Northwest Power and Conservation Council

November 30, 2006

MEMORANDUM

TO: Council Members

FROM: Doug Marker, Director
Fish and Wildlife Division

SUBJECT: Recommendation on within-year request for the Kootenai River Native Fish Restoration and Conservation Aquaculture, Project 198806400.

INTRODUCTION

On November 30, 2006, Council staff received a letter from Bonneville regarding a within-year budget adjustment to address water quality supply issues at the Kootenai White Sturgeon Hatchery near Bonners Ferry, Idaho (Attachment 1). The request was referred by the Basin Oversight Group (BOG) to the BOG Management Group for additional review and recommendation. This referral was made because the request needs action before the next quarterly review. At your meeting in December the Council staff will provide an overview of the proposed budget action and seek approval from both the Committee and the Council.

PROPOSED ACTION

The Council staff concurs with Bonneville's recommendations in the November 30 letter and recommends the request for the Kootenai River White Sturgeon Project for $657,800.

SIGNIFICANCE

Currently Project 198806400, Kootenai River Native Fish Restoration and Conservation Aquaculture, has a recommended FY 2007 expense budget of $1,970,800. Total costs associated with Bonneville's recommendation would add $657,800 to the FY 2007 budget.

BACKGROUND

Periodically, project sponsors request additional funds for specific projects that are outside the capacity of the current program budget tracking and adjustment process (BOG). These requests

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respond to either emergencies or are time-sensitive, and need to receive a recommendation outside the fiscal year quarterly review.

At the November BOG meeting a request was received from the Kootenai Tribe addressing Water quality problems at their White Sturgeon Hatchery (Figure 1). Several high-water events this year, and the implementation of the flow measures for the Kootenai River as part of the April 2006 Kootenai sturgeon Biological Opinion have stressed the existing hatchery system to the point that there is a need to replace and modify elements of the water supply system to handle more turbidity and reduce the risk to the existing brood stock and production of the listed population.

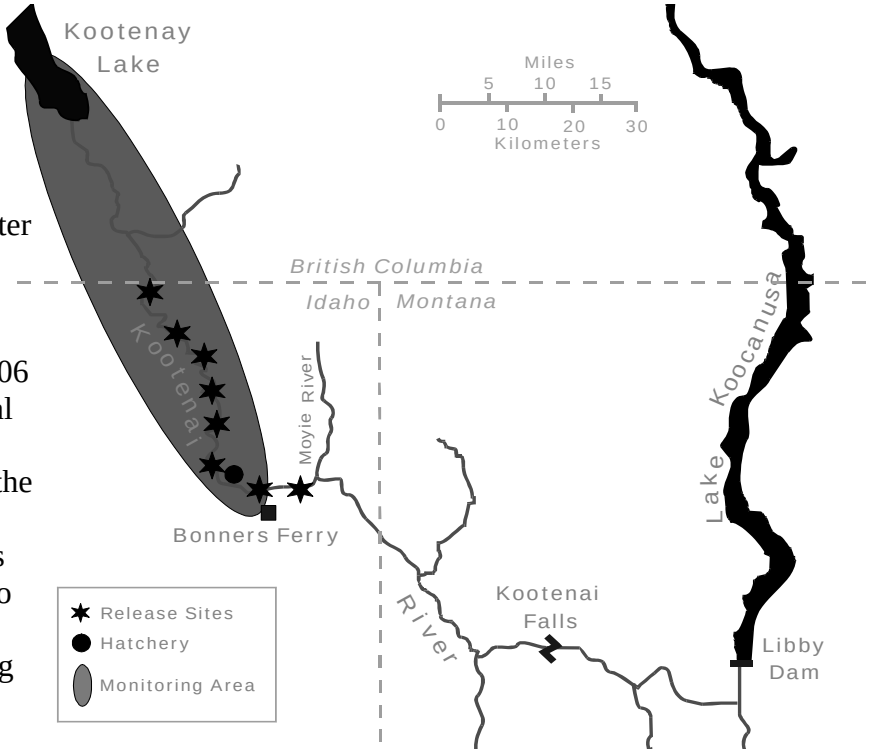

Figure 1. Kootenai River White Sturgeon.

