

# Kat Ridolfi

## Consultant



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### Education and Credentials

M.S., Aquatic Resource Ecology and Management, University of Michigan, Ann Arbor, Michigan, 2006

B.S., Environmental Economics and Policy, University of California, Berkeley, California, 2002

### Professional Profile

Ms. Kat Ridolfi is an aquatic ecologist with 13 years of consulting experience. Her main experience is in providing strategic and technical support at contaminated sites managed under federal and state regulatory programs. She has also led teams and contributed to the development of total maximum daily loads (TMDLs) and related implementation plans, water quality monitoring plans and programs, stormwater management plans, and environmental impact reports and environmental assessments. She is an experienced project manager, covering a wide range of project budgets for private, government, and nongovernmental organization clients; obtaining millions of dollars in funding through proposal writing and negotiating sole source contracts; developing and maintaining client relationships; and managing subconsultants and internal teams. Her geographic experience covers the San Francisco Bay, Mid-Atlantic, Southeast, Pacific Northwest, and Great Lakes areas. She has also designed and implemented field investigations of fresh and estuarine water, biota, and sediment.

### Relevant Experience

#### Litigation Support

*Confidential Superfund Site in the New York Area*—Provided technical support on a variety of tasks for a site in the early stages of investigation. Directed the development of a database of PRPs at the site to assess the potential allocation and/or liability shares of the client, in relationship to contributions that can be attributed to other PRPs. Data included historical information on site use and predecessor companies, any spills or contaminant releases, and information on chemicals/materials used. Provided overall strategic risk management consulting related to allocation and liability/contribution issues and prepared client for potential future litigation related to contaminant fate and transport model.

*Confidential Superfund Site in the Southeast U.S.*—Reviewed financial documents, provided comments on neighboring site RI/FS documents, reviewed ecological risk assessment, and evaluated development of remedial goals on neighboring site in preparation for litigation regarding conflicting remedial goals and liability for contamination.



## Remedial Investigations and Feasibility Studies

### *RI/FS Support for an Industrial Facility, Portland Harbor Superfund Site, Portland, Oregon—*

Provided a variety of technical and strategic risk consulting services for an industrial facility located on the Willamette River that was formerly occupied by a U.S. Navy shipbuilding and repair facility. The chief constituent of concern for the Portland Harbor site was PCBs; there were also upland concerns about zinc in stormwater, and benzene, toluene, ethylbenzene, and xylenes in groundwater at this facility. Reviewed all RI/FS materials, and provided comments and strategy support to client for allocations. Advised on uplands stormwater sampling program and worked with Oregon Department of Environmental Quality and local field crew to implement approved monitoring program and report to state.

### *RI/FS Support for a Former Industrial Facility, Berry's Creek and Universal Oil Products*

*Superfund Sites, East Rutherford, New Jersey—*Provided a variety of technical services for an industrial facility located on Ackerman's Creek, a tributary to Berry's Creek. The main constituents of concern for the site were PCBs and lead. The site had its own CERCLA designation as Universal Oil Products, and was part of the larger Berry's Creek site. Researched historical operational practices of client and neighboring sites, as well as sewer/stormwater routing and other relevant site characteristics to support development of a contaminant fate and transport model for Ackerman's Creek.

## Regulatory Compliance

### *RCRA and CERCLA Regulatory Compliance for a Former DDT Manufacturing Facility, Ciba-*

*Geigy Superfund Site, McIntosh, Alabama—*This 1,500-acre facility, which currently manufactures industrial and agricultural chemicals, was considered closed under CERCLA but is still participating in EPA- and state-RCRA-managed monitoring and reporting efforts. Provided regulatory compliance services for RCRA permit application, state visual site inspection, EPA five year reviews, Explanation of Significant Differences, and long-term implementation and effectiveness monitoring and reporting for sediments in the floodplain and groundwater. Additional work included ongoing identification, delineation, and risk management of other potential source areas.

### *District of Columbia Department of Energy and Environment Municipal Separate Storm Sewer*

*System (MS4) Monitoring Program and Integrated Surface Water Quality Monitoring Program, Washington, DC—*Developed a revised stormwater monitoring program required as part of the District's MS4 permit and a coordinated program that covered all surface water quality monitoring programs for the city into one plan (The Integrated Surface Water Quality Monitoring Program). The revised monitoring plan was developed to meet the following objectives: ensure compliance with MS4 monitoring requirements; evaluate MS4 program effectiveness; and provide support for any recommended changes in MS4 program activities. Additional tasks included statistical analysis of historical stormwater outfall monitoring data and a comprehensive inventory of data used to develop all TMDLs in the District of Columbia. These data sets were used to assess compliance with wasteload allocations, to assess the effectiveness of current monitoring stations/programs, and to provide recommendations for the consolidated TMDL implementation plan.



*Piers 39-45 Remediation Project Initial Study, San Francisco, California*—Developed an initial study for California Environmental Quality Act review for remediation of PAH-contaminated sediments in the intertidal and subtidal areas near Piers 39-45 in San Francisco Bay.

*Environmental Assessment and NEPA Review for Restoration of Springhouse Run, Washington, DC*—Developed environmental assessment for restoration of a stream in the National Arboretum. Work required extensive consultation with the State Historic Preservation Office and oversight of two comprehensive archaeological surveys to determine presence of archaeological artifacts in the site.

