ROSANNA L. MATTINGLY

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EXPERIENCE

- 2012–present Owner. Beargrass Press. A small, independent publisher with nature in mind. Writing, editing, formatting and layout, cover design, and publishing.
- 1991-present Owner. META Writing and Education Services, LLC. Writing and editing, graphic design and layout, curriculum development, and website development.

 Specializing in the biological and ecological sciences.

Writing/Editing and Graphic Design

- 2018–present Editor, Western Apicultural Society. Research, requesting materials and suggesting articles, editing/writing, page layout for print and digital versions of the *WAS Journal*; gathering content, editing, and designing conference programs; maintaining membership. Acting webmaster for westernapiculturalsociety.org and admin of facebook page. Developing websites for annual conferences.
- 2016 Graphic designer. Evan Morgan Williams. Cover for Canyons: Older Stories.
- 2015–2019 Editor and graphic designer, diomo square books. Editing, layout, and cover design for *Fiddelee-dee & Company* (2016), *Of Love, Lust, and Loss* (2017), and *A Bandstand for All Time* (2019). Editing, scanning and optimizing images, formatting/layout, and setting up basic website and process for distribution. Similar work for Aquilino, editing and design of *The Carboholic's Cookbook: Classic American-Italian Recipes for Eating Well in the South*, and with programs for Toastmasters District 7 conferences.
- 2013–2015 Substantive and copy editor, graphic designer, and indexer. Linden Press. Preparing revised editions of *Where the Huckleberries Grow* (2000) and *Even Seagulls Cry* (2005) by Agnes Rands. Editing, updating, reconciling available files with print copies, scanning and optimizing images for print, doing layout, indexing, and setting up process for distribution.
- 2012-present Writer, editor, graphic designer, and publisher. Honey-Maker: How the Honey Bee Worker Does What She Does, Honey Bee: The Sun Being, Gran's Bees, Pocket Guide to the Honey Bee, and Pocket Guide to the Honey Bee ABCs. Beargrass Press.
- 2006–present Editor. Books, theses and dissertations, research articles, engineering reports, conference programs and brochures, membership directories, and memoirs.

 Sample projects: Coordination Cascade and the Feldenkrais Method®, Veronica's Diary: The Journey of Innocence, Bicycles and Buddhists: Encounters with a Sustainable-Living Community.
- 2005–present Editor, Oregon State Beekeepers Association. Research, requesting materials and suggesting articles, conducting interviews, editing/writing, managing advertising, page layout for print and digital versions of newsletter, *The Bee Line*; editing and designing conference program materials; maintaining membership database and creating annual membership directories. Managing website/site development for orsba.org since 2016. Developing and managing websites for annual conferences, also since 2016.

2005-2006	Editor. Charles E. Warren. Nature, Culture, Resources, and Human Being: Toward Attentive Societies.
2005	Editor. Pacific Habitat Services. Wilsonville, Oregon. <i>Freshwater Wetland Restoration</i> for submission to Island Press and portions of <i>ODOT Guide to Wetlands Involved in Transportation Projects</i> .
1986-2004	Contract editor. Forest Research Laboratory, Oregon State University. Editing and rewriting manuscripts for publication in research and technical journals, manuals, oral histories, and a variety of in-house publications.
2002–2004	Contractor. Oregon State Beekeepers Association. Implementing workshops to update beekeepers in appropriate measures to manage major pests and diseases of honey bees. Developing instructional materials, doing advertising and registrations, and establishing/maintaining a statewide database.
2004	Substantive and copy editor. Agnes Rands. Even Seagulls Fly. Linden Press.
1998-2002	Contractor for the Cooperative Forest Ecosystem Research Unit, Oregon State University, and USGS Forest and Rangeland Ecosystem Science Center. Preparing report for the Young Stand Biodiversity Project, including writing, editing, working with involved researchers to gather text and support materials, creating graphics, and doing interior layout.
1998-2000	Grant writer. Tobacco-Free Coalition of Oregon, Portland.
1998	Contract writer. METRO Regional Parks and Greenspaces, Portland. Drafting and reviewing wetland evaluation materials.
1997	Contract writer. Oregon Public Broadcasting. Creating the prototype and preparing the initial set of educator guides for <i>The Oregon Story</i> video series.
	Editor. Sustainable Forestry Partnership, Oregon State University. Preparing <i>Certification of Sustainable Forests and Forest Practices</i> .
1996-1997	Editor. Stackpole Books, Mechanicsburg, Pennsylvania.
	Editor/writer. Department of Forest Products, Oregon State University. Preparing <i>Planted Forests: Contributions to a Sustainable Society.</i>
1994-1995	Writer/editor. Columbia River Inter-Tribal Fish Commission, Portland.
	Contract writer. Jackson Bottom Wetlands Preserve, Hillsboro, Oregon.
1993, 1996	Contract editor for METRO, Portland.
1993	Contract writer. Oregon Public Broadcasting. Developing and evaluating curricula with extensions and other resources to supplement <i>Oregon Field Guide</i> programs (along with statewide teacher training).
	Contract writer/editor. USDA Forest Service, Mount Hood National Forest. Developing and adapting curricula for the <i>Cascade Streamwatch</i> program at

