VOLUME VIII • SUMMER 2006

THE JOHNSON REPORT

ENVIRONMENTAL SCIENCE AND ENGINEERING SOLUTIONS

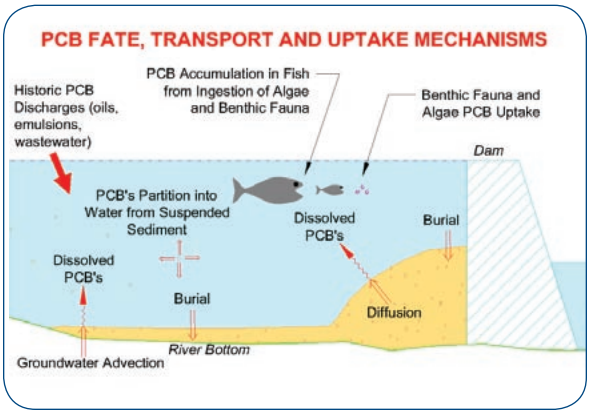
Restoration Strategies for Lower Neponset River

The Lower Neponset River, flowing through Milton, Massachusetts, provides fishing, boating, and urban wildlife habitat. Discovery of PCBs in river sediments threatened to interrupt the Massachusetts Riverways Program's plans to increase public access to the River and restore historic fisheries.

The Johnson Company was hired in the spring of 2005 to help the Massachusetts Riverways Program develop a strategy to address the sediment contamination problem in the context of the recreation and fisheries restoration work underway.

Creative solution needed

The problem required a creative approach in order to preserve the resource benefits to the community. We assembled a multidisciplinary team consisting of Johnson Company engineers and ecologists, Danny Rieble, Ph. D., a noted expert on sediment remediation from the University of Texas, and fisheries scientist Phil Downey, Ph.D., from Aquatec Biological Services. The USGS mapped the contamination in the river and USGS Project Manager, Rob Breault, worked with the Riverways Program and The Johnson Company Team on this project.



Strategy Mapped Out

The Team mapped out a strategy that identified key decision points and recommended restoration actions. The Team identified capping and sediment stabilization options to manage the PCB problem, and provided recommended approaches to improve fish passage and habitat, and preserve and enhance public access to the green corridor provided by the Neponset. Riverways will continue to work with USGS and state agencies to identify and control upstream PCB sources. Riverways will also make a decision on the future of the T&H and Baker Dams after consultation with other agencies and the public.

Neponset Restoration Continues

Strategy development, database creation, a Massachusetts regulatory agency briefing, final report, and a public information presentation were completed by the Team within four months. With a strategy now mapped out, the Massachusetts Riverways Program can prioritize its efforts so that restoration and remediation can proceed concurrently.

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NEW FACES

We have added four new faces to our technical staff; two engineers, Kurt Muller and Michael Rogalus; and two geologists, Michael Jordan, P.G., and Noelia Báez-Rodríguez.

Michael Jordan, P.G. is a hydrogeologist with 10 years experience including a variety of remedial technologies such as reactive barriers, dual phase extraction, catalytic oxidation, and bio-reactors. He also has significant experience with soil vapor and indoor air investigations, human health risks, and remediation.

J. Kurt Muller, E.I.T. is an environmental engineer who performs civil and environmental design, conducts environmental site assessments, and provides construction oversight. Between receiving two degrees, he served as a Peace Corps volunteer in Côte d'Ivoire, West Africa, working on public health and sanitation projects.

Michael J. Rogalus, III, M.S. is an environmental engineer with particular expertise in hydrologic modeling and advanced data analysis using a variety of programming languages and analytical programs.

Noelia Báez-Rodríguez, M.S. is a geologist from Puerto Rico with particular expertise in karst geology. While a graduate student, she worked as a Student Trainee for the U.S. Geological Survey in Reston, Virginia.

FALL ADDITION

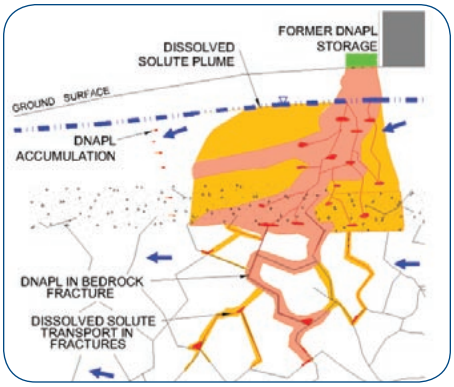
Daniel W. Smith, a recent graduate of Cornell's Civil and Environmental Engineering Program, will be joining The Johnson Company in September 2006. He graduated at the top of his class, *summa cum laude*. Before starting with us, he will be spending the summer in Honduras where he has been a Project Leader for a rural water supply project.

