

CROWN MANAGERS PARTNERSHIP LANDSCAPES DATA-REVIEW REPORT

*A review of baseline geospatial datasets for the Crown of the Continent
Ecosystem Landscape project*

October, 2011



A collaborative project between
National Park Service,
University of Calgary,
Crown Managers Partnership, and
Great Northern Landscape Conservation Cooperative

Contents

1. Introduction	1
2. Contacts	2
3. How to Use This Document	3
4. Approach	3
5. Wish List/Data Gaps.....	6
6. Discussion.....	6
7. Data Access	7
8. Review of Available Datasets.....	7
9. CCE Baseline Datasets.....	10
9.1. Anthropogenic.....	11
9.1.1. Roads.....	11
9.2. Geo-Administration.....	14
9.2.1. Census	14
9.3. Hydrology/Geology	19
9.3.1. Streams	19
9.3.2. Watershed.....	21
9.3.3. Riparian Buffer Zone	25
9.3.4. Road-stream Crossing	28
9.4. Land Features	32
9.4.1. Land Cover	32
9.5. Phenology.....	39
9.6. Natural Disturbances.....	44
9.6.1. Fire	44
9.6.2. Insects	47
10. References	52
Appendix I: Geospatial Data Sets – United States	53
Appendix II: Geospatial Data Sets – Canada	62
Appendix III: Geospatial Data Sets – United States and Canada	137
Appendix VI: Geospatial Datasets – CCE Baseline	142

Tables

Table 1. List of attributes contained in the merged road layer and the corresponding field names from each original layer.	12
Table 2. Corresponding watershed codes between United States (U.S.), Alberta (AB), and British Columbia (BC).	22
Table 3. Decisions made to combine AAFC and CFS land cover classification. The presence of the intermediate CFS classification is because of two CFS classes (*) that were later subdivided based on the AAFC classification, visual inspection and best professional judgment.	34
Table 4. U.S. land cover classes with corresponding Canadian land cover classes.	36

Figures

Figure 1. Crown of the Continent	1
Figure 2. Roads in the Crown of the Continent Ecosystem. Source: Alberta Sustainable Resource Development (SRD), Digital Road Atlas (DRA) of British Columbia, and U.S. Department of Agriculture (USDA).	13
Figure 3. Population (represented by natural breaks) in each dissemination block of the Crown of the Continent Ecosystem. Source: Statistics Canada and Geosuite for Canada, and Montana State Library.	17
Figure 4. Number of dwellings per dissemination block (represented by natural breaks) of the Crown of the Continent Ecosystem. Source: Statistics Canada and Geosuite for Canada, and Montana State Library.	18
Figure 5. Streams found within the Crown of the Continent Ecosystem. Source: GeoBase and U.S. Geological Survey (USGS).	20
Figure 6. Watersheds found within the Crown of the Continent Ecosystem. Source: Agriculture and Agri-Food Canada (AAFC), GeoBC Data Distribution Service and U.S. Natural Resource Conservation Service (NRCS).	24
Figure 7. Riparian zones found within the Crown of the Continent Ecosystem. Source: GeoBase, Agriculture and Agri-Food Canada (AAFC), Canadian Forest Service (CFS) and U.S. Geological Survey (USGS), METI and NASA	27
Figure 8. Density of road and stream intersection per km ² within the Crown of the Continent Ecosystem.	30
Figure 9. Density of roads and stream intersection per km ² within Waterton - Glacier international Peace Park.	31
Figure 10: Gaps present in "Land Cover, Circa 2000" distributed by GeoBase.	33
Figure 11: Land cover for the Crown of the Continent Ecosystem. Source: Agriculture and Agri-Food Canada (AAFC), Canadian Forest Service (CFS) and U.S. Geological Survey (USGS).	38
Figure 12: PARAMETERS USED IN THE MODIS REPROJECTION TOOL TO MOSAIC AND REPROJECT LAND COVER DYNAMICS (MCD12Q2 AND MOD12Q2) AND ANNUAL NET PRIMARY PRODUCTIVITY (MOD17A3).	40
Figure 13: Month of first greenness increase in 2005 within the Crown of the Continent Ecosystem. Source: MODIS.	42
Figure 14: Month of any additional greenness increase in 2005 within the Crown of the Continent Ecosystem. Source: MODIS.	43
Figure 15: Fire perimeters (represented by equal breaks) within the Crown of the Continent Ecosystem from 1985 to 2008. Source: Alberta Sustainable Resource Development (SRD), GeoBC's Data Distribution Service and U.S. Forest Service District Offices.	46

Figure 16: Perimeter of Aspen defoliator (ASD) and Mountain pine beetle (MPB) outbreaks in the Crown of the Continent Ecosystem. Source: Alberta Sustainable Resource Development (SRD), GeoBC's Data Distribution Service and U.S. Forest Service District Offices. 49

1. Introduction

This report documents the data-discovery and assessment of the available GIS datasets for the Crown of the Continent Ecosystem (CCE), and is part of an on-going collaborative project between the National Parks Service (NPS) Rocky Mountain Network (ROMN), the University of Calgary (UofC), the Great Northern Landscape Conservation Cooperative (LCC), and the Crown Managers Partnership (CMP).

The CCE represents an international ecosystem in Montana, British Columbia and Alberta that is centered on the Waterton-Glacier International Peace Park and stretches along the axis of the Rocky Mountains between the Canadian Central Rockies and the Greater Yellowstone Ecosystem (Figure 1). The collaborative project is aimed at developing a long-term landscape analysis and monitoring program for the CCE, and has focused in part on assembling and analyzing geospatial datasets and other information sources capable of supporting long-term regional objectives. These objectives include (i) establishing an accurate representation of baseline ecosystem conditions in a manner that is consistent at the scale of the CCE, and (ii) identifying changes to that baseline that reflect shifts in underlying ecological health. The CMP seeks to use this information to address a series of large-scale management priorities, including an assessment of habitat connectivity, water resources vulnerability, and the status of threatened species, as well as the response of these factors to major ecosystem drivers such as climate change, human development, and natural disturbance. In seeking to develop this program, project members



FIGURE 1. CROWN OF THE CONTINENT

sought to know what geospatial data sets were free and available for this project, prior to initiating costly data acquisitions. The effort associated with this report will contribute the baseline datasets for a prototype Landscape Dynamics monitoring report for the CCE.

2. Contacts

- **Rocky Mountain Inventory and Monitoring Network (ROMN)**

Project PI:

Mike Britten
Rocky Mountain Inventory and Monitoring Network
National Park Service
1201 Oakridge Drive, Suite 200
Fort Collins, CO 80525
970-267-2150
Mike_Britten@nps.gov

Laura O'Gan
Network Data Manager
National Park Service
Inventory and Monitoring Division
Rocky Mountain Network
Laura_OGan@nps.gov

- **University of Calgary (UofC)**

Project PI:

Greg McDermid
Department of Geography, University of Calgary
2500 University Dr. NW
Calgary, AB T2N 1N4
403-220-4780
McDermid@ucalgary.ca

Research Technician:

Tracy Timmins
Department of Geography, University of Calgary
2500 University Dr. NW
Calgary, AB T2N 1N4
403-210-8761
ttimmin@ucalgary.ca

- **Crown Managers Partnership (CMP)**

Project Coordinator:

Erin Sexton

Crown Managers Partnership
Flathead Lake Biological Station, University of Montana
32125 Bio Station Lane
Polson, MT 59860-6815
406-250-4779
Erin.Sexton@umontana.edu

3. How to Use This Document

This document summarizes the data-mining exercises undertaken by ROMN, UofC, and CMP personnel in 2010, and includes a rationale for the work, the general approach taken, a review of available datasets, and some general comments regarding data limitations and future work. The information is meant to support the use of data-products housed on the CMP's data server, and users are advised to supplement this information with additional sources of documentation, including metadata and license grants/data-sharing agreements, where appropriate. Instructions regarding data access for CMP members and collaborators are also included.

This report should be cited as:

Sexton, E., A. Sobol, J. Burke, G.J. McDermid, and L. O'Gan, 2010: *Crown Managers Partnership Landscapes Data Review Report – A Review of Baseline Geospatial Datasets for the Crown of the Continent Ecosystem Landscape Project*. Crown Managers Partnership, 248p.

4. Approach

Because the CCE spans an international border and includes territory from two provinces and one state, NPS ROMN collaborated with UofC to mount a data-mining effort that covered both Canada and the US. The first step was to identify the key attributes of spatial analyses for the CCE. A workshop in July 2009 at West Glacier, MT identified eight indicators of ecological health of an ecosystem:

1. Roads

Anthropogenic category; Features on the landscape that may contribute to landscape fragmentation, may deter or prevent species migration, and responsible for species fatalities. Emphasis on primary and secondary roads, un-paved access roads and oil and gas right-of-ways.

2. Human structures/Human Use Footprint

Landscape features and Geographic Administration categories; Human footprint on the natural landscape, which includes but is not limited to dwellings, geospatial population statistics, land use classification, etc.

3. Level of use on roads

Anthropogenic category; Increases in vehicular quantities or traffic volume contribute audio and air pollution, and may be disruptive to wildlife species. Relative road use may be inferred from primary or secondary descriptors within the road dataset. Quantified statistics are not available for all roads in the CCE.

4. Rivers / Riparian Cover

Landscape Features and Hydrogeomorphic categories; Streams and the associated riparian corridor provide species habitat and forage opportunities, as well as migratory routes and refugia for a variety of species.

5. Species Composition (vegetation types)

Landscape Features category; Species-level or composition vegetation mapping (e.g. broadleaf or coniferous) land cover feature which is important indicator of species habitat and monitoring vegetation changes on the landscape.

6. Vegetation Structure (e.g. Crown closure)

Landscape Feature category; Forests and the amount of cover that they provide are important indicators of species habitat. Canopy cover describes the relative openness of the upper canopy of trees.

7. Net Primary productivity

Landscape Feature category; satellite-based measures of terrestrial biological productivity to reveal vegetation growth and the seasonal and spatial variability across the CCE landscape. Patterns of productivity are an indicator of herbivore biomass, fauna species distribution, fire behavior, and food web processes.

8. Forest / Non-forest

Landscape Feature category; Characterizing forest and non-forest areas in addition to the ecotone provides a measure of available species habitat and edge features, can be correlated with primary productivity dataset, and used to monitor the effects of disturbances such as fire and insects on the ecosystem.

To address these indicators, the Landscapes Team identified the following geospatial datasets as necessary at a minimum for comprehensive spatial analyses of the CCE:

1. Land cover / land use, including vegetation and forest cover as well as anthropogenic signatures such as developed areas
2. Crown Closure
3. Roads / Railroads / Trails, including access roads, roadless areas, and measures of road use
4. Streams / Hydrology to assess riparian areas and cover
5. Census and Statistics for population measures and residential dwellings

In addition to the five key datasets listed above, additional datasets were identified as important for monitoring and understanding the specifics of changes on the landscape, in addition to providing measures of Landscape condition:

1. Timber harvest
2. Features on the landscape / Natural resource extraction:
 - a) Oil and gas wells
 - b) Ground water wells
 - c) Coal / Mining
 - d) Dams
 - e) Landfills
 - f) Recreation
 - g) Airports
3. Natural Disturbances:
 - a) Insects
 - b) Fire History

A third and final level of data-mining included the assembly of ancillary data that may support analyses, e.g. reporting metrics at the ecoregions scale, interpretation, and mapping. These datasets may not be comprehensive or consistent at the scale of the CCE, but are valuable to the project and our understanding ecological health. These data include:

1. Flora and Fauna of interest
 - a. Grizzly Bear data
2. Cumulative Effects Modeling data for Grizzlies
3. Forest plans
4. Proposed management
5. Protected lands/areas
6. High-resolution Imagery
7. Ecoregion / Ecosystem boundaries
 - a. Incorporates climate, elevation, and other features
8. Impervious surface
9. LANDFIRE (Need a comparable source for Canada)

5. Wish List/Data Gaps

Given the large size and jurisdictional complexity of the CCE, it is unrealistic to expect that freely available data sets would fill all of the CMP's regional management needs.

Unfortunately, estimating the size and breadth of the information gaps is complex, and depends largely on the scope of a particular project's requirements. Given the objective of assembling base-maps suitable for one-time spatial analyses and other core needs at the scale of the Crown, however, several initial shortcomings are evident:

- We lack a wall-to-wall crown closure coverage for the Canadian side of the CCE;
- Timber harvest data is incomplete in some areas; particularly in British Columbia;
- We have inconsistent and incomplete coverage of high-spatial-resolution optical data at the scale of the CCE. Panchromatic SPOT-5 orthomosaics are available for Alberta and Montana, but not for British Columbia;
- We lack thorough and consistent land-use data on the Canadian side;
- We lack an impervious surface layer for Canada; and
- Grizzly bear data is spotty and remains unassembled at the scale of the Crown, restricting our ability to perform thorough cumulative-effects modelling and other bear-specific habitat objectives.

In addition, several of the existing data layers (e.g. roads, land cover, riparian zone) could be improved upon with additional analysis.

6. Discussion

This initial project to identify and assemble all available and free geospatial datasets is part of a larger Crown of the Continent Landscape Analysis Program, whose purpose is to develop and implement long-term trend analysis across the CCE. The work in that program is designed to proceed in two phases. Phase 1 includes the assembly of existing data sets, and then assessing their suitability for supporting landscape monitoring and other CMP management priorities. Phase 2 will concentrate on the development of new geospatial data layers, where appropriate, and the establishment of strategies, work flows, and processing tools designed to permit the detection of changes in the structure and composition of habitat and human footprint elements across the CCE. Expected outcomes of the overall program include providing information to managers regarding transboundary CCE management issues such as wildlife and habitat connectivity, vulnerability of aquatic resources, status of threatened species and the responses of these factors to major ecosystem drivers such as climate change, natural and human-caused disturbances.

The data-mining efforts reported in this document were successful in obtaining and generating comprehensive CCE baseline data, and thereby contributes to our overall Phase 1 objectives.

However, the suitability of these data for on-going monitoring needs has yet to be fully assessed. In addition to the data-gaps identified in the previous section, a number of issues and inconsistencies within the existing layers remain. For example, the roads layer is inconsistent both spatially and temporally at the scale of the CCE, and requires updating. The land-cover layer contains gaps near the international border, and suffers from some class-definition inconsistencies that will need to be addressed. The riparian-zone layer requires additional refinement in order to identify the specific riparian cover-types desired by the CMP, and we may pursue additional time-series analyses with the MODIS data. However, the initial data-mining efforts are complete, and future searches are unlikely to extend beyond the acquisition of major data updates.

7. Data Access

Each of the data sets assembled for the Landscapes Data Review is housed on an 11-TB data server at the UofC, and are accessible to authorized personnel. ROMN Data Manager Laura O’Gan can provide access to the server through the CMP-User account. Once you have received the account details, you can access the data server through your web browser, FTP client, or a Windows share. The address of the server is 136.159.65.20; the share folder is CMP. To connect with your web browser, visit <http://136.159.65.20>. To establish an ftp connection (more reliable for downloading large datasets), you will require an ftp client (e.g. FileZilla, SmartFTP, etc) or an ftp plug-in for your web browser (e.g. FireFTP for Firefox, IE FTP for Internet Explorer).

Windows Shares represent perhaps the most convenient connection to the CMP data server for regular users, allowing you to mount the server as a mapped network drive. However, the server is located behind the UofC’s main firewall, so off-campus users seeking to connect in this manner are required to set up a VPN (virtual private network) and obtain a UofC user-account. UofC accounts are available through Project PI Greg McDermid, who will require your full name, preferred UofC account name, and non-UofC-email address. Once a UofC account has been created, you can establish VPNs through the use of FortiClient SSL VPN software, available for download at <http://www.ucalgary.ca/it/software/downloads#vpn>. Installation and operating instructions are provided at the same location. Once a VPN connection has been established, you can map the CMP data server as a network drive (My Computer: Map Network Drive; folder is \\136.159.65.20\CMP).

Please note that many of the data sets assembled on the CMP server are subject to data-sharing agreements and written undertakings. Please contact CMP Project Coordinator Erin Sexton for more information and details on all relevant restrictions.

8. Review of Available Datasets

From November 2009 to April 2010, an effort was made to find and compile freely available data illustrating the key information sources identified during the various CMP workshops. All the datasets were uploaded onto the CMP data server and organized into the following themes:

A. Anthropogenic

- a. City
- b. Cutblocks
- c. Dams
- d. Ground water wells
- e. Heritage
- f. Emission
- g. Forest
- h. Irrigation
- i. Line features
- j. Oil gas wells
- k. Point and polygon features
- l. Railroads
- m. Recreation
- n. Roads
- o. Trails
- p. Water features
- q. Well

B. Fauna

- a. Badger
- b. Bulltrout
- c. Grizzly
- d. Sapsucker
- e. Sensitive species
- f. Species occurrence
- g. Tailed frogs
- h. Winter range
- i. Woodpecker

C. Geo-Administration

- a. Census boundaries
- b. Census data
- c. Fire control
- d. Green/white zones
- e. Heritage
- f. Hunting
- g. Indian reserve
- h. Landuse
- i. Management units
- j. Military
- k. Mineral

- l. Montana counties
 - m. Oil
 - n. Park
 - o. Range
 - p. Stewardship
 - q. Water management
 - r. Wilderness
 - s. Wildlife refuges
 - t. Zoning
- D. Hydrology/Geology
 - a. Bathymetry
 - b. Digital elevation models
 - c. Fans
 - d. Faultlines
 - e. Flow
 - f. Geology
 - g. Glacier
 - h. Station
 - i. Stream
 - j. Waterbody
 - k. Water obstruction
 - l. Watershed
 - m. Wetland
 - n. Water quality
- E. Imagery
 - a. Airphoto
 - b. IRS
 - c. SPOT 5
- F. Land Features
 - a. Alberta Vegetation Inventory (AVI)
 - b. Biogeoclimatic
 - c. Canopy
 - d. Continental divide
 - e. Ecoregions
 - f. Forest
 - g. Impervious
 - h. Grasslands
 - i. Grassland Vegetation Inventory (GVI)
 - j. Land cover
 - k. Land cover change

- l. MODIS Land Cover Dynamics
- m. MODIS Net Primary Productivity
- n. Predictive Ecosystem Mapping (PEM)

G. Natural Disturbance

- a. Fire
- b. Insect

NOTE: Not all dataset types per theme were found for each province/state.

