



US Army Corps
of Engineers®
Omaha District

Intake Diversion Dam Modification



Lower Yellowstone Project - Intake, Montana

Background

The diversion dam along the Yellowstone River at Intake, Montana was constructed by the Bureau of Reclamation in 1905 to divert water into a main canal in order to provide a dependable water supply sufficient to irrigate over 50,000 acres of land. For more than 100 years, the dam has likely impeded upstream migration of the federally-listed endangered pallid sturgeon and other native fish due to increased turbulence and velocities associated with the rocks at the dam.

The U.S. Fish and Wildlife Service listed the pallid sturgeon as endangered under the Endangered Species Act (ESA) in 1990. Section 7(a)(1) of the ESA authorizes all federal agencies to use their resources for the conservation and recovery of federally-listed species and the ecosystems upon which they depend, and Section 7(a)(2) requires federal agencies to consult with the Service to ensure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of any federally-listed species or to modify designated critical habitat. The lower Yellowstone River has been identified by the Service as an area of priority for pallid sturgeon recovery.



Intake Diversion Dam

In 2007, the Corps received authorization under the Water Resources Development Act to use funds from the Missouri River Recovery Program to assist the Bureau of Reclamation with protecting the endangered pallid sturgeon and other native fish from becoming entrained in the irrigation canal and improving fish passage at the diversion dam.

2010 Environmental Assessment

The Corps and Bureau of Reclamation, joint lead agencies on the proposed project, finalized an environmental assessment (EA) and Finding of No Significant Impact in 2010 which analyzed alternatives to reduce entrainment and improve fish passage. The selected alternative to reduce fish entrainment was construction of a new headworks structure and installation of fish screens, which was completed in the spring of 2012.



New headworks and fish screens at Intake Dam with screens submerged



Close-up view of rotating drum and fish screen

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Supplemental Environmental Assessment

In the 2010 EA, the selected alternative to improve fish passage was construction of a rock ramp. Based on new information on the rock ramp design, pallid sturgeon movement, and constructability and sustainability of the proposed rock ramp, the Corps and the Bureau of Reclamation coordinated extensively with the U.S. Fish and Wildlife Service; Montana Fish, Wildlife and Parks; Montana Department of Natural Resources and Conservation; the Lower Yellowstone Irrigation Project; and other interested parties, to develop new alternatives to improve fish passage. The result of that coordination is the development of a draft supplement to the 2010 EA. The draft supplement describes three alternatives for improving fish passage which are listed below.

Continue Present Operations (Alternative 1)

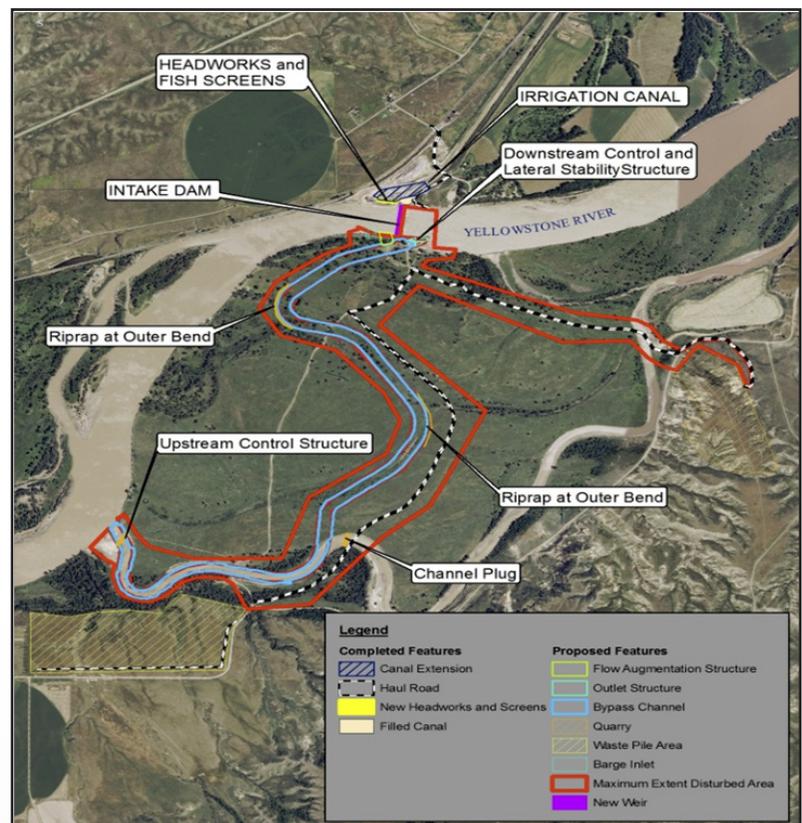
Under this alternative, the Bureau of Reclamation would continue present operation of the dam and new headworks to divert water from the Yellowstone River for irrigation purposes, as authorized. Rock would continue to be added (using the existing cableway and old trolley system) every one to two years to the existing timber crib diversion structure as needed to create the necessary water elevation for diversion. This alternative would not improve fish passage for the endangered pallid sturgeon and other native fish.

Bypass Channel (Alternative 2)

This alternative, which is the federally-preferred alternative, involves constructing a 15,500-foot long bypass channel primarily on Joe's Island, land that is owned by the Bureau of Reclamation. The bypass channel would be constructed from the upper end of the existing side channel, to just downstream of the existing diversion dam. A concrete weir would be constructed in order to provide adequate water surface elevations for water diversion into the new bypass channel and delivery of irrigation water. This alternative is intended to improve fish passage and contribute to ecosystem restoration.

Rock Ramp (Alternative 3)

This alternative would involve replacing the existing rock and timber crib structure at Intake Diversion Dam with a concrete weir and a shallow-sloped, boulder and cobble rock ramp. The rock ramp would be designed to mimic natural river function and would lower velocities and turbulence so that migrating fish could pass over the dam, thereby improving fish passage and contributing to ecosystem restoration. This alternative is the most expensive of the three alternatives at \$80 million.



Bypass channel alternative

Submitting Comments

The public and other interested parties are encouraged to review the Intake Diversion Dam Modification, Lower Yellowstone Project Draft Supplement to the 2010 Environmental Assessment and provide comments. The entire report, including appendices, is available online at www.usbr.gov/gp/mtao/loweryellowstone/index.html.aspx. Hard copies of the report are also available at public libraries in Glendive and Sidney.

Comments may be submitted at the public meeting or via email to: sha-MTA-LYI@usbr.gov.

Comments can also be mailed to: Bureau of Reclamation, Montana Area Office, ATTN: Intake Diversion Dam EA; PO Box 30137; Billings, MT 59107 and **must be postmarked or received no later than May 1, 2014.**