

PRSSS

PACIFIC REGIONAL SOCIETY OF SOIL SCIENCE

C/O DEPARTMENT OF SOIL SCIENCE
UNIVERSITY OF BRITISH COLUMBIA
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Message From the President

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Fees are \$10/\$5 (student) per yr.

Another year has gone by! The PRSSS had a successful 1996/97 year. Two newsletters were produced and the Membership Directory was updated. We continued our approach of doing things differently from what has been done previously. Instead of the fall evening session, we hosted a fall field trip in the Fraser Valley. We also organized the annual Spring Workshop.

The PRSSS, along with the UBC Dept. of Soil Science, and BCMAFF Resource Management Branch, co-sponsored the Wrap-up Seminar of The Canada-British Columbia Green Plan for Agriculture. It was held on February 28, 1997 at the Salvation Army Conference Facility in Abbotsford. It was a great day with over 40 participants in attendance. The sessions were very

Continued on next page.....



INSIDE

- 1 1998 CSSS Annual Meeting
- 2 Soil Conservation and the FPC
- 3 Restoration of Natural Systems – UVic Program
- 4 1997 Interior Forest Site Rehab Workshop
- 5 Summer Watershed Tour insert

Message from the President continued...

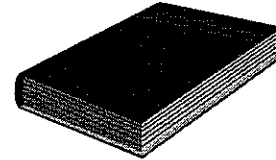
interesting and informative. Six conservation groups made presentations at the seminar: Matsqui/Langley, Sumas Prairie, Peace River Soil Conservation Assn., Hog Producers, Sustainable Poultry, and the Dairy Producers. The coordinators presented various conservation management initiatives, such as cover cropping in tree nurseries, tree windbreaks, zero tillage and improved manure management, that were developed in conjunction with agricultural producers. Other presentations included: i) an irrigation water metering and scheduling project and ii) the community based conservation programs of the Delta Farmland and Wildlife Trust, which integrate improving soil quality with the needs of wildlife. Agriculture Canada researchers made the final presentations. These included research related to nitrogen management of corn and raspberries as well as slurry manure application methods on grassland. A big thank-you to Aynslie Ogden for organizing the whole event and editing the proceedings. We also wish to thank Ron Bertrand and Geoff Hughes-Games from the BCMAFF for chairing the day's events.

The annual general meeting was also held on the day of the Wrap-up Seminar. Nominees were put forward for executive positions and the treasurer's report was approved. We welcome Justin Straker (vice president) and Sandra Jungwirth (treasurer) to the 1997/98 executive.

We hope that many members will participate in upcoming PRSSS events. Our first event is on August 16th – a tour of the Capilano watershed followed by a barbeque and volleyball. There are only 20 spots available for the tour, so please contact me at 988-1592 (h) or 986-8346 (w) to book your spot.

PRSSS is hoping to raise the profile and membership of the society. We may be contacting members over the coming year for opinions and suggestions on the future direction of the PRSSS and its role within the soil science community. Please feel free to drop us a note at the UBC Dept. of Soil Science.

Markku Kostamo
President



From the Editor's Desk...

I would like to send congratulations to Donna Dean, last year's executive treasurer, on the birth of a daughter!!

This is our first summer newsletter in a couple of years. Most of the executive are in the city this summer (instead of fending off bears while taking bulk density samples) so it's been relatively easy to coordinate this issue.

We have enclosed updated copies of the Membership Directory for those members who could not attend the 1997 Spring Workshop. Copies of the Proceedings from the Workshop (Greenplan Wrap-up Seminar) are still available. Please contact me if you know anyone who would like one.

Sandy Traichel
Editor
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MARK YOUR CALENDAR!

