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**Jennifer Sampson**  
**Senior Managing Scientist**

**PROFESSIONAL PROFILE**

Ms. Jennifer Sampson is an aquatic ecologist and risk assessor with 20 years of experience investigating stream, river, and wetland ecosystems, and evaluating ecological risks associated with anthropogenic disturbance. She specializes in identifying structural and functional components of ecosystems and predicting ecological responses following chemical or physical perturbations. Ms. Sampson has project experience in ecological risk assessment, sediment toxicity investigations, natural resource damage assessment (NRDA), habitat restoration, ecological research, development of aquatic systems monitoring strategies, and development of remedial investigations/feasibility studies (RI/FSs) under Superfund. She has performed quantitative modeling of bioavailability, bioaccumulation, and exposure to xenobiotics in terrestrial and aquatic food webs.

**CREDENTIALS AND PROFESSIONAL HONORS**

M.S., Fisheries, University of Washington, Seattle, Washington, 1994

B.A., Clark University, Worcester, Massachusetts, 1987

Certified Senior Ecologist, Ecological Society of America

**CONTINUING EDUCATION AND TRAINING**

ARCVIEW and Environmental Applications of GIS (GIS-403), Northwest Environmental Training Center, Seattle, Washington (2004)

Natural Resource Damage Assessment Workshop (POL-304), Northwest Environmental Training Center, Seattle, Washington (2003)

Hazardous Waste Operations and Emergency Response 40-hour Certification (1991; 1998 refresher)

**PROFESSIONAL AFFILIATIONS**

Society of Environmental Toxicology and Chemistry

Ecological Society of America

American Fisheries Society

## RELEVANT EXPERIENCE

### *Remedial Investigations and Feasibility Studies*

*San Jacinto River Waste Pits RI/FS, Harris County, Texas*—Currently serve as Integral’s project manager for the RI/FS for the San Jacinto River Waste Pits site. The site is a closed facility for storage of bleached kraft pulp mill waste generated and deposited in this estuarine marsh environment in the 1960s. The wastes are contaminated with dioxins and furans; potentially affected environments include the estuary, riparian areas, and adjacent uplands. Develop and execute technical strategies in consultation with clients, and coordinate and direct Integral’s multidisciplinary technical team to address the nature and extent of contamination, risk assessments, source evaluation and related studies and analyses.

*Lower Duwamish Waterway RI/FS, Seattle, Washington*—Technical advisor during the remedial investigation for the Lower Duwamish Waterway Superfund site. Provided strategic interpretation and critical review of most remedial investigation documents and technical approaches, generated summaries and strategic evaluation of toxicological and chemical information related to the site and the remedial investigation, and coordinated the consultant team in the remedial investigation process.

### *Ecological Risk Assessment and NRDA*

*Upper Columbia River RI/FS Project, Washington*—Provide technical leadership on ecological and fisheries studies in support of the RI/FS process for the Upper Columbia River. Analyze data, develop field sampling designs, and report on findings with a multidisciplinary technical team.

*Cooperative NRDA, Southeastern United States*—Provided strategic, research and analytical support to the owner of a former chemical manufacturing facility in a cooperative NRDA for a pesticide site in the southeastern United States. The investigation spanned riparian, river, and estuarine habitats.

*Former Wood Processing Facility, Cass Lake, Minnesota*—Lead ecologist and task manager for an ecological risk assessment at a former wood processing facility in northern Minnesota. Contaminants of interest included metals, pentachlorophenol, dioxins and furans, and polychlorinated aromatic hydrocarbons; upland, stream, wetland, and lake habitats were addressed. Designed technical approaches and data analysis, performed a complete synthesis of multidisciplinary information in the risk assessment, and managed the risk analysis and reporting process. Reported on and defended client positions to oversight. Performed a complex multivariate analysis to identify the cause or causes of effects observed in sediment toxicity tests.

*Assessment of Risk of Fish Passage Technologies, Lewis River, Washington*—Designed a quantitative risk assessment approach to evaluate the success of anadromous salmonid populations in mechanical passage systems on the Lewis River, Washington. The stochastic risk model allowed sensitivity analysis so managers could identify and target

specific elements of the passage system that could be improved to enhance the likelihood of the long term survival of affected populations.

### ***Research and Information Synthesis***

*Victoria Capital Regional District, Victoria, British Columbia, Canada*—Conducted a critical review of scientific literature, and used results to develop a database of information on the toxicity of pharmaceuticals and personal care products to aquatic organisms. The database will be used by the Capital Regional District of Victoria, British Columbia to interpret results of their wastewater monitoring program.

*Fisheries Research, Central Siberia, Russia*—Investigated effects of PCBs and metals on fish communities and food web structure in the Selenga River, Russia. Analyzed and described the structure of the Selenga River food web using stable isotopes of nitrogen and carbon. Coordinated a multidisciplinary, international scientific team for this effort.

*River Geomorphological Research, Washington*—Investigated the role of large woody debris in the vertical and lateral migration of large, low gradient river channels throughout Washington; and the role of riparian trees in storage of coarse sediment in steep headwater streams of the Olympic Peninsula, Washington. Analyzed mechanisms controlling rates of lateral erosion of river channels in old- and second-growth forests of the Olympic Peninsula, Washington.

*Fisheries Research, Southeast Alaska*—Conducted research on the distribution of beaver ponds relative to watershed-scale geomorphology, classified beaver-created wetlands according to floristic patterns, and investigated the suitability of beaver ponds as fish habitat.

