Curriculum Vitae

Timothy D. Mayer

EDUCATION

Ph.D. Environmental Science and Engineering, Oregon Graduate Institute, Beaverton, Oregon, 1995

B.S. Forestry, University of Montana**,** Missoula, Montana, 1981.

EXPERIENCE

Hydrological investigations; ground-water/surface-water relationships; design and implementation of groundwater and surface water monitoring, design and installation of piezometer networks, collection and analyses of groundwater and surface water data; estimation of potential impacts caused by ground-water withdrawals; numerical modeling; aquatic chemistry; hydrogeochemistry; design and implementation of water quality monitoring programs, analysis and interpretation of water quality data for rivers, streams, lakes and wetlands; chemical equilibrium and speciation modeling; development of site-specific water budgets; nutrient loading computations; time series analyses, trend analyses, regression analyses, multi-variate analyses, and other statistical evaluations and analyses of environmental data; soil mapping, characterization and description.

June 1995 to present. Hydrologist/Hydraulic Engineer, **Water Resources Branch, Division of Engineering, Region 1, U.S. Fish and Wildlife Service, Portland, OR**.

> Serve to protect the regional water resources of the U.S. Fish and Wildlife Service and assist in administering the regional water program. Have developed and implemented water monitoring programs and water quality and hydrological studies for refuges and hatcheries in the region. The focus of many of these studies is to develop water and nutrient and salt budgets for specific refuges. Have collected, analyzed, and interpreted hydrological, chemical and physical data from groundwater and surface waters using statistical and numerical methods and authored reports summarizing these analyses. Have designed and reviewed plans for water control structures and water distribution systems including weirs, flumes, small dams, pipelines, canals, and wells. Regularly review proposed or existing projects of other federal, state, and local agencies and private parties for impacts to regional water resources.

September 1989 to February 1995. Graduate Research Assistant, **Oregon Graduate Institute**, **Portland, OR**

Conducted a study of water quality and hydrology in the Tualatin River Basin of northwest Oregon. Surface water and groundwater were sampled. Data collected included hydrologic measurements (precipitation, discharge, groundwater elevation) and water quality parameters (pH, temperature, turbidity, conductivity, suspended sediment, dissolved oxygen, phosphorus and iron chemistry). Statistical analysis of the data examined 1) the temporal variability in water quality over storm events and seasons; 2) the spatial variability in water quality over the entire watershed; and 3) the relative contribution of groundwater inputs to general water chemistry. Laboratory experiments were conducted with model solutions and interpreted with the help of the chemical speciation model MINTEQ. The study evaluated water quality and its relationship to stormwater runoff, base flow and groundwater, land use, soil type, and topography. This information was used to provide assistance to water resource managers and user groups in the watershed.

September 1994 to June 1995, Adjunct Faculty, **Portland Community College**, **Portland, OR**

Taught a three quarter sequence in environmental science with a focus on ecological, chemical and geological issues. Special emphasis was given to local issues such as salmon ecology and restoration, forest management, water quality and urban hydrology.

June 1981 to September 1981, Forest Research Technician, **Pacific Forest and Range Experiment Station**, **Anchorage, AK**

Participated in a multi-resource inventory of the forests, soils, hydrology, and vegetation of Alaska. Duties included describing and mapping soils and hydrology on selected plots and identifying and sampling vegetation.

September 1980 to June 1981, Soils and Hydrologic Technician, Bureau of Land Management, **Missoula, MT**

Assisted the soil scientist in evaluating and identifying erosion potential from logging and road construction; preparing soil, hydrology, and geology maps; and collecting soil and hydrologic data.

June 1980 to September 1980, Soil Technician, **University of Montana**, **Missoula, MT**

Participated in a study to relate forest productivity to soil properties. Responsible for describing soil and site characteristics (tree and understory species, % canopy, physiography, infiltration rates, soil moisture, soil texture, soil pH).

PUBLICATIONS, PRESENTATIONS, AND REPORTS

Mayer, T. and Congdon, R. *in press*. Evaluating climate variability and pumping impacts in statistical analyses. Ground Water. doi: 10.1111/j.1745.6584.2007.00381.x

Mayer, T. 2007. **Feasibility of Constructing Freshwater Seepage Ponds on Lisianski Island, Northwestern Hawaiian Islands NWR.** Unpublished report, U.S. Fish and Wildlife Service, Portland, Oregon.

Mayer, T. and Congdon, R. 2006. **Evaluating trends in the water levels and spring discharge of the Muddy River Springs Area.** Presented at the Nevada Water Resource Association 2006 Conference, February 21-23, 2006. Mesquite, Nevada.

