Project Manager Qualifications

### Mark B. Edlund

***1. Education***

Ph.D. 1999 University of Michigan, (Natural Resources & Environment)

M.S. 1992 University of Michigan, (Natural Resources)

B.A. 1971 University of Minnesota (Biochemistry)

***2. Positions***

2007- Sr. Scientist, St. Croix Watershed Research Station, Science Museum of Minn.

2002-07 Assoc. Scientist, St. Croix Watershed Research Station, Science Museum of Minn.

2000-02 Ass’t. Scientist, St. Croix Watershed Research Station, Science Museum of Minn.

2004- Adjunct Professor, Water Resources Science/Earth Sciences, University of Minnesota

1987-99 Research Ass’t I, Center for Great Lakes and Aquatic Sciences, University of Michigan

***3. Research Expertise***

Aquatic biology, limnology, paleolimnology, and phycology; environmental drivers of ecological change; use of lake sediment records to understand short- and long-term environmental change

Current Research:

• Biomonitoring of lakes in Great Lakes region National Parks

• Paleolimnology of Upper and Lower Red Lake

• Understanding and predicting harmful algal blooms (HABs)

***4. Recent Publications (of more than 100)***

**Edlund, M.B.**, Schottler, S.P., Reavie, E.D., Engstrom, D.R., Baratono, N.G., Leavitt,P.R., Heathcote, A.J., Wilson, B. and Paterson, A.M. 2017. Historical phosphorus dynamics in Lake of the Woods (USA-Canada) – Does legacy phosphorus still affect the southern basin? *Lake and Reservoir Management* 33: 386-402.

Reavie, E.D., **Edlund, M.B.**, Andresen, N.A., Engstrom, D.R., Leavitt, P.R., Schottler, S., Cai, M. 2017. Paleolimnology of the Lake of the Woods southern basin: Continued water quality degradation despite lower nutrient influx. *Lake and Reservoir Management*  33:369-385.

**Edlund, M.B.**, Almendinger, J.E., Fang, X., Ramstack Hobbs, J., VanderMeulen, D.D., Key, R.L. and Engstrom, D.E. 2017. Effects of climate change on lake thermal structure and biotic response in northern wilderness lakes. *Water* 9(9), 678, 1-34.

Spaulding, S.A., Kilroy, C. and **Edlund, M.B.** 2010. Diatoms as nonnative species. In Smol, J.P. and Stoermer, E.F. (Eds) *The Diatoms: Applications for the Environmental and Earth Sciences*. Cambridge University Press. pp 560-569.

Organization Description

The Science Museum of Minnesota (SMM) is a private, non-profit 501(c)3 institution dedicated to encouraging public understanding of science through research and education. The St. Croix Watershed Research Station the environmental research center of the SMM with the mission to foster, through research and outreach, “a better understanding of the ecological systems of the St. Croix River basin and watersheds worldwide.” The SCWRS supports an active year-round program in environmental research and graduate-student training, guided by a dedicated in-house research staff with direct ties to area universities and colleges. It collaborates closely with federal, state, and local agencies with responsibility for managing the St. Croix and upper Mississippi rivers and is a full partner with the National Park Service for resource management in parks of the western Great Lakes region. Its research has played a central role in setting management policy for the St. Croix and Mississippi rivers, for establishing water-quality standards for Minnesota lakes and for developing long-term monitoring plans for the National Park Service.