	Wildwood (with follow-up teacher training).
	Writer. The Oregon Scientist.
1987-1991	Contractor. Portland State University. Developing, writing, and evaluating curricula for use in FAMILY SCIENCE programs and leadership workshops (with follow-up teacher training).
1987	Contributor. <i>The Stream Scene: Watersheds, Wildlife and People</i> . Oregon Department of Fish and Wildlife.
1989-1990	Reviewer. Journal of Planning Education and Research and Hydrobiologia.
1989	Contractor. US Army Construction Engineering Research Laboratory, Champaign, Illinois.
1986-1988	Biology editor. The Oregon Science Teacher.
1983-1993	Reviewer. Ecology, Science Books and Films, and The American Biology Teacher.
1982-1983	Contractor. Kendall/Hunt, Dubuque. Editing and copyediting the second edition of Merritt, R.W. and K.W. Cummins, eds. 1984. <i>An Introduction to the Aquatic Insects of North America</i> .
1981	Contractor. Forestry Sciences Laboratory, USDA Forest Service, Juneau, Alaska. Evaluating macroinvertebrate functional responses to stream channel and riparian zone alterations by logging in the Trap Bay Drainage, Chichagof Island.
1980	Consultant. National Research Council Commission on Natural Resources Environmental Studies Board. Preparing <i>Testing for Effects of Chemicals on Ecosystems</i> .
1977	Consultant. Tri-County Regional Planning Commission, Lansing, Michigan. Sampling and analyzing data for use in preparing recommendations for upgrading water quality in major rivers of the region.
Teaching/Pr	rogram Coordination
2004–2011	Instructor. Awareness Through Movement® and Functional Integration® lessons based on the Feldenkrais Method® of Somatic Education. Gladstone Community Schools; Portland Community College; additional Portland-area locations.
2004	Adjunct Professor. Marylhurst University. Marine Biology.
1998-2013	Substitute Teacher. Portland and Multnomah County school districts, Oregon.
1998	Instructor. John Inskeep Environmental Learning Center, Oregon City.
1993-1995	Adjunct Professor. Marylhurst College. Environmental Science and Society.
1987–1994	Instructor. Portland State University. <i>Watersheds and Society; Ecology; Ecofeminism and Environmental Ethics;</i> inservice teacher-education courses, workshops, and programs in the physical and biological sciences and mathematics.

1991–1994	Adjunct Professor. University of Portland. <i>Environmental Science</i> ; short courses for educators: <i>Water and Wetlands as a Science Laboratory, Hydrology and Hydropower, Teaching Ecology – Water and Waste Management, Hands-On Science for the Elementary Classroom, A Bug in the Hand, Habitat from A to Z.</i>
1990-1991	Program Development Specialist. Portland State University. Developing and presenting teacher-education programs in science and mathematics; grant writing.
1988-1990	Assistant Professor. University of Illinois, Urbana-Champaign. Environmental Science in Planning; Environmental Science Methods: Planning in a Watershed Context; Environmental Planning Workshop (1989: A Comprehensive Plan for the Revitalization of East St. Louis and Its Region and 1990: A Plan for Boneyard Creek, Champaign County, Illinois). Guest lecturer in Environmental Ethics and Land Use Planning and Policy Formulation.
1988	Instructor. Portland Community College. General Biology; Microbiology.
1987-1988	Education Coordinator. John Inskeep Environmental Learning Center.
1987	Instructor. Lewis and Clark College, Oregon State University, and Portland State University. Hancock Field Station, Fossil. Freshwater Ecology for Teachers; Quality Science Education: Update; Quality Mathematics Education: Motivation, Update, and Leadership.
1986–1987	Master Resource Teacher. Oregon Museum of Science and Industry, Portland. Developing, teaching, and coordinating teacher-education programs and science and mathematics conferences, instructing science courses, and designing workshops for educators (K–12) and administrators.
1986	Instructor. Chemeketa Community College, Salem. Human Anatomy and Physiology.
1985, 1986	Instructor. School of Education, Oregon State University. <i>Biological Microscopy</i> and other science courses for <i>Adventures in Learning</i> program for gifted and talented 4th–7th graders.
1985-1986	Substitute Teacher. Willamette Valley districts. Biology, Physics, and Mathematics.
1984	Student Teacher. Crescent Valley High School, Corvallis. <i>Biology; Earth Science; General Science;</i> practicums in Corvallis-area junior and senior high schools.
1980-1983	Lecturer and Field Assistant in <i>Stream Ecology</i> . Presentations at Central Michigan University, Mount Pleasant; Cheldelin Intermediate School, Corvallis; and in Outdoor School programs. Assistant in <i>Aquatic Entomology</i> , Michigan State University and Central Michigan University, and in high school field trips to central Oregon.
1976, 1977	Teaching Assistant. Michigan State University. Limnological Methods.

