

VALERIE J. BRADY

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Research Interests

Watershed influences on aquatic habitat and community structure and function; restoration of streams and wetlands; use of aquatic invertebrates for diagnostic assessment and monitoring of streams and wetlands.

Education

Postdoc	Aquatic and Landscape Ecology	U.S. EPA-MED	2000
Ph.D.	Zoology/Aquatic Ecology	Michigan State University	1996
M.S.	Zoology/Aquatic Ecology	Michigan State University	1992
B.S.	Biology/Environmental Science	Taylor University	1988

Professional Experience

2002 – present	Research associate, Center for Water and the Environment, Natural Resources Research Institute, University of Minnesota Duluth
2008 – present	Graduate faculty member, Water Resources Science Graduate Program, UMD (sr. member 2010)
2005 – present	Graduate faculty member, Integrated BioSciences Graduate Program, UMD (sr. member 2010)
2006 – present	Research coordinator, Minnesota Sea Grant College Program
2002 – present	Adjunct assistant professor, Department of Biology, University of Minnesota Duluth
2002 – 2005	Graduate faculty member, Department of Biology, University of Minnesota Duluth
2001 – 2002	Post-doctoral fellow and research project coordinator, NRRI, UMD
1997 – 2000	National Research Council post-doctoral fellow, U.S. EPA-MED, Duluth, MN
1996 – 1997	Temporary assistant professor, Biology Department, the College of New Jersey

Selected Grants and Fellowships

- GLIC: Implementing Great Lakes coastal wetland monitoring. Central Michigan University (U.S. EPA GLNPO prime). PI. 2010 – 2015. \$2.3M.
- GLIC: GLEI II indicator testing and refinement. U.S. EPA GLNPO. Co-PI. 2010-2013. \$1.6M.
- Developing a diagnostic tool for assessing excessive sediment harm to stream communities. Minnesota's Lake Superior Coastal Program. PI. 2010-2011. \$48,000.
- Investigating the effects of altering Lake Superior water level regulation on Great Lakes coastal ecosystems. Cooperative agreement with U.S. Army Corps of Engineers. PI. 2009-2010. \$300,000.
- St. Louis River watershed streams and lakes: water quality/biological monitoring. Minnesota Pollution Control Agency. Co-PI. 2009-2011. \$302,067.
- Volunteer-assisted water quality/biological monitoring of North Shore Superior streams. Minnesota Pollution Control Agency. Co-PI. 2008-2010. \$225,000.
- Assessment of turbidity and sedimentation effects on Miller Creek, Duluth, MN. South Saint Louis Soil and Water Conservation District (MPCA). PI. 2008-2010. \$23,704.
- Duluth residential stormwater reduction demonstration project for Lake Superior Tributaries. Minnesota Pollution Control Agency 319 program (U.S. EPA). Co-PI. 2008-2011. \$167,383.
- North Shore community futures: aquatic resources and growth scenarios. Minnesota Lake Superior Coastal Program. 2006-2007. PI. \$58,043.
- Assessing the condition of Lake Superior rocky coastlines. Minnesota Sea Grant. PI. 2005-2007. \$80,000.
- An exchange network/CDX flow protocol (RDXP) for delivering heterogeneous research data and metadata, with metadata entry tools. U.S. EPA Region V. Co-PI. 2004-2006. \$100,847.
- Assessment of turbidity and sedimentation effects as part of the Knife River TMDL investigation. South Saint Louis Soil and Water Conservation District. PI. 2006-2007. \$10,000.

Coordinator for the Estuarine and Great Lakes (EaGLE) Coastal Initiative. U.S. Environmental Protection Agency Cooperative Agreement. 2002-2006. \$84,000.
Using aquatic invertebrates to indicate stream ecosystem impairment resulting from watershed land use alteration. Post Doctoral Fellowship. National Research Council. 1997-2000. \$150,000.