The complete list of datasets is provided in the appendices at the end of this document. The information presented in the appendices summarizes (i) the theme and type of each dataset, organized in a manner designed to ease the navigation on the CMP data server; (ii) source of the dataset and (iii) the date when the information was acquired; (iv) a brief description of the dataset; (v) the presence or absence of accompanying metadata; (vi) the name and format in which it is found on the CMP data server; (vii) the spatial resolution of each dataset; (viii) the frequency at which the source agency plans to update the particular dataset; and (ix) any restrictions surrounding distribution or use.

If you desire any additional information on a particular dataset, please refer to the complete spreadsheet: CMP_CCE_DataList_Phase1_6_11_2010.xls, available on the CMP data server. The ROMN data manager will continue to maintain the spreadsheet in order to keep it up-to-date with respect to on-going data acquisitions and updates. New versions of the spreadsheet will be named appropriately for easy identification. The data manager will also implement a versioning strategy to handle potential updates of named geospatial layers. For more information, please contact Laura O’Gan.

9. CCE Baseline Datasets

The CCE Baseline Datasets section documents the processing steps and decision tree used to derive the baseline geodatabase. Caveats and limitations of the final outputs are listed. In the course of compiling baseline data, we used the Universal Transverse Mercator (UTM) coordinate system, zone 11, based on the NAD83 datum. We recognize that this selection may not suit the needs of all CMP personnel (for example, both Waterton Lakes and Glacier National Parks use UTM zone 12 for their base projection), but there is no universally appropriate projection or coordinate system for a dataset of this geographic extent. End-users are advised to consider this factor carefully prior to analysis, and should be equipped to re-project and/or define new coordinate systems to these layers as appropriate.

9.1. Anthropogenic

9.1.1. Roads

METHODS

The data-mining effort revealed numerous road layers from different sources for each province/state. Based on the superior and extensive detail of Alberta Sustainable Resource Development and Digital Road Atlas of British Columbia, these two layers were selected as source datasets for the Canadian portion of the CCE. The shapefile obtained from the Forest Service, U.S. Department of Agriculture was selected due to its thorough representation of the rural forest roads, even though the urban roads were under represented.

In order to obtain a comprehensive road layer for the entire CCE, the three selected road layers were merged into a single dataset:

- A. Alberta roads provided by Sustainable Resource Development (SRD):
 - a. **roads.e00**,
 - B. Partially attributed road data (PAR) for the named roads from the Digital Road Atlas (DRA) of British Columbia:
 - a. **DRA_LINESP_line.shp**.
 - C. Roads and trails of the Forest Service Region 1 National Forests provided by U.S. Department of Agriculture (U.S.D.A.):
 - a. **R1_TravelRoutes_Roads.shp**.
-
- (i) In ArcCatalog, AB roads were imported from Interchange File (Conversion toolbar).
 - (ii) U.S. and BC shapefiles were projected to NAD83_UTM_Zone11N from NAD83_Albers and NAD83 UTM, Zone 11N, Meter, respectively.
 - (iii) To prevent overlapping roads between AB and BC, each provincial road layer was clipped to its provincial boundary. The following shapefiles were merged together:
 - 1- **ab_road_clipprov.shp**; and,
 - 2- **bc_road_clipprov.shp**;
 - (iv) To prevent overlapping of U.S. and Canadian roads, a custom boundary shapefile was outlined based on visual inspection of both data sets (**Custom_Boundary** found in **Roads_Interim.mdb**).
 - (v) The clipped U.S. and Canadian roads were merged together.
NOTE: To reduce the number of fields, only a selected number of fields (Table 1) from each layer were retained when merging (Field map). The attribute table of the final road layer was populated only to the extent of the source datasets.

TABLE 1. LIST OF ATTRIBUTES CONTAINED IN THE MERGED ROAD LAYER AND THE CORRESPONDING FIELD NAMES FROM EACH ORIGINAL LAYER.

CCE_roads	U.S.	AB	BC
SURFACE_TYPE	SURFACE_TYPE	FEATURE_TYPE	RDSRFC
LANES	LANES	---	---
FULL_NAME	NAME	NAME	RDNMFLL
RD_CLASS	---	---	ROAD_CLASS

- (vi) The merged roads were clipped to the 5km buffer of the study area.
- (vii) The output dataset was **Roads_CCE_5kmBuffer_UTM11NAD83.shp** (Figure 2).

NOTE: Gaps are present in the final dataset at the international border, and the roads between provinces are offset by about 3.7m.

- (viii) The final output of this section was exported to **Road_CCE.mdb**.
- (ix) The remaining outputs found in this section were exported to **Road_Interim.mdb** in the Interim folder.

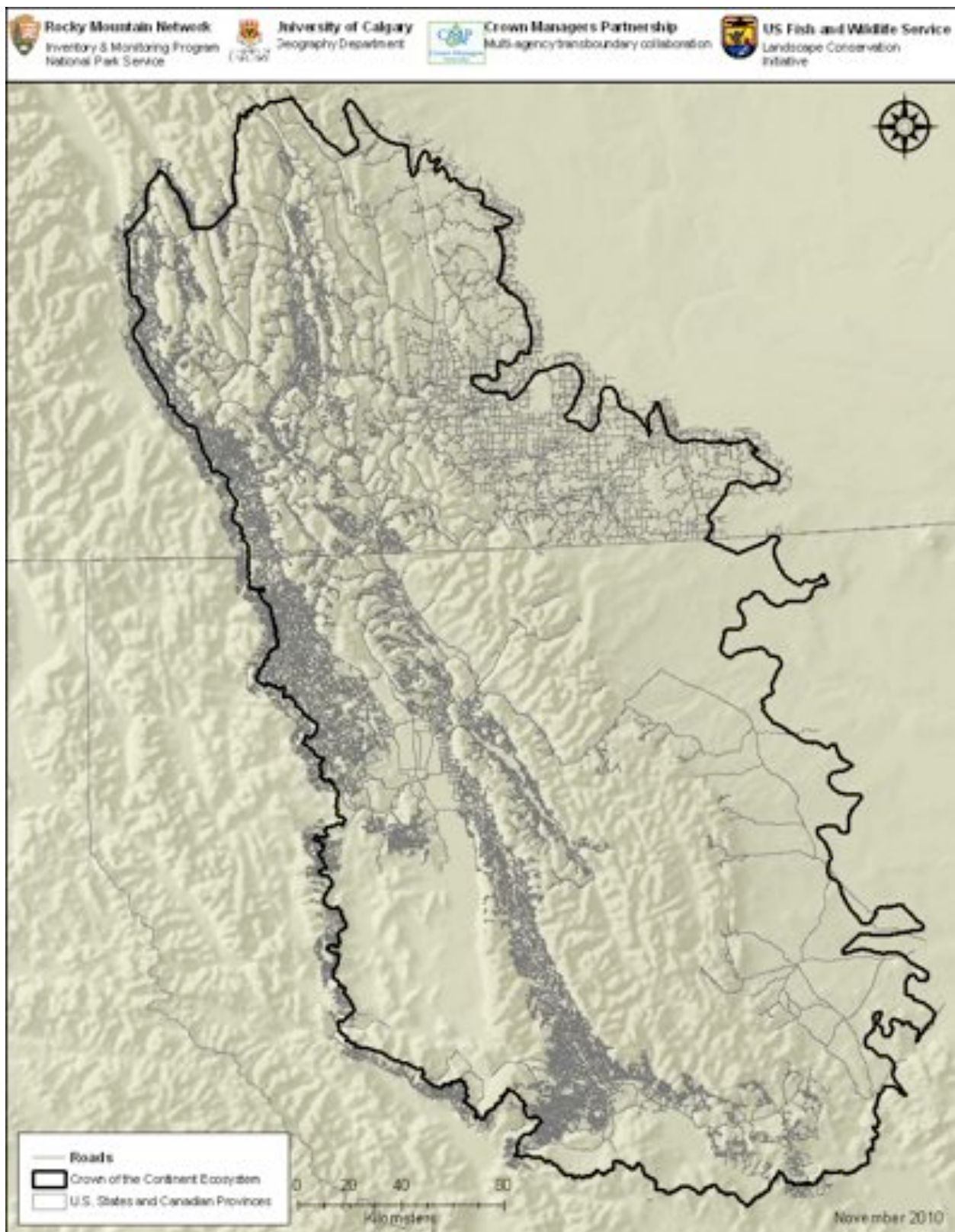


FIGURE 2. ROADS IN THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: ALBERTA SUSTAINABLE RESOURCE DEVELOPMENT (SRD), DIGITAL ROAD ATLAS (DRA) OF BRITISH COLUMBIA, AND U.S. DEPARTMENT OF AGRICULTURE (USDA).

9.2. Geo-Administration

9.2.1. Census

METHODS

In order to illustrate the population and number of dwelling for the entire CCE at the largest census scale possible, three datasets were merged together:

- A. 2006 Dissemination Block (DB) boundary files for Alberta created by Statistics Canada (provided by Richard Williams at the Office of Statistics and Information):
 - a. (**gdb_048b06a.shp**).
- B. The AB population and dwelling count were obtained separately from GeoSuite for each of the following dissemination areas:
 - a. **DB_Blood148.xls**;
 - b. **DB_Cardston.xls**;
 - c. **DB_CardstonCounty.xls**;
 - d. **DB_Cowley.xls**;
 - e. **DB_CrowsnestPass.xls**;
 - f. **DB_EdenValley.xls**;
 - g. **DB_Foothills.xls**;
 - h. **DB_Glenwood.xls**;
 - i. **DB_Hillspring.xls**;
 - j. **DB_ImprovementDistrict.xls**;
 - k. **DB_Kananaskis.xls**;
 - l. **DB_Piikano.xls**;
 - m. **DB_PincherCreek.xls**;
 - n. **DB_Ranchland.xls**;
 - o. **DB_WarnerCounty.xls**; and
 - p. **DB_WillowCreek.xls**.
- C. 2006 Dissemination Block (DB) boundary files including population and housing attributes for British Columbia created by Statistics Canada (provided by Peter Holmes at the BC Ministry of the Environment):
 - a. (**EastKootenay2006.shp**).
- D. 2000 Census Blocks with population and housing attributes provided by the Montana State Library:
 - a. **30013blk.shp**;
 - b. **30029blk.shp**;
 - c. **30035blk.shp**;
 - d. **30039blk.shp**;
 - e. **30047blk.shp**;
 - f. **30053blk.shp**;
 - g. **30063blk.shp**;
 - h. **30073blk.shp**;

- i. **30077blk.shp;**
- j. **30089blk.shp;**
- k. **30099blk.shp;** and,
- l. **30101blk.shp.**

NOTE: Our primary goal was to obtain the population and number of dwellings at the finest common scale possible. Because the Canadian government first began to collect the pertinent census information at our desired scale in 2006, we used 2006 as the baseline for this product on the Canadian CCE. However, because (1) U.S. Census takes place every 10 years, and (2) our desired baseline date for the protocol was 2000, the census 2000 blocks were used on the U.S. CCE.

Canada Census Data Pre-processing

- (i) The Dissemination Blocks for both provinces were projected to NAD83_UTM_Zone11N.
- (ii) Because the Alberta Dissemination Block shapefile did not contain block specific population and dwelling information, these data were downloaded from GeoSuite as a spreadsheet and joined to the shapefile.
- (iii) The Dissemination Block shapefiles were merged.
- (iv) To eliminate blocks completely outside of the CCE, only blocks that intersected with the 5km buffered CCE were selected by location (Selection menu). These selected features were then exported to a new shapefile.
- (v) In order to have the same field names as the U.S., two fields were added to the Canadian Dissemination Block attribute table: TOTPOP and TOTHOUSUNT (both are double with a precision of 11 and scale of 0). TOTPOP was populated with data from DBLOCKpop2, and DBLOCKtdwe was calculated into TOTHOUSUNT.

U.S. Census Data Pre-processing

- (vi) All 12 individual U.S. Census Block Groups were merged together into one shapefile. Each of these Census Blocks Groups contain the smaller census blocks, which are smaller in size than the Canadian Dissemination Block.
- (vii) The merged blocks were projected to NAD83_UTM_Zone11N.
- (viii) To eliminate blocks completely outside of the CCE, only blocks that intersected with the 5km buffered CCE were selected by location. These selected features were then exported to a new shapefile.
- (ix) Based on visual explorations, it was noticed that some blocks extended past the international border into Canada. Therefore, these blocks were clipped to the U.S. boundary (**US_States_UTMz11NAD83**).

CCE Census Data: Final Deliverable

- (x) Canadian 2006 Dissemination Blocks and U.S. 2000 census blocks were merged together. When merging, only TOTPOP and TOTHOUSUNT field attributes were retained.

- (xi) The output dataset was **Census_CCE_5kmBuffer_UTM11NAD83.shp**, which contains the population count (Figure 3) and number of dwellings (Figure 4).

NOTE: Gaps are present in the final dataset at the international border. The border is approximately 180km long, out of which only a 51km stretch is joined. In the west, the gap is about 90m wide, while in the east, it reaches 240m at the maximum.

- (xii) All outputs in this section were exported to **Census_CCE.mdb**.

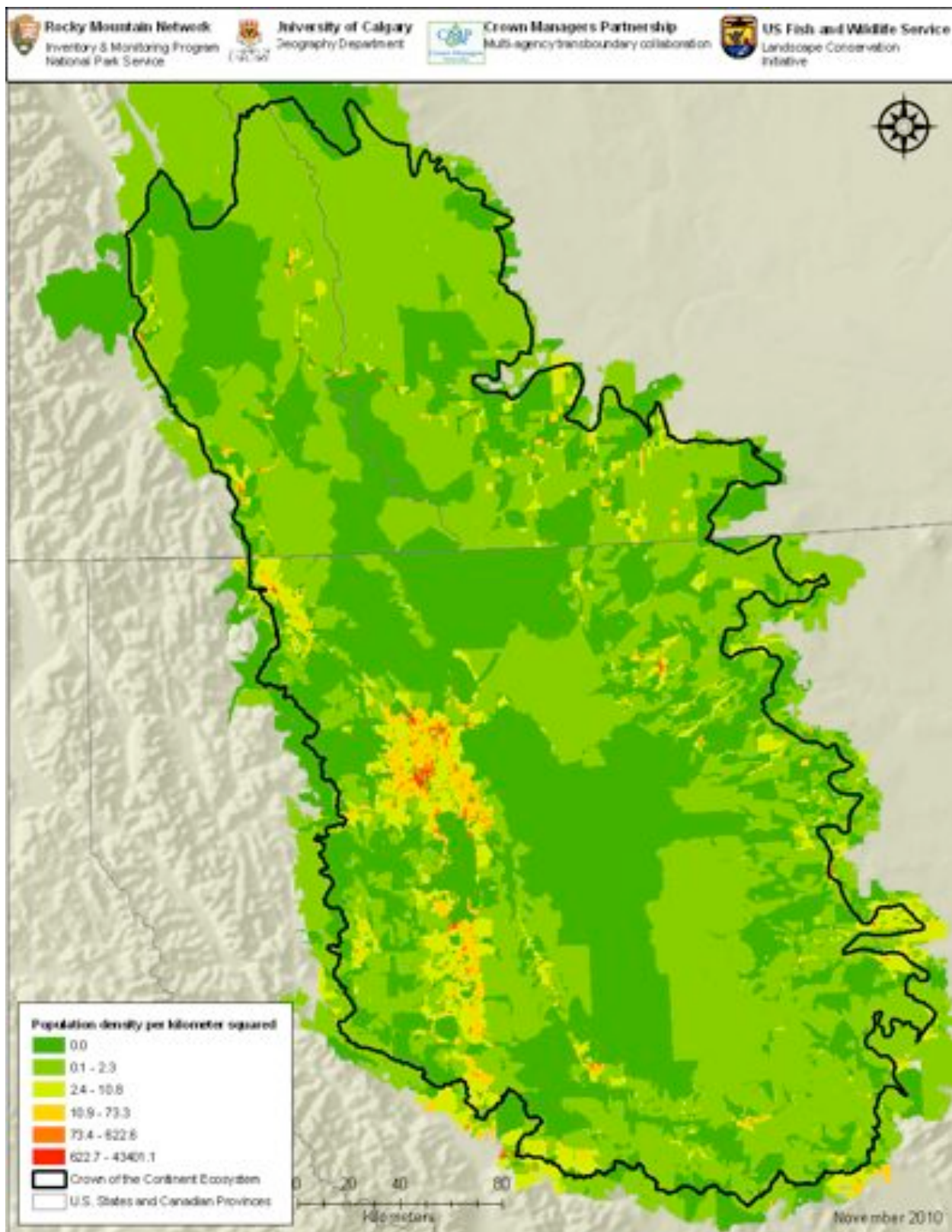


FIGURE 3. POPULATION (REPRESENTED BY NATURAL BREAKS) IN EACH DISSEMINATION BLOCK OF THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: STATISTICS CANADA AND GEOSUITE FOR CANADA, AND MONTANA STATE LIBRARY.

