

Creating a Value-Added Wetlands Layer: Enhancing the Utility of Wetland Mapping in Montana

The MTNHP creates digital wetland mapping using the Cowardin classification system of the National Wetlands Inventory (NWI). This wetland classification can be enhanced by incorporating descriptors to characterize hydrogeomorphic features that can be used to identify potential wetland function. These descriptors are added to each wetland polygon to describe the landscape position, landform, water flow path, and waterbody type (LLWW) associated with each wetland. The addition of these descriptors can provide a more comprehensive picture of wetland type and potential wetland function.

Since the early 2000s, the NWI has been enhancing wetland data by adding LLWW descriptors to enhance the information in the existing wetland classification standard by providing information on potential wetland function.

LLWW descriptors describe:

- **landscape position** (relation of a wetland to an adjacent waterbody)
- **landform** (the physical shape of the wetland)
- **water flow path** (the direction water flows into and out of the wetland)
- **waterbody type** (lake, river, stream, or pond).

These enhanced wetland data can then be used to conduct landscape analyses of wetland function, assist in the development of conservation strategies, and increase public awareness of wetland functions.

The use of these descriptors has been applied widely to NWI data across the eastern U.S. with the recent introduction of NWIplus (Tiner 2011). Although these descriptors are applicable to wetlands in the eastern U.S., they may not fully address situations in the western U.S. without some modification. The MTNHP has developed spatial and attribute queries within a GIS to create an automated procedure for the assignment of LLWW descriptors to wetland data. Additionally, a set of dichotomous keys are also available to aid in identifying and classifying these features. Figure 1 displays wetland polygons symbolized by water flow path.

Wetlands of the Ruby River Watershed, Madison County, Montana
Classified by Water Flow Path

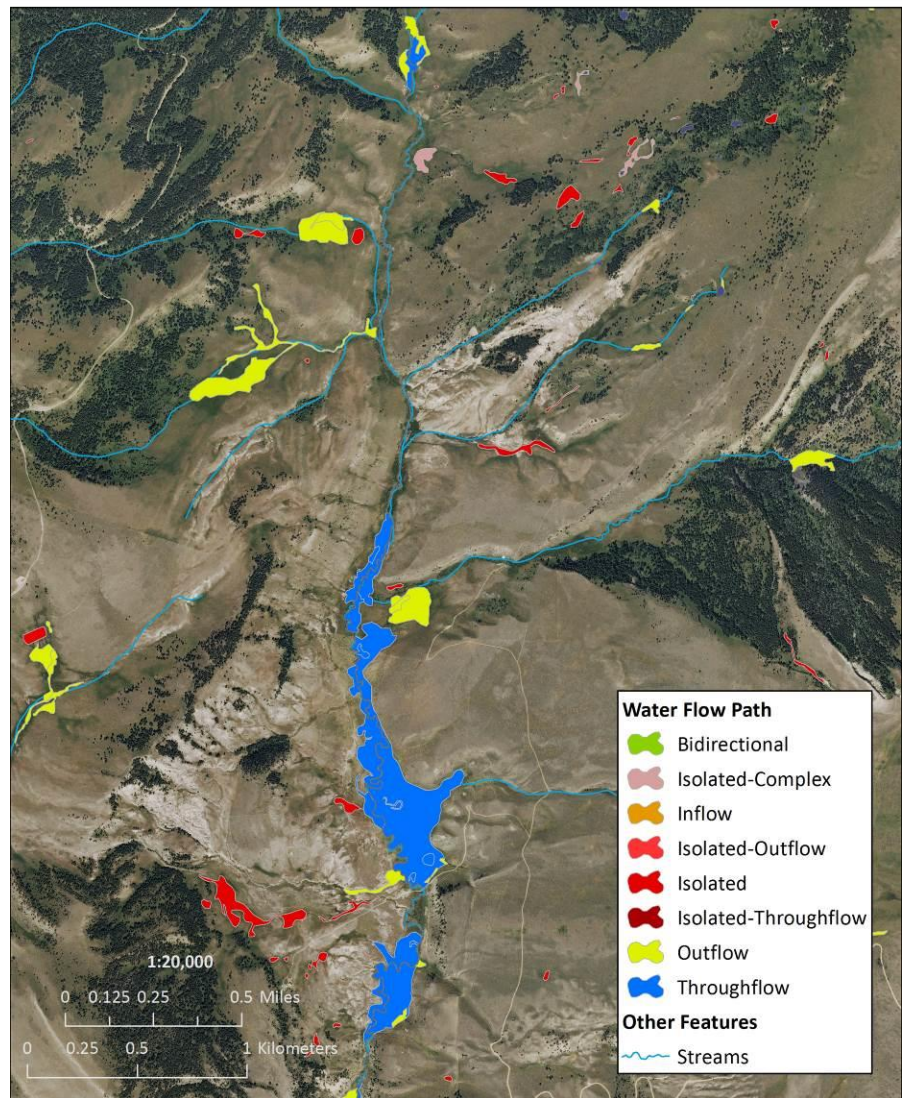


Figure 1. An example map showing water flow paths for wetlands in the Ruby River Watershed, Montana.