Selected Publications and Reports

- Dumke, J.D., T. Hrabik, V. Brady, K. Gran, R. Regal, M. Seider. 2010. Channel morphology response to selective wood removals in a sand-laden Wisconsin trout stream. *N. Am. J. Fish. Manage.* 30(3): 776-790.
- Ciborowski, J., G. Niemi, V. Brady, S. Doka, L. Johnson, J. Keough, S. Mackey, D. Uzarski. 2009. Ecosystem Responses to Regulation-based Water Level Changes in the Upper Great Lakes. Report to the Upper Great Lakes Water Level Regulation Study Ecosystem Technical Working Group.
- Brady, V., J. Ciborowski, L. Johnson, N. Danz, J. Holland, D. Breneman, J. Gathman. 2007. Optimizing fishing time: One vs. two-night fyke net sets in Great Lakes coastal systems. *J. Great Lakes Res.* 33(3): 236-244.
- Trebitz, A., J. Brazner, V. Brady, R. Axler, D. Tanner. 2007. Turbidity tolerances of Great Lakes coastal wetland fishes. *N. Am. J. Fish. Manage.* 27:619-633.
- Danz, N.P., G.J. Niemi, R.R. Regal, T. Hollenhorst, L.B. Johnson, J.M. Hanowski, R. Axler, J.J.H. Ciborowski, T. Hrabik, V.J. Brady, J.R. Kelly, J.C. Brazner, R.W. Howe, C.A. Johnston, G.E. Host. 2007. Integrated gradients of anthropogenic stress in the Great Lakes basin. *Environ. Manage.* 39:631-647.
- Brazner, J.C., N.P. Danz, G.J. Niemi, R.R. Regal, A.S. Trebitz, R.W. Howe, J.M. Hanowski, L.B. Johnson, J.J.H. Ciborowski, C.A. Johnston, E.D. Reavie, V.J. Brady, G.V. Sgro. 2007. Evaluation of geographic, geomorphic and human influences on Great Lakes wetland indicators: A multi-assemblage approach. *Ecol. Indicators* 7:610-635.
- Detenbeck, N.E., V.J. Brady, D.L. Taylor, V.M. Snarski, and S.L. Batterman. 2005. Relationship of stream flow regime in the western Lake Superior basin to watershed type characteristics. *J. Hydrology* 309 (1-4):258-276.
- Danz, N.P., R.R. Regal, G.J. Niemi, V. Brady, T. Hollenhorst, L.B. Johnson, G.E. Host, J.M. Hanowski, C.A. Johnston, T. Brown, J. Kingston, and J.R. Kelly. 2005. Environmentally Stratified Sampling Design for the Development of Great Lakes Environmental Indicators. *Environ. Monit. Assess.* 102:41-65.
- Tanner, D.K., J.C. Brazner, V.J. Brady, and R.R. Regal. 2004. Habitat associations of larval fish in a Lake Superior coastal wetland. *J. Great Lakes Res.* 30(3): 349-359.
- Niemi, G.J., D. Wardrop, R. Brooks, S. Anderson, V. Brady, H. Paerl, C. Rakocinski, M. Brouwer, B. Levinson, and M. McDonald. 2004. Rationale for a new generation of ecological indicators for coastal waters. *Environ. Health Perspect.* 112(9):979-986.
- Brady, V.J., B.J. Cardinale, J. P. Gathman, and T. M. Burton. 2002. Does facilitation of faunal recruitment benefit ecosystem restoration? An experimental study of invertebrate assemblages in wetland mesocosms. *Restoration Ecol.* 10 (4):617-626.
- Stricker, C.A., T.M. Burton, V.J. Brady, B.J. Cardinale, and J.P. Gathman. 2001. Invertebrate communities of Great Lakes' coastal wetlands, Saginaw Bay, Lake Huron. *Verh. Internat. Verein. Limnol.* 27:3440-3443.
- Tanner, D., J. Brazner, and V. Brady. 2000. Factors influencing carbon, nitrogen and phosphorus content of fish from a Lake Superior coastal wetland: life history and morphometrics. *Can. J. Fish. Aquat. Sci.* 57: 1243-1251.
- Detenbeck, N.E., S.L. Batterman, V.J. Brady, J.C. Brazner, V.M. Snarski, D.L. Taylor, J.A. Thompson, and J.W. Arthur. 2000. The Western Lake Superior Comparative Watershed framework: A test of geographically-dependent vs. geographically-independent, threshold-based watershed classification systems for ecological risk assessment. *Environ. Toxicol. Chem.* 19: 1174-1181.
- Cardinale, B.J., V.J. Brady, and T.M. Burton. 1998. Changes in the abundance and diversity of coastal wetland fauna from the open water/macrophyte edge towards shore. *Wetlands Ecol. Manage.* 6:59-68.
- Brady, V.J., B.J. Cardinale, and T.M. Burton. 1995. Zebra mussels in a coastal marsh: the seasonal and spatial limits of colonization. *J. Great Lakes Res.* 21(4): 587-593.