

Jill DeMars
Senior Scientist



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- Expertise**
- Historical research and technical evaluation for litigation support
 - Contaminant fate and transport
 - Environmental due diligence
 - Allocation cost modeling

Summary Ms. DeMars is a senior scientist and project manager with over six years of experience in environmental investigations, remediation, and litigation projects. She has expertise in preparing technical deliverables, including source identification and contaminant pathway evaluation, stormwater characterization and loading calculations, sediment modeling, and allocation models for complex multi-source, multi-party sediment sites. She also conducts historical operations research in association with legacy contamination and environmental liability.

Professional Experience **Technical Consultation and Allocation/Litigation Support (2020–Ongoing)**
Confidential Client, Seattle, Washington

TIG Environmental provides support to a Washington state agency in responding to a broad Section 104(e) information request at a Superfund sediment site in the early stages of investigation and remediation. As a state agency, our client was potentially involved at several facilities in the vicinity of the subject site. TIG Environmental first supported its client in identifying which facilities potentially connected to the client were responsive to the EPA's request through drainage pathway delineation, interpretation of aerial photographs, and review of historical records. TIG Environmental then assisted its client in screening potentially responsive documents for relevance to the EPA's request, conducting current and former employee interviews, and preparing responses to the EPA's request for the responsive facilities. TIG Environmental is also working alongside the state agency to develop a strategy in anticipation of a potential future allocation process.

Ms. DeMars is the project manager responsible for managing a team that supports the client in satisfying regulatory agency cooperation as well as advises the client on future phases of the Superfund site investigation and cleanup process.

Expert Consultant for Sediment and Uplands Cleanup Cost Allocation (2019–Ongoing)
Confidential Client, New York

TIG Environmental provides litigation support to a private client participating in a Superfund site allocation. The site includes nearly two miles of waterway in a heavily industrialized area of New York state. Contamination at the site includes polychlorinated biphenyls (PCBs) and other chemicals. PCBs are the primary chemicals of concern. After an initial remedial design phase was completed, regulatory agencies required additional investigation of the study area. Findings from the investigation increased the estimated remedial cost nearly seven-fold. A comprehensive assessment of the watershed is necessary. The client has retained TIG Environmental's services for potentially responsible party (PRP) identification and investigation, sampling and data analysis, and expert witness testimony. TIG Environmental has evaluated and investigated documents for PRP sites to gather evidence of historical releases related to operations, developed recommendations for site sampling, and developed a preliminary conceptual site model of the relationships between PRP operations and the contaminated

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waterway. TIG Environmental has also overseen additional site sampling and data forensic analysis to determine the deposition of PCBs and other chemicals that could be indicators of historical PCB use. TIG Environmental provided a data analysis report, final conceptual site model, and data visualization tools to assist the client in strengthening the connection between contamination in the waterway and adjacent PRPs, identified PRPs that may not be responsible for contamination, and identified additional discharge points that may be associated with additional PRPs.

Ms. DeMars has served on the technical team, specifically evaluating PCB sources and transport pathways from operator sites using historical records, permits, waste manifests, maps and investigation reports. Ms. DeMars also performed a comparative analysis of operator sites based on evidence availability and strength of evidence of PCB transport from the site to the study area.

Technical Consultation and Allocation/Litigation Support (2016–Ongoing)

Confidential Client, Multnomah County, Oregon

TIG Environmental provides technical expert support for environmental liability assessment and cost allocation for the remediation of sediments at the Portland Harbor Superfund Site and for the associated Natural Resource Damages claims. The harbor has been the site of numerous manufacturing, shipbuilding, petroleum storage and distribution, metal salvaging, and electrical power generation operations for more than a century. Development of expert reports has included research and forensic analysis to determine the specific contaminant nexus to the sediments for each upland PRP. Specific forensic analysis has included evaluation of potential historical contaminant sources, chemical fingerprinting of polycyclic aromatic hydrocarbons (PAHs), PCBs, dioxins/furans (PCDD/Fs), and contaminant fate and transport. Key issues revolve around potential contributions from state-maintained roads, bridges, and other right-of-way properties and supporting facilities. This effort has included collection and evaluation of sediment, stormwater, and bridge paint samples. TIG Environmental is also responsible for evaluating the potential relationship between activities on state-owned submerged lands and the contamination in the river.

Since 2016, Ms. DeMars has served on the technical team conducting detailed analysis of environmental documents, lease agreements, deed transfers, and historical photographs, as well as planning and managing environmental field sampling activities. Ms. DeMars has also evaluated contaminant pathways and their quantitative influence used in the calculation of proposed cleanup cost allocation shares. The findings of this research have been summarized in reports that evaluate the potential relationship between activities conducted on sites of interest and contamination in Portland Harbor.

Technical Consultation and Allocation/Litigation Support (2016–Ongoing)

Confidential Client, Seattle, Washington

TIG Environmental provides litigation support to a Washington state agency participating in a Superfund site allocation. The Superfund sediment site consists of five miles of urban and industrial estuarine waterway. The key issues revolve around potential contaminant loading in stormwater from state-maintained roads, bridges, and supporting facilities. TIG Environmental has prepared expert reports that evaluate whether there is a potential relationship between the Superfund site sediment

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contamination and the discharge of hazardous substances from the state-owned facilities, potentially resulting in the need for remedial action and associated response costs. TIG Environmental is developing an allocation strategy based on sampling and statistical analysis of stormwater, historical and scientific research, drainage pathway delineation, and sediment transport modeling. TIG Environmental is also assisting the state agency with the development of source control plans in accordance with Washington State Department of Ecology's source control strategy.