Research and Technical

1989–1991 Senior Research Fellow. Austin Peay State University, Clarksville, Tennessee.

Decomposition of particulate substrates and associated macroinvertebrates of perennial streams of Land Between the Lakes, including the hyporheic zone.

1998–1990 Assistant Professor of Environmental Science. Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign. Trophic relations and population dynamics of *Hyalella azteca* and *Asellus* sp. in cleared and forested segments of a warmwater, Midwestern stream. Project funded through the UIUC Research Board.

Evaluation of the relative effectiveness of habitat mitigation procedures in Illinois streams and riparian areas. Project funded through the Illinois Department of Energy and Natural Resources.

- 1978–1984 Graduate Research Assistant. Oregon State University. Research on projects funded by the Department of Energy on thermal regulation of invertebrate functional feeding groups in running-water ecosystems and the National Science Foundation on invertebrate-microbial interactions influencing detrital processing in lotic ecosystems.
- 1982–1983 Visiting Scientist. Kellogg Biological Station (Michigan State University), Hickory Corners. Cooperative microbial studies related to NSF grant (above) with Dr. Michael J. Klug.
- 1980 Field research on the Middle Fork of the Salmon River, Idaho. Project involving geomorphological and invertebrate studies funded by NSF grant to Dr. G. Wayne Minshall.
- 1975–1978 Graduate Research Assistant. Michigan State University. Project funded by Sea Grant to Dr. Niles R. Kevern. Collection and analysis of commercial fishery data on underutilized species in the Great Lakes.
- 1978 Field and laboratory technician. Kellogg Biological Station. Sampling and analysis of Augusta Creek sediment and invertebrates.
- 1975–1976 Field research on the Red Cedar, Pigeon, and Salmon-Trout rivers, Michigan. Research primarily involving harvest of macrophytes and periphyton, mark-and-recapture population estimates of crayfishes and fishes, water chemistry analyses, and stream mapping.
- 1971–1974 Medical Laboratory Technician. Louisville General and Louisville Memorial Hospitals, Kentucky; Grand Rapids Oncology Group, Michigan. Medical laboratory analyses in hematology, bacteriology, blood and urine chemistry, and EKG.

PUBLICATIONS AND REPORTS Refereed

Muir, P.S., R.L. Mattingly, J.C. Tappeiner, J.D. Bailey, W.E. Elliott, J.C. Hagar, J.C. Miller, E.B. Peterson, and E.E. Starkey. *Managing for Biodiversity in Young Douglas-Fir Forests of Western Oregon*. Biological Science Report USGS/BRD/BSR-2002-0006. 76 pp.

- 1994 Mattingly, R.L. Mitigating Losses of Wetland Ecosystems: A Context for Evaluation. *The American Biology Teacher* 56(4): 206–214.
- 1993 Mattingly, R.L., E.E. Herricks, and D.M. Johnston. Channelization and Levee Construction in Illinois: Review and Implications for Management. *Environmental*

Management 17(6): 781-795.

Mattingly, R.L. Don't Change that Channel! Manipulating the Course of our Streams and Rivers. *The Science Teacher* 60(3): 24–31.