Mayer T. 2005. **Water-quality impacts of wetland management on Lower Klamath National Wildlife Refuge**. Wetlands, Vol. 25, No. 3, pp. 697-712.

Mayer, T. 2005. **Hydrological assessment of constructed groundwater seeps on Midway Atoll, Northwestern Hawaiian Islands NWR.** Unpublished report, U.S. Fish and Wildlife Service, Portland, Oregon.

Mayer T. and R. Thomasson, 2004. **Fall water requirements for seasonal diked wetlands at Lower Klamath National Wildlife Refuge.** Wetlands, Vol. 24, No. 1, pp. 92-103.

Mayer, T. D. 2003. **Possible impacts from ground water pumping on springs and dace habitat at Moapa Valley National Wildlife Refuge, Nevada.** Presented at the Nevada Water Resource Association 2003 Conference, February 26-28, 2003. Reno, Nevada.

Mayer T. D. 2002. **Trends in spring discharge and ground water levels at Ash Meadows National Wildlife Refuge, Nevada.** Presented at the 2002 Devils Hole Workshop, May 21-22, 2002. Parump, Nevada.

Mayer, T.D. **National Wildlife Refuge wetlands: Do they degrade or improve water quality in the Klamath River Basin?** Proceedings from the Klamath Basin Fish and Wildlife Management Conference, May 21-25, 2001, Arcata, California.

Mayer, T.D. **Water quality impacts of the Klamath Straits Drain on the Klamath River.** Proceedings from the Klamath Basin Fish and Wildlife Management Conference, May 21-25, 2001, Arcata, California.

Weddell, B.J. and Mayer. T.D., 2002. **Effects of conductivity on post-drawdown germination and growth of mudflat annuals.** Unpublished report, U.S. Fish and Wildlife Service, Portland Oregon.

Mayer, T.D. and Jarrell, W.M. 2000. **Phosphorus sorption during iron(II) oxidation in the presence of dissolved silica**. Water Research, Vol 34, pp. 3949-3956.

Mayer, T.D. 2000. **Water quality in the Klamath Straits Drain and the Klamath River, 1999.** Unpublished report, U.S. Fish and Wildlife Service, Portland, Oregon.

Mayer, T.D. 2000. **Reffor_98.xls - Water demand and distribution model for Lower Klamath National Wildlife Refuge.** Unpublished report, U.S. Fish and Wildlife Service, Portland, Oregon.

Mayer, T.D. and Mauser, D. 1999. **Water quality in restored wetlands at Tule Lake National Wildlife Refuge**. Unpublished report, U.S. Fish and Wildlife Service, Portland, Oregon.

Mayer, T.D. 1999. **Spring discharge and water level monitoring at Ash Meadows National Wildlife Refuge for water years 1990-1999.** Unpublished report, U.S. Fish and Wildlife Service, Portland, Oregon.

Mayer, T.D. 1998. **Water monitoring plan for Ash Meadows National Wildlife Refuge, Nevada.** Unpublished report, U.S. Fish and Wildlife Service, Portland, Oregon.

Mayer, T.D. 1997. **Spring discharge and water level monitoring at Ash Meadows National Wildlife Refuge.** Unpublished report, U.S. Fish and Wildlife Service, Portland, Oregon.

Mayer, T.D. and Jarrell, W.M. 1996. **Formation and stability of iron(II) oxidation products under natural concentrations of dissolved silica.** Water Research, Vol. 30, pp. 1208-1214.

Mayer, T.D. and Jarrell, W.M. 1995. **Assessing colloidal forms of phosphorus and iron in the Tualatin River Basin of Northwestern Oregon.** Journal of Environmental Quality. Vol. 24, pp. 1117-1124.

AWARDS

1995	**Graduate Student Paper Award**, Ph.D. Category, Second Place, Water Environment Federation.
1990-94	**Graduate Research Assistantship and Tuition Scholarship**, Oregon Graduate Institute, Portland, OR.
1993	**Graduate Student Presentation Award**, 1993 Pacific Northwest Meeting, Society of Environmental Toxicology and Chemistry, Newport, OR.
1996-present	**Numerous Star Awards and On-the-Spot Awards,** US Fish and Wildlife Service, Portland, OR

PROFESSIONAL AFFLIATIONS (past and present)

Society of Wetland Scientists
North American Lake Management Society
National Groundwater Association
Soil Science Society of America
American Chemical Society, Environmental Chemistry Division
American Society of Agronomy, Environmental Quality Division
American Geophysical Union
American Water Resources Association