As part of the technical team since 2016, Ms. DeMars assisted in the development of an expert report encompassing the state-maintained roads, bridges and properties, including the calculation of a proposed allocation cost share based on sediment chemistry modeling using empirical stormwater data. As of 2021, Ms. DeMars is the project manager directing the technical team in supporting client needs.

Technical Support for Cost Allocation (2014–Ongoing)

Confidential Client, Seattle, Washington

TIG Environmental provides expert technical support to a private property owner participating in a Superfund site allocation. The Superfund sediment site consists of five miles of an urban and industrial estuarine waterway. Working with the property owner's attorney, TIG Environmental evaluated potential sources of PCB contamination in sediments adjacent to the property and has developed an allocation strategy based on forensic chemistry and sediment transport modeling.

Ms. DeMars provided technical support during the development of the client's position paper by answering the allocator's questions related to environmental liability concepts specific to the Superfund Site.

Technical Support of Cost Allocation (2017–Ongoing)

Confidential Client, New Jersey

TIG Environmental provides technical support on investigative identification of PRPs in a tidal tributary system with contaminated sediments for remedial cost allocation purposes. The evaluation includes research and forensic analysis to determine the nexus from investigated upland PRP sites to the tributary system for specific contaminants. The results of this investigation were used to develop a comprehensive allocation strategy and supporting expert reports for sediment and marsh cleanup cost allocation. Continuing efforts include developing evaluations and analyses to support mediation efforts.

Since 2017, Ms. DeMars has authored site summaries for upland PRP sites. Ms. DeMars provided technical support with assisting in document coding efforts and utilizing newly discovered information to supplement individual site summaries. In addition, Ms. DeMars developed an allocation model incorporating upland site contamination, contaminant pathways, magnitude of release, and duration of operations to calculate fair and equitable cleanup cost shares for PRPs participating in the allocation.

Technical Consultation and Litigation Support (2016–Ongoing)

Confidential Clients, New Jersey

TIG Environmental provides technical and litigation support for environmental liability assessment related to sediment remediation at a complex urban river Superfund site. Investigative services

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performed include acquisition of historical records, primary witness testimony, environmental data, and technical reports for the identification and assessment of PRPs associated with the site. Contaminant source identification involves evaluation of the historical operations of hundreds of upland sites; fate and transport analysis; and investigation and mapping of the historical storm, sanitary, and combined sewer systems of numerous municipalities. TIG Environmental manages the database encompassing all historical sediment data associated with the site.

Ms. DeMars authored several evidence summary packages for upland PRP sites through the investigative research of site contamination, assessing contaminant pathways, and researching historical and current operations and environmental practices. Ms. DeMars identified data gaps and assisted in document coding efforts to close data gaps and supplement evidence summary packages.

Expert Consultation for Sediment and Uplands Cleanup Cost Allocation (2019–Ongoing)

Confidential Client, New York

TIG Environmental provides litigation support to a private client participating in a Superfund site allocation. The site includes nearly two miles of waterway in a heavily industrialized area of New York state. Contamination at the site includes PCBs and other chemicals. PCBs are the primary chemicals of concern. After an initial remedial design phase was completed, regulatory agencies required additional investigation of the study area. Findings from the investigation increased the estimated remedial cost nearly seven-fold. A comprehensive assessment of the watershed is necessary. The client has retained TIG Environmental's services for PRP identification and investigation, sampling and data analysis, and expert witness testimony. TIG Environmental has evaluated and investigated documents for PRP sites to gather evidence of historical releases related to operations, developed recommendations for site sampling, and developed a preliminary conceptual site model of the relationships between PRP operations and the contaminated waterway. TIG Environmental has also overseen additional site sampling and data forensic analysis to determine the deposition of PCBs and other chemicals that could be indicators of historical PCB use. TIG Environmental provided a data analysis report, final conceptual site model, and data visualization tools to assist the client in strengthening the connection between contamination in the waterway and adjacent PRPs, identified PRPs that may not be responsible for contamination, and identified additional discharge points that may be associated with additional PRPs.

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Design for Sediment Removal, Capping, and Natural Attenuation (2015–Ongoing)

Yosemite Slough Cooperating Parties Group, San Francisco, California

TIG Environmental and a co-consultant are conducting pre-remedial design studies aimed at refining the EPA-proposed multi-technology removal action in a contaminated intertidal channel in a highly urbanized area within San Francisco Bay. Studies include specialized evaluations of sedimentation rates; depth of the biologically active zone; bulk sediment and pore water chemistry; erosion and

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particle transport; and geotechnical parameters. Overall, the studies will support the design for dredging, capping, and natural recovery of the contaminated sediments.

As part of the technical team, Ms. DeMars is assisting with development and finalization of pre-design technical study reports to facilitate remedy design and implementation.

**Academic
Qualifications**

BS in Environmental Science and Geology, University of Michigan, 2015

**Professional
Training**

- 40-Hour OSHA Hazardous Waste Operations (HAZWOPER) Safety Training (29 CFR 1910.120)
- DOT HAZMAT Transportation Training
- IATA – Transportation of Dangerous Goods Training
- CPR and First Aid Training

**Publications
and
Presentations**

Warlow, Erin, Jason Dittman, and Philip Spadaro. "Use of Combined Modeling Approach to Evaluate Transportation-Related Stormwater and its Potential Impacts to Sediment." SETAC North American, Pittsburgh, PA, November 16, 2022.

DeMars, Jillian and Erin Warlow. *Effectively Building a Concise and Accurate Disclosure or Discovery Response Strategy*. Webinar (2021).