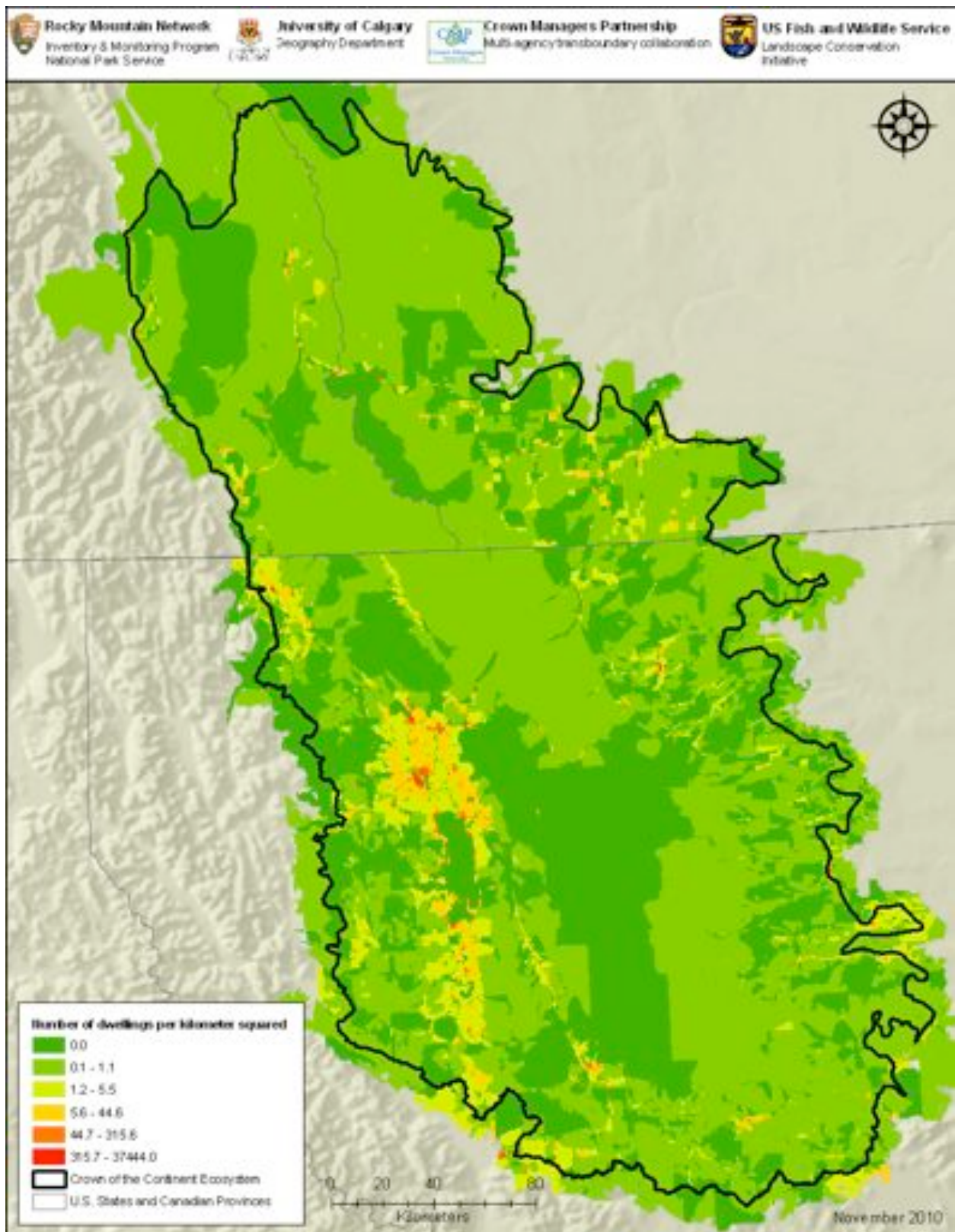


FIGURE 4. NUMBER OF DWELLINGS PER DISSEMINATION BLOCK (REPRESENTED BY NATURAL BREAKS) OF THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: STATISTICS CANADA AND GEOSUITE FOR CANADA, AND MONTANA STATE LIBRARY.

9.3. Hydrology/Geology

9.3.1. Streams

METHODS

A stream network layer for the entire CCE was generated by merging together two datasets, one for each country:

A. Canada's National Hydro Network provided by GeoBase:

- a. **nhn_05aa000_1_0_hn_nflow_1.shp**;
- b. **nhn_05ab000_1_0_hn_nflow_1.shp**;
- c. **nhn_05ac000_1_0_hn_nflow_1.shp**;
- d. **nhn_05ad000_1_0_hn_nflow_1.shp**;
- e. **nhn_05ae000_1_0_hn_nflow_1.shp**;
- f. **nhn_05af000_1_0_hn_nflow_1.shp**;
- g. **nhn_05bf000_1_0_hn_nflow_1.shp**;
- h. **nhn_05bj000_1_0_hn_nflow_1.shp**;
- i. **nhn_05bl000_1_0_hn_nflow_1.shp**;
- j. **nhn_08na000_1_0_hn_nflow_1.shp**;
- k. **nhn_08nf000_1_0_hn_nflow_1.shp**;
- l. **nhn_08ng001_1_0_hn_nflow_1.shp**;
- m. **nhn_08ng002_1_0_hn_nflow_1.shp**;
- n. **nhn_08nk0x1_1_0_hn_nflow_1.shp**; and,
- o. **nhn_11aa001_1_0_hn_nflow_1.shp**.

B. United State's National Hydrography Dataset provided by the U.S. Geological Survey (USGS):

- a. **(NHDFlowline)**.

- (i) All Canadian layers were merged together. Because the datasets were extracted from a single comprehensive national network, it was assumed that basic topology rules were previously validated.
- (ii) The merged Canada network was projected to NAD83_UTM_Zone11N using the NAD_1983_To_NAD_1983_CSRS98_3 geographic transformation (Alberta).
- (iii) U.S. network was projected to NAD83_UTM_Zone11N.
- (iv) To prevent overlapping of U.S. and Canadian streams, a custom boundary shapefile was outlined based on visual inspection of both data sets (**Custom_Boundary** found in **Streams_Interim.mdb**).
- (v) The clipped U.S. and Canadian streams were merged together.
- (vi) The combined stream network was clipped to the 5km buffered CCE extent.
- (vii) The output dataset was **Streams_CCE_5kmBuffer_UTM11NAD83.shp** (Figure 5).

NOTE: Gaps are present in the final dataset at the international border.

- (viii) All outputs in this section were exported to **Streams_CCE.mdb**.

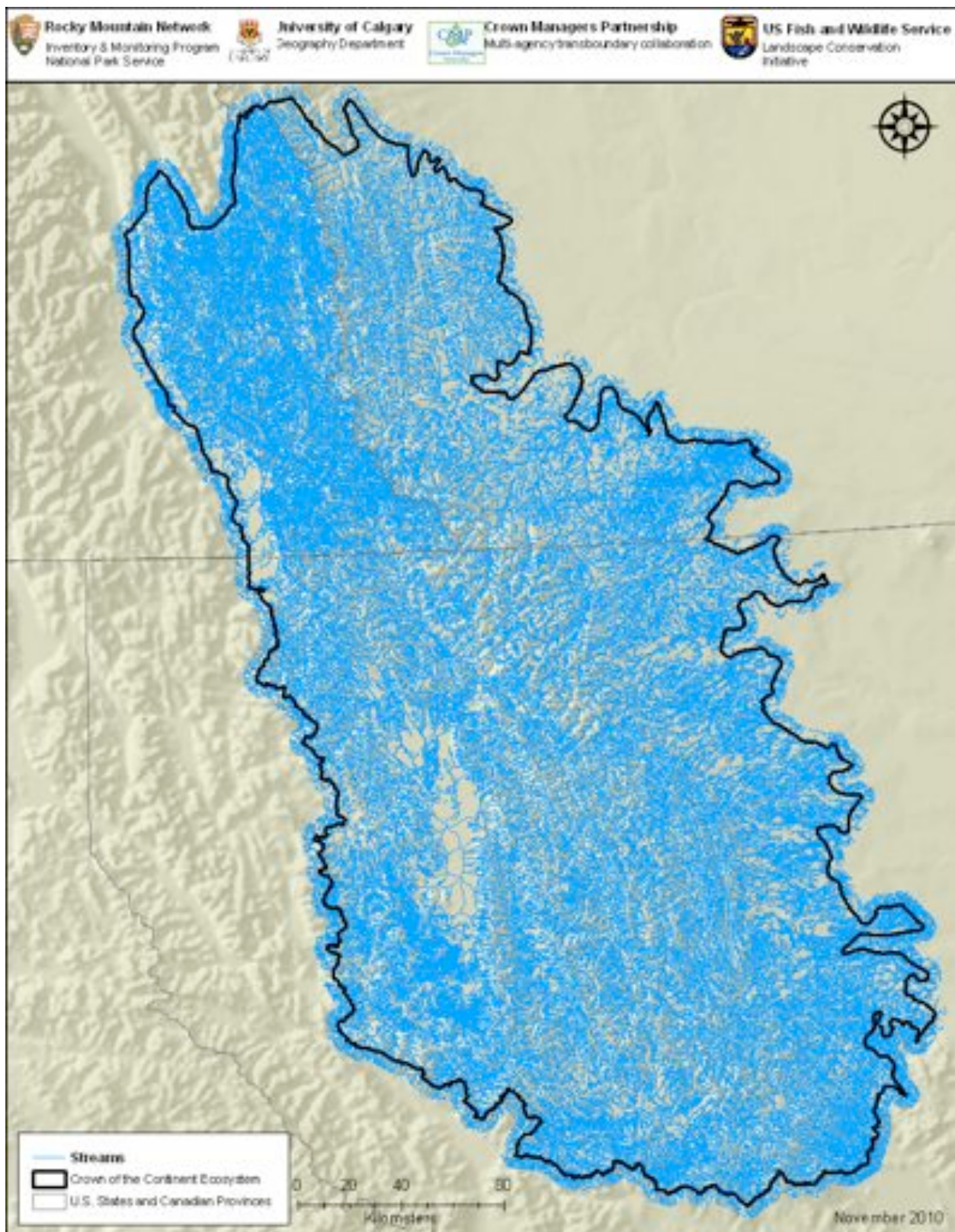


FIGURE 5. STREAMS FOUND WITHIN THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: GEOBASE AND U.S. GEOLOGICAL SURVEY (USGS).

9.3.2. Watershed

METHODS

In order to obtain a watershed layer for the entire CCE, three layers, one for each province/state, were merged together:

- A. Watershed boundaries (4-character sub-basins) of the Prairie Farm Rehabilitation Administration (PFRA) Project provided by Agriculture and Agri-Food Canada for Alberta:
 - a. (**sub_4c.shp**).
- B. Major watersheds of British Columbia tagged with the first three digits of the Watershed Code provided by GeoBC's Data Distribution Service:
 - a. (**MJR_WTRSHD.shp**).
- C. Watershed Boundary Dataset of the U.S. provided by Natural Resource Conservation Service (NRCS):
 - a. (**wbdhu12_a_mt.shp**).

- (i) All three shapefiles were projected to NAD83_UTM_Zone11N.
- (ii) The original NRCS watersheds were attributed using 8-, 10- and 12-digits (from smaller to larger scale). To be more compatible with the Canadian datasets (i.e. 4-character code), we used the 8-digit watershed code. Therefore, we dissolved **wbdhu12_a_mt.shp** to the 8-digit level using the Dissolve tool, specifying the HUC_8 as the dissolve field.
- (iii) Using the Select by Location, we selected watersheds in each of the three original layers that intersected with the 5km buffered CCE study area. These selected features were exported into new shapefiles.
- (iv) Thus, we created three outputs:
 - 1- **ab_CCE_wtrshd_4c**;
 - 2- **bc_CCE_wtrshd_3c**; and,
 - 3- **mt_CCE_wtrshd_8d**.

NOTE: With the limitations in available data, the BC data used were watersheds coded at the 3-characters rather than 4-characters.

- (v) The above outputs were exported to **Watershed_Interim.mdb**. Using the Union tool, these three files were merged together. In order to prevent presence of holes in the final product, no gaps were allowed.
- (vi) A few fields were retained: FID, shape, HUC_8 (U.S. code), sub_4c (AB code), objectid (BC code), and the FIDs from each united shapefile. Both the U.S. and AB codes needed to be converted from string to number. Because AB had letters in its code, they were arbitrarily converted as follows:
 - 1- 05AA became 511;
 - 2- 05AB became 512;
 - 3- 05AC became 513;

- 4- 05AD became 514;
 - 5- 05AE became 515;
 - 6- 05BF became 526;
 - 7- 05BJ became 530;
 - 8- 05BL became 532; and,
 - 9- 11AA became 999.
- (vii) In order to merge the watershed codes and remove seams at the borders, a new field was created called Watershed (field type set to long integer).

[Watershed] = [HUC_8_num] + [sub_4c_num] + [objectid]

- (viii) A total of five watersheds cross the international border, and the corresponding codes between province and state are shown in Table 2.

TABLE 2. CORRESPONDING WATERSHED CODES BETWEEN UNITED STATES (U.S.), ALBERTA (AB), AND BRITISH COLUMBIA (BC).

U.S.	AB	BC
10010001	514 (05AD)	---
10010002	515 (05AE)	---
10050001	999 (11AA)	---
17010101	---	10
17010206	---	44

- (ix) Using the Select by Attribute tool, we identified polygons that were either 10010001 or 514, and assigned them to the U.S. code value of 10010001 in the Watershed field; we assigned polygons 10010002 or 515 to U.S. code of 10010002; and so on. This procedure was repeated on the remaining international watersheds.
- (x) All (un-allowed) gaps had a value of -1 in the FID field obtained from each united shapefile:
- 1- At the U.S. and AB border, all gaps were incorporated to 10030203 watershed for a smoother appearance;
 - 2- At the U.S. and BC border, gaps were incorporated into their appropriate watersheds that crossed the border; and,
 - 3- For a smoother appearance at the AB and BC border, gaps were incorporated into the appropriate BC watershed, i.e. 17010101 or 17010206.
- (xi) We dissolved the merged shapefile using the Dissolve tool and specifying the Watershed as the dissolve field.
- (xii) The output dataset was **Watershed_CCE_UTM11NAD83.shp**.
- (xiii) The watersheds were either clipped to or selected for if completely within the CCE and were also clipped to the Waterton-Glacier International Peace Park boundary to create **Watershed_CCE_Clippped_UTM11NAD83.shp** and **Watershed_CCE_Clippped_ToPark_UTM11NAD83.shp**, respectively.

- (xiv) To initially summarize the data as well as allow analysts the option to use the attributes at the desired scale of summary (watersheds, parks, watersheds in the park, etc), the boundary of park (**Park_Boundaries_Waterton_GLAC_PeacePark_UTM11NAD83.shp**) was added in with the watershed, by:
- 1- Selecting the park's boundary;
 - 2- Using the dataset generated in the previous step,
Watershed_CCE_Clipped_UTM11NAD83.shp set this as the target in the Editor toolbar; and,
 - 3- Constructing Features to split existing watershed features in target layer using selection (Topology toolbar).
- (xv) The output dataset was **Watershed_CCE_Parks_UTM11NAD83.shp** (Figure 6).
- (xvi) All final outputs of the outputs in this section were exported to **Watershed_CCE.mdb**.