*Epidemiology of Respiratory Disease, Augusta, Maine*—Investigated statistical patterns in the distribution of chronic respiratory disease in the state of Maine. Developed analytical protocol using statistical software to investigate relationships between chronic respiratory disease and paper mills throughout Maine.

### ***Development of Monitoring Programs***

*Victoria Capital Regional District, Victoria, British Columbia*—Developed recommendations for a program to monitor effects of pharmaceuticals and personal care products, including endocrine disruptors, on the marine environment affected by municipal wastewaters discharged by the Capital Regional District of Victoria, British Columbia.

*Natural Resources Monitoring Design, Hoh River Watershed, Washington*—Developed a multiparameter aquatic resource monitoring program for the Hoh Tribe of Indians. The design included monitoring of physical fish habitat characteristics, status of certain fish populations in subareas of the watershed, responses to mitigation of logging impacts, and water quality monitoring. Provided guidance on data management and analysis for the program.

### ***Project Management and Leadership***

*Project Management*—Manage projects relating to RI/FS requirements, ecological risk assessment, NRDA, and information development and synthesis. Provide technical leadership across a broad range of projects that relate to ecology and ecotoxicology. Negotiate with oversight on behalf of clients, and defend clients' technical approaches and results of investigations to a variety of audiences.

*Development and Coordination of Ecological Research Programs, Mongolia and Russia*—Designed and implemented multidisciplinary ecological research in the Selenga River Watershed, which spans northern Mongolia and south-central Siberia. Coordinated scientists and government agents from Mongolia, Russia, and the United States in the development and implementation of research and information, and in the execution of a watershed management conference in Central Asia.

*Hydropower Project Relicensing, Lewis River, Washington*—Served as technical liaison between a coalition of conservation groups and a team of agency and industry scientists in the alternative relicensing process for four power projects on the Lewis River in southwestern Washington. Worked cooperatively with public agencies, tribes, and hydropower project managers to develop technically robust studies of salmonid habitat condition and restoration strategies.

### **PUBLICATIONS**

Sampson, J.R., D. Nielsen, P.M. Mattison, and W.W. Locke. 2009. The relationship of natural organic carbon to reduced growth of chironomids exposed to field collected sediments. Proceedings of the Fifth International Conference on Remediation of Contaminated Sediments, Jacksonville, FL, February 2–5.

Brummer, C.J., T.B. Abbe, J.R. Sampson, and D.R. Montgomery. 2006. Influence of vertical channel change associated with wood accumulations on delineating channel migration zones, Washington, USA. *Geomorphology*. 80:295-309.

Sampson, J.R., E.A. Tarasova, E.M. Mamontova, A.A. Mamontov, S. Chandra, G.V. Kalmychkov, and I.I. Toupitsyn. 2002. Polychlorinated biphenyls and mercury in sediments and aquatic biota, nearshore juvenile fish communities and food web structure in the lower Selenga River, Russia. 10,000 Years Institute Technical Report, August 2002. Bainbridge Island, Washington.

Sampson, J.R. 2001. Comparative assessment of risk to migrating salmon in the Lewis River: Volitional passage vs. trap and haul. Prepared by 10,000 Years Institute and Steward and Associates. Technical Memorandum prepared for the Lewis River Alternative Relicensing Process, Aquatic Resources Group. May 29, 2001.

Pastorok, R.A., A. MacDonald, J.R. Sampson, P. Wilbur, D. Yozzo, and J.P. Titre. 1997. An ecological decision framework for environmental restoration projects. *Eco. Eng.* 9:89-107

Sampson, J.R., R.S. Mellott, and R.A. Pastorok. 1996. Ecological Risk Assessment at a mine pit lake, Nevada, USA. In: Proceedings of the Twentieth Annual Mine Reclamation Conference, Kamloops, British Columbia.

Pastorok, R.A., D.C. Peek, J.R. Sampson, and M.A. Jacobson. 1994. Ecological risk assessment for river sediments contaminated by creosote. *Environ. Toxicol. Chem.* 13(12):1929-1941.

### **PRESENTATIONS/POSTERS**

Sampson, J.R., and B. Day. 2009. Slip 4 early action site: An example of remediation delayed by a lack of coordination between upland source control and in-water remediation programs. Sediment Management Work Group Meeting, Saratoga Springs, NY. September 29, 2009.

Sampson, J.R., B. Day, A. Bradley, V. Fagerness, M. Tritt, and E. Spalt. 2007. Understanding the ecological significance of recontamination: A case study of bis(2-ethyl hexyl) phthalate. Platform Presentation, International Conference on Remediation of Contaminated Sediments, Savannah, Georgia. January 27, 2007.

Sampson, J.R., E.N. Tarasova, E.A. Mamontova, L.D. Andrulaytis, E. Matveeva, O.A. Sklyarova, T. Galkina, and E.I. Butakova. 2004. Metals in sediment and riparian soils near placer mines on the Tuul and Yeroo rivers, Mongolia. Poster Presentation, Science for Watershed Conservation, Ulan Ude, Russia. September 1-8, 2004.

Sampson, J.R., G.C. Ward, M.M. Pollock, and J. Silver. 2003. Storage of coarse sediment by large wood in headwaters of the Hoh River, Washington. Poster Presentation, Oregon Headwaters Research Conference, Oregon State University, Corvallis, Oregon. January 16, 2003.