The conservation hatchery program was initiated by the Kootenai Tribe of Idaho in 1989[1] as a measure to preserve the remaining Kootenai sturgeon population. This program artificially spawns wild brood stock and rears juveniles for release at Age 0 to 1. The hatchery currently provides the only significant source of recruitment. The Kootenai River White Sturgeon is an Endangered Species Act (ESA) listed species and the U.S. Fish and Wildlife Service (USFWS) February 2006 Biological Opinion and the 1999 Recovery Plan guide the management and restoration of this population.

The letter received from Bonneville on November 30, 2006 provides a summary of the information reviewed by the BOG members and the Management Group.

ANALYSIS

The request was reviewed by BOG and ranked as a 3a (Threats to Project Integrity - Jeopardize the performance of the entire project). In addition, due to current turbidly issues in the Kootenai River this fall, there was a need to seek a decision for this request outside the First Quarter of FY 2007 so that improvements to the system could occur prior to April 2007. For this reason the request was elevated to the BOG management group. During the Council meeting in Coeur

[1] The hatchery construction was completed in 1991 and the first hatchery release occurred in 1992.

d'Alene the BOG management group met and determined that the request does warrant the request coming to the Council for a recommendation at the December meeting.

Information provided as part of the within-year budget request was complete and detailed. The request included an engineering report that summarized the existing conditions and provided a detailed analysis of water treatment alternatives.

The request is for $657,800 (expense) for modifications to provide good water quality and stable temperatures during periods of high turbidity and fluctuating temperatures. The cost of the major components of the request includes a filtration and settling tank system at $380,256 to address the primary filtration of the hatchery water supply, temperature control at $173,160 to primarily control water temperature spikes that are critical to sturgeon spawning and can increase mortality in the summer, and a UV treatment system at $104,384 to improve water disinfection.

The Kootenai Tribe was going to address hatchery facility needs as part of its approved FY 2007 - 2009 proposal (as approved, the Tribe is pursuing a step review for the proposed expansion to the existing facility), but due to the flow events in the Kootenai River this year the Tribe choose to seek correctives actions outside the step review process that will not address facility modification until 2010.

Based on the information received and the review by BOG members and the Management Group, the Council staff supports the recommendation as outlined in the Bonneville letter.

Attachment 1: Letter received on November 30, 2006 from Bonneville regarding BOG Management Group funding adjustment recommendations for Kootenai River Native Fish Restoration and Conservation Aquaculture, Project 198806400.

Department of Energy Official File

Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

ENVIRONMENT, FISH AND WILDLIFE

November 30, 2006

In reply refer to:

Mr. Doug Marker
Fish and Wildlife Division Director
Northwest Power and Conservation Council
851 SW Sixth Avenue, Suite 1100
Portland, OR 97204-1348

Re: Project No. 1988-064-00

Project Name: Kootenai River Native Fish Restoration and Conservation Aquaculture
Budget Amount: $657,800
Funding Category: Expense
Contractor: Kootenai Tribe of Idaho
Status: BPA Recommended

Dear Mr. Marker:

The Kootenai Tribe of Idaho submitted a within-year request proposing to address water quality supply issues (*i.e.*, prevention of potential extreme sediment loading and water temperature fluctuations) that are a result of operational changes associated with the BiOp and recently experienced, naturally occurring environmental/hydrological conditions. The effect of these conditions had not been observed at the time the original project proposal was developed. The proposed modification supplements work originally proposed for completion through the Three-Step Review process. Delaying the design and implementation of the proposed water supply modifications increases the potential risk for year class failures of endangered Kootenai sturgeon. Proposed upgrades will be consistent with the changes proposed in the Three-Step Review process, as well as with the recently conducted energy efficiency audit by BPA.

The existing sand filters have a design capacity of approximately 50 Nephelometric Turbidity Units (NTUs), which has been sufficient for conditions observed prior to 2006. When turbidity exceeds 50 NTU, the filters must be bypassed to avoid extremely low water pressure in the hatchery. Both low-water pressure as well as high turbidity creates high risk to brood stock and

eggs in the hatchery. Two recent events have occurred that have resulted in detrimental effects on fish or eggs in the hatchery, and are the basis for this request.

During May, Libby Dam was operated at full powerhouse to implement BiOp sturgeon flows. Full powerhouse (about 25,000 cfs) plus local runoff from tributaries below the dam pushed the river to flood stage on May 17th. On May 19th, meters that measure the turbidity of the incoming river water and after filtration as water enters the hatchery indicated the hatchery water supply pressure was dangerously low. Turbidity was around 50 NTUs. To restore hatchery water supply pressure, the filters were bypassed, which resulted in extremely turbid (approximately 100 NTU) water supply to the hatchery. May/June is the hatchery spawning period for the wild broodstock. Several broodstock were ready to spawn but had to delay spawning for two weeks because of the turbidity. Fortunately, there were no eggs incubating before this event occurred because they would have suffocated. All of the tanks and incubators had several inches of sediment in them by the time the event subsided.