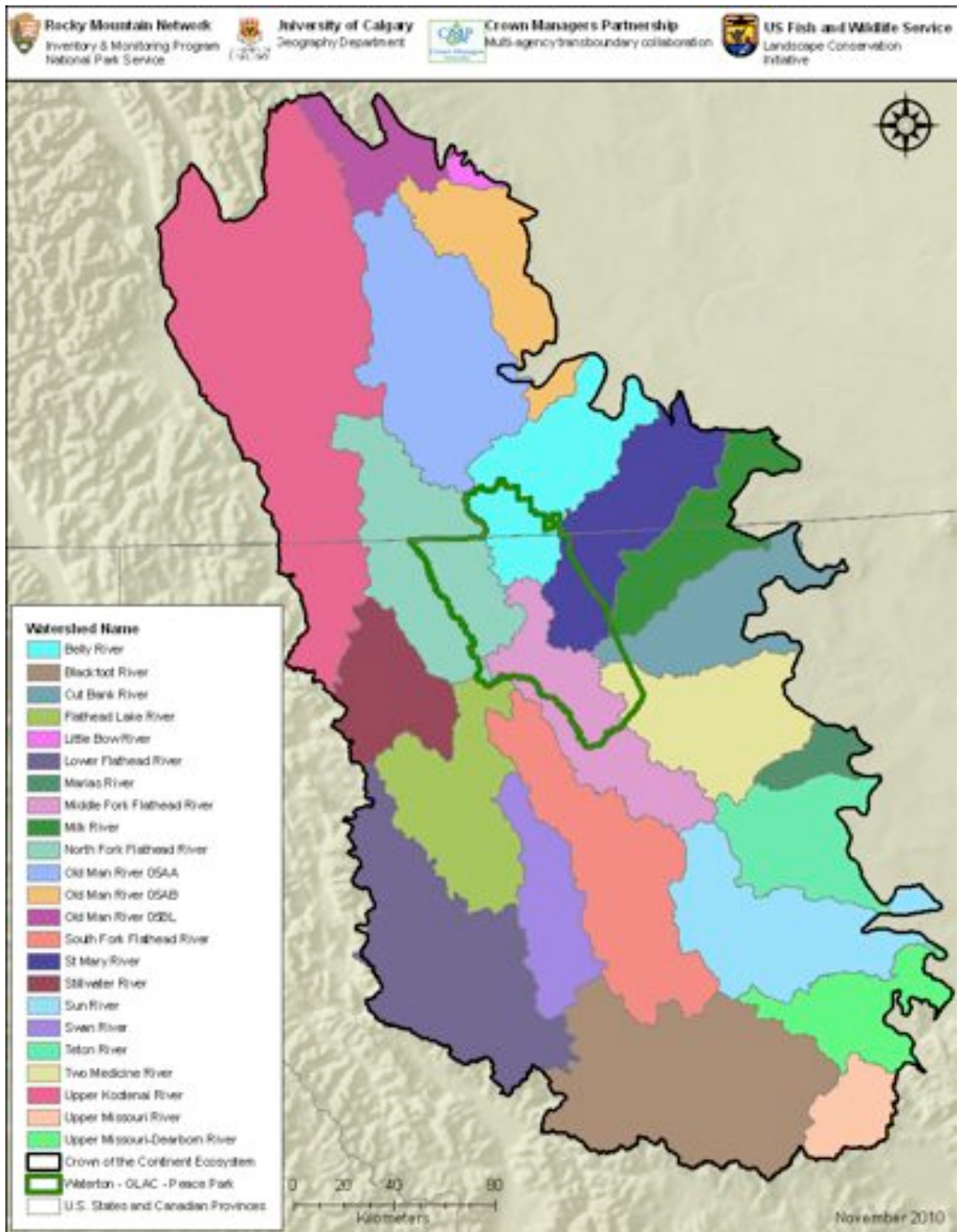


FIGURE 6. WATERSHEDS FOUND WITHIN THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: AGRICULTURE AND AGRI-FOOD CANADA (AAFC), GEOBC DATA DISTRIBUTION SERVICE AND U.S. NATURAL RESOURCE CONSERVATION SERVICE (NRCS).

9.3.3. Riparian Buffer Zone

METHODS

A review of the literature was performed to determine the appropriate methods to derive the boundary of riparian ecosystems in the Rocky Mountains. It was found that many factors are included in the designation of the riparian buffer, and ultimately depend on the objective of the classification, as well as the location and context of the ecosystem.

For the CCE, the riparian ecosystem was classified using three existing layers in a GIS:

- A. Streams network:
 - a. **Streams_CCE_5kmBuffer_UTM11NAD83.shp.**
- B. Water class of the landcover layer:
 - a. **Landcover_CCE_5kmBuffer_UTM11NAD83.img.**
- C. Digital elevation model (DEM) (22m Aster GDEM) provided by METI and NASA:
 - a. **aster_dem.rrd.**

NOTE: There were minor issues with data integrity, as the water class of the landcover layer and the streams layer were not mutually exclusive: it was found that lakes were often represented as streams.

- (i) Stream network was rasterized (Polyline to Raster tool) after the features were dissolved.
- (ii) Rasters from each of the streams and lake classes are added together for full hydrology.

Riparian classification systems are based typically on two to three characteristics, depending on the application (Lee et al 2004). Typically the water body type is separated into lakes and rivers, and then each class is separated into large or small lakes, and permanent or intermittent streams (Lee et al 2004). The existing streams network layer was found to be permanent, and the lakes included all sizes. However, the difference in riparian distances between lakes and streams specifically in the Rocky Mountains, regardless of size, were 23 and 24.4 meters respectively (Lee et al 2004). Because these measures were very close and were not significantly different (Lee et al 2004), the riparian distance was set to 24 meters.

- (iii) Water bodies are buffered to 24 meters.

Riparian zones are further affected by terrain and local topography (Lee et al 2004). Rivers with steeper slopes receive larger riparian zones, and an increase of 0.79 meters per 1 degree increase in slope is an approximate measure of distance (Lee et al 2004). Therefore, a buffer of 24 meters covers slopes up to approximately 30.4 degrees. However the data becomes a significant limitation at this point due to the 22-meter resolution DEM. The initial buffer along the water bodies includes slightly more than one pixel on either side; the addition of another

22-meter pixel, extending the buffer to 46 meters, includes 50.2 degrees of slope along the water body. Further riparian distances of 68 meters and 90 meters include 86.1 degrees and 113.9 degrees, respectively. The riparian distances are therefore restricted to the resolution of the digital elevation model, and include 24 meters, 46 meters, 68 meters, and 90 meters depending on adjacent slopes.

- (iv) Slope derived from digital elevation model. Reclassified to 0-30.4 degrees, 30.4-50.2 degrees, 50.2-86.1 degrees, and 86.1-113.9 degrees.
- (v) Buffers were converted to rasters. Each buffer was multiplied by its associated class to determine the slope of adjacent stream pixels.
- (vi) The raster buffers were added together to create a single riparian buffer zone layer.
- (vii) The riparian buffer zone layer was converted to a vector shapefile with smoothed lines.
- (viii) The output dataset was **Riparian _CCE_5kmBuffer_UTM11NAD83.shp** (Figure 7).
- (ix) All outputs in this section were exported to **Riparian_CCE.mdb**.

NOTE: Additional future considerations for the CCE may include the incorporation of fish-bearing streams which would extend the buffers in certain areas. We have considered location, water body type and size, as well as adjacent slopes for the broad application of a riparian buffer spanning national and state parks, rural and urban communities, as well as an international boundary, and we have used the existing data to its potential.

References:

Lee, P., Smyth, C., and Boutin, S. (2004) Quantitative review of riparian buffer width guidelines from Canada and the United States. *Journal of Environmental Management* 70: 165-180.

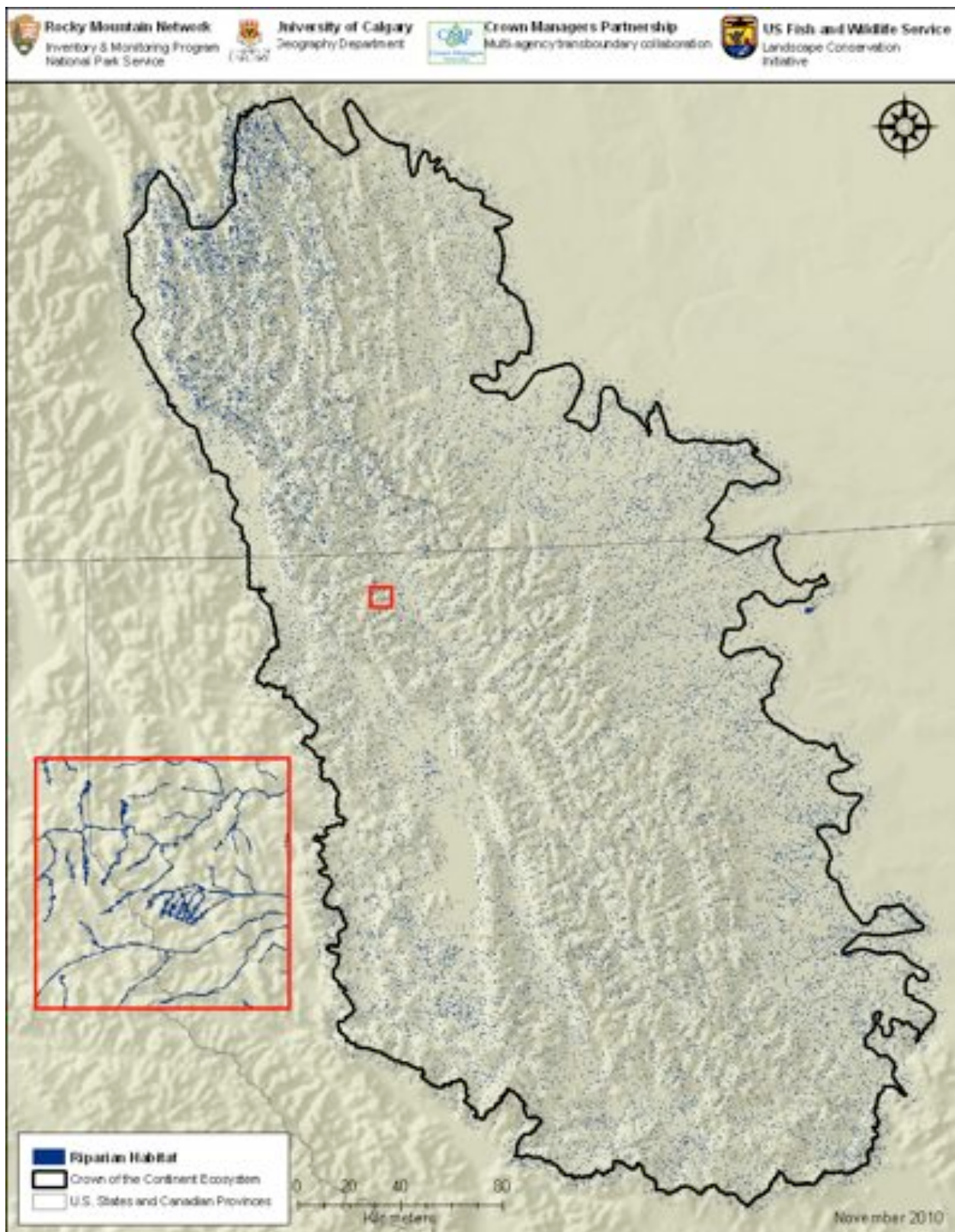


FIGURE 7. RIPARIAN ZONES FOUND WITHIN THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: GEOBASE, AGRICULTURE AND AGRI-FOOD CANADA (AAFC), CANADIAN FOREST SERVICE (CFS) AND U.S. GEOLOGICAL SURVEY (USGS), METI AND NASA .

9.3.4. Road-stream Crossing

METHODS

A road-stream crossing layer for the entire CCE was generated using two CCE baseline datasets:

A. Roads network:

a. **Roads_CCE_5kmBuffer_UTM11NAD83.shp.**

B. Streams network:

a. **Streams_CCE_5kmBuffer_UTM11NAD83.shp.**

- (i) Prior to creating a point shapefile that identifies locations where roads cross streams, Z and M values had to be removed from both feature classes. Therefore, a script was found called "Strip MZ values" written by Mark Andrews (ESRI-Charlotte) and conveyed by Brent Harding in an ESRI support (Data Management) discussion forum entitled "Remove z and m values from polylines." The scripts "strips" the M & Z values from a featureclass. It creates a new featureclass with the same fields and copies the values from the old featureclass into the new featureclass.
- (ii) Intersect Lines (Make Points) tool in Hawth's tools was used to create **Road_Crossing_CCE_5kmBuffer_UTM11NAD83.shp** (Figure 8), which was exported to **Road_Crossing_CCE.mdb**.
- (iii) Calculated:
 - 1- Number of road-stream intersections per watershed within the CCE (**Watershed_CCE_clipped_UTM11NAD83**) and the park boundary (**Watershed_CCE_clipped_ToPark_UTM11NAD83**) (PNTPOLYCNT) using Count Points in Polygon Tool (Hawth's Tools);
 - 2- Percent of crossing per watershed (PERCPNTWTR) (i.e. PNTPOLYCNT divided by total number of road crossing, times 100);
 - 3- Density of crossings per area (in km²) of watershed within the CCE and park boundary (DENSITY); and,

NOTE: These attributes are recorded in **Crossing_Density_C^CE_UTM11NAD83**, **Crossing_Density_Park_UTM11NAD83** (Figure 9; exported to **Road_Crossing_CCE.mdb**), and **Watershed_Stats.xlsx**.

- 4- Distance and direction from the mean center of crossings per watershed compared to the watershed centroid (only for watersheds that are completely contained within the study area to insure that both points lie within it), by:
 - i. Spatially joining (Spatial Join tool) the road crossing (target layer) to the watershed (join layer) in order to assign each crossing to the watershed it falls in;

- ii. Locating the mean center of crossing per watershed using Mean Center script (Spatial Statistics Tools, Measuring Geographic Distributions). The watershed ID was set as the case field;
- iii. Locating the centroid of each watershed by running a Visual Basic code called "Get Centroid of Polygon," which requires the polygon shapefile to be opened in ArcMap as well as a new, empty point shapefile to store the centroids;
(<http://edndoc.esri.com/arcobjects/8.3/Samples/Geometry/Get%20Centroid%20of%20Polygon.htm>)
- iv. Identified the nine watersheds that were entirely contained within the CCE, and created nine new empty point shapefiles for each watershed in ArcCatalog;
- v. The mean center and centroid corresponding to each watershed were copied into their appropriate point shapefiles such that each shapefile contained two locations; and,
- vi. Distance (STEPLength) and direction (BEARING) between the mean center and centroid were computed with Calculate Movement Parameters (Hawth's Tools, Animal Movement).

NOTE: The distance and direction of mean center of road crossing in comparison with the watershed centroid was recorded in Watershed_Stats.xlsx.

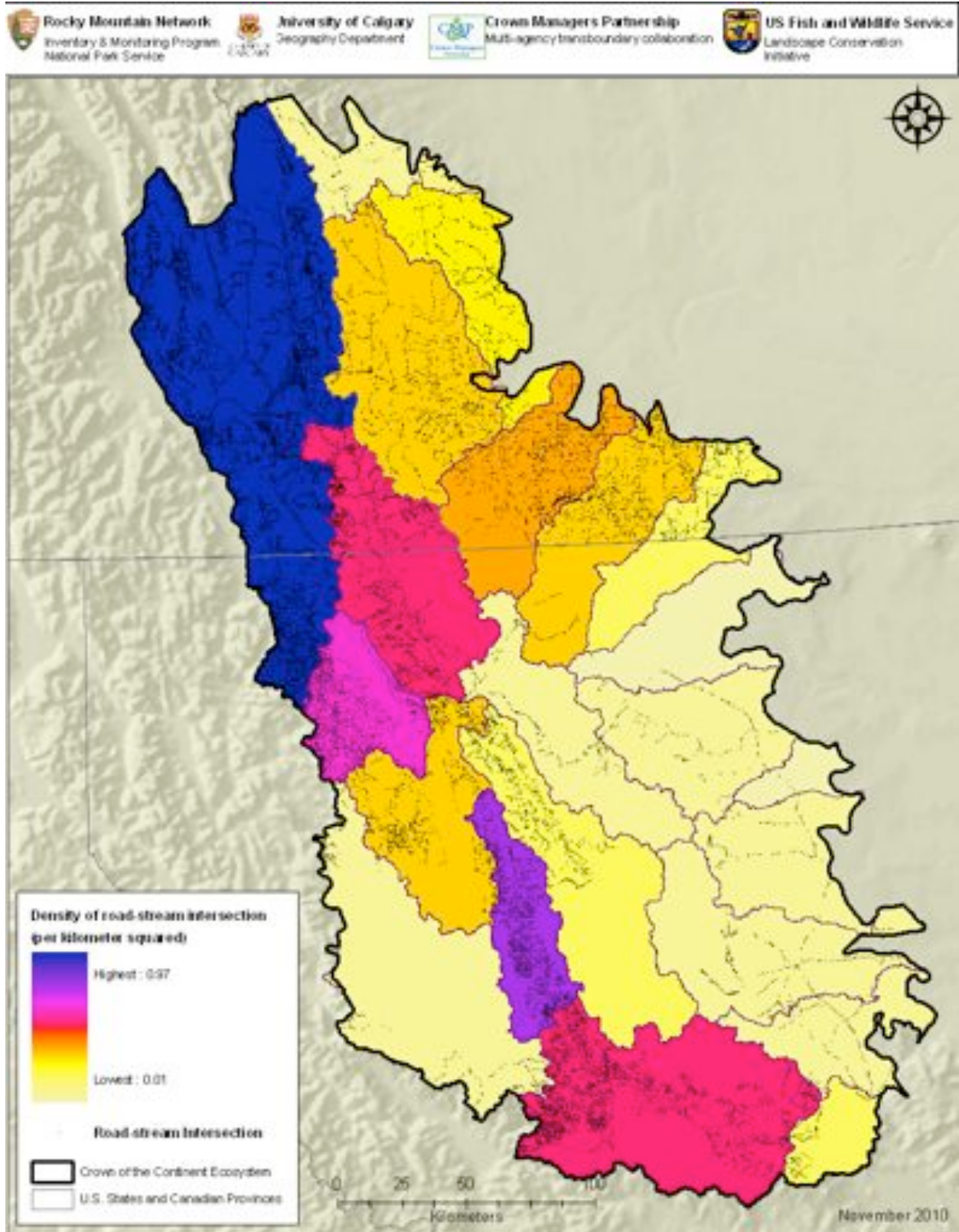


FIGURE 8. DENSITY OF ROAD AND STREAM INTERSECTION PER km^2 WITHIN THE CROWN OF THE CONTINENT ECOSYSTEM.