The Annual Meeting of the Canadian Society of Soil Science

July 5-9, 1998

The University of British Columbia

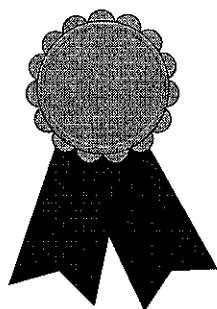
The theme for the overall conference, held in conjunction with Agricultural Institute of Canada and its affiliated societies, is

“AGRICULTURE AND A HEALTHY SOCIETY”

We would like to remind you that these meetings will be held in Vancouver from July 5 to 9, 1998. Although this event may seem far away, deadlines for submitting papers and posters are not that far away. This is an excellent opportunity for PRSSS members to connect with colleagues from across Canada and to inform themselves about the most current issues in agriculture.

For additional information about the meeting please contact Dr. Robert Blair, Department of Animal Science, UBC, Vancouver, BC V6T 1Z4, fax (604) 822-4400.

Soil Science student wins award!



Congratulations to a top notch Soil Science undergraduate student – Lindsay Paterson!! She was awarded the 1997 Wilfred Sadler Gold Medal as head of the Agricultural Sciences graduating class.

Soil Conservation and the Forest Practices Code

Aynsle E. Ogden

Pottinger Gaherty Environmental Consultants Ltd.

The Forest Practices Code of British Columbia (FPC) clearly states that sustainable forest management must include soil conservation practices. Harvesting and site preparation techniques inevitably result in some degree of soil disturbance. The goals of the FPC soil conservation guidelines are to minimize soil disturbance (i.e. surface erosion, compaction, excessive forest floor removal, and increased slope failure potential), and to maintain long-term site productivity (by minimizing roads, landings, and dispersed disturbances, and incorporating site rehabilitation into Silviculture Prescriptions).

Silviculture Prescriptions (SP's) must now define percentage of areas within cutblocks to be occupied by permanent and temporary access structures. Permanent access structures may include main haul roads, spur roads, landings, gravel pits, borrow pits and permanent logging roads required for present and future management activities. Permanent access structures should not occupy more than seven percent of the total area within a cutblock. Temporary access structures may include excavated or bladed trails that are not required for repeated entries, haul roads, and landings, that will be restored to a productive state following completion of harvesting and are included within the net area to be reforested. Although there is no formal limit for the amount of area within a cutblock that can be occupied by temporary access structures, the percent area should be kept as low as possible and rehabilitation plans must be included within the SP.

SP's must also define percentages of allowable soil disturbance and forest floor displacement in the net area to be reforested. The maximum allowable soil disturbance

within a cutblock on the coast is 5% and in the interior ranges from 5-10% depending upon site sensitivity. Maximum allowable forest floor displacement is dependent upon site sensitivity and ranges from 5-30%. To determine site sensitivity, cutblocks are assessed for susceptibility to the following hazards: compaction, soil displacement, forest floor displacement, surface erosion (and mass wasting in the interior) using the Hazard Assessment Keys. (FPC 1995). Hazard assessment requires data on climate, slope, hydrology, and soil characteristics.

Excessive soil disturbance is punishable under the code, however, the regulations are designed to penalize only extremely poor forestry practices. A method of conducting soil conservation surveys has been developed that may be employed by the licensee and/or the Ministry of Forests to measure soil disturbance and to check for compliance with the code. These surveys measure the proportion of the cutblock occupied by access structures, and the amount of soil disturbance and forest floor displacement within the net area to be reforested. To prevent excessive soil disturbance, it is critical that contractors and operators are suitably trained, and the proper harvesting methods and equipment are employed at the most appropriate time of year.

Interested in learning more? The BC Forestry Continuing Studies Network offers a workshop on Soil Conservation and the Forest Practices Code, and also offers Soil Conservation Surveyor Certification. They can be contacted at (250) 741-2597. The guidebooks that have been developed to address soil conservation issues include: Soil Conservation (April 1995); Hazard Assessment Keys for Evaluating Site Sensitivity to Soil Degrading Processes (June 1995); Soil Conservation Surveys (January 1997); and Soil Rehabilitation (March 1997). Guidebooks can be ordered from the Ministry of Forests Public Affairs Branch at (800) 565-4838.