- 1991 Mattingly, R.L. Shedding Light on Watersheds: An Operational and Conceptual Framework for Analysis. *The Science Teacher* 58(8): 46–51.
- 1990 Mattingly, R.L. Here's Mud in your Eye: Deposit Feeders Under the Microscope. *The Science Teacher* 57(5): 26–32.
- Mattingly, R.L. Pelletization of Sediment by *Ptychoptera townesi* (Diptera: Ptychopteridae). *Archiv für Hydrobiologie* 112(3): 421–431.

Mattingly, R.L. Mastering the Microscope. *Science Scope* 11(5): 16–17.

1987 Mattingly, R.L. Resource Utilization by the Freshwater Deposit Feeder *Ptychoptera townesi* (Diptera: Ptychopteridae). *Freshwater Biology* 18: 241–253.

Mattingly, R.L. Handling of Coarse and Fine Particulate Organic Matter by the Aquatic Insects *Paraleptophlebia gregalis* and *P. temporalis* (Ephemeroptera: Leptophlebiidae). *Freshwater Biology* 18: 255–265.

Mattingly, R.L. From Root to Fruit: Botany for Beginners. *Science and Children* 24(5): 18–21.

Mattingly, R.L. The Dynamics of Flowing Water. The Science Teacher 54(9): 22–27.

- Mattingly, R.L. Mass Loss and Qualitative Change in Stream-Incubated FPOM Derived from Leaves Differing in Rate of Processing. *Hydrobiologia* 135: 207–214.
- 1985 Mattingly, R.L. Turning Over a Wet Leaf. *The Science Teacher* 52(6): 20–24.
- Mattingly, R.L., K.W. Cummins, and R.H. King. The Influence of Substrate Organic Content on the Growth of a Stream Chironomid. *Hydrobiologia* 77: 161–165.

Mattingly, R.L., N.R. Kevern, and R.A. Cole. Re-Examination of a Culturally Affected Michigan River. *Verhandlungen des Internationalen Verein Limnologie* 21: 830–840.

- Cummins, K.W., G.L. Spengler, G.M. Ward, R.W. Speaker, R.W. Ovink, D.C. Mahan, and R.L. Mattingly. Processing of Confined and Naturally Entrained Leaf Litter in a Woodland Stream Ecosystem. *Limnology and Oceanography* 25: 952–957.
- Butynski, T. and R. Mattingly. The Fossorial Ecology of the Springhare, *Pedetes capensis*, in Botswana. *African Journal of Ecology* 17: 205–215.

Invited and Nonrefereed

Mattingly, R.L. Born to Swarm. *Highlights for Children*. In press.

2017 Mattingly, R.L. *Gran's Bees*. Beargrass Press. Portland, Oregon.

Mattingly, R.L. Honey Bee: The Sun Being. Beargrass Press. Portland, Oregon.

2015	Mattingly, R.L. Pocket Guide to the Honey Bee. Beargrass Press. Portland, Oregon.
	Mattingly, R.L. <i>Pocket Guide to the Honey Bee ABCs</i> . Beargrass Press. Portland, Oregon.
2012	Mattingly, R.L. <i>Honey-Maker: How the Honey Bee Worker Does What She Does</i> . Beargrass Press. Portland, Oregon.
	Mattingly, R. Steps Toward a Master Beekeeper Program. <i>American Bee Journal</i> August: 783–784.
2005-present	Various contributions, e.g., Northwest Independent Editors Guild, <i>Post-Polio Health International, The Bee Line</i> , and <i>American Bee Journal</i> .
2003	Mattingly, R.L. Honey Bee: The Life and Times. <i>Biology Digest</i> 30(8): 10–20.
	Mattingly, R.L. Pacific Salmon: Crisis and Opportunity. Biology Digest 29(2): 11–20.
2001	Mattingly, R.L. Ed. <i>Visions of Natural Resources: Peeking Into the Neighbor's Yard.</i> Starker Lectures. College of Forestry, Oregon State University, Corvallis. 74 pp.
2000	Mattingly, R.L. Ed. <i>Utilizing Resources in Complex Environments</i> . Starker Lectures. College of Forestry, Oregon State University, Corvallis. 60 pp.
1999	Mattingly, R.L. Ed. <i>Natural Resources in a Material World</i> . Starker Lectures. College of Forestry, Oregon State University, Corvallis. 50 pp.
1998	Mattingly, R.L. Ed. <i>Impacts of Different Philosophies on Natural Resources</i> . Starker Lectures. College of Forestry, Oregon State University, Corvallis. 48 pp.
1997	Mattingly, R.L. <i>The Oregon Story: FISHING</i> . Education Guide to the Series. Oregon Public Broadcasting, Portland. 16 pp.
	Mattingly, R.L. <i>The Oregon Story: LOGGING</i> . Education Guide to the Series. Oregon Public Broadcasting, Portland. 16 pp.
	Mattingly, R.L. <i>The Oregon Story: RANCHING</i> . Education Guide to the Series. Oregon Public Broadcasting, Portland. 16 pp.
	Mattingly, R.L. Ed. <i>Natural Resources and the 21st Century: Where Are We Headed?</i> Starker Lectures. College of Forestry, Oregon State University, Corvallis. 96 pp.
1996	Mattingly, R.L. Ed. <i>The Future and Natural Resources: Are We Like Dinosaurs?</i> Starker Lectures. College of Forestry, Oregon State University, Corvallis. 58 pp.
1995	<i>Interpretive Center Plan for the Jackson Bottom Wetlands Preserve.</i> Jackson Bottom Wetlands Preserve, Hillsboro. 40 pp.
	Mattingly, R.L. Ed. <i>Re-Thinking Natural Resources</i> . Starker Lectures. College of Forestry, Oregon State University, Corvallis. 91 pp.
1994	Restoring Salmon to the Columbia River Watershed: A tribal perspective. Columbia River Inter-Tribal Fish Commission, Portland. 8 pp.