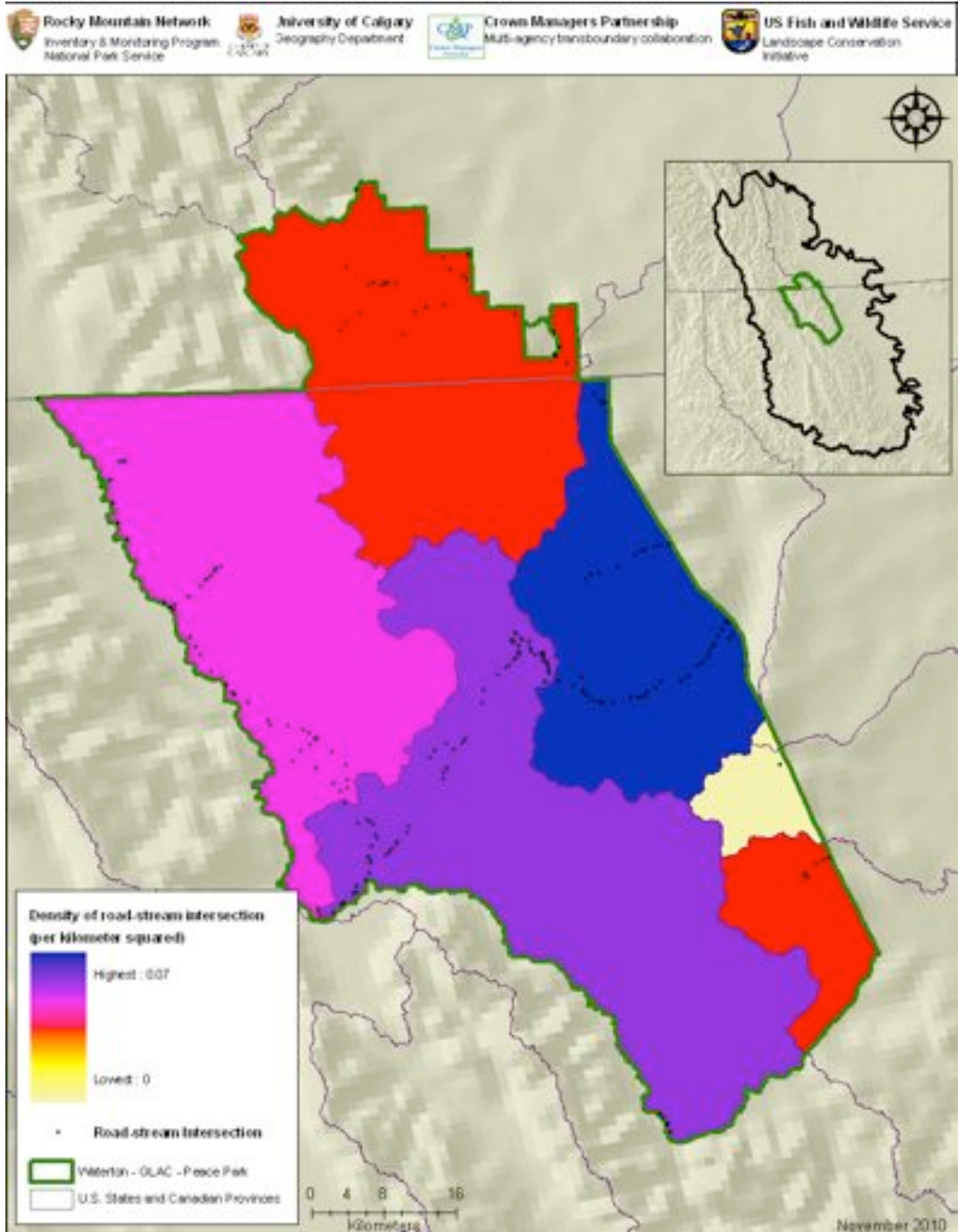


FIGURE 9. DENSITY OF ROADS AND STREAM INTERSECTION PER km^2 WITHIN WATERTON - GLACIER INTERNATIONAL PEACE PARK.

9.4. Land Features

9.4.1. Land Cover

METHODS

The optimal land cover products available for the CCE are the Canadian land cover distributed by GeoBase and U.S. NLCD distributed by USGS. The 2000 GeoBase land cover product was derived from three land cover datasets generated by (1) Agriculture and Agri-Food Canada (AAFC), (2) Canadian Forest Service (CFS), and (3) Canadian Centre of Remote Sensing (CCRS) for the Northern territories. Unfortunately, the product has a large gap of no data in South-central Alberta, which is within the CCE boundary (Figure 10). Therefore, we obtained and merged the source datasets, AAFC and CFS, using a pre-processing methodology designed to preserve the most accurate attributes of each Canadian dataset. We then developed a simple classification system that allowed us to combine the Canadian land cover dataset with the U.S. land cover dataset such that we were able to generate a comprehensive and consistent land cover dataset for the CCE.

Canadian Land Cover Pre-processing

Agriculture and Agri-Food Canada (AAFC) Products

Original data:

- 1- lcv_082g_aafc_30m_2000.tif (GEOTIFF);
- 2- lcv_082h_aafc_30m_2000.tif;
- 3- lcv_082i_aafc_30m_2000.tif; and,
- 4- lcv_082j_aafc_30m_2000.tif.

- (i) All four rasters were projected to NAD83_UTM_Zone11N, using the NAD_1983_To_WGS1984_8 geographic transformation (Alberta).
- (ii) Because the tile edges held pixels with a value of 0, we reclassified (using the Reclassify tool in the Spatial Analyst toolbar) them as NoData to create a seamless mosaic of rasters.
- (iii) All four tiles were mosaicked (Mosaic to New Raster), allowing the pixels to retain the classification assigned in **g** (refer to original datasets listed above). **h** had second priority, then **i**, leaving **j**'s classification to only be contained where the tile did not overlap with another raster.
- (iv) The mosaicked AAFC was reclassified using the Final classification presented in Table 3. For instance, Cultivated agricultural land (class number 120), Annual crops (121), and Perennial crops and pasture (122) were reclassified as Agriculture class (120).
- (v) The output dataset was **aafc_lc_recl.tif**.
- (vi) The bounding coordinates of **aafc_lc_recl.tif** served as the primary output extent for all geoprocessing of land cover raster datasets.

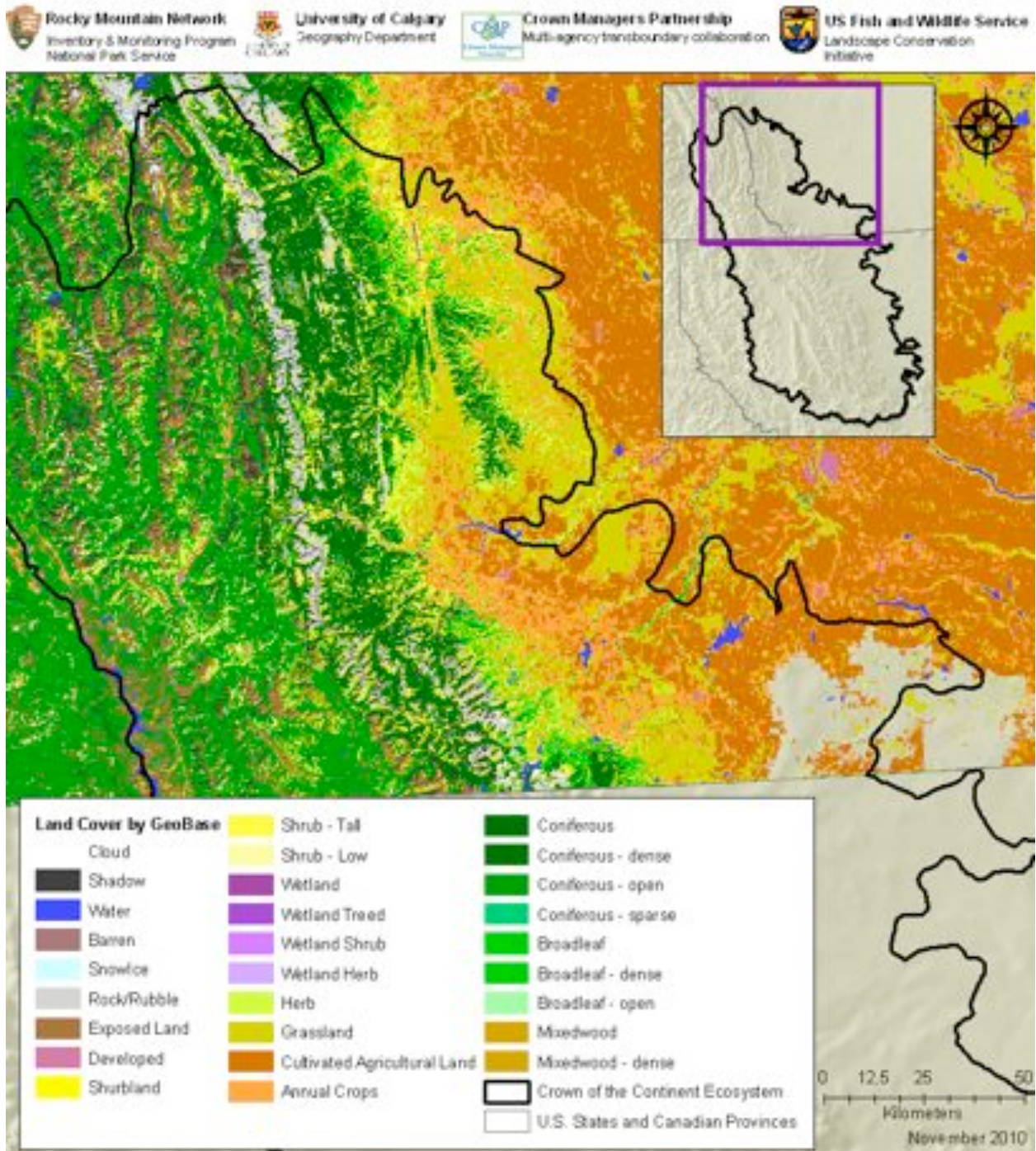


FIGURE 10: GAPS PRESENT IN "LAND COVER, CIRCA 2000" DISTRIBUTED BY GEOBASE.

Canadian Forest Service (CFS) Products

Original data:

- 1- 082g_lc_1.tif;
- 2- 082h_lc_1.tif;
- 3- 082i_lc_1.tif; and,
- 4- 082j_lc_1.tif.

- (vii) Only two tiles (**h** and **i**) were reprojected from NAD83_UTM_Zone12N to NAD_83_UTM_Zone11N.
- (viii) All four tiles were mosaicked as in step (iii).
- (ix) For consistency in resolution and in cell placement between Canadian land covers, the CFS cells were resampled (Resample tool) from 25mx25m to 30mx30m using nearest neighbor, and then shifted (Shift tool) by 3.4m (x coordinates) and 4.9m (y coordinates). To further insure that the AAFC and CFS cells would overlay perfectly. In the Shift window, the output raster was specified to snap to aafc_lc_recl.tif.
- (x) The mosaicked CFS was reclassified using the Intermediate CFS classification presented in Table 3.

TABLE 3. DECISIONS MADE TO COMBINE AAFC AND CFS LAND COVER CLASSIFICATION. THE PRESENCE OF THE INTERMEDIATE CFS CLASSIFICATION IS BECAUSE OF TWO CFS CLASSES (*) THAT WERE LATER SUBDIVIDED BASED ON THE AAFC CLASSIFICATION, VISUAL INSPECTION AND BEST PROFESSIONAL JUDGMENT.

AAFC original classification	Final classification	Intermediate CFS classification	CFS original classification
0 NoData	0 NoData	0 NoData	0 NoData
			11 Cloud
			12 Shadow
20 Water	20 Water	20 Water	20 Water
30 Barren	30 Barren	32 Rock/Rubble*	32 Rock/Rubble*
		33 Exposed land*	33 Exposed land*
	31 Ice/Snow	31 SnowIce	31 SnowIce
34 Developed	34 Developed		
50 Shrubland	50 Scrub/Shrub	50 Shrub	51 Shrub – Tall
			52 Shrub – Low
		32 Rock/Rubble*	
		33 Exposed land*	
80 Wetland	80 Wetland	80 Wetland	81 Wetland treed
			82 Wetland shrub
			83 Wetland herb
110 Grassland	110 Grassland	100 Herb	100 Herb
120 Cultivated agricultural land	120 Agriculture		
121 Annual crops			
122 Perennial crops and pasture			
210 Coniferous	210 Coniferous	210 Coniferous	211 Coniferous – Dense
			212 Coniferous – Open
			213 Coniferous – Sparse
220 Deciduous	220 Deciduous	220 Deciduous	221 Deciduous – Dense
			222 Deciduous – Open
			223 Deciduous – Sparse
230 Mixedwood	230 Mixed	230 Mixed	231 Mixedwood – Dense
			232 Mixedwood – Open
			233 Mixedwood – Sparse

- (xi) The output dataset was called **cfs_lc_recl.tif**.

Canadian Reclassification Process

- (xii) We set the analysis mask (Spatial Analyst options) to the CCE 5km buffer study area to clip the output raster to the desired extent.
- (xiii) The following expression was evaluated in the raster calculator:

[aafc_lc_recl] * 1000 + [cfs_lc_recl].

By multiplying the values of the AAFC land cover and then adding the classification value of CFS, we were able to preserve the class each pixel was classified as in both sources.

- (xiv) The combined Canadian AAFC and CFS dataset was reclassified (Reclassify tool) with the Final classification (Table 3) using the following hierarchical order and rules:
- 1- Water from either land cover tiffs;
 - 2- Developed class from AAFC;
 - 3- Ice/Snow class from CFS;
 - 4- Where NoData on one image, classify based on second image;
 - a. 100 Herb to 110 Grassland
 - b. 32 Rock/Rubble* and 33 Exposed land* to 30 Barren
 - 5- Forest classes (210 and 220) from CFS;
 - 6- Pixels that are Exposed land* in CFS and Grassland or Agriculture in AAFC are classified as Developed (based on the author's visual inspection);
 - 7- Agriculture classes (110 and 120) from AAFC;
 - 8- Wetland classes (81 and 83) from either land cover tiffs;
 - 9- Pixels that are Exposed land* in CFS and some sort of Forest in AAFC are classified as Barren (based on the visual inspection and best professional judgment);
 - 10- Where Exposed land or Rock/Rubble* in CFS, classified them based on AAFC classification;
 - 11- Forest classes (210, 220 and 230) from AAFC;
 - 12- Barren class (30) from AAFC; and,
 - 13- Shrub class (50) from AAFC.

NOTE: Landcover_classification.xls lists all possible combinations of classes from AAFC and CFS and shows the Final class they were reclassified into.

- (xv) The output dataset was **can_lc.tif**.

U.S. Land Cover Pre-processing

- (xvi) Land cover datasets for the Montana region were obtained from U.S. Geological Survey (USGS) in three separate img (IMAGINE) files for the CCE area:

- 1- **landcover3_3k_022007.img;**
 - 2- **landcover4_3k_022007.img;** and,
 - 3- **landcover6_3k_022007.img.**
- (xvii) The three raster datasets were mosaicked using the default mosaic order because the datasets were extracted from a single comprehensive national land cover.
- (xviii) The mosaic was projected to NAD83_UTM_Zone11N.
- (xix) The output dataset was **Landcover_MT_UTM11NAD83.img.**
- (xx) For consistency in cell placement between Canadian and U.S. land covers, Land cover_MT_UTM11NAD83.img cells were shifted (Shift tool) by -12.7m (x coordinates) and -12.8m (y coordinates). To further insure that the cells would overlay perfectly, in the Shift window, the output raster was specified to snap to **can_lc.tif.**
- (xxi) We set the analysis mask (Spatial Analyst options) to the CCE 5km buffer study area, in order to clip the output raster to the desired extent.
- (xxii) The U.S. land cover was reclassified as shown in Table 4 to match the Canadian classification.
- (xxiii) The output dataset was **us_lc.tif.**

TABLE 4. U.S. LAND COVER CLASSES WITH CORRESPONDING CANADIAN LAND COVER CLASSES.

Final classification	U.S. classification
0 NoData	
20 Water	11 Open water
30 Barren	31 Barren land
31 Ice/Snow	12 Perennial Ice/Snow
34 Developed	21 Developed, open space
	22 Developed, low intensity
	23 Developed, medium intensity
	24 Developed, high intensity
50 Scrub/Shrub	52 Scrub/Shrub
80 Wetland	90 Woody wetland
	95 Emergent Herbaceous wetland
110 Grassland	71 Grassland/Herbaceous
120 Agriculture	81 Pasture/Hay
	82 Cultivated crops
210 Coniferous	42 Evergreen forest
220 Deciduous	41 Deciduous forest
230 Mixedwood	43 Mixed forest

CCE Land cover: Final Deliverable

- (xxiv) **Us_lc** and **can_lc** were mosaicked to create a new dataset. Where the rasters overlapped, the U.S. classification took precedence in the final land cover.

NOTE: The main reason for selecting U.S. over the Canadian land cover was because the AAFC did not extend to the U.S. border while the CFS did, which caused a visible

discontinuity at the border. By physically overlaying the U.S. land cover on top of the Canadian land cover, the discontinuity was minimized, although still present in the land cover image.

- (xxv) Output dataset was **Landcover_CCE_5kmBuffer_UTM11NAD83.img** (Figure 11).
- (xxvi) The final output of this section was exported to **Landcover_CCE.gdb**. The remaining outputs found in this section were exported to **Landcover_Interim.gdb** in the Interim folder.

