



Government–community partnership



Julie Taylor Schooling photo

Workshop participants team up to stock the wetland with branches and to protect seeded banks with straw mulch.

by Sarma Liepins, BC Ministry of Environment and Julie Taylor Schooling, Corporate Publications Specialist

When the Barnhartvale Horse & Hiker Trail Preservation Society joined forces with the British Columbia Ministry of Environment (MOE) to plan a wetland construction project, no one could have imagined how much their chosen site could change in a weekend! That weekend, September 29 to October 2, 2006, was the culmination of more than a year's work, spearheaded by **Sarma Liepins**, Ecosystems Biologist for the MOE and **Yvonne Prokopetz** of the Trailriders' Association, and brought to reality with the help of **Tom Biebighauser**, a wildlife biologist with the USDA Forest Service.

To add value to the on-site process, organizers invited members of the community to a workshop on the principles of wetland construction (and community-based partnering) and showed them how to add the finishing touches to the excavator-created vernal ponds (small, shallow, intermittently flooded wetlands, generally dry for most of the summer and fall). The event was funded by the Habitat Conservation Trust Fund and supported by numerous business community members who collectively donated over \$10,000 worth of materials and services to the project.

Over five days, Biebighauser oversaw construction of three groundwater wetlands and a groundwater monitoring well on the Tree Flats site in Barnhartvale, as well as surface-water wetlands at R.L. Clemison School and at the Sk'lep School of Excellence at the Kamloops Indian Band's Chief Louis Centre.

Biebighauser introduced groups to the two main types of vernal ponds—groundwater (in which the water table is exposed) and surface water (in which runoff or other surface water is detained by clay soils or PVC liners)—and explained the critical importance of soil types, quality and quantity of water supply, elevational gradients, buried drainage or other infrastructure, permit requirements, and applying project objectives to planning and design.

Biebighauser's passion for wetland construction—he's constructed over 900 seasonal, permanent, emergent, and forested wetlands since 1988—reflects his understanding of the positive impact such wetlands have on biodiversity. Frogs, salamanders, and other amphibians are obvious species that benefit from the presence of vernal ponds; also, waterfowl depend on vernal ponds during migration while shorebirds, reptiles, and mammals such as bats benefit from the food source wetlands represent. As our group helped seed and cover exposed banks of one pond with mulch, then collected branches and twigs for its edges, we were amazed at how quickly the groundwater pond attracted invertebrates and insects in the dry Southern Interior landscape—the twigs we'd placed as dragonfly perches were in use before we left the site!

The need for these types of projects reflects the

More information from BC MOE

Environmental Stewardship Division

- Wetlands in BC – Background, including links to Wetland Evaluation Guide and Wetland Survey (highlighting significant work being done to protect wetlands in BC): see <http://www.env.gov.bc.ca/wld/wetlands.html>
- Sensitive Ecosystems Inventories (SEI): see <http://www.env.gov.bc.ca/sei/>

Environmental Protection Division

- See: http://www.env.gov.bc.ca/wat/wq/nps/BMP_Compendium/General/Aquatic_Habitat/Wetlands_Riparian.htm
- Constructed Wetlands, including Introduction, Design, Application, Location, Advantages, Disadvantages, and Maintenance
 - Natural Wetlands and Riparian Habitats, including Introduction, Re-establishing Hydrology, Drawing Down the Water Table, Leave Strips, Minimizing Disturbances, and Restoring Native Plant Communities.

References


Biebighauser, T.R. 2003. A Guide to Creating Vernal Ponds. USDA Forest Service. 33p. URL: <http://herpcenter.ipfw.edu/outreach/VernalPonds/VernalPond-Guide.pdf>

Eubanks, E. 2004. Riparian restoration. USDA Forest Service, San Dimas, CA.



celebrates construction of five wetlands

loss of countless natural wetlands across North America—ephemeral wetlands are particularly vulnerable to development-related filling or draining. So while protecting existing natural wetlands is the preferred approach, Biebighauser demonstrated that we can create successful, valuable wetland habitats to offset the losses. Creating wetlands near school-

grounds can tie in to curricula that engage children in wetland-based outdoor classrooms—an investment in preventing future losses! 

For more information, contact Sarma Liepins at **Sarma.Liepins@gov.bc.ca** or 250-371-6200, or Tom Biebighauser at **tombiebighauser@fs.fed.us**



The Tree Flats site showing evidence of extensive mud-bogging (April 2006).



The newly fenced site following creation of the three wetlands (October 2006).