

**KATHLEEN P. FERGUSON, Ph.D.**

EDUCATION:

1983. Ph.D., Forest Biology/Soils, Iowa State University, Ames, Iowa.

1978. M.S., Soil Biology and Biochemistry/Statistics, University of Maryland, College Park, Maryland.

1972. B.S., Wildlife and Fisheries Biology/Natural Resource Management, University of Maryland, College Park, Maryland.

PROFESSIONAL EXPERIENCE:

2005-present. Senior Scientist and Program Manager, Cambridge Environmental Inc., Frederick, Maryland.

1984-2005. Senior Staff Scientist and Program Manager, Dynamac Corporation, Rockville, Maryland.

1979-1983. Research Assistant, Iowa State University, Department of Forestry, Ames, Iowa..

1978-1979. Research Assistant, Iowa State University, Department of Agronomy, Ames, Iowa.

1975-1978. Research Assistant, University of Maryland, Department of Agronomy, College Park, Maryland.

1974-1975. Microbiology Aide, Food and Drug Administration, Washington, DC.

SELECTED EXPERIENCE:

US EPA, Office of Pesticide Programs, Environmental Fate and Effects Division, Environmental Fate of Pesticides, Senior Scientist and Program Manager

Program Manager of the US EPA Environmental Fate of Pesticides contract from 2000 to the present, supervising the work of eleven scientists. Responsibilities include the review, statistical evaluation, and technical editing of chemical and biological data pertaining to the fate and transport of pesticides in terrestrial and aquatic ecosystems, and assessment of the impact of pesticide use on ground and surface water. Determines adequacy of experimental design, sampling protocols, and analytical methods. Data include analysis of chemical and biological degradation, leaching of chemicals through soil and into groundwater, soil runoff into surface water bodies, volatilization and dispersion in the atmosphere, and accumulation by plants and fish. To date has been responsible for the production of more than 12,000 Data Evaluation Records summarizing research on the dissipation of pesticides and associated compounds under laboratory and field conditions. Prepares Environmental Fate and Exposure Assessments, which integrate data on physical and chemical properties, laboratory and field research results, and

Kathleen Ferguson, Ph.D.

Page 2

contaminant fate and transport modeling in order to predict the behavior of a chemical under a range of environmental scenarios.

Health Canada, Environmental Assessment Division, Pest Management Regulatory Agency

Responsibilities similar to those performed for the US EPA Environmental Fate of Pesticides contract.

US EPA, Office of Pesticide Programs, Environmental Fate and Effects Division, Ecotoxicity of Pesticides, Senior Scientist and Program Manager

Responsibilities included the review and technical editing of data relating to acute, subchronic, and chronic toxicity of pesticides in water, sediment, and soil. Studies included LC50 determinations for aquatic invertebrates, oysters, fish, and beneficial insects; seedling emergence and vegetative vigor of terrestrial plants; toxicity testing of aquatic plants; reproduction success of avian species; and soil microbial community toxicity tests. Program Manager from 2000 to 2003.

US Department of the Interior, Bureau of Land Management; U.S. Forest Service; and EPA Regions 1, 2, 3, and 4; Senior Staff Scientist

Prepared or provided technical review of ecological and human health risk assessment documents prepared of soil, air, surface water, groundwater, and air contamination related to site activities in accordance with CERCLA and RCRA. Advised on risk policy issues, including sampling strategy, modeling, and statistical analysis. Critically evaluated soil and water sampling procedures, data quality, and contaminant fate and transport modeling. Analyzes the assumptions and numerical data used in calculating oral, dermal, and inhalation exposure concentrations at exposure sites. Evaluated the adequacy of habitat characterization, problem formulation and definition, identification of exposure pathways, selection and characterization of ecological receptors, assessment of potential exposure levels, and characterization of ecological risks. Assignments have included the Alyeska Pipeline Project, Alaska; the Savannah River Site, South Carolina; Paducah Gaseous Diffusion Plant, Kentucky; Oak Ridge National Laboratory, Tennessee; the Naval Construction Battalion Center in Davisville, Rhode Island; the Naval Weapons Station in Yorktown, Virginia; Homestead Air Force Base in Homestead, Florida; and abandoned and inactive mine and mill sites throughout the western U.S.

Ecological Design Teams in US EPA Regions 3 and 4, Senior Staff Scientist

Developed detailed risk assessment protocols and advise on scientific issues, such as biological testing to reduce risk uncertainties, transport modeling assumptions, the validity of 95% Upper Confidence Limits compared to Maximum and Central Tendency risk calculations, the use and limitations of probabilistic models in risk assessments, and the use of statistics in performing background comparisons.

US Department of the Interior, Bureau of Land Management; Senior Staff Scientist

Kathleen Ferguson, Ph.D.

Page 3

Prepared technical report with recommendations concerning laboratory and field procedures for quantitatively assessing injury to soils arising from discharges of oil and other hazardous substances as guidance for Natural Resource Damage Assessment.

US EPA, Office of Pesticide Programs, Health Effects Division, Toxicity (Human) of Pesticides, Senior Staff Scientist

Critically evaluated research data on the acute, subchronic, and chronic toxicity, mutagenicity, neurotoxicity, oncogenicity, and enzyme biochemistry of more than 50 pesticides.

ORIGINAL REPORTS:

Principal author of over 350 Environmental Fate and Exposure Assessments and principal reviewer/author of over 1,000 Data Evaluation Records of studies on the environmental fate of pesticides that were submitted under USEPA, PMRA, or OECD Guidelines.

Principal author of over 70 human health and ecological risk assessment reports, including risk assessments in AEngineering Evaluation/Cost Analysis, Sabino Canyon Shooting Range, Coronado National Forest, Arizona, USDA Forest Service, Southwestern Region.

Ferguson, K.P. (1998). Elimination of exposure routes for monolithic cement-based stabilized inorganic wastes. U.S. Environmental Protection Agency, Office of Solid Waste.

Ferguson, K.P. (1998). Designing studies and submitting reports that will satisfy FIFRA subdivision N guidelines (a training course presented to the Pesticide Industry). Dynamac Corporation.

Ferguson, K.P. (1997). Defining and assessing soils injury from oil or hazardous substances in the Natural Resource Damage Assessment (NRDA) regulations. Bureau of Land Management, National Applied Resources Science Center.

Ferguson, K.P. and Spangler, W.J. (1995). Critical evaluation of the data base concerning microbiological pathogen hazards in recreational waters. U.S. Environmental Protection Agency, Office of Science and Technology.

Patten, D.K. and Schultz, R.C. (1983). Influence of acid rain on the growth and nutrient content of two species of hardwood tree seedlings. Abstracts -- Sixth North American Forest Soils Conference.

Patten, D.K. and Schultz, R.C. (1983). Effects of acid rain on hardwood tree seedlings. *Agronomy Abstracts*.

Kathleen Ferguson, Ph.D.  
Page 4

Schultz, R.C., Patten, D.K., and Hillson, T.D. (1981). Production of VA inoculum on sorghum grown in 10 different media in growth chambers. Abstracts -- Fifth North American Conference on Mycorrhizae.

Patten, D.K., Wolf, D.C., Kunkle, W.E., and Douglass, L.D. (1980). Effect of antibiotics in beef cattle feces on nitrogen and carbon mineralization in soil and on plant growth and composition. *J. Environ. Qual.* 9:167-172.

Patten, D.K., Bremner, J.M., and Blackmer, A.M. (1980). Effects of drying and air-dry storage of soils on their capacity for denitrification of nitrate. *Soil Sci. Soc. Am. J.* 44:67-70.