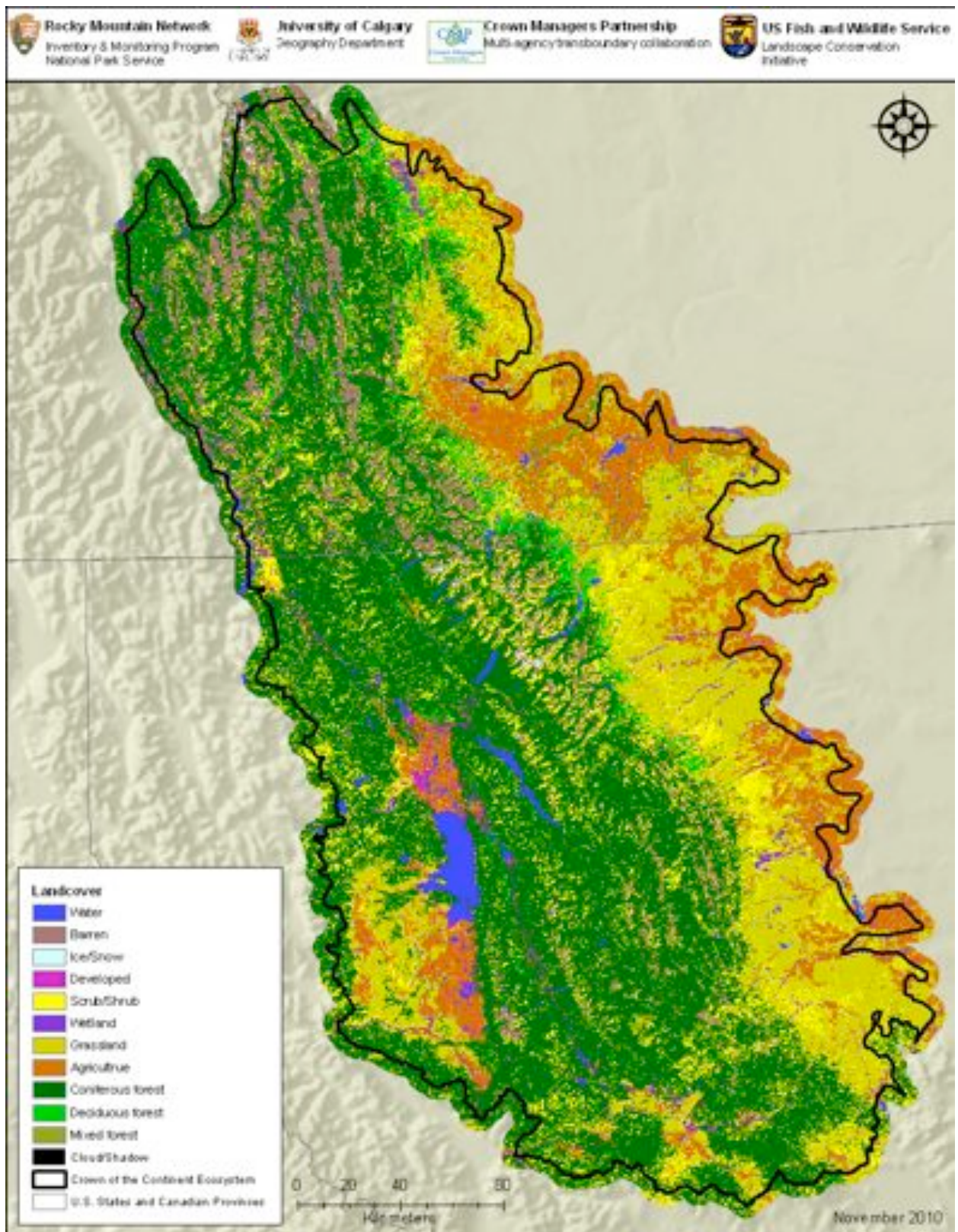


FIGURE 11: LAND COVER FOR THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: AGRICULTURE AND AGRI-FOOD CANADA (AAFC), CANADIAN FOREST SERVICE (CFS) AND U.S. GEOLOGICAL SURVEY (USGS).

9.5. Phenology

METHODS

Three MODIS products were downloaded via Warehouse Inventory Search Tool (WIST):

- A. Land Cover Dynamics at 1 km² spatial resolution:
 - a. MOD12Q2.
- B. Land Cover Dynamics at 500 m² spatial resolution:
 - a. MCD12Q2.
- C. Annual Net Primary Productivity at 1 km² spatial resolution:
 - a. MOD17A3.

NOTE: The two land cover dynamics products “support studies of seasonal phenology and interannual variation in land surface and ecosystem properties” (Friedl et al 2010).

For each product and each year, two separate tiles (with center points at 44.93° lat, 108.04° lon and 54.82° lat, 136.98° lon) were downloaded to cover the entire CCE. The 32 files were supplied in an hdf format: eight MOD12Q2 from 2001 to 2004, 12 MCD12Q2 from 2001 to 2006, and 12 MOD17A3 from 2001 to 2006.

- (i) The MODIS Reprojection Tool (MRT) was used to both mosaic and reproject (from Sinusoidal to NAD83_UTM_Zone11N) the two tiles for each product and each year. The MRT parameters used are shown in Figure 12.
- (ii) Each MOD12Q2/MCD12Q2 contains 15 different layers:
 - 1- Onset greenness decrease (OGD) for two different growing seasons, i.e. senescence;
 - 2- Onset greenness increase (OGI) for two different growing seasons, i.e. green-up;
 - 3- Onset greenness minimum (OGMin) for two different growing seasons, i.e. minimum NDVI;
 - 4- Onset greenness maximum (OGMax) for two different growing seasons, i.e. maximum NDVI;
 - 5- Nadir Bidirectional Reflectance Distribution Function (BRDF)-Adjusted Reflectance (NBAR) enhanced vegetation index (EVI) area (NEA) for two different growing seasons, i.e. integral of daily EVI between onset greenness increase and minimum;
 - 6- NBAR EVI onset greenness minimum (NE_OGMin) for two different growing seasons, i.e. growing season minimum;
 - 7- NBAR EVI onset greenness maximum (NE_OGMax) for two different growing seasons, i.e. growing season maximum; and,
 - 8- Dynamics quality control (QC).

NOTE: Component 01 represents the first growing cycle; any additional growing cycle is presented in component 02.

- (iii) Each MOD17A3 contains two layers:
 - 1- Net primary productivity; and,
 - 2- Net primary productivity QC.
- (iv) Within the options in the Spatial Analyst toolbar, both the extent and analysis mask were set to the 5km buffered CCE shapefile.
- (v) One by one, each layer was clipped to the study area.
- (vi) They were exported to become a new raster in the tiff format.
- (vii) All outputs in this section were exported to **LandcoverDynamics500m.gdb**, **LandcoverDynamics1km.gdb**, and **NPP1km.gdb**. Figures 13 and 14 are examples of products downloaded. They present the month of first greenness increase observed for each pixel in 2005 (Figure 13), and month of any additional growing cycle (Figure 14).

References:

Friedl, M.A., Sulla-Menashe, D., Tan, B., Schneider, A., Ramankutty, N., Sibley, A., and Huang, X. (2010) MODIS Collection 5 global land cover: Algorithm refinements and characterization of new datasets. *Remote Sensing of Environment* 114: 168–182.

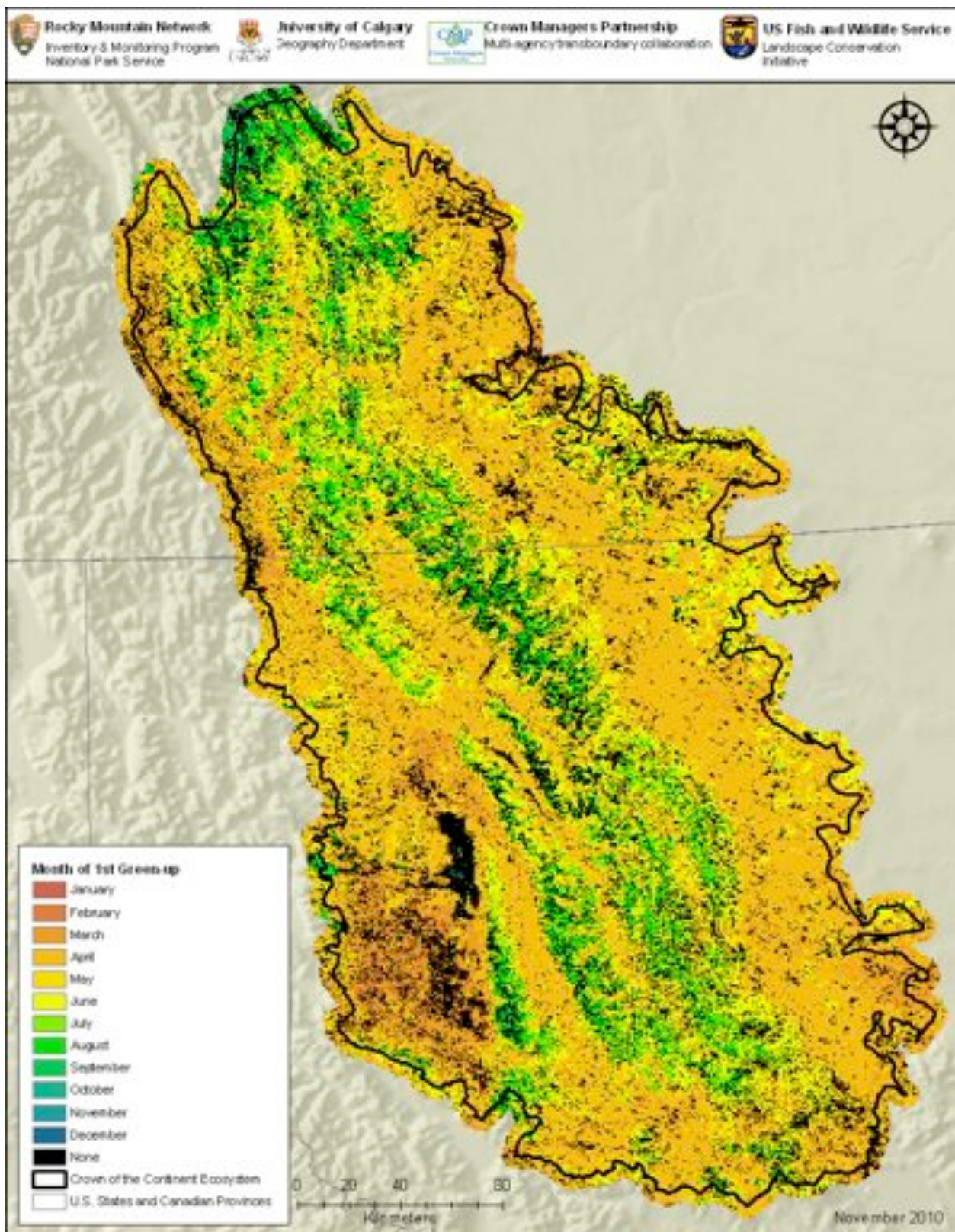


FIGURE 13: MONTH OF FIRST GREENNESS INCREASE IN 2005 WITHIN THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: MODIS.

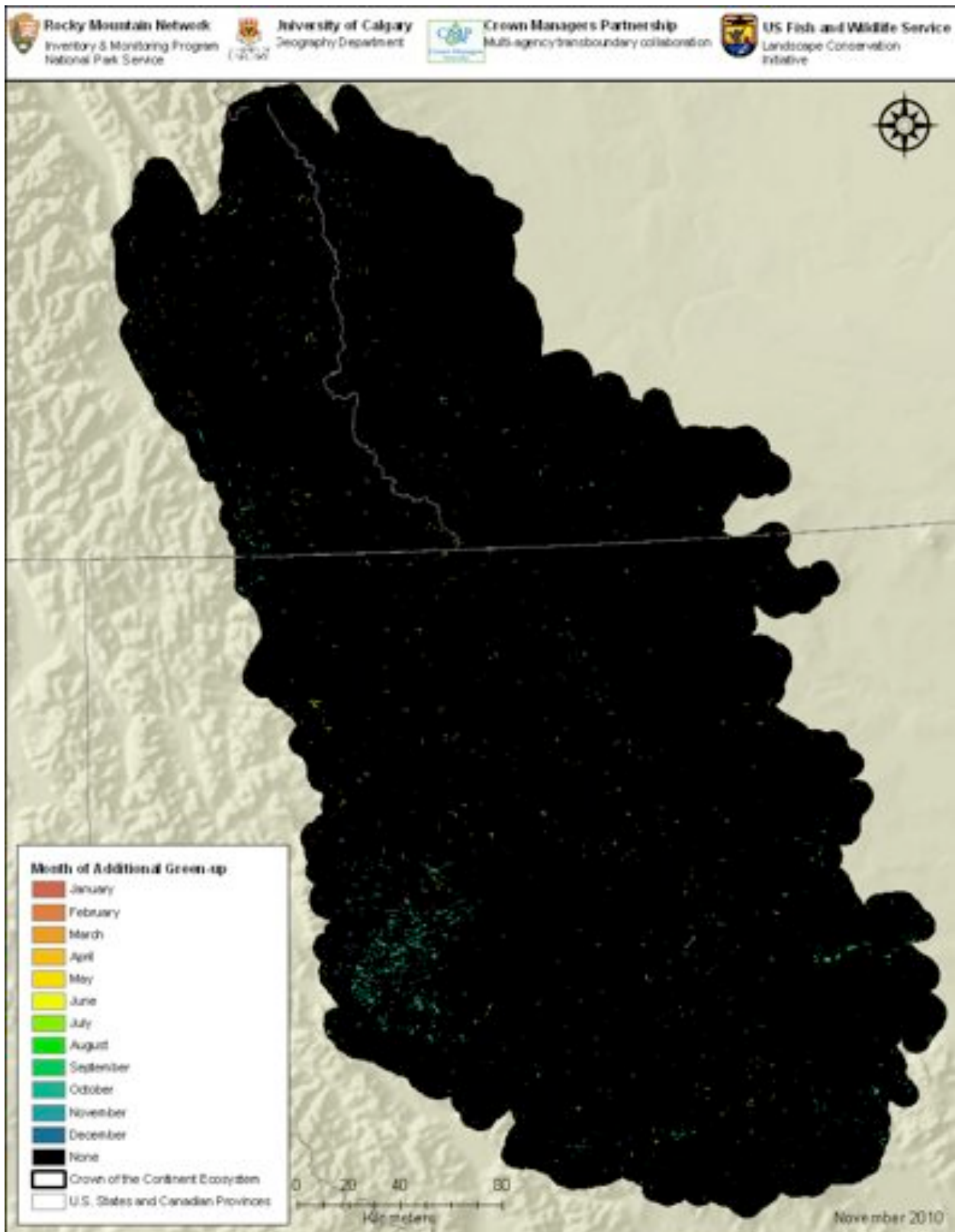


FIGURE 14: MONTH OF ANY ADDITIONAL GREENNESS INCREASE IN 2005 WITHIN THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: MODIS.

9.6. Natural Disturbances

9.6.1. Fire

METHODS

In order to obtain a historic fire layer for the entire CCE, multiple layers for each province/state were merged together:

- A. Alberta Spatial Wildfire Data from 1980 to 2009 provided by Sustainable Resource Development (SRD):
 - a. **hf1980to1989.shp**;
 - b. **hf1990to1999.shp**; and,
 - c. **hf2000to2009.shp**.
- B. British Columbia Fire Perimeters from 1919 to 2008 provided by GeoBC's Data Distribution Service:
 - a. **H_FIRE_PLY.shp**.
- C. Montana Fire History from 1984 to 2008 provided by U.S. Forest Service District Offices:
 - a. **firehis_pl.shp**.

NOTE: Since the earliest common year (in its entirety) of fire history was 1985, only polygons depicting fire perimeters that occurred between 1985 and 2008 were merged into the final shapefile. The last recorded fire incident by the U.S. Forest Service District Offices was in August 2008; thus, we assumed that there were no other fires until 2009.

- (i) We selected all fire polygons that occurred in Alberta after, and including, 1985 from the **hf1980to1989.shp**. These features were exported into a new shapefile.
- (ii) We selected all fire polygons that occurred in Alberta before, and including, 2008 from the **hf2000to2009.shp**. These features were exported into a new shapefile.
- (iii) In order to create a single layer of Alberta fire incidents, the two new shapefiles were merged with **hf1990to1999.shp**.
- (iv) The output was **AB_fire.shp**.
- (v) The attributes of the YEAR field were calculated into a new field, called FIRE_YEAR (long integer), to correspond with the FIRE_YEAR field found in both the BC and U.S. shapefiles.
- (vi) We selected all fire polygons that occurred in BC between 1985 and 2008 from the **H_FIRE_PLY.shp**.
- (vii) These features were exported into a new shapefile called **BC_fire.shp**.
- (viii) **AB_fire.shp**, **BC_fire.shp** and **firehis_pl.shp** were projected to NAD83_UTM_Zone11N.
- (ix) A new field called Extent (string) was created in each of these shapefiles, and the province or state name was calculated into that new field.
- (x) The three reprojected shapefiles were merged together, and the output was clipped to the 5km buffered CCE.
- (xi) The output dataset was **Fire_CCE_5kmBuffer_UTM11NAD83.shp** (Figure 15).

- (xii) The final output of this section was exported to **Fire_CCE.mdb**. The remaining outputs found in this section were exported to **Fire_Interim.mdb** in the Interim folder.