The same problem occurred again in November when the area experienced record rainfall on November 6th. On November 7th, the water pressure alarms sounded, and the river water was registering 350 NTU, a level far higher than any previous observation. The sand filters were once again bypassed and by the next morning, the hatchery water supply was above 400 NTU. A higher than normal mortality of the 5-month-old, 2006 year class occurred in the hatchery due to high sediment loads. Again, all of the tanks had several inches of sediment in them by the time the event subsided.

Problems associated with the impaired hatchery water supply are compounded by seasonal, weekly, and daily water temperature fluctuations due to Libby Dam operations. Variable post-dam river temperatures threaten year class production and spawning success by altering rates and completion of maturation and reproductive timing of wild female broodstock held in the facility for spawning. A drop of 1–2° C in the hatchery during the pre-spawning or spawning periods can delay hatchery spawning up to two weeks and has even caused female oocyte maturation to stop altogether, resulting in the loss of important gamete contribution to a population already at risk.

The ability to regulate water temperature during pre-spawning and spawning periods is an invaluable asset for synchronizing maturity of male and female broodstock (ovulation and spermiation). Lack of synchrony results in a lack of spawning, and reduced synchrony results in reduced spawning opportunity and success.

As the abundance of remnant wild broodstock continues to decline in the river due to natural recruitment failure and natural mortality, fewer broodstock become available for the program and to found the future population. Reduced broodstock abundance reduces the frequency of synchrony between individual male and female broodstock and reduces the frequency, magnitude, and quality of hatchery production.

Therefore, for reduced sediment loading in hatchery water, precise water temperature control during the pre-spawning and spawning periods is a necessary upgrade to avoid losing or compromising future year class production for endangered Kootenai sturgeon.

The request was reviewed by the BOG and deemed a category 3a, jeopardizing the performance of the entire project, needing immediate attention to avoid risk to ESA-listed sturgeon reared in this hatchery. Therefore, it was elevated to the BOG management group. The BOG management group met with the project sponsor during the Council meeting held in Coeur D'Alene, Idaho, and was generally supportive of the request.

The BOG management group had questions regarding cost share possibly from FEMA or grants from USFWS. No FEMA funds have been made available to the Tribe for the flood event because the circumstances did not fit FEMA criteria. The project sponsor has made and will continue to make efforts to identify supplementary sources of funding for this project modification as the FY 07 budget is refined for contracting. BPA has also discussed this need with the Corps of Engineers. The Corps has not provided funding for this project in the past and does not have the ability to provide funds in the immediate near term. Discussions will continue to determine if any future opportunity for Corps funding may exist. Cost savings are being sought through BPA's hatchery energy efficiency effort, though these saving are not immediate but rather accrue over time.

In light of recent flood events, BPA agrees that this request is appropriate for the 3a category and is recommending this budget modification request for funding. Further, BPA has asked the project sponsor to attempt to reduce the cost of this modification as final design is completed, as well as to continue seeking supplementary funds from other sources.

Please feel free to contact either me at 503/230-5549 for further information or if you have any questions.

Sincerely,

William C. Maslen

William C. Maslen
Director of Fish and Wildlife

cc:
Mr. Mark Fritsch, Northwest Power and Conservation Council
Ms. Patty O'Toole, Northwest Power and Conservation Council
Mr. Kerry Berg, Northwest Power and Conservation Council
Mr. Karl Weist, Northwest Power and Conservation Council
Ms. Stacy Horton, Northwest Power and Conservation Council
Ms. Joanne Hunt, Northwest Power and Conservation Council
Mr. Brian Lipscomb, Columbia Basin Fish and Wildlife Authority
Mr. Tom Iverson, Columbia Basin Fish and Wildlife Authority
Ms. Amy Langston, Columbia Basin Fish and Wildlife Authority
Mr. Greg Dondlinger, BPA
Mr. Peter Lofy, BPA
Mr. Mark Shaw, BPA
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Mr. Steve Cramer, BPA
Mr. Lee Watts, BPA

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