

JOURNAL OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF BC

JULY/AUGUST 2007

Innovation

**Mobile Connectivity
Saving Lives**

**Tender Law:
What You Need
to Know**

**Eco-Charettes:
*Sustainable Design
in Action***

**2006/2007
Project
Highlights**

110301
Mr. N.B. Keenly, P. Eng.
Triton Logging Inc
6675 Mirvah Rd
Saanichton BC V8M 1Z4

6684 #
M18(V) #



TERRAIN STABILITY MAPPING

- With Forest Investment Account (FIA) funding, Polar Geoscience (Polly Uunila PGeo) was retained by Tolko Industries, Okanagan Region Woodlands in 2006 to conduct a terrain stability mapping project of 28,000 ha of the headwaters of the Shuswap River near Vernon, BC. The objective of the work was to document the surficial geology, active geomorphic processes, and terrain stability to support forest development planning. This information is

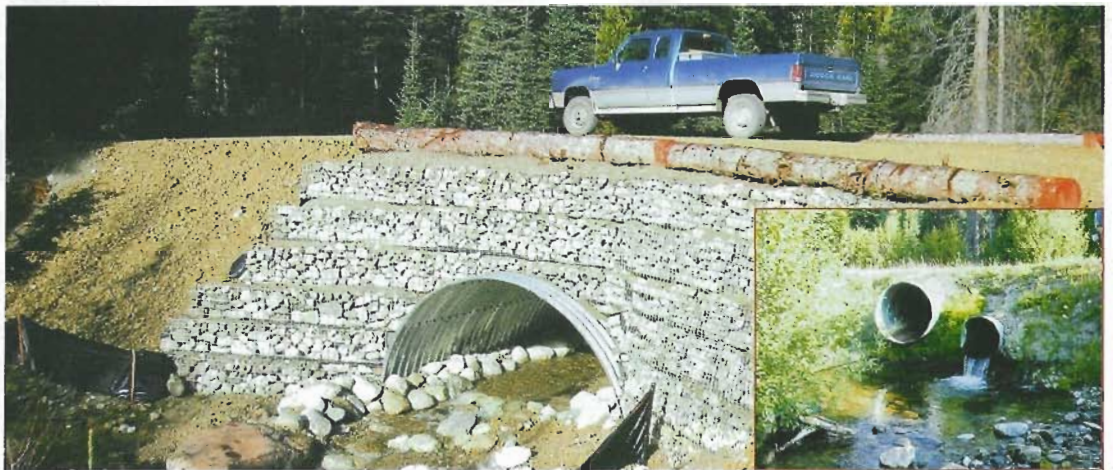
paramount in developing strategies to minimize risks to watershed values associated with future road construction and harvesting. While consistent with relevant provincial standards, a customized approach to the project was adopted, which included aerial photo interpretation, helicopter reconnaissance, and detailed ground inspections.



SAWFISH UNDERWATER HARVESTER

Triton Logging's Sawfish Underwater Harvester was designed to take advantage of the 300 million preserved trees standing in dam reservoirs worldwide. Operating remotely and using its patented airbag system, the Sawfish can cut and surface hundreds of trees per day. The team at Triton, lead by Norman Keevil PEng and Stan Worsley PEng, designed and built the second generation Sawfish with increased power, maneuverability and airbag capacity. Used throughout the summer of 2006 at Ootsa Lake and near Powell River, the Sawfish is the world's only deepwater harvesting machine, capable of reaching trees in the deepest of reservoirs. Under contract to reservoir managers and in partnership with local governments, Sawfish units will also be deployed to international waters in 2007 to recover high-value, environmentally friendly timber to satisfy the growing demand for certified wood products.

Professionals Involved: Stan Worsley PEng, Jason Williams PEng, Scott Borstad EIT, Norman Keevil PEng.



GEOTEXTILE REINFORCED STREAM CROSSING

- Pipe culverts on streams typically interrupt the natural bed load sediment transport within stream channel. Weyerhaeuser Canada was able to remove one of these barriers to fish passage and sediment on Wabash Creek. The replacement structure consisted of a 4.3 m span, 10.6 m long reinforced Terraspan soil arch. One of the benefits of the reinforced soil arch is that the steel arch form, used in the construction of the structure, does not utilize a footing.

The supply and construction costs were significantly less than for a conventional soil-steel arch.

Operators: Weyerhaeuser Canada. Design: Terratech Consulting. Hydrology and Environmental Monitoring: Dobson Engineering. Landmark Forest Management. Excavation Contractor: G & L Cartworks. Materials Supplier: Armtec.