFWS also requests that the discrepancy in the timing of the unregulated hydrograph between Figures 2-2 and 2-3 be resolved to ensure that the evaluation of the timing of Fort Peck Dam test flow releases relative to historical conditions is accurate.

Monitor the upstream extent of Lake Sakakawea:

The total distance available to drifting pallid sturgeon free embryos or larvae will be bounded by spawning locations in the Missouri River and the upstream influence of Lake Sakakawea. Spawning locations will be monitored to evaluate the effectiveness of the proposed action (FPDTR DEIS, Table 4-1). USFWS suggests monitoring the upstream extent of Lake Sakakawea during the "drift" phase of the conceptual hydrographs, such that the total drift distance can be calculated after a successful spawning event; total drift distance should be included among the metrics that will be used to evaluate the effectiveness of the proposed action.

Initiate the "drift" phase of the conceptual hydrograph after a documented spawning event:

USFWS supports the Technical Team's hypothesis that returning to low flows as quickly as possible after spawning will be more effective in minimizing velocities and downstream advection of hatched free embryos (FPDTR DEIS, page 2-12). USFWS suggests implementing the "drift" phase of the conceptual hydrograph immediately after spawning is documented rather than on the calendar dates described in Table 2-1 of the FPDTR DEIS.

Minimum of three "full" test flow events:

The FPDTR DEIS states that determining the effects of test flow releases on pallid sturgeon below Fort Peck Dam is estimated to take 3 – 5 test flow events, and that test flow releases may

[2] Scaled implementation – A range of actions not expected to achieve full success, but which yields sufficient results in terms of reproduction, numbers, or distribution to provide a meaningful population response and indicate the level of effort needed for full implementation (USACE 2018).
[3] Ultimate required scale of implementation – Implementation to the ultimate level required to remove an issue (USACE 2018).

result in "partial" or "full" testing of the four conceptual hydrograph phases (i.e., attract, retain, aggregate and spawn, and drift); however, the FPDTR DEIS does not discern how many of the required 3 – 5 test flow events should be "full" test releases. USFWS suggests that determining the effects of test flow releases on pallid sturgeon below Fort Peck Dam should include at least three "full" events that test all four phases of the conceptual hydrograph.

SUMMARY

We thank you again for the opportunity to provide these comments and suggestions on the Fort Peck Dam Test Releases Draft Environmental Impact Statement.

Should you have questions related to USFWS' comments, please Maria Boroja, Regional NEPA Coordinator, U.S. Fish and Wildlife Service, DOI Regions 5 and 7 at 720-638-3036 or maria_boroja@fws.gov. If you have any questions for the Department, please contact me at 303-478-3373, or courtney_hoover@ios.doi.gov.

Sincerely,

Courtney L Hoover

Courtney Hoover
Regional Environmental Officer
Office of Environmental Policy and Compliance

Reply is in Reference to: 21/0119

September 9, 2021

Courtney Hoover
U.S. Department of the Interior
Office of the Secretary
Office of Environmental Policy and Compliance
Denver Federal Center, Bldg 46
P.O. Box 25207
Denver, Colorado 80225-0007

Subject: RE: Comments on the Fort Peck Dam Test Releases Draft Environmental Impact Statement

Dear Ms. Hoover,

We received your letter commenting on the Fort Peck Dam Test Releases - Draft Environmental Impact Statement (FPDTR DEIS). Thank you for thoughtfully considering the Draft and providing four insightful comments to improve the study. The USACE appreciates the long history of collaboration with the Service on management of the Missouri River system and our joint responsibilities to conserve the endangered pallid sturgeon (*Scaphirhynchus albus*) under the Endangered Species Act. Your guidance and expertise were critical to shape the Fort Peck Dam Test Flows study since it became a priority hypothesis during the development of the Missouri River Recovery Management Plan Environmental Impact Statement (MRRMP-EIS) and Science and Adaptive Management Plan (SAMP), and as highlighted in the Biological Opinion dated 13 April, 2018.

