Agriculture and Agri-Food Canada
Agriculture et Agroalimentaire Canada

Activities of the Canadian Soil Resource Group

2008 West Region Soil Survey and Western Soil Science Conference

Spokane, Washington

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Canada

Agenda

- National Land and Water Information Service
- Soil Resource Group (SRG)
  - Soil Expertise
  - What we do and who we are
- SRG in BC
- SRG Projects

National Land and Water Information Service

- Expertise accessed through NLWIS includes:
  - Soil
  - Land Use
  - Water
  - Climate
  - Biodiversity
  - Geomatics
- Current program ends March 2009

Soils Expertise within the SRG

- Soils Expertise provided by the SRG
  - creates, updates and interprets soil resource information
  - provides expertise related to soil properties, behaviour and uses applicable to agricultural and resource management issues
  - supports AAFC modeling requirements for assessing Canada's environmental performance
- SRG unique in the department and across the federal government
  - developers of soil databases, spatial frameworks and maps in the Government of Canada

SRG Applications

- MENU MP
  - A new methodology for evaluating soils, landscapes and geology for nutrient management planning
  - Evaluates the environmental risks of applying manure to local soil types – results can be used in Environmental Farm Plans and Watershed Evaluation of Beneficial Management Practices
- Land Suitability Rating System (LSRS)
  - Crop suitability model to map potential crop distributions under various climatic scenarios, including national and regional impacts of climate change on agricultural land in Canada

SRG Products and Tools

- Work Plan organized into five work packages:
  1. National Mapping: Soil Landscapes of Canada and National Ecological Framework
  2. Soil Data Interpretations
  3. National Pedon Database
  4. Detailed Soil Mapping
  5. Scanned Maps and Reports

- And two functional areas:
  1. CanSIS operations – Maintenance of our computing processes and system, Migration to new N-GIS, dissemination of products via our web pages
  2. Correlation – quality control, standards, testing

Who are the Soil Resource Group

- Most of the staff of the SRG are Research Branch employees in 3rd year of a 4 year assignment to NLWIS
- Those on assignment plus terms and casuals make up the Soil Data component of NLWIS
- This group has 40 AAFC employees located in various regions of Canada

Components and Functions

Regional Units

•65% of effort

Function: Field data collection, synthesis, validation and application development.

Landscape and Pedological Research

•15% of effort (historically closer to 25%)

CanSIS Unit (Ottawa)

20 % of effort

Function: Collaborative research in pedology, landscape modeling, technology development.

Function: Data management QC/QA, geomatics, product development and web site, maintenance.

The SRG in British Columbia

- **Scott Smith**, Manager, Soil Data, National Land and Water Information Service: Soil Scientist, Head of Canadian Soil Resource Group

- **Eryne Croquet** - Pedologist

- **Grace Frank** - GIS specialist

- **Elizabeth Kenney** - Soil Scientist

Examples of BC Activities

- BC SRG personnel sit on national committees
  - Derived Maps for the AgAtlas, Soil Landscapes of Canada, Pedon Working Group, Soil Interpretations and others

- Contribute to the SRG work plan by identifying field and spatial soil data needs

- Collaborate with partners to promote soil resource data development and accessibility in British Columbia

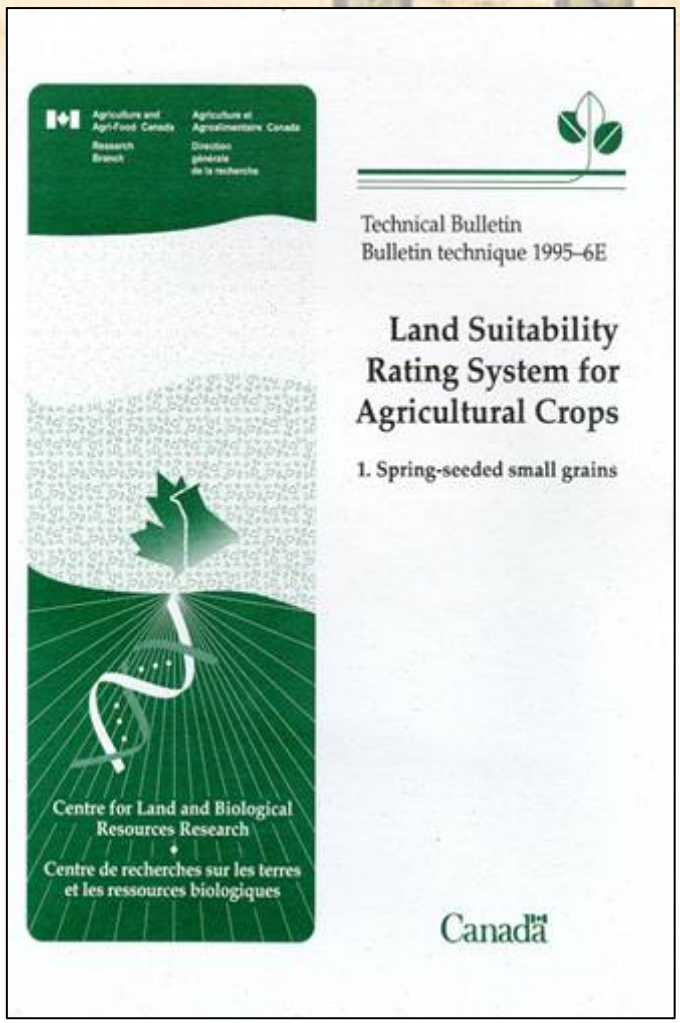
- Act as point of contact with public requesting land resource information

