

Peat Mine Restoration, New Monitoring Technologies, and 7 Years of Progress at the Superior Wetland Bank¹

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Abstract: Construction of the Lake Superior Wetland Bank³ was initiated in 2015 and is on the way to restore more than 23,000 acres of partially drained bog/fen habitat through permanent removal of a 65-mile ditch network. This includes 160 acres of a former peat mine, which was drained through a series of parallel ditching to allow for scraping, compressing, and excavation of surface peat material. Restoration of the peat mine is being achieved through filling the ditches with vegetation and soil native to the site, in conjunction with restoring overall site hydrology of the surrounding bog/fen. This leads to increased access challenges for ongoing monitoring. The use of drone technology to survey the restoration site, including the peat mine, is used to create a digital elevation model of the site. The drone survey data is also used to evaluate vegetation reestablishment for evaluating floristic quality. The pre-restoration conditions, regulatory process, construction methods, success criteria, and on-going results will be discussed along with lessons learned and adjustments to monitoring techniques. This paper should align with Technical Sessions on Revegetation, Soils, Hydrology, and/or Restoration.

Additional Key Words: native vegetation, soil, watershed restoration, Sax-Zim, Minnesota.

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 3. Work reported here was conducted near 47°12'03.2"N 92°33'48.6"W.