Mattingly, R.L. Ed. Management and Biological Conservation. Starker Lectures. College of Forestry, Oregon State University, Corvallis. 44 pp. 1993 Mattingly, R.L. OREGON FIELD GUIDE Education Program, Extensions for Educators. Oregon Public Broadcasting, Portland. 115 pp. (PBS Featured Profile.) Mattingly, R.L. Cascade Streamwatch: Curriculum Adaptation for the Sandy River Watershed at Wildwood and Three Creeks. USDA Forest Service, Mount Hood National Forest. 141 pp. 1992 Mattingly, R.L. Wetlands: Ecosystems at a Crossroad. *Biology Digest* 19(4): 10–20. 1991 Mattingly, R.L. and E.E. Herricks. Review of Channel Alteration Permit Requests in Illinois, pp. 139-165. In: C.W. Forrest, Ed. Criteria for Planning Excellence in Local Government. Proceedings of the 1990 Institute on Planning and Zoning, Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign. 1988 Mattingly, R.L. Communities in Context. The Oregon Science Teacher January: 22–25. Mattingly, R.L. Oil and Water? The Search for Offshore Oil and Gas. Visions 4(2): 34-38. 1987 Mattingly, R. FAMILY SCIENCE Preview. The Oregon Science Teacher, November: 9. 1986 Mattingly, R.L. Biological Communities – A Concept in the Making. Biology Digest 12(8): 10-23. 1982 Cummins, K. and R. Mattingly. Assessment and Prediction of Effects of Environmental Impacts on Fish and Wildlife Habitat: Overview, pp. 58–77. In: W.T. Mason, Jr. and S. Iker, Eds. Research on Fish and Wildlife Habitat. EPA 600/8-82-022. Office of Research and Development, U.S. Environmental Protection Agency, Washington, DC. Reports 1991 Mattingly, R.L. and E.E. Herricks. Channelization of Streams and Rivers in Illinois: Procedural Review and Selected Case Studies. Final Report Contract WR 35, Project 89/091. ILENR/RE WR91/01. 328 pp. Appendices, ILENR/RE-WR-91/01 (A). Illinois Department of Energy and Natural Resources, Springfield. 1990 Mattingly, R.L. and E.E. Herricks. Current State and Federal Procedures for Review of Permit Applications for Channel Alterations in Illinois. Unpublished Technical Report in support of Project WR 35. Illinois Department of Energy and Natural Resources, Springfield. 43 pp. + Appendices A-L. 1989 Mattingly, R.L. Assessment of the Environmental Review Guide for U.S. Army Europe. Technical Report in support of Project DACA88-88-D-0024. U.S. Army Construction Engineering Research Laboratory, Champaign, Illinois. 17 pp.+Appx. 1979 Mattingly, R.L. and N.R. Kevern. Life History, Abundance, and Potential Harvest of Carp (Cyprinus carpio Linnaeus) from Michigan Waters of the Great Lakes. Michigan

Sea Grant Program Report MICHU-SG-79-205. 66 pp.

1976 Mattingly, R.L. Ed. *Great Lakes Fish Cookery*. Michigan State University Extension Bulletin E-932, Natural Resources Series. 16 pp.

