BC Soil Information Finder Tool

This project is a collaborative effort between the British Columbia (BC) Ministry of Agriculture (AGRI) and the BC Ministry of Environment (MoE) with funding from *Growing Forward 2,* a federal-provincial-territorial initiative. The underlying soils maps and data were collected over past decades by the Government of Canada and the Province of British Columbia, and the data is being managed and updated by MoE as the BC soil data custodian. The following are key members of the project: Deepa Filatow (MoE), David Poon (AGRI), Geoff Hughes-Games (AGRI), Maija Finvers (MoE), Andy Muma (BC Ministry of Forests, Lands and Natural Resource Operations), Scott Smith (Agriculture and Agri-Food Canada), and CloverPoint Cartographics Ltd (Erin Philip and Elizabeth Kenney) under contract.

Continue to Help: Questions and Answers

Growing Forward 2
A federal-provincial-territorial initiative
BRITISH COLUMBIA
Canada

Questions

1 What is the Soil Information Finder Tool?

The BC Soil Information Finder Tool (SIFT) was created to make mapped and interpretive soil information more accessible. Previously, this information was available as Geographic Information System (GIS) datasets (geodatabase, shape files), 'tiff' images of hardcopy maps, and reports. Particularly for non-GIS users, SIFT can save several steps and help find soils-related information, in much the same way that a maps 'app' works if the only alternative is to open a road atlas book:

Without SIFT or GIS access	With SIFT
1. Know the type of data you are looking for (e.g. Soil Survey, Agricultural Capability), *'Are you interested in wineries or campsites?'*	1. Find the location - Type an address, or - Zoom into the area of interest
2. Find out which mapsheet or mapsheets cover your areas of interest, '*Find out which page you want in the road atlas.'*	2. Click on the location to open a popup window - Discover data of various types (e.g. soil survey, agricultural capability) - Get links to more detailed information
3. Request or retrieve the map for the mapsheet(s) for the areas of interest, *'Flip to the page you want: campsites for your area of interest.'*	
4. Find the exact locations of interest on the map, *'Where exactly are you on the map?'*	
5. Interpret the map legend, 'Find out what campsite features are indicated by the symbols.'	

Currently, SIFT includes information for parts of British Columbia, primarily in southern half of the province. Additional areas of the province are being added. SIFT also leads users to detailed information on the Canadian Soil Information Service (CanSIS) website: parent materials from which soils formed, soil texture, moisture characteristics, and other physical and chemical properties that affect soil management.

Return to Questions

2 How accurate is the information for a point on the map?

The Soil Information Finder Tool (SIFT) uses soil survey maps as its information source. These maps typically show up to three soils that are known or expected to occur in each polygon. Minor amounts of other soils may also be present but could not be specifically mapped at the scale of the survey. Polygon boundaries are also approximate. Therefore, at any point on the map, it is probable that one of the mapped soils will be present, but it is not guaranteed. The likelihood that the information is accurate at any given point on the ground depends on survey and mapping scale, as well as activities that have taken place on that point since the area was mapped (i.e., cultivation, drainage installation, erosion).

For example, the following pops up when clicking on a particular spot on the map in SIFT:

Polygon ID	Seamless2012_POLY_23638
Soil Percent 1	70
Soil Management Group 1	VEDDER
Soil Name 1	VEDDER
Soil Percent 2	30
Soil Management Group 2	FAIRFIELD
Soil Name 2	VYE

The same information about polygon “Seamless2012_POLY_23638” is presented no matter where the user clicks in the soil polygon. In this example, approximately 70% of the polygon contains the VEDDER soil (belonging to the Vedder group) and approximately 30% contains the WYE soil (belonging to the Fairfield group). Small areas containing other soils may also be present. Soil distribution within a polygon is often related to its position in the landscape (e.g. on a slope or in a depression). The detailed description of each soil may identify the landform conditions in which is expected to occur and the user can use this information to infer the distribution of the soils within the polygon or at any one point in the polygon. If the characteristics of the soil at a particular location are important, a field investigation including evaluation of one or more soil pits or soil samples to confirm soil characteristics and the Soil Name should be undertaken.

Return to Questions

3 What is the relationship between soil management group, soil name, and soil symbol?

A soil management group contains multiple soil names (Table 1). Soils in a soil management group have similar agriculturally important characteristics: soil parent material, drainage, texture, surface soil organic matter level, etc. These characteristics affect limitations for agriculture, suitability of crops, and management inputs required to grow various crops. More information about soil management groups can be found in one of two publications: Soil Management Handbook for the Lower Fraser Valley (1991) and Soil Management Handbook for the Okanagan and Similkameen Valleys (1994). Currently, the information from the handbook for the Lower Fraser Valley is summarized in a downloadable Excel spreadsheet when the user clicks on a soil polygon on the map (Fig. 1).