New US EPA Guidance for Remediation of Contaminated Sediments Emphasizes Risk-Based Approach

In December 2005, the US EPA released its long awaited Contaminated Sediment Remediation Guidance for Hazardous Waste Sites, a product of an 85-person working group formed of several federal agency representatives. The document "provides technical and policy guidance for project managers and management teams making risk management decisions for contaminated sediment sites." It emphasizes a risk-based approach that does not bias specific remedies. The Guidance improves prospects for acceptance of less expensive risk-based remedies such as sub-aqueous capping. The Johnson Company has achieved considerable success at contaminated sites with cost effective remedies such as capping and institutional controls to manage risk.

For more information regarding the Guidance, see http://www.epa.gov/superfund/resources/sediment/guidance.htm

Contamination in Fractured Bedrock Addressed



The Johnson Company concluded a $850K+ site investigation in Georgia at the end of last year, and started 2006 with a site investigation of similar scope in New York, both involving chlorinated solvents as DNAPL in fractured bedrock (shale and crystalline) and fluvial deposits. These investigations include indoor air and soil vapor assessments, borehole geophysics, groundwater profiling with The Johnson Company's Waterloo profiler, groundwater/surface water interaction studies, contaminant transport assessments and visualizations, and human health and ecological risk assessment. The Johnson Company will design and implement the remediation for both sites.

New Corps of Engineers Contract

The Johnson Company has begun two projects for the U.S. Army Corps of Engineers under a 5-year, $5M Small Business contract to support hazardous waste remediation in the Corps' North Atlantic Division. These projects are located in Machiasport, Maine, and St. Albans, Vermont. The Johnson Company team includes ENSR Corporation, Westford MA; Hager-Richter Geoscience, Salem NH; Hallam ICS, South Burlington VT; and Ordnance and Explosives Remediation, Cohasset MA.

National Park Service Technical Support

After winning a five-year General Services Administration contract for environmental services, The Johnson Company began providing the National Park Service (NPS) technical support for multi-media environmental contamination on sites under CERCLA (Superfund) and RCRA jurisdictions. A few projects completed thus far include:

- Remedial Design review of plans for stream bank stabilization and metals clean-up on the Clark Fork River at Grant-Kohrs Ranch National Historic Site in Montana;
- Remedial Investigation/Feasibility Study review and design and construction oversight for stabilization of asbestos containing soils at the Valley Forge National Historical Park in Pennsylvania; and
- Investigation and remediation design, oversight and implementation for landfill derived groundwater contamination in Virginia.

Our technical support and sound recommendations support the National Park Service in its goal stated in the NPS "Organic Act" of 1916: "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Bank Stabilization, Valley Forge Asbestos Release Site

Vermont Legislature Considers Improvements to Brownfield Redevelopment Policies

Chad Farrell, Senior Engineer at The Johnson Company, recently participated in a state-wide coalition of consultants, lawyers, developers and regional planners to improve Vermont's brownfield redevelopment policies. Mr. Farrell testified before the Vermont State Legislature to educate lawmakers on brownfield redevelopment and to recommend improvements to current legislation. The Johnson Company continues to provide communities, regional planning commissions, state government, and private developers with the technical expertise necessary to return vacant and abandoned brownfield properties to productive reuse.

SUMMER INTERN

Dan Baston joins us as an intern this summer. Dan is a graduate in civil engineering from Queen's University in Kingston, Ontario. Dan will return to Queen's in the fall to begin a master's degree program under Dr. Bernard Kueper, a noted expert in groundwater contaminant transport.

PRESENTATIONS

Michael B. Moore, CGWP, P.G., is presenting two papers this year: *Monitored Natural Attenuation of Adjacent DNAPL/LNAPL Sources – Contrasting Groundwater Chemistry* at the Battelle Fifth International Conference on Remediation of Chlorinated and Recalcitrant Compounds in Monterey, California in May; and *Control of Groundwater Contaminant Transport in Fractured Bedrock by Natural Gradients* at the National Ground Water Association Conference on Ground Water and Environmental Law at the division on Forensic Environmental Investigations in Chicago in July.

CONFERENCES

The Johnson Company was represented by **Chad R. Farrell, P.E.**, and **Rhonda T. Kay** at the U.S. EPA's National Brownfield Conference in Denver, Colorado in November, 2005. Chad and Rhonda have been working on dozens of brownfield project sites throughout Vermont and New England.

Stream Geomorphic Assessments – Tyler Branch Watershed, Franklin County, Vermont

The Johnson Company performed Phase 2 Geomorphic Assessments using State of Vermont protocols within a significant portion of the Tyler Branch Watershed which encompasses 58 square miles in northwestern Vermont. The Assessments utilized a variety of field and remote sensing techniques to document how the river system has responded to anthropogenic and natural stressors, and to determine the likelihood for future change. The collected data were used to identify areas within the watershed where restoration and corridor protection could be initiated to enhance the aquatic community, protect sensitive properties, and reduce erosion and excess nutrient inputs.

Stream Geomorphic Assessments are recognized as a tool for improving water quality and protecting streamside property

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