SELECTED PRESENTATIONS and WORKSHOPS

2018 Honey Bee Biology: More than the Sum of the Parts. Oregon State Beekeepers Association Fall Conference. Salem, Oregon.

2013 Honey Bee Anatomy – An Exploration of Function: Head, Thorax, and Abdomen. Oregon Master Beekeeper Institute. Seaside, Oregon.

Getting to Know the Honey Bee: An Exploration of Information and Understanding. Willamette Valley Beekeepers Association. Salem, Oregon.

2007 Awareness at Work. Northwest Independent Editors Guild Conference. Seattle.

2000 The Archaeology of Beekeeping. Portland Area Beekeepers Association.

1993 Water as Connection. Earth and Spirit Conference: Creating Balance. Portland.

1992 An Ecofeminist Approach to Ecological Systems. Eleventh Annual Gender Studies Symposium. Lewis and Clark College, Portland.

1991 *Ecofeminism: Women and Nature, Actions and Values.* Earth and Spirit Conference: Honoring the Connection. Portland.

Decomposition of Particulate Substrates in Perennial Streams of Land Between the Lakes. Fourth Annual Symposium on The Natural History of Lower Tennessee and Cumberland River Valleys. Land Between the Lakes.

Women, Nature, and Science. Tenth Annual Gender Studies Symposium. Lewis and Clark College, Portland.

1990 *Channel Modification and Stream System Capacity.* Fifth Annual U.S. Landscape Ecology Symposium. Oxford, Ohio.

Stream Modification Permit Review: The Mitigation Issue. 1990 Institute on Planning and Zoning. St. Charles, Illinois.

Watersheds: Boundary Definition, Evaluation, and Criteria for Classification. Thirty-eighth National Convention, National Science Teachers Association. Atlanta.

1989 *Wetland Mitigation: Enhancement, Restoration, Creation.* Thirty-first Annual Conference, Association of Collegiate Schools of Planning. Portland.

FAMILY SCIENCE: An Equity-Based Program Involving Adults and Children. Illinois Science Teachers Association 1989 Convention. Champaign.

FAMILY SCIENCE: Involving Parents and Children. Thirty-seventh National Convention, National Science Teachers Association. Seattle.

The Science and Ethics of Land Use in America. Thirty-seventh National Convention, National Science Teachers Association. Seattle.

1988 Aquatic Systems Are Part of the Land. Thirty-sixth National Convention, National Science Teachers Association, St. Louis. 1987 Collaboratives for Teacher Training: Building Bridges for Success. Thirty-fifth National Convention, National Science Teachers Association. Washington, DC. Simple Techniques for Demonstrating Watershed Processes. Oregon Science Teachers Association Annual Conference. Eugene. 1982 Food Quality Relationships in Stream Shredders and Collectors. Symposium on energy and material transfers at the base of the detritus food chain. Thirty-third Annual Meeting, Ecological Society of America. University Park, Pennsylvania. Investigations of the Feeding Morphology, Behavior, and Growth of Ptychoptera sp. and 1981 Paraleptophlebia spp. Twenty-ninth Annual Meeting, North American Benthological Society. Provo, Utah. 1980 Effects of Food Quality on Growth and Survival of Selected Collector-Gatherers. Twentyeighth Annual Meeting, North American Benthological Society. Savannah, Georgia.

International Association of Theoretical and Applied Limnology. Kyoto, Japan.

EDUCATION

1978

Ph.D. Aquatic Ecology. Oregon State University. *Committee:* Drs. Charles E. Warren, Kermit Cromack, Jr., Harry K. Phinney, Richard A. Tubb, and Mr. Alan B. Berg. *Dissertation:* Trophic and Habitat Relationships of Two Deposit-Feeding Stream Invertebrates, *Ptychoptera townesi* (Diptera) and *Paraleptophlebia* spp. (Ephemeroptera). 103 pp.

Oregon Secondary Teaching Certification with endorsements in Biology, Mathematics, and Integrated Science.

Re-Examination of a Culturally Affected Michigan River. XXIst Congress of

M.S. Limnology. Michigan State University. *Committee:* Drs. Niles R. Kevern, Richard A. Cole, and T. Wayne Porter. *Thesis:* An Ecological Comparison of the Red Cedar River (Ingham County, Michigan) in the Early 1960s with 1976. 65 pp.

1971 B.A. Biology. University of Louisville.