

Perspectives

to the two issues noted above: the anticipated runoff volume and the gradient of the structure. Both these factors affect the amount of energy transferred from the moving water to the stream channel; this, in conjunction with the mass of the particles making up the substrate, determines the erosion potential.

When the road is prescribed for no vehicle access and there is no direct connection to a fish stream, cross ditches are frequently left unarmoured. Initially, this will result in an increase in the generation and export of sediment. However, after the first winter, most of the fine material will have been removed, leaving behind the coarser substrate that will "self-armour" the structure. On the other hand, if there are access or fish concerns it will likely be necessary to armour the structure (see Figure 3). This is especially true if the outlet of the water control structure empties onto an erodible fill slope.

Proper armouring of water control structures will increase the cost of the deactivation. Specifically, there will be additional excavator time required to sort and place the rock. In addition, where there is no suitable armouring material on site it will have to be developed and imported from another location. Despite this extra expense, it is preferable to do the job correctly the first time rather than to risk additional environmental damage as well as to incur the often greater costs associated with remedial work.

References

Chatwin, S.C., et al (1994). *A Guide for Management of Landslide-Prone Terrain in the Pacific Northwest*.



Figure 3. This stream restoration should have allowed for vehicle access, but the lack of adequate armouring resulted in the down-cutting of the stream channel. To regain access, a salvage crew has placed logs into the structure. Note, also, that the vehicles have scraped off the protective layer of grass on both approaches, which will further exacerbate the sediment problem.

Atkins, R.J., et al (2000) *Best Management Practices Handbook: Hillslope Restoration in British Columbia*.

Wong, R. (1997). *Advanced Road Deactivation Course Handbook*.

For further information contact:

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Update

Conferences

2000 Coastal Forest Site Rehabilitation (CFSR) Conference, Nanaimo B.C., December 7 - 8, 2000.

The 2000 CFSR Conference is a two-day event held at Nanaimo's Port Theatre (adjacent to the Coast Bastion Inn) jointly facilitated by Malaspina University-College, Forestry Extension Program and the Forestry Continuing Studies Network (FCSN). We gratefully acknowledge the support of FRBC. This annual conference has developed a longstanding reputation for being the

premier source of "leading edge" technology and information on watershed restoration. Speakers come from around the province and the Pacific Northwest to present a virtual cornucopia of issues, information and case studies. This year's program will focus on two themes, the first day will highlight presentations dealing with upslope topics and the second day will highlight presentations dealing with in-stream topics. Early Registration Fee is \$105.00 + \$ 7.35 gst (if applicable) if payment received on or before November 22, 2000. If you miss that date, the registration fee is \$125.00 +

\$8.75 gst (if applicable). Fee includes: entrance to wine and cheese reception, trade show and exhibits, workshop, refreshments and lunches on Thursday and Friday, participant manual, and a souvenir item.

Restoration and Recovery: Beyond Good Intentions, Bellevue (near Seattle), Washington from April 2-6, 2001. It is planned by the Society for Ecological Restoration, Northwest Chapter. For more information check out the following web site: <http://www.halcyon.com/sernw/2001conf/2001conf.htm>

Update

Workshops

Coastal Windthrow Workshop:
December 6, Coast Bastion Inn.

Variable retention and other partial cutting silviculture systems are gaining in popularity on the BC coast. Along with this major change in harvesting practice, the BC Forest Practices Code is leading to an increase in the number of forested reserves for riparian areas, wildlife habitat, slope stability control and other resource protection reasons. One of the potential downsides of this change in forest practices is a potential increase in the amount of windthrow along harvested edges or within areas of dispersed cutting. This workshop has been convened to share with foresters, and others, information from some of the more recent studies on windthrow ongoing in the province and to provide a forum for discussion on this important topic. Early Fee: \$29.00 + \$2.03 gst (if applicable) if payment received on or before November 22, 2000. Late Fee: \$35.00 + \$2.45 gst (if applicable). Workshop Fee includes admission to workshop, participant materials, refreshments, lunch and a souvenir item. To register, you can download the form from: fcsn@interchange.ubc.ca or www.fcsn.bc.ca or call toll free to: 1-877-222-9993. For further information, contact: Tom Hedekar at 250-741-2597 or email: Tom.Hedekar@mala.bc.ca

Happenings

A new fish stream opened up in Stanley Park in October. The stream project was a collaboration of many, including the Vancouver Aquarium, Forest Renewal BC, Fisheries Renewal BC, BC Hydro and Alcan. There are several components to the stream, including the FRBC-funded BC Forest Headwaters Exhibit (located within the Vancouver Aquarium), which prominently features Watershed Restoration. The Headwaters and Salmon Stream Exhibits will showcase

fish habitat issues and restoration to millions of visitors and school groups each year. The next time you're in downtown Vancouver, take a few minutes to explore this exhibit describing the work that we do!

Publications

MoF Watershed Restoration has revised Technical Circular # 3 as a working draft. The draft is entitled: **"Best Management Practices Handbook for Hillslope Restoration in British Columbia."** The deadline for comments has been extended until 31 January 2001 and comments are requested to be sent to: Brendan Holden, P. Eng. Watershed Restoration Program, Ministry of Forests, P.O. Box 9510 Stn Prov Govt., Victoria, BC V8W 9C2.

Websites

Information on the following website was sent by Wendell Koning, who thought that many B.C. people would find this information on Foothills Model Forest very interesting. It is a program located in Hinton, Alberta that is partnered by Alberta Environment. The FMF programs and the progress being made in a variety of comprehensive research projects are summarized in the latest issue of the Foothills Model Forest newsletter, which can be viewed at their website located at <http://www.fmf.ab.ca/footnotes/fall00.html>

The Forestry Continuing Studies Network is exploring the level of interest in WRP training courses. If you are interested in directly receiving information about WRP courses, please visit the website and fill out the on WRP Expression of Interest has been put together, for WRP courses and will be on the web. The file attached opens with Acrobat Reader™.

Streamline

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Streamline's goals are to communicate information on practical approaches to watershed restoration including the rehabilitation of stream channels, riparian zones and hillslopes, and to act as a link between geographically separated WRP proponents and their contractors by facilitating the sharing of information and ideas between the regions of B.C. We rely on our readers' participation. **Please send articles and project descriptions (with relevant photos and drawings), as well as information for our "Update" section. We reserve the right to edit submissions for appropriate content, style, and relevance to the Technical Bulletin.**

WRP Publications, Technical Circulars and Videos may be ordered from:

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Websites:
WRP: www.env.gov.bc.ca/fsh/wrp/index.html

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FRMB: www.elp.gov.bc.ca/frco/frphome.html

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