

PACIFIC REGIONAL SOCIETY OF SOIL SCIENCE
NEWSLETTER

January 1991

Editorial Comments

Another year and another January issue of the newsletter. I hope everyone had a chance to recharge their batteries over the holidays. If the national and international news is any indication, we will need large doses of innovation and compassion in 1991. Thanks to all of you who helped us out last year, to the contributors to this newsletter, and to our new editor, Marcia Monreal. We kick things off this year with an announcement for the upcoming Land Resource Workshop, February, at U.B.C. We hope to see you there.

Bill Price
Marcia Monreal
Chuck Bulmer

Message from the President

Here in the declining years of the 20th century we find ourselves, once again, living in a world torn by war. We reflect on what has gone wrong and what must change. We feel frustrated to understand global politics, economics and sociology, and powerless to change them. But, the basis of all societies, politics and economics is the individual and with the individual we find the possibility of change.

We can imagine a world in which personal ambition is fulfilled creatively and peacefully. But when we honestly examine our day to day lives, do we find a nurturing environment in which we feel encouraged to explore and grow? Or have we created homes and workplaces in which life is a never-ending series of small battles bringing victories or defeats?

In the universities, from which we hope will come the soil scientists of the future, what is being modelled? As a university student, were you encouraged toward quiet reflection, moral and ethical decision-making, acquisition of a broad base of knowledge and understanding, respect for self and others, development of individual creativity? Recently, a number of graduate students have told me that they feel excluded from the academic profession by the lifestyles modelled for them by their Faculty supervisors. This same sentiment has been voiced in the recent newsletter of the Canadian Federation of Biological Societies, an excerpt of which is printed below.

I hope that you will come to the 15th B.C. Soil Science Workshop prepared to participate in our discussion of the future of Soil Science. Recall your own experiences at Universities. What was lacking? What was done well? What do we need to be doing now to prepare the future soil scientists? Where is soil science going?

Dr. Shannon M. Berch
Department of Soil Science
U.B.C.

THE NEXT GENERATION OF RESEARCHERS

(Reprinted with permission from Canadian Federation of
Biological Societies Newsletter, Fall 1990)

Why so few students

Stipends for graduate students are hopelessly inadequate, roughly 1/3 of starting salaries available to holders of a baccalaureate degree. Post-doctoral stipends are nearly as bad, about half the value of a "real" salary. No wonder then, when I recently polled graduating students from a Life Sciences programme, that most were intending further education in law, business administration, or medicine. While they intended to retain an interest in scientific and technical matters (e.g. as a patent lawyer), they were under no illusions as to the high-stress low-reward life of those actually doing the research. Our 70-hour work weeks and lifestyles driven by fear of losing grants or being beaten by the competition make us poor role models.

Faculty Replacement

We have to wonder who will provide the next generation of researchers, an especially serious problem as the rate of Faculty replacement accelerates over the next 5-15 years. We hear a great deal from politicians about preparing to compete in a global economy. It is appropriate that we should be able to compete for the best in the world to staff our Universities, and it is time to end the two-tier recruiting process with its potential for mediocrity. Universities urgently need additional funds to recruit recent graduates to bridging faculty positions so that the age-distribution of the next generation of professors can be flattened out, avoiding the cycle of no jobs followed by no applicants which will otherwise be perpetuated.

Target schools and school teachers

Recruitment of the next generation of researchers begins in elementary school, and Universities should be more active in influencing young minds, through more contact with schools, visits by Faculty, enrichment programmes, and by providing opportunities for high school science teachers to become involved in research or refresher activities.

Alternatives for parents of both sexes

Both Universities and granting agencies must become more flexible in recruiting and funding women scientists, recognizing that the traditional career pathways and criteria for assessment were designed for men, and moreover for men who were not expected to participate on an equal basis with their spouses in child-rearing activities.

Conclusion

The major problems facing research in Canadian Universities today are ageing equipment and ageing professors. To prevent obsolescence and provide replacement, imaginative new strategies will require that we revise our current models of an academic career. Imagination and radical thought will only get us so far.

Unless the political wrangling over funding of Universities is settled and Universities are financed on a stable and adequate base, the descent of university research into anguished mediocrity will be a fitting accompaniment to Canada's slide into the third world.

THE GREENFIELDS PROJECT FIELD DAY - NOVEMBER 2, 1990

A field day was held last fall on Westham Island in Delta to encourage informal discussions on the problems between wildlife and the farming community. Many participants of the Greenfields Project and other interested agencies attended. "Greenfields" is a pilot project initiated to document and research migratory bird use of fall planted cover crops. Another intent is to improve communication between the agricultural and wildlife communities.

The project co-ordinator, Theresa Duynstee, who organized the field day, started things off by describing how the project began. U.B.C. Soil Science had been conducting field trials on the use of winter cover crops as a soil conservation measure, but found crops were being severely grazed by migratory birds. Farmers in the area had this problem as well, which discouraged them from planting cover crops. The local wildlife agency, the Canadian Wildlife Service (CWS), was approached to help find solutions to this problem. Their response was good for it provided an opportunity for wildlife people to work with the farming community.