Examples of BC Pedon Activities

- 2007 Okanagan Agricultural Soil Study (OASS)
  - Collected detailed pedon descriptions for inclusion in the National Pedon Database
  - Collected soil samples,
    - Bulk density samples by horizon
    - Bulk samples for general chemical analyses
    - Core samples for determining available water storage capacity and saturated hydraulic conductivity
  - Collected partial pit descriptions to correlate soils to existing soil series in the Okanagan.

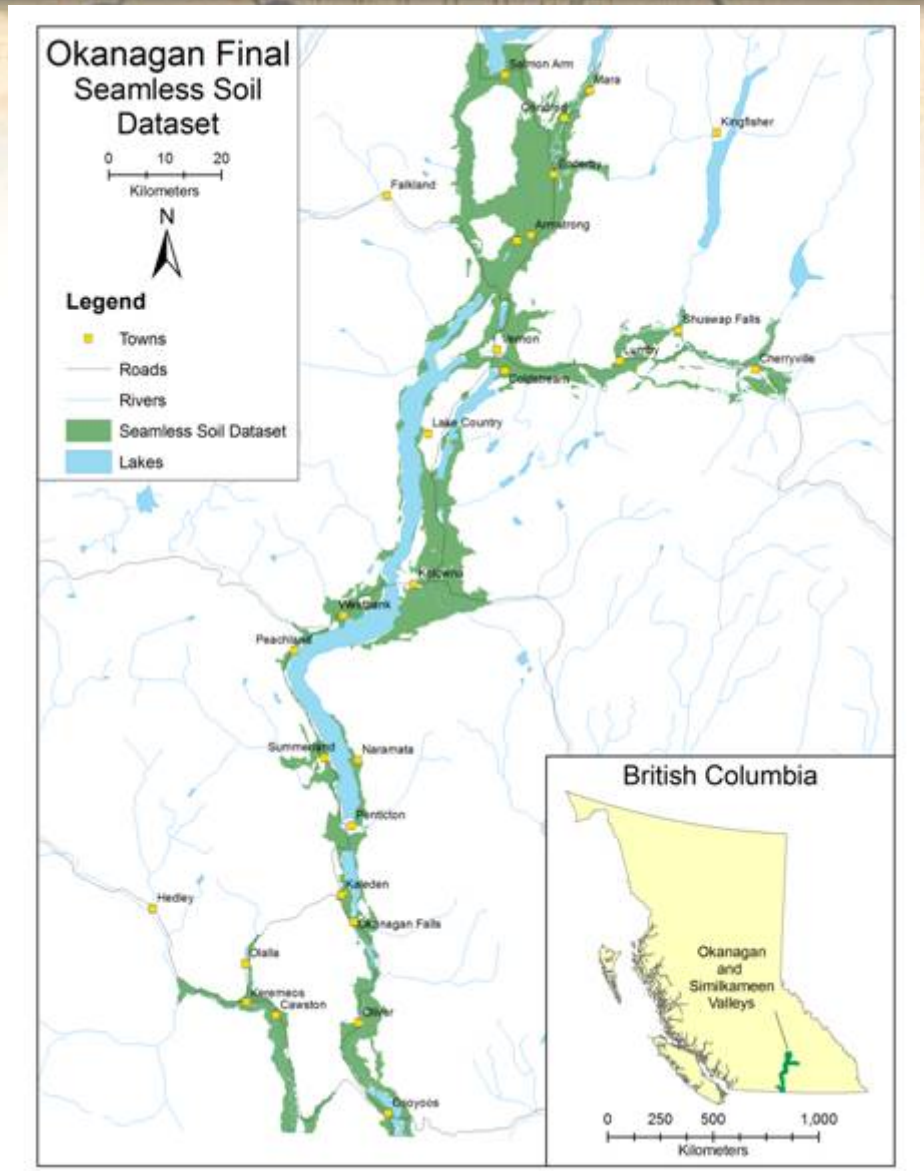
Examples of BC Soil Data Interpretations

- National Scope Interpretations - Land Suitability Rating System
- Crops reviewed ratings for BC portion
  - Spring seeded small grains (wheat, barley & oats)
  - Corn
  - Canola
  - Soybean
  - Forage (alfalfa, brome grass)
  - New proposal for woody perennials in BC



Examples of BC Detailed Soil Map Activities

- Seamless soil dataset for the Okanagan Valley
- Digitizing and data base compilations for detail soil survey of the Shuswap area
- See my poster this evening!



Web Pages

- The Canadian Soil Resource Group
  - http://sis.agr.gc.ca/cansis/org/org_chart.html
- National Land and Water Information Service
  - www.agr.gc.ca/nlwis-snite

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