**Project Manager Description**

**Project Manager Qualifications and Responsibilities**

John A. Downing will manage this project. He has 40 years of experience in aquatic research and community outreach. He is currently the Director of the Minnesota Sea Grant College Program, a research scientist at the Large Lakes Observatory, and a tenured Professor in the Department of Biology at the University of Minnesota Duluth. Although he has life-long roots in Minnesota, he was formerly a Regent’s Excellence Professor of Ecology, Evolution, & Organismal Biology and Agricultural & Biosystems Engineering at Iowa State University and ran one of the best-funded and long-standing research operations at that institution. His 150+ peer-reviewed books and journal articles cover diverse topics in limnology, marine science, environmental economics, and terrestrial ecology. His leadership experience has been as the Director of the Laurentian Biological Station (Montreal, Quebec), the co-founder of the Inter-University Limnological Research Group (Montreal, Quebec), Director of the Iowa State University Limnology Laboratory (Ames, Iowa), Chair of the Environmental Science Interdepartmental Graduate Program (Ames, Iowa), President of the Association for the Sciences of Limnology and Oceanography, and Chair of the Council of Scientific Society Presidents (Washington, DC). Recent outreach programs have assisted citizens in agricultural regions to understand and mitigate nutrient pollution and helped citizens and industries in northern Minnesota combat eutrophication and avoid lake degradation from aquatic invasive species. Christopher Filstrup is an applied limnologist at the Natural Resources Research Institute. John R. (Jack) Jones is a limnologist, Curator’s Professor Emeritus, and J. Michael Dunmire Professor in the School of Natural Resources at the University of Missouri Columbia and a resident of St. Paul, Minnesota, and Deer River, Minnesota.

**Organization Description**

Minnesota Sea Grant, at the University of Minnesota Duluth, is part of the National Oceanic and Atmospheric Administration's (NOAA) Sea Grant Program, which supports 33 similar programs in coastal states throughout the United States and Puerto Rico. Our mission is to facilitate interaction among the public and scientists to enhance communities, the environment and economies along Lake Superior and Minnesota's inland waters by identifying information needs, fostering research and communicating results. Minnesota Sea Grant concentrates on research, outreach, and education in four focus areas: Healthy coastal ecosystems, sustainable fisheries and aquaculture, resilient communities and economies, environmental literacy and workforce development.

This research will be performed using the facilities of the Large Lakes Observatory (LLO) and the Natural Resources Research Institute (NRRI), both in Duluth, Minnesota. LLO has a unique mission: to perform scientific study of the largest lakes of Earth. It is one of the largest water-centered research units at the university and its impact has been felt all over the world. NRRI's mission is to deliver research solutions to balance our economy, resources and environment for resilient communities.