

## Areas that Discharge into Restricted Waters

While the University of Minnesota Duluth discharges storm water to several different waters, Lake Superior is the only one listed as a restricted waters in MN Rules 7050.0180 subp. 6 (A) – Nondegradation for Outstanding Resource Value Waters – Restricted Discharges.

The University of Minnesota Duluth has two properties located on the shores of Lake Superior. Any new development of these properties should not create any new or expanded discharges. Any new development on these properties must meet or exceed the requirements of Part IX, Appendix C (B) of the MPCA permit # MN R 040000 and Appendix A (B.4) of the MPCA permit # MN R 100001 to the satisfaction of the MPCA.

### Glensheen

This site is located on the shores of Lake Superior within the urbanized area of Duluth, Minnesota. It is a museum of the historical Congdon Estate completed in 1908. The estate is comprised of 10 acres with 6 buildings and 85,000 sq. ft. of impervious surface. The property has three significant water features, Tischer Creek (*a designated trout stream, MN Rules 6264.0050 Subpart 4 (78)*) forms the northwest edge of the property, Lake Superior forms the southwest edge, and Bent Brook bisects the center the property. The Boat House, Gardener's Cottage, Museum Shop, potting shed, parking lot, part of the Carriage House, and their associated walkways all flow to the Lake Superior shoreline either through small (6-8") pipes, rock lined channels, dirt ditches, or overland flow. There are no known flows directly into the lake itself. The Mansion, part of the Carriage House, the formal gardens, tennis courts and their associated walkways flow into Bent and Tischer Creeks through small (6-10") pipes or overland flow. With the exception of the parking lots and Museum Shop (1979) these surfaces are from the original construction and listed on the *National Historic Register*. The parking area drainage will be modified this spring with a combination of grassy swales, a bioretention area, and outlet shoreline protection to improve the current quality and lessen the quantity of the discharge water. Since the vast majority of the property is restricted by its *National Historic Register* requirements, the only foreseeable increase in impervious surfaces would be enlarging the parking lot and due to land constraints its maximum increase could only be about 10,000 sq. ft. This increase could easily be mitigated by the use of the bioretention area and/or additional rain gardens. Since it was known that Lake Superior was a restricted waters from the start, no alterations are needed to our SWPPP for this reason. As a reminder to any Engineer / Architect receiving a site plan (<http://www.d.umn.edu/outreach/stormwater/ppp/AppK-Glensheen.pdf>) of this area, we placed a note stating that Lake Superior is a restricted discharge area.

## Limnology

This site is located on the shores of Lake Superior within the urbanized area of Duluth, Minnesota. It is used as rental property for the U of M, currently housing the Lake Superior Center and a single-family residence. The facility was constructed around 1888 as a fish hatchery for the U.S. Fish Commission and was acquired by the U of M from the U.S. Department of Interior in 1948. This site is listed on the *National Historic Register*. The property consists of the main building, an adjacent house, two small sheds, and a gravel drive/parking lot all on 2.8 acres. There is approximately 14,000 sq. ft. of impervious surface at this site. There is no known UMD storm sewer on this site, overland flow flows toward Lake Superior (*a restricted discharge waters, MN Rules. 7050.0180, subp. 6 (A)*) and the mouth of the Lester River (*a designated trout stream, MN Rules 6264.0050 Subpart 4 (47) and a 303(d) waters for turbidity and mercury per MPCA 2002 tmdl-303d list*). There are current long range plans to modify this property. If improvements were to be made they would probably include paving the gravel areas, adding sidewalk and patio areas. These increases would be minor and could easily be mitigated by the use of rain gardens. Since it was known that Lake Superior was a restricted waters from the start, no alterations are needed to our SWPPP for this reason. As a reminder to any Engineer / Architect receiving a site plan (<http://www.d.umn.edu/outreach/stormwater/ppp/AppK-Limno.pdf>) of this area, we placed a note stating that Lake Superior is a restricted discharge area.