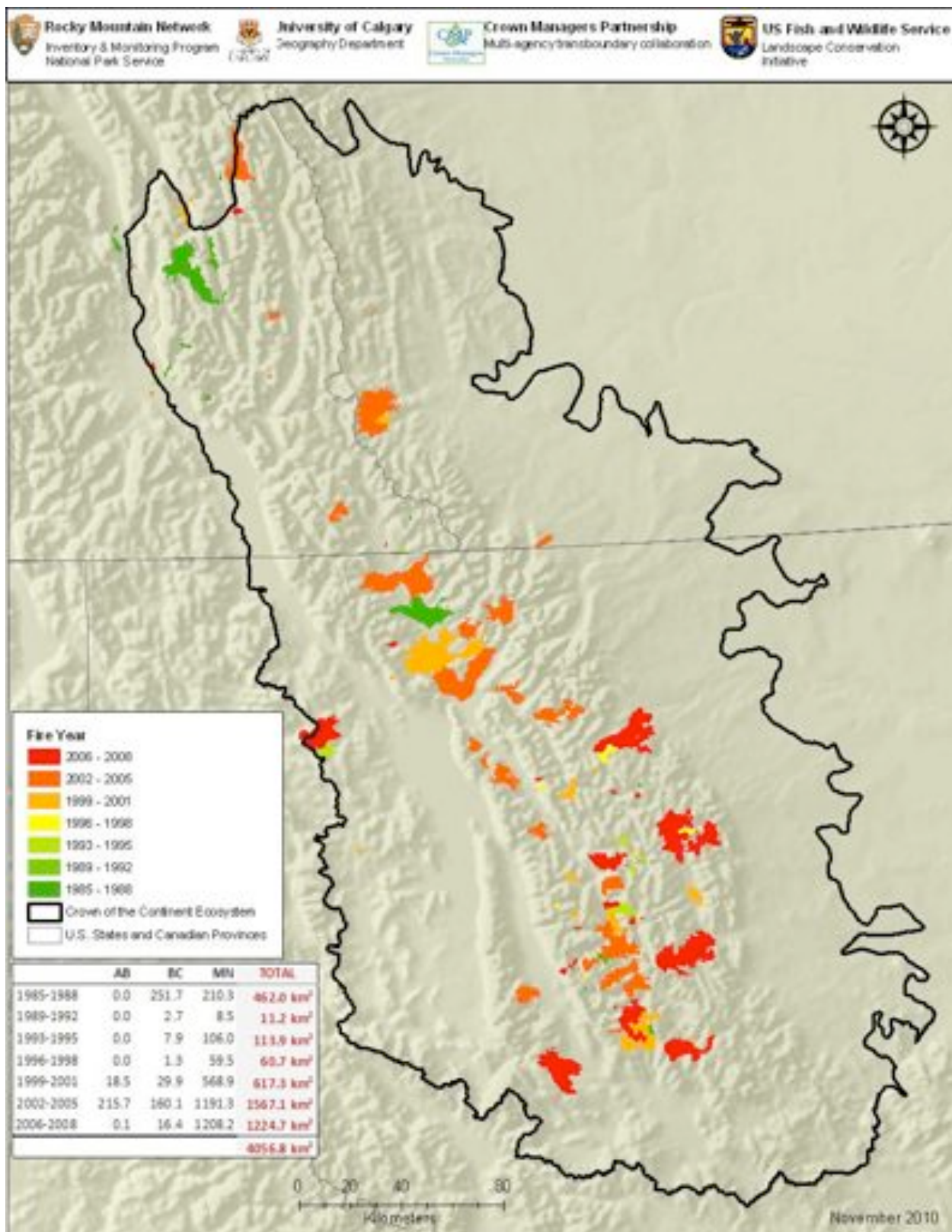


FIGURE 15: FIRE PERIMETERS (REPRESENTED BY EQUAL BREAKS) WITHIN THE CROWN OF THE CONTINENT ECOSYSTEM FROM 1985 TO 2008. SOURCE: ALBERTA SUSTAINABLE RESOURCE DEVELOPMENT (SRD), GEOBC'S DATA DISTRIBUTION SERVICE AND U.S. FOREST SERVICE DISTRICT OFFICES.

9.6.2. *Insects*

METHODS

In order to obtain layers of (1) aspen defoliators (ASD) and (2) Mountain pine beetle (MPB) outbreaks for the entire CCE, multiple layers for each province/state were merged together:

- A. Forest Pest Survey Data for ASD (includes Bruce spanworm, Large aspen tortrix, and Forest tent caterpillar) from 1998 to 2007 and MPB from 2001 to 2009 provided by Sustainable Resource Development (SRD):

- a. **ab_0ufoha00p.e00;**
- b. **ab_0ufoha01p.e00;**
- c. **ab_0ufoha02p.e00;**
- d. **ab_0ufoha03p.e00;**
- e. **ab_0ufoha04p.e00;**
- f. **ab_0ufoha05p.e00;**
- g. **ab_0ufoha06p.e00;**
- h. **ab_0ufoha07p.e00;**
- i. **ab_0ufohn01x.e00;**
- j. **ab_0ufohn02x.e00;**
- k. **ab_0ufohn03x.e00;**
- l. **ab_0ufohn04p.e00;**
- m. **ab_0ufohn04x.e00;**
- n. **ab_0ufohn05p.e00;**
- o. **ab_0ufohn05x.e00;**
- p. **ab_0ufohn06p.e00;**
- q. **ab_0ufohn06x.e00;** and,
- r. **ab_0ufohn07x.e00.**

NOTE: Alberta SRD has mapped MPB occurrence discontinuously since 1975. They outlined MPB outbreaks using polygons from 1975 to 1985, and then in 2004, 2005, 2006, and 2009. They did monitor presence of MPB from 2001 to 2009 and recorded the latter using points.

- B. British Columbia's Pest Infestation Polygons for both ASD and MPB from 1988 to 2006 and from 1967 to 2007, respectively, provided by GeoBC's Data Distribution Service:

- a. **PEST_INFST_polygon.shp.**

- C. Aerial Detection Survey of Region 1 from 2000 to 2009 provided by U.S. Forest Service District Offices:

- a. **AerialDetectionSurveyR1_2000;**
- b. **AerialDetectionSurveyR1_2001;**
- c. **AerialDetectionSurveyR1_2002;**
- d. **AerialDetectionSurveyR1_2003;**
- e. **AerialDetectionSurveyR1_2004;**

- f. **AerialDetectionSurveyR1_2005;**
- g. **AerialDetectionSurveyR1_2006;** and,
- h. **AerialDetectionSurveyR1_2007.**

NOTE: Large aspen tortrix and Forest tent caterpillar are the two focal species referred to as aspen defoliators. Therefore, we did NOT delineate outbreaks of all known aspen defoliators within the CCE. Based on the common recorded years, the final shapefiles will depict ASD (which includes Large aspen tortrix and Forest tent caterpillar) disturbance from 2000 to 2007, and the MPB map disturbance from 2001 to 2007 (Figure 16).

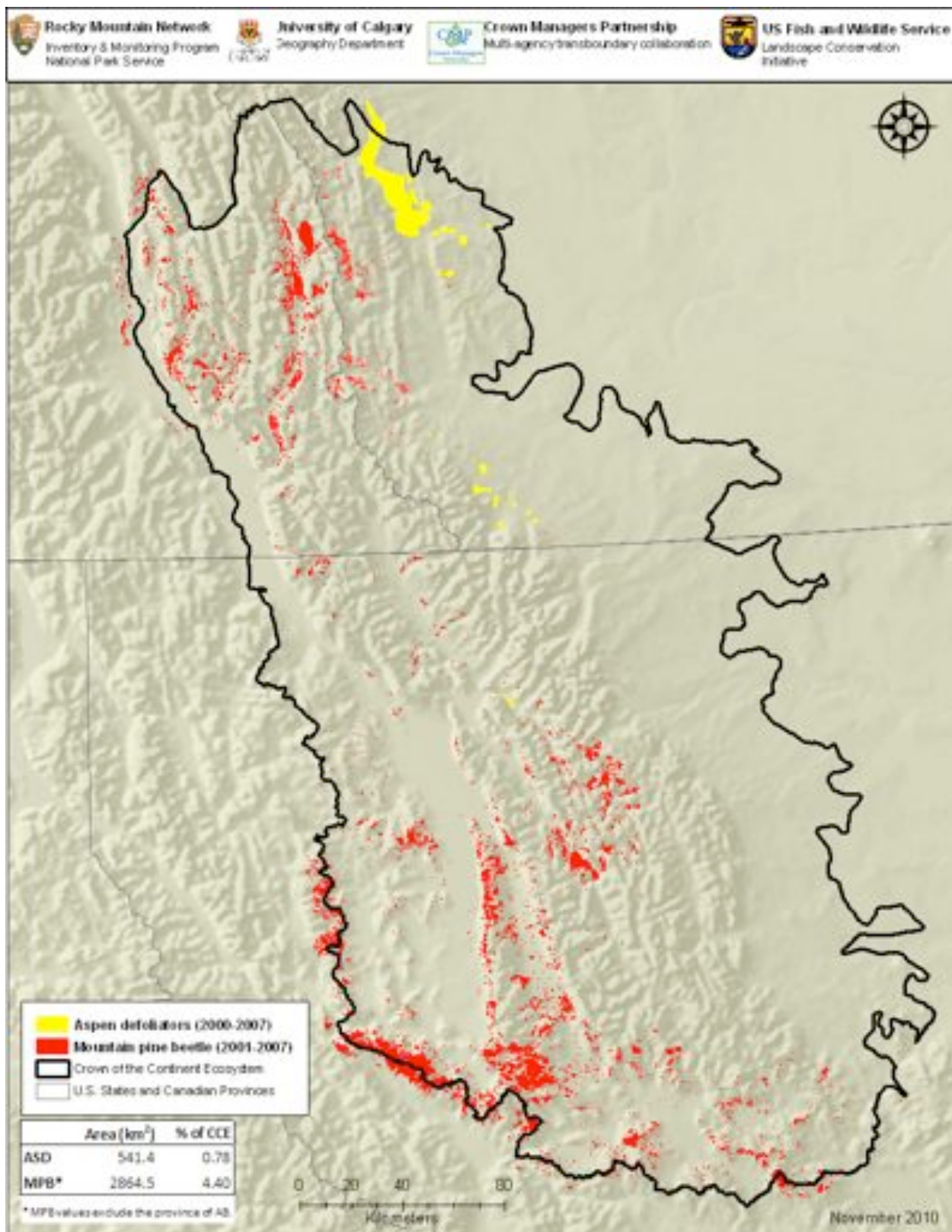


FIGURE 16: PERIMETER OF ASPEN DEFOLIATOR (ASD) AND MOUNTAIN PINE BEETLE (MPB) OUTBREAKS IN THE CROWN OF THE CONTINENT ECOSYSTEM. SOURCE: ALBERTA SUSTAINABLE RESOURCE DEVELOPMENT (SRD), GEOBC'S DATA DISTRIBUTION SERVICE AND U.S. FOREST SERVICE DISTRICT OFFICES.

Aspen Defoliators

- (i) All Alberta ASD's interchange files (.e00) were imported using ArcCatalog.
- (ii) A new field called PRES (presence) was added to the attribute table of all eight newly created datasets, and the value was calculated to equal 1. These fields will allow us to (1) calculate the frequency of insect presence were polygons of different years overlap, and (2) identify areas that have been infested for multiple, consecutive years.
- (iii) All polygons outlining presence of Bruce spanworm were deleted.
- (iv) We united (Union tool) all datasets together from 2000 to 2007.
- (v) ASD frequency was calculated by adding all PRES values.
- (vi) Number of consecutive years was computed by identifying polygons that have PRES in 2-consecutive years (i.e. 2000 and 2001; 2001 and 2002; 2002 and 2003; and so on) giving them a BetweenYea value of 1; that have PRES in 3-consecutive years (i.e. 2000, 2001 and 2002; 2001, 2002 and 2003, and so on) giving them a BetweenYea value of 2. This method was repeated to further distinguish outbreaks that lasted for 4-consecutive years, 5-consecutive years, 6-consecutive years, and 7-consecutive years.
- (vii) **AB_asd.shp** was projected to NAD83_UTM_Zone11N and clipped to the 5km buffered CCE.
- (viii) The output dataset was called **CCE5km_AB_asd**.
- (ix) A second output was created where the polygons were dissolved into a single feature (Dissolve tool), **CCE5km_AB_asddis**.
- (x) Using Select by Attribute, aspen defoliators were extracted from **PEST_INFST_polygon.shp**. The PST_SPCODE equaled IDX (Large aspen tortrix) or IDF (Forest tent caterpillar), and CAPTR_YEAR was greater than or equal to 2000.
- (xi) Frequency and number of consecutive years were not calculated because a single polygon depicted ASD in British Columbia from 2000 to 2007.
- (xii) The polygon was projected to NAD83_UTM_Zone11N and clipped to the 5km buffered CCE.
- (xiii) Output dataset was called **CCE5km_BC_asd.shp**.

NOTE: The single polygon was outside of the CCE boundary; therefore, the shapefile was empty.

- (xiv) All U.S. Region 1 featureclasses were united after the PRES (presence) field was added to each separate layer (2000 to 2007) and populated with "1".
- (xv) Using the Select by Attribute, aspen defoliators were extracted, such that DCA1 (damage causal agent 1), DCA2 or DCA3 were equal to 12037 (Large aspen tortrix) or 12096 (Forest tent caterpillar).
- (xvi) We calculated frequency and the number of consecutive years of infestation.
- (xvii) The unified Region 1 ASD shapefile was projected to NAD83_UTM_Zone11N and clipped to the 5km buffered CCE.
- (xviii) Output dataset was called **CCE5km_MT_asd.shp**.
- (xix) A second output was created where the polygons were dissolved into a single feature (Dissolve tool), **CCE5km_MT_asddis.shp**.

- (xx) The dissolved Alberta and Montana ASD shapefiles were merged.
- (xxi) The output dataset was **ASD_CCE_5kmBuffer_UTM11NAD83.shp**.
- (xxii) The final output was exported to **INSECTS_CCE.mdb**. The remaining outputs found in this section were exported to **INSECTS_Interim.mdb** in the Interim folder.

Mountain Pine Beetle

- (i) All Alberta MPB's interchange files (.e00) were imported using ArcCatalog.
- (ii) All point shapefiles were merged,
- (iii) The merged MPB file was projected to NAD83_UTM_Zone11N and clipped to the 5km buffered CCE.
- (iv) The output dataset was called **MPBx_AB_5kmBuffer_UTM11NAD83.shp**.
- (v) All polygon shapefiles were united (Union tool).
- (vi) The merged MPB file was projected to NAD83_UTM_Zone11N and clipped to the 5km buffered CCE.
- (vii) The output dataset was called **CCE5km_AB_mpb**.
- (viii) A second output was created where the polygons were dissolved into a single feature (Dissolve tool), **CCE5km_AB_mpbdis**.

NOTE: MPB polygons within the CCE boundary were only from 2004, thus the frequency and number of consecutive years was not computed.

- (ix) In order to calculate the frequency and number of consecutive years of MPB outbreaks in BC:
 - 1- Each individual year was selected and exported as a new shapefile to facilitate the computation of PRES used to determine frequency of outbreaks.
 - 2- The PRES field was created in each shapefile and given a value of 1.
 - 3- The shapefiles were reunited (Union tool).
 - 4- Frequency of MPB presence in the area was calculated.
 - 5- Number of consecutive years was computed similar to step (vi).
- (x) **BC_mpb.shp** was projected to NAD83_UTM_Zone11N and clipped to the 5km buffered CCE.
- (xi) The output dataset was called **CCE5km_BC_mpb**.
- (xii) A second output was created where the polygons were dissolved into a single feature (Dissolve tool), **CCE5km_BC_mpbdis**.
- (xiii) **AerialDetectionSurveyR1_2001** to **AerialDetectionSurveyR1_2007** were united once the PRES (presence) field was added and calculated in both layers.
- (xiv) Using Select by Attribute, MPB were extracted, such that DCA1 (damage causal agent 1), DCA2 or DCA3 were equal to 11006.
- (xv) Frequency of successive years of infestation was calculated.
- (xvi) MPB in Region 1 was projected to NAD83_UTM_Zone11N and clipped to the 5km buffered CCE.
- (xvii) The output dataset was called **CCE5km_MT_mpb**.

- (xviii) A second output was created where the polygons were dissolved into a single feature (Dissolve tool), **CCE5km_MT_mpbdis**.
- (xix) **CCE5km_AB_mpb**, **CCE5km_BC_mpb** and **CCE5km_MT_mpb** were merged.
- (xx) The output dataset was **MPB_CCE_5kmBuffer_UTM11NAD83.shp**.
- (xxi) This final output, along with **MPBx_AB_5kmBuffer_UTM11NAD83.shp**, was exported to **INSECTS_CCE.mdb**. The remaining outputs found in this section were exported to **INSECTS_Interim.mdb** in the Interim folder.

NOTE: Using Hawth's Tools, the extent of ASD and MPB (except for AB without an appropriate polygon delineation for the 2001 to 1007 period) were calculated (in km²). Based on these areas, the percent of CCE area covered by delineated insect presents was also computed.

10. References

Friedl, M.A., Sulla-Menashe, D., Tan, B., Schneider, A., Ramankutty, N., Sibley, A., and Huang, X. (2010) MODIS Collection 5 global land cover: Algorithm refinements and characterization of new datasets. *Remote Sensing of Environment* 114: 168–182.

Lee, P., C. Smyth, and S. Boutin (2004) Quantitative review of riparian buffer width guidelines from Canada and the United States. *Journal of Environmental Management*, 70(2): 165-180.