### **Risk Assessment**

*Human Health Risk Assessment for Potential Expansion of a Former DDT Manufacturing Facility, Ciba-Geigy Superfund Site, McIntosh, Alabama*—Assessed potential risk to human health in a small area of this manufacturing facility following an investigation that revealed elevated levels of a range of organic contaminants in soil and groundwater. Analysis included several pathways, receptors, and contaminants to calculate cumulative carcinogenic and non-carcinogenic risk for the property. Risk-based target levels were used because cumulative target risk was exceeded for some pathways.

### **Total Maximum Daily Loads**

*Statewide Mercury and PCBs TMDLs for the State of Michigan*—Developed TMDLs for thousands of Michigan inland lakes and streams, impaired due to atmospheric deposition of mercury and PCBs, in close collaboration with EPA Region 5 and the Michigan Department of Environmental Quality. Atmospheric pollutant load reductions described in the TMDLs were based on a regional analysis that considered geographic variability in deposition and accumulation in fish tissue. Ultimately, the TMDLs described the atmospheric mercury and PCB load reductions necessary to achieve Clean Water Act targets and address all required TMDL elements. The TMDLs were approved by EPA Region 5 in September 2018.

*Mercury and PCBs TMDLs for the Nearshore Segment of Lake Michigan, Illinois*—Developed TMDLs for the 56 waterbody segments that drain to Lake Michigan (covering about 100 square miles within Lake and Cook counties, Illinois) that were impaired from atmospheric deposition of mercury. Atmospheric pollutant load reductions described in the TMDLs were based on a regional analysis that considered geographic variability in deposition and accumulation in fish tissue. Ultimately, the TMDLs described the atmospheric mercury and PCB load reductions necessary to achieve Clean Water Act targets and address all required TMDL elements. The TMDLs only addressed reductions from Illinois sources.

*Impairment Assessment for Mercury in Tomales Bay, Tomales, California*—Developed an impairment assessment report for Tomales Bay, which is impaired due to the presence of mercury from historical mining waste in the 561 km<sup>2</sup> watershed. The report analyzed the potential impacts and risks to ecological health that may have resulted from improper disposal of mercury mining waste, including the spatial distribution of elevated mercury in sediment, fish tissue, and water; temporal trends in mercury-contaminated sediment; and risk to the aquatic food web. Led all work,



including estimating a numeric target for the protection of wildlife; collecting fish, sediment, shellfish, and water samples; and developing a source analysis. The San Francisco Bay Regional Water Quality Control Board subsequently used this work to develop a TMDL for mercury, which was approved by EPA.

***Implementation Plans for Mercury and PCBs TMDLs for San Francisco Bay, California***—Served as project manager and field lead for effort to develop best management practices (BMPs) appropriate for meeting implementation goals for mercury and PCBs in San Francisco Bay. Collected soil and sediment samples from hundreds of source areas throughout the bay watershed and oversaw processing and analysis.

***Comprehensive Plan to Reduce PCBs in the Spokane River, Spokane, Washington***—Developed source assessment and conceptual model for PCBs impacting the Spokane River. Work involved compiling data from a variety of state and local agencies, conducting gap analysis, identifying potential sources within the watershed, and developing a conceptual model of fate, transport, and pathways of PCBs. With input from a large variety of stakeholders, completed an inventory of BMPs to reduce PCB loads to the river, analyzed cost effectiveness, and prioritized BMPs appropriate for the watershed. The goal of the Comprehensive Plan was to bring the Spokane River into compliance with applicable water quality standards for PCBs.

***Bacteria Translator for Bacteria TMDLs, Washington, DC***—Developed a translator to convert bacteria TMDLs from fecal coliform to *E. coli* as mandated by new water quality standards. Work included review of other state translator methods, analysis of paired bacteria data collected in DC, evaluation of the ability of the DC monitoring strategy to support new water quality guidelines, and recommendation of a translator to use in DC.

## **Groundwater Studies**

***Cumulative Impact Assessment for the Proposed Onsite Wastewater Treatment System Discharge at the Northern California Youth Regional Treatment Center, Yolo County, California***—Conducted the nitrogen loading analysis for the proposed onsite wastewater treatment system. The nitrogen loading analysis evaluated the effect of nitrogen discharge to groundwater using an annual mass-balance method.

## **Publications**

Ridolfi, K. 2016. Nonpoint source pollution. In: *Encyclopedia of Estuaries*. M.J. Kennish (ed.). Springer Science.

Greenfield, B.K., A.R. Melwani, R.M. Allen, D.G. Slotton, S.M. Ayers, H. Hintelmann, B. Dimock, J.D. Blum, G.E. Gehrke, A. Jahn, K. Harrold, K. Ridolfi, J. Griswold, and M.B. Sandheinrich. 2012. A stratified probabilistic survey of biosentinel mercury and mercury isotopes in San Francisco Bay, CA USA. *Sci. Tot. Environ.* 444: 591–601.



## **Presentations/Posters**

Ridolfi, K. 2016. What can we learn from other Comprehensive Plans: San Francisco Bay PCB TMDL. Spokane River Regional Toxics Task Force Technical Workshop, Spokane, WA.

Ridolfi, K. 2010. Assessing impairment of Tomales Bay due to mercury. Bay-Delta Science Conference, Sacramento, CA.

Ridolfi, K. 2010. Assessing impairment of Tomales Bay due to mercury. National Water Quality Monitoring Council Conference, Denver, CO.

Ridolfi, K. 2009. How healthy is your watershed? Recent progress on developing indicators of ecological health and the potential applications in the San Francisco Bay Area and beyond. Salmonid Restoration Federation's 27th Annual Salmonid Restoration Conference: Elements of Watershed Restoration, Santa Cruz, CA.

