

VALERIE J. BRADY

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Research Interests

Watershed influences on riparian habitat and aquatic community structure and function; restoration of streams and wetlands; use of the aquatic invertebrate community for diagnostic assessment and monitoring of streams and wetlands; use of stable isotopes to analyze aquatic ecosystem functions.

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
2005 – present	Graduate faculty member, Integrated BioSciences Graduate Program, University of Minnesota Duluth
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, Natural Resources Research Institute, University of Minnesota Duluth
1997 – 2000	National Research Council Post-Doctoral Fellow, US EPA-MED, Duluth, MN.
1996 – 1997	Temporary Assistant Professor, Biology Department, The College of New Jersey.

Selected Grants and Fellowships

- Volunteer-assisted water quality/biological monitoring of North Shore Superior streams. Minnesota Pollution Control Agency. Co-PI. 2008-2009. \$225,000.
- Evaluation of problems and solutions relating to stormwater runoff from roadside ditches. Minnesota's Lake Superior Coastal Program (MDNR and NOAA). 2008. \$5000.
- Assessment of turbidity and sedimentation effects on Miller Creek, Duluth, MN. South Saint Louis Soil and Water Conservation District (MPCA). \$23,704.
- Duluth residential stormwater reduction demonstration project for Lake Superior Tributaries. Minnesota Pollution Control Agency 319 program (US EPA). Co-PI. 2008-2011. \$167,383.
- North Shore community futures: aquatic resources and growth scenarios. Minnesota Lake Superior Coastal Program. 2006-2007. \$58,043.
- Assessing the condition of Lake Superior rocky coastlines. Minnesota Sea Grant College Program. 2005-2007. \$80,000.
- An exchange network/CDX flow protocol (RDXP) for delivering heterogeneous research data and metadata, with metadata entry tools. US 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. 2006-2007. \$10,000

- Development of stream sampling protocol for monitoring effects of forestry practices in the Manitou Forest. Co-PI. Lake County, MN, Forestry Department. 2003. \$5,200.
- Coordinator for the Estuarine and Great Lakes (EaGLE) Coastal Initiative. U.S. Environmental Protection Agency Cooperative Agreement. 2002-2006. \$84,000.
- Ability of aquatic invertebrate community structure and function to indicate stream ecosystem impairment resulting from watershed land use alteration. Post Doctoral Fellowship. National Research Council. 1997-2000. \$150,000.
- Effects of zebra mussels on aquatic invertebrate community structure in a Great Lakes coastal wetland. With Thomas Burton. U.S. Environmental Protection Agency Cooperative Agreement 1993-1996. \$85,680.
- Graduate Fellowship. U.S. Department of Agriculture Institute for Water Research. 1992-1995. \$51,000.

Selected Publications

- 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. *Environmental Management.* 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. *Ecolog. 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. *Journal of 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. *Env. 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. *Journal of Great Lakes Research* 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. *Env. Health Pers.* 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. *Rest. 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.K., J.C. Brazner, and V.J. 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. *Env. Tox. Chem.* 19: 1174-1181.
- Cardinale, Bradley J., Valerie J. Brady, and Thomas M. Burton. 1998. Changes in the abundance and diversity of coastal wetland fauna from the open water/macrophyte edge towards shore. *Wetlands Ecol. Manag.* 6:59-68.

- Cardinale, Bradley J., Thomas M. Burton, and Valerie J. Brady. 1997. The community dynamics of epiphytic midge larvae across the pelagic-littoral interface: Do animals respond to changes in the abiotic environment? *Can. J. Fish. Aq. Sci.* 54: 2314-2322.
- 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.
- Brady, V.J. and T.M. Burton. 1995. The microcrustacean community of a Saginaw Bay coastal emergent marsh. *In* M. Munawar, T. Edsall, and J. Leach (eds), *The Lake Huron Ecosystem: Ecology, Fisheries, and Management*. Ecovision World Monograph Series, SPB Academic Publishing, The Netherlands. pp. 325-341.