



Phytoremediation as a System for Control of Groundwater Contaminants—A Call for Geologists, Hydrogeologists, Hydrologists, ...

Presented by Dr. Christopher A. Nowak

Department of Forest and Natural Resources Management, SUNY-ESF

Phytoremediation is the name given to a set of technologies that use different plants to contain, destroy, or extract various soil and water contaminants. There is national interest in research, development and operation of phytoremediation technologies that can efficiently and effectively remediate contaminated sites. To address this need SUNY-ESF has, over the past decade, designed and installed innovative, shrub willow-based phytoremediation systems on sites in Virginia, New Hampshire, and New York. Hydraulic control—use of plants to remove groundwater through uptake and consumption in order to contain or control the migration of contaminants—is a key phytoremediation process in our work across the Northeastern United States. We have had successes in phytoremediation. They can be attributed to: 1) committed, inter- and multidisciplinary teams that include contaminated site owners and a variety of project scientists, engineers, state and federal regulators, and many students; and 2) robust monitoring of operational systems as part of a continuous improvement program (“adaptive management”). As our work matures, we have added critical expertise to our phytoremediation teams in the arenas of watershed hydrology and hydrogeology—surface and ground water dynamics is clearly the “undercurrent” of focus in our work. Today, we are expanding a phytoremediation system at Fort Drum, New York, from a pilot study, circa Year 2001, to operational scale with a plan for over 25,000 willow plants to be installed and maintained across a 2-acre treatment area. Monitoring is set to feature intense measurement and modeling of water table dynamics and chemistry across the watershed (approximately 1,000 acres in size). Experiences on the Fort Drum phytoremediation site will be shared to show the importance of innovation and expertise that comes only from diverse teams of people working together on a shared opportunity to solve a problem of critical import to society.

Dr. Christopher A. Nowak is an Associate Professor of the Department of Forest and Natural Resources Management at State University of New York College of Environmental Science and Forestry. He received his Ph.D. from SUNY-ESF (Forest Resources Management). His areas of study include: Vegetation Management, Silviculture and Forest Ecology, Phytoremediation, Biogeography and Cultural Landscapes, Sustainable Forest Management and Certification Systems.



MEETING LOGISTICS: The meeting will take place on Thursday, May 17, 2007 at Centers for Nature Education at Baltimore Woods, Bishop Hill Road, Marcellus, New York (Directions are below).

A geology walk in Baltimore Woods will be lead by Patty Weisse (CNE Executive Director and geologist) starting at 5:30 p.m. The walk will be followed by a dinner starting at 6:30 p.m. The main presentation by Dr. Nowak will begin at about 7:30 p.m.

The cost of dinner is \$15 for members, \$17 for non-members, the first five students will receive free sponsorship to the meeting. People may also attend the presentation only for a nominal fee of \$3. Please RSVP by Monday, May 14th to Annette at info@pwinc.com or (315) 437-1429.

Centers for Nature Education at Baltimore Woods

Phone 315 673-1350

www.takeahike.org

Directions to Baltimore Woods from Syracuse via Rte 175, (15 minutes from Community Hospital):

1. Take Rte 175 (Seneca Turnpike) to Marcellus
2. Go straight at blinking light —into the village of Marcellus
3. Take first left after stoplight, onto South Street
4. Follow South about 1/2 mile to "Y" in road
5. Bear right at "Y" onto Bishop Hill Rd.
6. Baltimore Woods is 1/2 mile up the hill on your right.

Directions to Baltimore Woods from Syracuse via 690, (15 minutes from Fairgrounds):

1. 690 west to 695 west to Rt 5 west (towards Auburn)
2. Exit Rt 5 at Camillus —turn left towards village
3. Right at light in village onto W. Genesee St.
4. Go about 2 blocks and turn left onto Rt 174
5. Go straight 4 miles into Marcellus
6. Turn right at stoplight
7. Take immediate left onto South St.
8. Follow South about 1/2 mile to "Y" in road
9. Bear right at "Y" onto Bishop Hill Rd.
10. Baltimore Woods is 1/2 mile up the hill on your right.

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