

**Janet H. Vail**  
Annis Water Resources Institute  
Grand Valley State University  
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**A. Professional Preparation:**

University of Michigan	Botany	B.S. 1969
University of California, Santa Barbara	Biology	M.A. 1980
Western Michigan University	Science Education with an emphasis on environmental education	Ph.D. 1998

Dissertation Title: *An Analysis of Fecal Coliform Bacteria as a Water Quality Indicator*

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

**B. Appointments:**

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, 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, Senior Program Manager, Annis Water Resources Institute, Muskegon  
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

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

**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 Introduction to 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.** 1997. Holistic Aquatic Education: Great Lakes, Lakes and Rivers, Paper at Water Resources Education, Training, and Practice, American Water Resources Association Conference, Keystone, Colorado.

- Vail, J.H.** 2000. Fecal Coliform Bacteria as a Water Quality Indicator, Paper at International Association for Great Lakes Research Conference.
- Ram, J.L, R. Morgan, and **J.H. Vail**. 2001. 3M Petrifilm as a Medium for Volunteer Monitoring of Waterborne *Escherichia coli*, Paper at Monitoring and Modeling Nonpoint Source Pollution in Agricultural Landscapes.
- Vail, J.H.**, editor. 2002. Instructor's Manual for Scientific Educational Cruises aboard the *D.J. Angus* and *W.G. Jackson* Vessels, Grand Valley State University.
- Vail, J.H.**, R. Morgan, and J.L. Ram. 2003. Enumeration of *Escherichia coli* using 3M Petrifilm Plates: Comparison to Standard Water Quality Methods. *Journal of Environmental Quality* 32: 368-373.
- Vail, J.H.**, 2003. Volunteer Monitoring: *E. coli* and Fecal Coliform Bacteria. *Lakeline* 23(2): 33-35.
- Vail, J.H.**, 2003. A floating classroom for lake monitoring. *The Volunteer Monitor* 15(1): 10.
- Vail, J.H.** 1994. Michigan Guide to Air Use Permits to Install, Michigan Department of Environmental Quality, Lansing, Michigan.
- Vail, J.H.**, editor. 1995. Michigan Air Use Permit Technical Manual, Michigan Department of Environmental Quality, Lansing, Michigan.
- Vail, J.H.** 2006 and 2012. Michigan Environmental Education Curriculum Support (MEECS) Air Quality Unit, Michigan Department of Environmental Quality, Lansing, Michigan.
- Vail, J.H.** 2008. Chemical Management in Schools Workbook, Michigan Department of Environmental Quality, Lansing, Michigan.
- Biddanda, B., S. Nold, G. Dick, S. Kendall, **J. Vail**, S. Ruberg and C. Green. 2012. Rock, water, microbes: underwater sinkholes in Lake Huron are habitats for ancient microbial life. *Nature Education Knowledge* 3 (10):13.
- Vail, J.H.**, M. Libbee, and A. Syers. 2013. Michigan Environmental Education Curriculum Support (MEECS) Climate Change Unit, Michigan Department of Environmental Quality, Lansing, Michigan.
- 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)**

- Former Co-Chair, U.S. Environmental Protection Agency Lake Michigan Forum
- Chair, Lake Michigan: State of the Lake '99, '01, and '03 Conferences
- Michigan Coordinator and Council Member, Project WET (Water Education for Teachers)
- Certified trainer for GLOBE, Project Learning Tree, Project Wild, Project WET, Population Connection, and Michigan Environmental Education Curriculum Support Project
- Former Chair, West Michigan Clean Air Coalition
- 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

#### **F. Service and Awards (select)**

- Michigan Science Teachers Association, 2016 Informal Science Educator of the Year
- 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
- International Association of Great Lakes Research, Vallentyne Outreach & Education Award
- Member, GVSU Environmental Studies Advisory Board
- Member, Regional Math & Science Center Advisory Board
- 2009 Community Service Award from GVSU