

Janet H. Vail
Annis Water Resources Institute
Grand Valley State University
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A. Education:

Ph.D.	Western Michigan University	Science Education with an emphasis on environmental education
M.A.	University of California, Santa Barbara	Biology
B.S.	University of Michigan (Class honors)	Botany

Dissertation Title: *An Analysis of Fecal Coliform Bacteria as a Water Quality Indicator.* (1998)

Teaching Certification: Michigan Permanent Secondary Credential, California Life Secondary and Elementary Credentials

B. Employment Record

2001-present. Research Scientist, Outreach & Education, Annis Water Resources Institute, Muskegon, MI
- Current Major duties: Oversee vessel-based outreach and education programs, facilitate educator workshops, and teach GVSU classes for teachers and for environmental studies
2000-2004. Adjunct Instructor in Engineering, Grand Valley State University, Allendale, MI
1990-2001. Research Associate and Senior Program Manager, Annis Water Resources Institute, Muskegon, MI
1988-1990. Environmental Scientist, WW Engineering & Science, Grand Rapids, MI
1988-1990. Adjunct Instructor in Biology, Grand Valley State University, Allendale, MI
1986-1987. Water Quality Technician, Santa Cruz County Environmental Health Department, Santa Cruz, CA
1971-1985. High School Science Teacher, Conejo Valley Unified School District, Thousand Oaks, CA
1969-1970. Research Technician, University of California at Santa Barbara, CA

C. Grand Valley State University Courses Taught

Biology 105 Environmental Science
Biology 107 (lab) Great Lakes and Other Water Resources
Biology 215 (lab) General Ecology
Biology 303 (lab) Plants and Fungi
Biology 333 (lab) Systematic Botany
Education 600 Curriculum/Content: Environmental Education
Education 600 Curriculum/Content Human Population
Education 600 Curriculum/Content: Earth Systems for K-4 Teachers
Engineering 602 Engineering Law, Ethics and the Environment
Environmental Studies 201 Environmental Studies and Sustainability
Science 225 Integrated Life Science for K-8 Teachers
Science 580 Science Topics: GLOBE: Earth Systems for Educators
Science 580 Climate Change for Educators

D. Publications

Vail, J.H. Holistic Aquatic Education: Great Lakes, Lakes and Rivers, Paper at Water Resources Education, Training, and Practice, American Water Resources Association Conference, Keystone, Colorado, 1997.

Vail, J.H. Fecal Coliform Bacteria as a Water Quality Indicator, Paper at International Association for Great Lakes Research Conference, 2000.

Ram, J.L, R. Morgan, and **J.H. Vail**. 3M Petrifilm as a Medium for Volunteer Monitoring of Waterborne *Escherichia coli*, Paper at Monitoring and Modeling Nonpoint Source Pollution in Agricultural Landscapes, 2001.

Vail, J.H., editor. Instructor's Manual for Scientific Educational Cruises aboard the *D.J. Angus* and *W.G. Jackson* Vessels, Grand Valley State University, 2002.

Vail, J.H., R. Morgan, and J.L. Ram. Enumeration of *Ecsherichia coli* using 3M Petrifilm Plates: Comparison to Standard Water Quality Methods. *Journal of Environmental Quality* 32: 368-373, 2003.

Vail, J.H., Volunteer Monitoring: *E. coli* and Fecal Coliform Bacteria. *Lakeline* 23(2): 33-35, 2003.

Vail, J.H., A floating classroom for lake monitoring. *The Volunteer Monitor* 15(1): 10, 2003.

Vail, J.H. Michigan Guide to Air Use Permits to Install, Michigan Department of Environmental Quality, Lansing, Michigan, 1994.

Vail, J.H., editor. Michigan Air Use Permit Technical Manual, Michigan Department of Environmental Quality, Lansing, Michigan, 1995.

Vail, J.H. Michigan Environmental Education Curriculum Support (MEECS) Air Quality Unit, Michigan Department of Environmental Quality, Lansing, Michigan, 2006.

Vail, J.H. Chemical Management in Schools Workbook, Michigan Department of Environmental Quality, Lansing, Michigan, 2008.

Vail, J.H. and A. Syers. Michigan Environmental Education Curriculum Support (MEECS) Climate Change Unit, Michigan Department of Environmental Quality, Lansing, Michigan, 2013

Vail, J.H., A. Meyer, A. Weinke, and B. Biddanda. 2015. Water Quality Monitoring: Lesson Plan for Exploring Time-Series Data. *MSTA Journal*, Spring 2015, 37-48.

E. Synergistic Activities (select)

- Co-Chair, U.S. Environmental Protection Agency Lake Michigan Forum
- Chair, Lake Michigan: State of the Lake '99, '01, and '03 Conferences
- Michigan Coordinator, Project WET (Water Education for Teachers)
- Member, Michigan Science Teachers Association
- Certified trainer for GLOBE, Project Learning Tree, Project Wild, Project WET, and Michigan Environmental Education Curriculum Support Project
- Secretary (1993-2009), West Michigan Chapter Air & Waste Management Association
- Steering Committee, Great Lakes Association of Science Ships
- Member, Michigan Alliance for Outdoor and Environmental Education
- Member, Muskegon County Environmental Coordinating Council
- Advisory Council, West Michigan Great Lakes Stewardship Initiative
- Advisory Council, Groundswell Great Lakes Stewardship Initiative
- Member, National Marine Educators Association
- Member, National Association of Marine Laboratories (NAML) Education Committee

F. GVSU Service and Awards

- Member, GVSU Grant Leadership and Advisory Team
- Member, GVSU Regional Math and Science Center Advisory Board
- Member, Center for Excellence in Science & Mathematics Education Advisory Board
- 2009 Community Service Award from GVSU
- Mallinson Institute for Science Education, Alumni Achievement Award
- Michigan Alliance for Environmental and Outdoor Education, Lifetime Achievement Award
- Air & Waste Management Association, Outstanding Service Award
- Michigan Department of Environmental Quality, MEECS Achievement Award
- Member, Environmental Studies Minor Advisory Board
- International Association for Great Lakes Research Outreach and Education Award, 2013