The B.C. Federation of Agriculture, under the ARDCORP program, provided winter wheat seed to members of the Delta Farmers Institute so that fall planted cover crops could be monitored for bird use. The project is also jointly supported by the Canadian Wildlife Service, Ducks Unlimited (DU), U.B.C. Soil Science, and the Delta Farmers Institute. The B.C. Ministry of Environment provided a team of Environmental Youth Corp workers to help during the field season. A joint venture like this not only

gathers a wide range of expertise, but also serves different objectives for different parties, while distributing the operating costs over different agencies and support groups.

Our afternoon began with a look at the cover crop field trials established by Drs. Art Bomke and Wayne Temple from U.B.C. Their premise is that cover crops will provide a buffer against winter rainfall, thus impeding soil degradation and erosion. When used as a green manure, the organic inputs can improve the structure of the soil, which can enable farmers access to their fields earlier in the season. Early planting is one of the crucial factors in determining an early harvest when seasonal prices for cash crops are at their highest. There was interesting discussion between the researchers and the farmers present, who have put these theories to practical use.

We then moved to the Alaksen National Wildlife Area where CWS has substantial land holdings adjacent to the Reifel Bird Sanctuary. Their objective is to provide an undisturbed habitat for wildfowl and, by using farm management techniques, provide food for migratory birds. Questions concerning the problems with Trumpeter swans (which cannot be hunted) and escalating numbers of resident Canada geese arose. Tom Burgess, the Regional Wildlife Biologist from the Ministry of Environment, and Rick McKelvey, CWS Swan Specialist, spoke of their concerns and explained some of the limitations in dealing with these conflicts. The farmers were quite obviously upset about the development of nearby bird sanctuaries because of the potential impact on their farms. This was one of the few times that farmers and wildlife agencies had had a chance to participate in an informal discussion and almost everyone present became involved in the debate.

The group then converged for one on one conversations while beer and burgers were served, compliments of DU. At this time, I had a chance to talk to Dr. Art Martell, CWS Regional Director of Pacific and Yukon Regions, and responsible for much of this research. He is a very approachable guy, and very keen on the outcome of the Greenfields Project. He felt the idea of multi-use management is the objective of many, but has been realized by very few. There is a lot of interest in promoting this kind of work because it has a multi-disciplinary approach, but so far little has been accomplished. The same kind of problems need to be addressed in forestry, mining, waste management, and land development.

Both Dr. Martell and Peter Jones, Regional Director of DU, spoke to the group to discuss future directions of wildlife preservation/enhancement in the context of the Greenfields Project. Final comments were made by Hugh Reynolds, a Westham Island vegetable producer, who has been supporting research projects on his property for many years. According to Hugh, the farmers are being threatened not only by the needs of groups such as the CWS and DU, but also by urban pressures, by rising land prices and input costs, and by dwindling returns. In many cases, this is further exacerbated by a tenant farming system, where financial and long-term responsibility for the land is held by an absentee landlord or by Crown Lands. This latter condition places no incentive on the farm manager to implement long-term programs such as soil conservation or wildlife/agricultural integration. In short, the farmers see no benefit in participating with these programs under current farming conditions in Delta.

Tom Burgess summed up the afternoon. He highlighted the issues presented and spoke about the value of having these informal sessions to reduce the gap between various interest groups. I agree that these sessions help to open up the dialogue between groups and perhaps, through this process, formulate ways of overcoming potential conflicts. Furthermore, the advantage of forming alliances with different agencies and organizations is clear. By expanding the network of supportive groups we expand the potential for soliciting research dollars. Six different agencies will benefit from the Greenfields research, and thus, the project has six times the ability to generate financial and other support. And, of course, there is the implicit benefit of enhanced communication and shared expertise.

Eveline Wolterson
B.C. Research
U.B.C.

15th Annual Mine Reclamation Symposium - June 24 to 28, 1991

"Reclamation and Sustainable Development" will be the theme of the 15th Annual Mine Reclamation Symposium, to be held in Kamloops, B.C. at the Stockmen's Hotel. The symposium will be sponsored jointly by the B.C. Technical and Research Committee on Reclamation and the Canadian Land Reclamation Association. For further information, contact:

Pat Merko or George Poling
MABC
(604)681-4321

Second International Conference on the Abatement of
Acid Mine Drainage - September 16 to 18, 1991

The participants in the Mine Environment Neutral Drainage (MEND) Program, in collaboration with the Canadian Institute of Mining and Metallurgy (CIM) and cooperating international organizations, will hold the "Second International Conference on the Abatement of Acid Mine Drainage" at the Sheraton Centre in Montreal. The conference will discuss prediction, prevention, control, treatment, and monitoring of acid generating tailings and waste rock. For further details, contact:

Pamela Friedrich
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1665 Bd Hamel
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An Update on the Canada - British Columbia Soil Conservation Program

Six months after the signing of the Soil and Water Accord, an update on the Canada - British Columbia Soil Conservation Program (CBCSCP) is in order. Just to refresh your memory, the CBCSCP is a three year subsidiary agreement between Canada and British Columbia. The total program contains \$5 million dollars which is to be directed toward activities under three sub-programs. The following table gives an indication of the funding allocation to each sub-program.

