



US Army Corps  
of Engineers  
St. Paul District

# Drayton Dam Fish Passage

## Habitat Mitigation: Fargo-Moorhead Metro (FMM) Flood Risk Management



### Location/Description

The project is located on the Red River of the North approximately 2 miles north of the city of Drayton, ND and 120 miles north of Fargo, ND. Is located in Pembina County, ND and Kittson County, MN.

The Red River and adjoining valley is a valuable natural resource to eastern North Dakota and northwestern Minnesota. On its meandering northerly path to Lake Winnipeg, it provides the region with fertile agricultural lands, wildlife and fisheries habitat, and a source of potable surface water. The Red River is widely known for yielding trophy-size channel catfish and other game fish. Human modifications of the Red River have adversely affected fish populations by reducing both habitat and access to habitat.

Drayton Dam was constructed in 1964 for water supply for municipal and agricultural use. The dam is a concrete weir structure with a spillway length of 255 feet, and has a crest elevation about 12 feet above the natural channel bottom.

Drayton Dam operates solely as a run-of-the-river structure, offering no flood control capabilities or low-flow augmentation releases. The dam creates a pool of water within the channel upstream and behind the dam, which allows raw water to be extracted through shoreline water supply intake structures. The City of Drayton receives all of its drinking water supply via these intake structures. The pool created by the dam may also aid the City of Grafton (ND) for its municipal water supply. The existing pool also enhances slope stability on the riverbanks.

### Status

The Drayton Dam Fish Passage Mitigation Project is a mitigation element for the FMM project, and is designed to help offset project impacts to biotic connectivity on the Red River. This project was originally conducted as a Continuing Authorities Program (CAP) Section 206 project. As the FMM FRM Feasibility Report/EIS was being developed, it became clear that a fish passage project at Drayton Dam would be of great benefit as a mitigation project to offset biotic connectivity impacts. The feasibility-level work on Drayton Dam fish passage was then shifted over to the FMM Feasibility Study. After completion of the Feasibility Study, the Drayton Dam Fish Passage Mitigation Project was continued under the Preconstruction Engineering and Design (PED) phase of FMM.

The following alternatives were considered to improve fish passage at Drayton Dam:

1. Rock rapids over existing dam.
2. Large by-pass rock rapids channel.
3. Small by-pass rock rapids channel.
4. New rock rapids fishway and dam removal (selected).

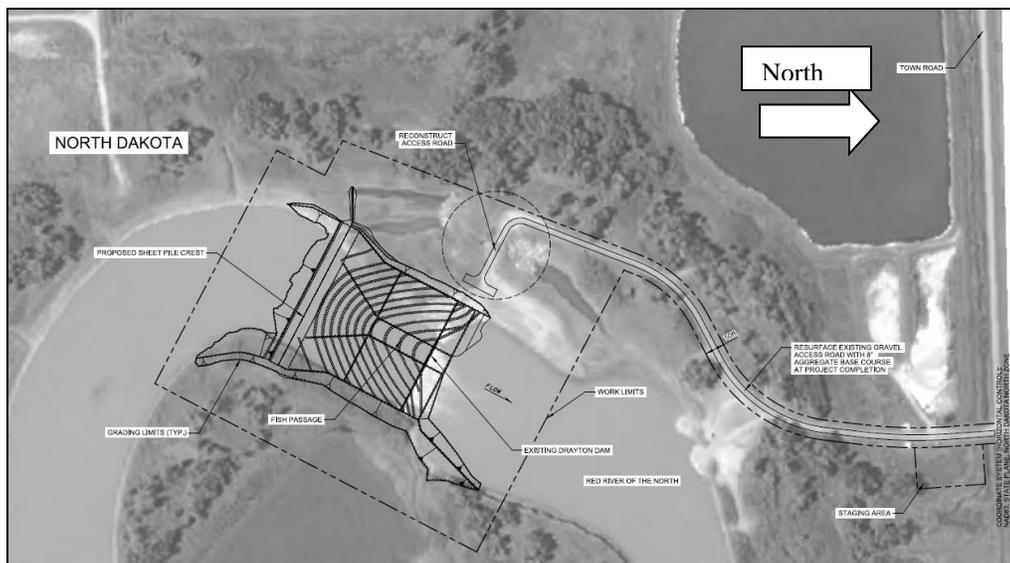
### Recommended Plan

The Drayton Dam project consists of construction of a rock rapids fishway structure with a sheetpile cutoff approximately 300 feet upstream (south) of the existing dam, and partial removal of the existing dam. Implementation will address four concerns associated with the existing structure: fish passage, water supply, bank stability and dangerous hydraulic conditions. The recommended plan was selected collaboratively by USACE, natural resource agencies, project sponsorship and the local dam owner. Construction will require modification of an existing dam on the Red River in both Minnesota and North Dakota.

Plans and Specifications for construction are being developed. An Environmental Assessment was completed and the FONSI was signed on January 23, 2013. The estimated construction cost is \$7-10 million.



Figure 1. Location of the Drayton Dam mitigation project near Drayton, ND.



Drayton Dam Fish Passage Alternative