The University of Victoria introduces

Restoration of Natural Systems

a new Diploma And Certificate Program

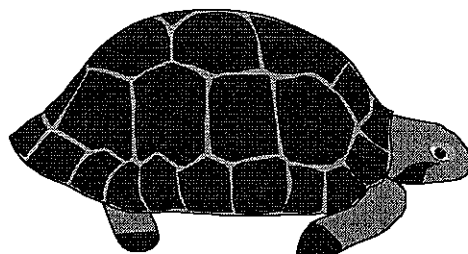
The Division of Continuing Studies and School of Environmental Studies at the University of Victoria have recently launched a new Diploma and Certificate Program in Restoration of Natural Systems. It is an interdisciplinary program designed to give students a broad-based knowledge of the science and practice of environmental restoration. Emphasis is on giving students a rigorous grounding in science, a good technical background in restoration and an understanding of the human elements of restoration.

The Program is set up for part-time learners, and students take 8 to 12 UVic accredited courses (depending on whether they have chosen the Certificate or Diploma option) over a 2-5 year period. Courses are given during the evening and as one week Institutes to accommodate full-time workers and out-of-town students. During our first year, we have offered courses at the UVic campus only, but in time, we will be offering many of the courses in other locations around the province.

Examples of some courses include: Biodiversity and Conservation Biology; Ethical, Legal, and Policy Aspects of Environment Restoration; Forest Restoration and Sustainable Forestry; and Toxicology and Contaminated Sites: Environmental Risk Assessment.

Fees include an application fee of \$120, an annual program fee of \$60 and tuition fees are \$400 per course.

For further information, please contact Richard Hebda or Ruth McDougall in the Restoration office - by phone (250) 472-4568, or by email rns@uvic.ca or Peggy Faulds in Continuing Studies at (250) 721-8463 or pfaulds@uvcs.uvic.ca.



1997 Interior Forest Site Rehabilitation Workshop in Kamloops B.C.

Aynslie E. Ogden

Pottinger Gaherty Environmental Consult. Ltd.

Following up on the success of the 1996 Coastal Forest Site Rehabilitation Workshop held in Nanaimo last fall, the first Interior Forest Site Rehabilitation Workshop was held in Kamloops on April 30 and May 1, 1997. The Interior Forest Site Workshop was a tremendous success with 17 speakers, 24 exhibitors and 262 participants. The workshop is likely to become an annual event.

Site degradation and rehabilitation issues differ between Coastal and Interior British Columbia due to differences in climate and terrain. The workshop covered topics relevant to Interior site conditions including the rehabilitation of severely disturbed sites, techniques for restoring soil productivity on landings and skid roads, soil stabilization, erosion control, and bioengineering techniques for rehabilitation of unstable slopes. Below are highlights from several of the presentations given at the workshop:

**Chuck Bulmer, BC Ministry of Forests
Research Branch- Victoria**

'An Overview of Techniques for Restoring Soil Productivity in the BC Interior'

Forest soil rehabilitation in the BC interior began approximately 20 years ago, with research and operational work focusing on techniques for restoring productivity on landings and other disturbed areas, thereby increasing the amount of land available for

growing trees. In the 1980s, much information was gained about techniques for decompacting soils and also for erosion control on disturbed areas. In the late 1980's and early 1990's, several operational rehabilitation programs were initiated in the interior. Successful soil rehabilitation requires that soil physical conditions and nutrient cycles be restored to conditions similar to those of undisturbed soils in the vicinity of the disturbed area. Soil rehabilitation is a site-specific activity, and a detailed plan is an essential part of the projects aimed at restoring productivity. The three elements of successful rehabilitation are: tillage, replacing topsoil, and reforestation/revegetation.

**George Bush, US Forest Service, Siuslaw
National Forest**

'Five Years of Restoration in Oregon - What Have We Learned?'

Sweeping changes in the management of National Forests in Oregon and Washington that resulted from court mandates and changes in public expectations include an emphasis on watershed restoration. Several years of experience have focused the restoration work through consensus on strategies as well as the development of technique. With protection of the components of healthy watersheds as a basic tenet of future forest management, current restoration efforts can be seen as a bridge to a time when changing forest management practices will reduce or eliminate the need to restore. Monitoring of the success of restoration must be flexible enough to accomplish regular, long term assessments of trends as well as be

responsive enough to measure the short term indicators of trends associated with catastrophic storms.