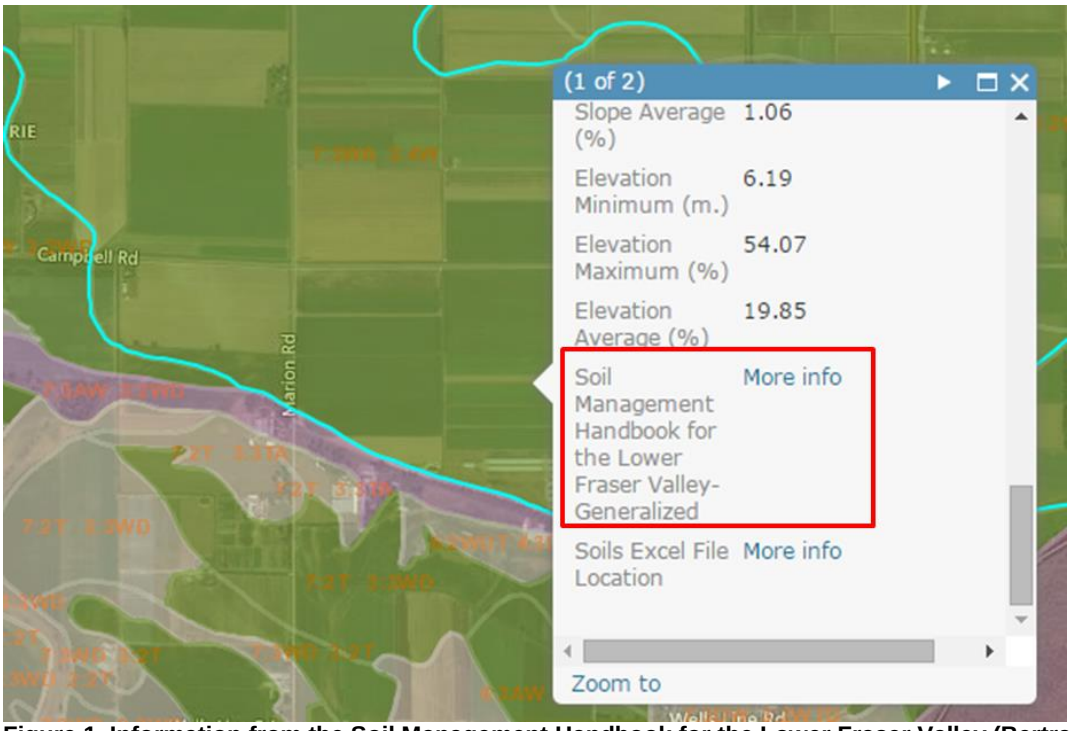

Figure 1. Information from the Soil Management Handbook for the Lower Fraser Valley (Bertrand, Hughes-Games, and Nikkel, 1991) is available as an Excel spreadsheet.

A soil name is the basic unit at which soils are presented in the Soil Information Finder Tool. A soil name is a unique, common name given to a particular mapped or described soil. A Soil Name may include multiple soil symbols or soil IDs (Table 2) as the soil name may reference several variants – e.g. the soil in an agricultural setting, in a natural setting, or perhaps in a wetter or drier site. Soil symbols or IDs are linked to the online 'CanSIS' (Canadian Soil Information System) database that contains details about the soil attributes. A common distinction between soil symbols (ID) of a soil name is 'disturbed by agriculture' (A) versus 'native' or 'undisturbed by agriculture' (N).

Table 1. Example of soil names and soil symbols (ID) within the Abbotsford soil management groups. At the end of the soil ID, an A denotes 'agricultural' and N denotes 'native.'

Soil Management Group	Soil Name	Soil Symbol (ID)
ABBOTSFORD	ABBOTSFORD	BCABF~~~~~A
		BCABF~~~~~N
		BCABFan~~~N
ABBOTSFORD	KEYSTONE	BCKYT~~~~~N
ABBOTSFORD	LAXTON	BCLXT~~~~~A
		BCLXT~~~~~N
ABBOTSFORD	MARBLE HILL	BCMBH~~~~~A
		BCMBH~~~~~N
ABBOTSFORD	PEARDONVILLE	BCPDV~~~~~A
		BCPDV~~~~~N
ABBOTSFORD	STAVE	BCPDVsv~~~N
		BCSTV~~~~~N

Return to Questions

4 Does drainage depend simply on soil structure and soil texture?

No. The drainage category of a soil reflects not only the profile description but also the typical landscape that the soil was developed in. Thus, a deep and coarse permeable soil in a depression within the landscape, with a high water table, may be in the same drainage category as an imperfectly drained soil. An example is the LEHMAN soil: thin eolian (sand deposited by wind) over gravelly outwash with telluric seepage, perched water tables and thus, poor drainage.

Return to Questions

5 What are other ways of accessing this information?

Currently, there is a pilot version of the Soil Information Finder available via a free smartphone app.

1. On your mobile device search app store for" ESRI" app and download
2. Tap on app
3. Tap "Maps" and Tap search icon (Magnifying glass)
4. In the search window type these tags "soil, nutrient, environment, mobile" - The app should find a Nutrient Management Project Mobile app
5. Tap on the map icon.

The source data for the Soil Information Finder, as well as other information, can be found online by searching for Soil information in GIS format, as Scanned Maps at http://www.env.gov.bc.ca/tei/access_tei.html. Follow the instructions to find GIS data, images of hardcopy maps and geo-referenced files.

Return to Questions

6 What if my question is not answered here?

This document is meant to answer your Frequently Asked Questions. Send us your questions, and we will do our best to answer them. Send your questions to TEI_Mail@gov.bc.ca

Return to Questions