<u>SUB-PROGRAMS (Activities)</u>	<u>BUDGET</u>
a) Technology Transfer (Producer Conservation Groups)	
Proactive Delivery	\$2,400,000
Reactive Delivery	\$ 550,000
b) State of the Environment	
Land Evaluation	\$ 500,000
Research	\$1,200,000
c) Awareness & Education	
Conservation Education	\$ 170,000
Proactive Awareness	\$ 50,000
Reactive Awareness	\$ 40,000
National Awareness	\$ 20,000
Program Administration	\$ 70,000
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Total	\$5,000,000

a) Technology Transfer

Under the Proactive delivery section, the formation of producer conservation groups is complete for the four groups that were to be formed in the Lower Fraser Valley. The four groups formed are as follows:

- 1) GROUP: Cloverdale Soil Conservation Group
 COMMODITY: Vegetables produced on organic soils
 ISSUES: Subsidence, soil variability, cover crops
 CONSERVATIONIST: Mary-Margaret Gaye
- 2) GROUP: Dairy Producers' Conservation Group
 COMMODITY: Dairy production in the Lower Fraser Valley
 ISSUES: Manure mgmt. & on-farm use, cropping practices
 CONSERVATIONIST: Orlando Schmidt
- 3) GROUP: Hog Producers' Sustainable Farming Group
 COMMODITY: Swine production in Lower Fraser Valley
 ISSUES: Manure mgmt. & on-farm treatment
 CONSERVATIONIST: Ruth McDougall
- 4) GROUP: Sustainable Poultry Farming Group
 COMMODITY: Poultry (all sectors) in Lower Fraser Valley
 ISSUES: Manure handling and use for a wide range of crops
 CONSERVATIONIST: Kevin Chipperfield

Each of these groups has received approval in principle for funding up to \$400,000. Initial funding was awarded in February for the hiring of a conservationist and preparation of a detailed workplan. Work continues with producer groups and federal and provincial government officials on the formation and funding of conservation farm groups in the Peace River region.

Under the reactive delivery section, nine farm groups from the North Okanagan, Vancouver Island, and Lower Fraser Valley have submitted proposals requesting funding. The final date for application of this section was January 25, 1991. To date only one of these groups has received approval in principle. That group is the Matsqui/Langley Uplands Soil Conservation Group. Their goal is to work on soil conservation education and demonstration within the upland areas of the Municipalities of Matsqui and Langley. This group has hired Dan Fast as their conservationist, and his first task will be to prepare a detailed workplan. It is expected that the remaining groups will be given an indication of the level of funding they will receive by mid February. At present there is more interest than there are funds available for these groups.

b) State of the Environment

The Land Evaluation Section of this sub-program, is a project, designed to provide a land evaluation and monitoring system for the Fraser Valley. The system will be developed to address the issue of soil and water quality as well as manure management. It is expected that a regional manure management plan, designed to minimize costs associated with manure management, will be developed. Approval in principle has been given to a project submission by the Land Resources Section, Agriculture Canada, Vancouver under the direction of Mr. Dave Moon.

Several research projects have been given approval in principle under the Research Section of the State of the Environment sub-program (for proposals received prior to November 1990). The priorities for research are nitrogen behaviour; manure treatment and management; organic soil management; effects of soil degradation and soil conservation on soil quality; and economics of soil degradation/conservation. The final allocation of funds under this section will not be made until late July 1991.

c) Awareness and Education

This sub-program is divided into four areas:

- Conservation Education and Training - to be carried out by the Ministry of Agriculture and Fisheries, Soils and Engineering Branch. This education program will expedite and promote the on-farm adoption of sustainable farming systems.
- Proactive Awareness - the goal is to inform the public, media and opinion leaders about action undertaken through the Canada-British Columbia Soil Conservation Program.
- Reactive Awareness - awareness and education proposals from private and public agencies and individuals who wish to conduct activities to address soil conservation issues identified in the Soil and Water Strategy for British Columbia, January 1989, are being invited.
- National Soil Conservation Awareness - funding is going to cover National Soil Conservation Initiatives.

If you have any questions regarding the Canada-British Columbia Soil Conservation Program, contact the Soils and Engineering Branch, British Columbia Ministry of Agriculture and Fisheries, 101 - 33832 South Fraser Way, Abbotsford, B.C. V2S 2C5 (604) 852-5363 or FAX (604) 853-4383. Prepared By: G.A. Hughes-Games P.Ag., Regional Soil Specialist, January 28, 1991.