David Polster, Polster Environmental Services

'Restoration of Landslides and Unstable Slopes: Considerations for Bioengineering'

Interior sites offer special challenges for restoration due to low precipitation levels, warm summer temperatures, hard winter frosts and adverse edaphic characteristics. Development of restoration prescriptions which mimic natural restoration processes will have the best chance of success. Bioengineering solutions of use in the interior were discussed including live staking, wattle fences, live pole drains and modified brush layers.

Carol E. Jones, C.E. Jones and Associates Ltd.

'Rehabilitation of Severely Disturbed Sites'

C.E. Jones and Associates have been involved in the rehabilitation of severely disturbed sites for over 11 years. Most of this work has been conducted for mining companies in the interior of BC, and they have developed a large database on land rehabilitation techniques in the IDF, ICH, MS and ESF biogeoclimatic zones. Research results were presented on the successes of various site preparation techniques, soil amendments (chemical fertilizers, biosolids and wood wastes), interseeding with legumes, and interplanting of nitrogen fixing shrubs.

Mike Curran, Soil Scientist/Research Team Leader - Nelson

Skid Road Rehabilitation Techniques for Restoring Productivity in the BC Interior

Skid roads (excavated and bladed trails) can be successfully rehabilitated under a number of site conditions. Proper construction is key and requires use of an excavator. Drainage control needs to be maintained at all times and includes construction of dips or outsliping sections, as well as using waterbars whenever the trails are not in use. Rehabilitation starts with removal of woody debris from the running surface and outsliping decompaction to ensure natural drainage restoration. Open waterbars are left on a regular spacing to further ensure drainage is restored. Soil layers are replaced to help restore the topsoil, which is then protected and augmented with woody debris and slash loading similar to the surrounding cut blocks. Haul roads and unexcavated trails can be rehabilitated following the same principles.

The Canadian Land Reclamation Association will be hosting a workshop in Cranbrook, from September 22 to 25, 1997.

PRSSS ENROLMENT / MEMBERSHIP RENEWAL / CHANGE OF ADDRESS*Name:**Employer:**Title:**Professional Interests:**Address:**Postal Code:**Telephone Work:**Fax #:**Home:**email address:**Comments/Suggestions:**Please Find Enclosed (check one):**1 Year Membership - \$10**2 Year Membership - \$20**\$ 5(Student)**\$10(Student)**Please include me in the PRSSS Directory: Yes:**No:*

Upcoming Events

August 2-7, 1997. The 5th International Soil and Plant Analysis Symposium. Bloomington, Minnesota. Contact: Ann Wolf at (814) 863-0841, fax (814) 863-4540, e_mail: AMW2@PSU.EDU.

August 17-21, 1997. Annual meeting of Canadian Society of Soil Science. Truro, Nova Scotia. Contact: Vernon Rodd at (902) 667-3826, fax (902) 667-2361, e_mail: RoddV@EM.AGR.CA.

September 1-6, 1997. World Water Congress. Montreal, Quebec. Contact: Aly M. Shady at (819) 994-4098.

October 26-31, 1997. Annual meeting of ASA, CSSA, and SSSA, Anaheim, California.

May 18-20, 1998. Joint meeting of Geological Association of Canada and Mineralogical Association of Canada. Contact: Agathe Morin at (418) 656-2193, fax (418) 656-7339, e_mail: quebec1998@ggl.ulaval.ca.

July 5-9, 1998. Annual meeting of Canadian Society of Soil Science. Vancouver, BC. Contact: Dr. Robert Blair at fax (604) 822- 4400.

August 9-14, 1998. The 9th North American Forest Soil Conference. Lake Tahoe, California. The theme of the Conference is "Forest Soils and Ecosystem Stability". Contact: Neil Foster at fax (705) 759-5700, e_mail: nfoster@fcor.glfc.forestry.ca.

October 18-23, 1998. Annual meeting of ASA, CSSA, and SSSA, Baltimore, Maryland.