Timing of Test Flow Phases

Timing, duration, and magnitude of initiating the attract, retain, spawn, and drift phases of the hydrographs presented in the Alternatives represent the best available science and expert knowledge to seed this Adaptive Management (AM) action. During development of the Alternatives, there was much discussion on the best use of available stored water for test flows. A significant factor in shaping the alternatives was the initiation date of test flow phases, the availability of storage space to sustain test flows across a full test flow season, consideration to other authorized purposes and existing use of the River, and the temperature of water at the time of test flow initiation. The AM process developed in the SAMP is intended to actively learn from variations in actions, such as the timing of flow initiation, and adjust to best promote benefits to pallid sturgeon spawning and recruitment in the Missouri River. We expect the AM process will continue to provide the best opportunity to learn and conserve pallid sturgeon in the Missouri River, and will provide the data necessary to continue refining flow parameters in light of factors such as water temperature, photo period, flow rate and timing, water availability, and other human considerations for existing use of the river. We further anticipate discussions of Level 2 science actions among technical teams to mature congruently as the science and the expertise dictates, including assessment of all phases of the test flow hydrograph.

USACE concurs with the interpretation that the potential benefit to pallid sturgeon reproduction from test flows in the Missouri River from Fort Peck Dam offsets any risk of reduced reproduction that may

occur in the Yellowstone during years with a test flow based on current understanding. Further, we concur that the learning value designed into the test flows outweighs the risk of reducing successful reproduction and recruitment, which currently has not been documented in the study reach (or anywhere in the upper basin) based on research to date. Based on the assumption that the Missouri River system is highly altered, there is significant uncertainty on the value of perfectly mimicking flows that match the historical average, for example, relative to timing of the attract phase. The AM process is intended to evaluate and adjust flow parameters, such as initiation of the attract phase, to best conserve pallid sturgeon. We concur that it would be optimal if both the Yellowstone River and Missouri River could support successful reproduction and recruitment and anticipate the AM process will grow the scientific knowledgebase towards realizing the degree of pseudo-natural flow regime that is optimal. However, given the relative natural flow, temperature, and turbidity regimes on the Yellowstone River we continue to concur with the previous position of both agencies that long-term, successful spawning, reproduction and recruitment is more likely to occur on the Yellowstone River given pending completion of the Intake fish bypass project. However, we note that the AM process will provide a more comprehensive understanding of the capacity of the Yellowstone River and Missouri River to support successful reproduction and recruitment.

Concern of Pallid Sturgeon "harm"

Thank you for bringing the comment on perceived "harm" to pallid sturgeon that might otherwise use the Yellowstone River if not attracted by test flows in the Missouri River from Fort Peck Dam. We concur that pallid sturgeon using the Missouri River for reproduction during test flows would not constitute harm to the species. We will edit the document to better reflect the context in the Draft EIS to explain the intent as to not detract from any natural pallid sturgeon use of the Yellowstone River Intake bypass for reproduction, and to centralize the value of learning whether test flows have the capacity to affect reproductive behavior of pallid sturgeon in the Missouri River.

Monitoring Pallid Sturgeon

We concur that monitoring the downstream extent of drifting pallid sturgeon migration is fundamental to informing the AM process. Research efforts and the Pallid Sturgeon Population Assessment Program (PSPAP) will be collecting monitoring data downstream of spawning sites to seed the pallid sturgeon drift model for estimating drift distance and will be collecting older fish to detect recruitment (budgets permitting). Additional discussions with the technical teams may be necessary to determine how far downstream PSPAP monitoring effort should be deployed, and the value of verification/confirmation for drift model outputs.

Number of Test Flows

The test flows were designed as a complete reproductive season for pallid sturgeon, and ideally each test flow would be a "full" year test flow without interruption. However, as a hedge against the likelihood that a "full" year test flow would not be possible in most years and to maximize the learning potential of the four components, each component of the test flow hydrograph was deemed to be valuable individually, and could contribute to advancing the science knowledgebase. Therefore, it's reasonable to consider the potential for a net learning gain and AM maturity without a prescribed requirement of a minimum number of "full" test flows before advancing to the decision-making space of AM.

We thank you again for providing these comments and perspectives on the Fort Peck Dam Test Releases - Draft Environmental Impact Statement and look forward to continued collaborative efforts to conserve pallid sturgeon.

Sincerely,

QUINN.AARON.T.1387289646

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