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Creating the “Superior Bio-Conservancy” and modeling beaver restoration benefits

Modeling beaver restoration in the Milwaukee River watershed is a partnership study with Milwaukee RiverKeeper, the Milwaukee Metropolitan Sewerage District (MMSD) and the University of Wisconsin (UWM), School of Fresh Water Sciences. Using a modeling program titled the “Beaver Restoration Analog Tool” (BRAT) we will evaluate the Milwaukee River Watershed (900 sq. miles) in Wisconsin for flood benefits if beavers were restored. This modeling program uses “Global Information Systems” (GIS) technology to map watershed elevations to determine site locations for beaver complex wetland restoration. Importantly, it will model the hydrology and quantify the flood mitigation benefits of beaver structures in wetlands during high water events.

The results of this study can be utilized in similar landscapes to demonstrate economic benefits and motivate beaver restoration efforts in the watersheds of North America. In the face of climate change restoring beavers to the rivers of North America can restore the landscape wetland hydrology and stabilize watersheds during high water events.

The Superior Bio-Conservancy is an ambitious plan to protect and restore the biological integrity and hydrology of the Lake Superior watershed and the Laurentian Forest Province. This area of the Western Great Lakes, includes parts of Wisconsin, Minnesota, Michigan and Ontario. This is a high carbon landscape that has global significance to mitigate climate change. Beavers and wolves share roles as keystone species in this Bio-region. This conservation plan has the goal of restoring beaver populations and advocating for the creation of protected wildlife corridors to connect large tracts of public (Federal, State and County forests) land to avoid fragmentation. This landscape has unique Tribal ceded usufructuary rights that are sovereign and serve as a form of conservation easement on all public lands.



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This plan will partner with the Tribes and amplify those “reserved rights” covenants to aid in establishing the Superior Bio-Conservancy.

The goal is to protect the watershed of Lake Superior and support biodiversity, genetic exchange, evolutionary processes and ecosystem services for future generations. Using the science of Conservation Biology, and advocating for a “Land Ethic” this will be a health care plan for this North Woods Bio-Region and Lake Superior.