Appendix I: Geospatial Data Sets – United States

Covers geospatial datasets from the US side of the CCE

Theme	Type	Source	Source date	Description	Metadata	Name/Format	Spatial resolution	Update freq	Distribution /use restrictions
Anthro	Dams	Montana State Library	Compiled 9/16/2003 U.S. Army Corps of Engineers 2001 GNIS 2000	This is the first statewide spatial coverage of Montana dams. It was assembled from two datasets: the National Inventory of Dams (NID), maintained by the U.S. Army Corps of Engineers and the USGS Geographic Names Information System (GNIS) dams feature class.	Yes (.html)	dams.shp	1:100,000	Unknown	None
Anthro	Ground water well	Montana State Library	2009	This data set contains point locations and selected attributes for water wells within Montana abstracted from databases maintained at the Ground-Water Information Center (GWIC) at the Montana Bureau of Mines and Geology.	Yes, included with shapefile	gwcwells.shp	1:250,000	Annually	None
Anthro	Railroads	National Transportation Atlas	2006	The Rail Network is a comprehensive database of the nation's railway system at the 1:100,000 scale. The data set covers all 50 States plus the District of Columbia	Yes	rail_lines.shp	1:100,000	Annually	None
Anthro	Railroads	Montana State Library	2009	Database of Montana railroads created to be accurate according to Railroad companies and Rail in Transportation Planning. BNSF rail line has been GPS'd by BNSF, the remaining railroads were taken from the Rail network data set created by Bureau of Transportation Statistics.	Yes	TransportationFramework_20091026.mdb \\TransportationFeatures_20091026\\Railroads_20091026 Same geodatabase as Roads	Not reported	as Needed	None
Anthro	Recreation Sites	USFS District Offices	Not reported	This point feature class depicts the locations of recreation sites. It includes campgrounds, other developed recreation sites, well used on kNown dispersed recreation sites, workstations and backcountry cabins.	http://www.fs.fed.us/r1/flathhead/gis/themes/recreation/rec_sites.htm	rec_sites.shp	1:24,000	as Needed	None
Anthro	Roads	Montana State Library	2001	These are all of the roads from the U.S. Census Bureau 2000 TIGER files. Most of the roads were digitized from 1:100,000 scale maps by the US Geological Survey. Roads added to the database after 1990 were digitized by the Census Bureau from various	http://nris.state.mt.us/nr/sdi/nris/roads2000.html	Roads_TIGER2000/roads_2000.shp	1:100,000	10 yrs	None

				sources.					
Anthro	Roads	Montana State Library	1990	This data is a copy of the "Montana TIGER/Line Census Files, 1990, Montana" CD, issued by the U.S. Census Bureau in August, 1991. The data are in TIGER format and must be converted by 3rd-party software for use with geographic information systems	http://nris.mt.gov/nsdi/nris/Tiger_1990.html	Tiger_1990.zip requires conversion	1:100,001	10 yrs	None
Anthro	Roads	Montana State Library	2006	A multi-jurisdictional road feature class integrated from Local, State, Federal, and Tribal transportation data. To provide an integrated, seamless layer of all Montana's roads that provides support for a variety of applications.	http://nris.mt.gov/nsdi/nris/transportation_framework.html	MTtransportationframework_20091026/TransportationFramework_20091026.mdb	Variable	Quarterly	Public domain
Anthro	Roads	National Transportation Atlas	2006	The National Highway Planning Network is a comprehensive network database of the nation's major highway system. It consists of the nation's highways comprised of Rural Arterials, Urban Principal Arterials and all National Highway System routes. The data set covers the 48 contiguous States plus the District of Columbia, Alaska, Hawaii, and Puerto Rico. The Nominal scale of the data set is 1:100,000 with a maximal positional error of ±80 meters.	too coarse - will not use	nhpn.zip			
Anthro	Roads	U.S. Forest Service, Region 1, Flathead NF	2009	This layer contains National Forest System Roads on the Flathead National Forest.	Yes http://www.fs.fed.us/r1/flathead/gis/themes/transportation/rdsnfsr12609.htm	rdsnfsr12609.shp	Not reported	Continual	Public domain
Anthro	Roads & Trails	U.S. Forest Service, Region 1	Unknown by source	This dataset contains feature classes for roads and trails of the USDA Forest Service Region 1 National Forests. It covers all of Montana, Northern Idaho, and a small portion of Eastern Washington. The spatial features depicting roads and trails information were gathered from other Forest Service GIS offices located in the Region 1 area. Metadata of individual roads and trails can be	Yes http://www.fs.fed.us/r1/gis/thematic_data/TravelRoutesR1.htm	TravelRoutesR1.gdb\NF district office name_Rd or_Tr	1:24,000	as Needed	None

				found within the feature classes.					
Anthro	Roads, Historical	U.S. Forest Service, Region 1, Flathead NF	UnkNown by source	This layer contains historical roads on the Flathead National Forest. Roads that have been removed from the "system".	Yes http://www.fs.fed.us/r1/flathead/gis/themes/transportation/rdshistorical12609.htm	rdshistorical12609.shp	Not reported	Continual	Public domain
Anthro	Roads, Other	U.S. Forest Service, Region 1, Flathead NF	2008	This layer contains roads OTHER THAN the National Forest System Roads on the Flathead National Forest	Yes http://www.fs.fed.us/r1/flathead/gis/themes/transportation/rdsoter12609.htm	rdsother12609.shp	Not reported	Continual	Public domain
Anthro	Trails	Montana State Library, Montana Department of Administration	2008	The State of Montana Transportation Framework Theme project utilizes the federated approach to combine transportation data from various sources and integrate them into one uniformly formatted and attributed layer. To benefit and provide widespread usefulness for those interested in spatial trail information	Yes, included with geodatabase	TransportationFramework_20091026.mdb \\TransportationFeatures_20091026 Same geodatabase as Roads			
Anthro	Trails	U.S. Forest Service, Region 1	2007, may vary	The layer includes motorized and Non-motorized trails in the National Forest System	Yes http://www.fs.fed.us/r1/flathead/gis/themes/transportation/trailsroutes.htm	trails_909.shp	Not reported	as Needed	None
Anthro	Wells, Oil and Gas	U.S. Forest Service, Region 1	1998	Oil and Gas wells with in the Region 1 boundary (includes Non-forest lands).	http://www.fs.fed.us/r1/gis/thematic_data/oil_gas_wells_region1.htm	oil_gas_wells_region1.shp	Not reported	None planned	None
GeoAdmin	Dwelling and population	Montana State Library	2000	This is a set of ESRI shapefiles, one for each Montana county, showing 2000 Census Blocks and their total population, population age 18 and over, housing units, occupied housing units, vacant housing units, seasonal	http://nris.mt.gov/nsdi/nris/tgblock2000f.text	Distributed as tgr000xx.zip files, where xx represents a code for each county	largest scale available	10 yrs	Public domain

				housing units, and average persons per household from the 2000 Census.					
GeoAdmin	Population	Montana State Library	1990	Montana Census Blocks contains 57 coverages, one for each Montana county. The Census Blocks have data for total population, population density, and population broken down by race and voting age. 1990 Census data.	http://nris.mt.gov/nsdi/nris/cb4.text	Distributed by county name as zip files	largest scale available	10 yrs	Public domain
GeoAdmin	Stewardship - Conservation Easements	Montana State Library	2008	Montana lands with conservation easements.	Yes	stew_easements.shp	1:24,000	Annually	See Montana Natural Heritage Program for the most up to date data
GeoAdmin	Stewardship - Managed Areas	Montana State Library	2008	This layer shows all the lands in Montana that are managed by public agencies, private lands that are within government designated areas such as national forests, and private lands that are under conservation easements and conservation leases. Land ownership is Not shown. Each managed area is identified by its name and has contact information for the agency associated with its management.	Yes	stew_management.shp	1:100,00 and 1:24,000	Annually	See Montana Natural Heritage Program for the most up to date data
GeoAdmin	Stewardship - Public Owners	Montana State Library	2008	Montana public land ownership status. The layer contains most public land parcels that are at least 40 acres in size. In addition to public lands, it shows areas owned by the Plum Creek Timber Company, areas owned by some private land trusts, and the status of surface waters which were shown as polygons on USGS 1:100,000 scale maps	Yes	stew_owners.shp	1:100,000	Annually	See Montana Natural Heritage Program for the most up to date data
GeoAdmin	Wilderness Areas	Montana State Library	2002	These data cover all Wilderness Areas designated by Congress in Montana. They are extracted from the statewide land ownership and managed areas layer maintained by the MTNHP	Yes	wild.shp	Not provided	as Needed	See Montana Natural Heritage Program for the most up to date data: These data show the approximate location of wilderness

									areas in Montana. They are Not to be used to determine the legal status or owner of the land at any particular location.
GeoAdmin	Wildlife Refuges	Montana State Library	2002	These data cover designated National Wildlife Refuges (NWRs) in Montana. They are extracted from the statewide land ownership and managed areas layer maintained by the MTNHP. Only the outer Refuge boundary is included here. Many refuges contain "inholdings" that are Not owned by the US Fish & Wildlife Service (USFWS); but these inholdings have been deleted from this data set to simplify the representation of these areas. See http://nris.mt.gov/nsdi/nris/ab105/ownrse.html for parent information	Yes (.html and .xml)	nwr.shp	1:100,000	as Needed	None: These data show the approximate location of National Wildlife Refuges in Montana. They are Not to be used to determine the legal owner of the land at any particular location.
HydroGeo	DEM	US Geologic Survey (USGS)	Multiple sources	Digital Elevation models	Yes	varies until it is compiled into one dataset	10 meter	Monthly	Public domain; Following statement to be used in reprinting data, "Data available from U.S. Geological Survey."
HydroGeo	DEM	Montana State Library or US Geologic Survey (USGS)	Multiple sources	Digital Elevation models	Yes	varies until it is compiled into one dataset	30 meter	Monthly	Public domain; Following statement to be used in reprinting data, "Data available from U.S. Geological Survey."

HydroGeo	Fault lines	Montana State Library	1955	Geologically Significant Linear Features: Faults, Glacial Advance etc. Display Linear features reflecting the Geological History of Montana	poor	flts_etc.shp	1:500,000	None planned	None
HydroGeo	Hydrology	USGS and EPA	2005	The NHDPlus Version 1.0 is an integrated suite of application-ready geospatial data sets that incorporate many of the best features of the National Hydrography Dataset (NHD) and the National Elevation Dataset (NED). The NHDPlus includes a stream network (based on the 1:100,000-scale NHD), improved networking, naming, and "value-added attributes" (VAA's). NHDPlus also includes elevation-derived catchments (drainage areas) produced using a drainage enforcement technique first broadly applied in New England, and thus dubbed "The New-England Method". This technique involves "burning-in" the 1:100,000-scale NHD and when available building "walls" using the national Watershed Boundary Dataset (WBD).	ftp://ftp.horizon-systems.com/NHDPlus/documentation/metadata.pdf	NHDPlus10LV01_03_NHD.shp	1:100,000	Irregular	None
HydroGeo	Hydrology	USGS	ongoing	The National Hydrography Dataset (NHD) is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that make up the nation's surface water drainage system. NHD data was originally developed at 1:100,000-scale and exists at that scale for the whole country. This high-resolution NHD, generally developed at 1:24,000/1:12,000 scale, adds detail to the original 1:100,000-scale NHD. http://nhd.usgs.gov/data.html http://pubs.usgs.gov/fs/2009/3054/pdf/FS2009-3054.pdf	Yes	NHD11026_MT.gdb	1:24,000	Irregular	None
HydroGeo	Watersheds	NRCS	2009	The Watershed Boundary Dataset (WBD) is a complete digital hydrologic unit national boundary layer that is at the Subwatershed (12-digit) level. It is composed of the watershed boundaries delineated by state agencies at the 1:24,000 scale http://www.ncgc.nrcs.usda.gov/produ	http://www.geodata.gov/E-FW/DiscoveryServlet?uuid=%7BCD57C83C-BB0F-	hydrologic_units_WB DHU12_1091601_01 hydrologic_units\wb dhu12_a_mt.shp and wbdu12_l_mt.shp	1:24,000	Irregular	None

				ts/datasets/watershed/datainfo.html	4464-9D76-FF07A445570F%7D&xmltransform=metadata_details.xsl				
Land Features	Ecoregions Level III and IV	US Environmental Protection Agency	2002	Ecoregions denote areas of general similarity in ecosystems and in the type, quality, and quantity of environmental resources; they are designed to serve as a spatial framework for the research, assessment, management, and monitoring of ecosystems and ecosystem components. The approach used to compile this map is based on ...biotic and abiotic phenomena These phenomena include geology, physiography, vegetation, climate, soils, land use, wildlife, and hydrology.	Yes, ftp://ftp.epa.gov/wed/ecoregions/mt/mt_eco.html	mt_eco.e00	1:250,000	Not reported	None
Land Features	Ecosystems	USGS and NatureServe	2001 (NLCD)	Info: http://rmgsc.cr.usgs.gov/ecosystems/data.shtml http://www.natureserve.org/library/usEcologicalsystems.pdf	http://rmgsc.cr.usgs.gov/metadata/ecosys/labelled_ecosystems_30m_dd83.htm	?	30 meters	Not reported	None
Land Features	NLCD 1992/2001 retrofit	Multi-Resolution Land Characteristics (MRLC) Consortium	1992-2001	http://www.mrlc.gov/multizone.php http://www.mrlc.gov/changeproduct.php 1992 Fact sheet: http://edc2.usgs.gov/pubslists/factsheets/fs10800.pdf	Yes	area03_changeproduct5k_111907.img area04_changeproduct5k_111907.img area06_changeproduct5k_111907.img	30 meters	5 years	Public domain
Land Features	NLCD 2001 Impervious Surface	Multi-Resolution Land Characteristics (MRLC) Consortium	2003	http://landcover.usgs.gov/pdf/impapprfinalwithall.pdf	Yes	impervious6_091406.img impervious4_091406.img impervious3_092606.img	30 meters	as Needed	Public domain
Land Features	NLCD 2001 Tree Canopy	Multi-Resolution Land Characteristics (MRLC) Consortium	2003	1-m DOQQs were classified into either tree canopy or Non-tree canopy areas, and then values summed within each 30 meter Landsat pixel cell to obtain the percentage of tree canopy. http://landcover.usgs.gov/pdf/canopy_density.pdf	Yes	canopy3_011007.img canopy4_011007.img canopy6_122706.img	30 meters	as Needed	Public domain

Land Features	NLCD 2001 Landcover	Multi-Resolution Land Characteristics (MRLC) Consortium	2001	http://www.mrlc.gov/nlcd.php http://www.mrlc.gov/pdf/nlcd_fact_sheet_2001.pdf	Yes	landcover6_3k_022007.img landcover3_3k_022007.img landcover4_3k_022007.img	30 meters	5 years	Public domain
Land Features	NLCD 2006 Landcover	Multi-Resolution Land Characteristics (MRLC) Consortium	2006	http://www.mrlc.gov/nlcd_update.php	No	?	30 meters	5 years	Public domain
Land Features	Phenology	USGS	many	AVHRR	Yes	unkNown	1 km	1 week, 2 weeks	None
Land Features	Phenology	NASA	many	https://lpdaac.usgs.gov/lpdaac/products/modis_overview	Yes	unkNown	250 meters / 500 meters	16 days	None
Land Features	Roadless Areas	Montana State Library	2006	This dataset contains all National Forest Inventoried Roadless Areas (IRAs) in Montana or within one mile of Montana's boundary.	Yes	roadless_2004.shp	1:24,000 but may vary	Compled	None: User needs to exercise caution regarding the spatial accuracy of these data. The source scales can vary. External features canNot be expected to align.
Natural Disturb	Burn Severity	USGS	1984 - 2007	Monitoring Trends in Burn Severity (MTBS) is a multi-year project designed to consistently map the burn severity and perimeters of fires across all lands of the United States for the period spanning 1984 through 2010. The data generated by MTBS will be used to identify national trends in burn severity, providing information necessary to monitor the effectiveness and effects of the National Fire Plan and Healthy Forests Restoration Act.	Yes	bia-xxxxx-xxxx-xxxxxxx.shp varies with selection	30 meter	Annually	None
Natural Disturb	Fire	Landscape Fire and Resource	2009 (NorthCentral) &	The LANDFIRE Project produces maps of simulated historical fire regimes and vegetation conditions	Historical Percent of Low	varies	30 meters	updates schedule will be	None

		Management Planning Tools Project	2006 (PNW) for Montana	using the LANDSUM landscape succession and disturbance dynamics model. The LANDFIRE Project also produces maps of current vegetation and measurements of current vegetation departure from simulated historical reference conditions.	Severity Fires http://landfire.cr.usgs.gov/distmeta/servlet/gov.usgs.edc.MetaBuilder?TYPE=HTML&DATA SET=F0P			available after completion of 2008 products	
Natural Disturb	Fire History	USFS District Offices	1980 to the present	The purpose of this feature class is to depict fire history polygons on the Flathead National Forest for fires 10 acres or larger for the last 20 years Flathead - http://www.fs.fed.us/r1/flathead/gis/gis_data_index.shtml	http://www.fs.fed.us/r1/flathead/gis/themes/fire/firehis_pl.htm	firehis_pl.shp	1:24,000	Annually	None
Natural Disturb	Insects & Disease	USFS District Offices	1968 to 2007	Insect and Disease coverage for 2003 - 2007 in the Flathead National Forest. Flathead - http://www.fs.fed.us/r1/flathead/gis/gis_data_index.shtml	at link to left	idfs_68_97.shp idfs_98_02.shp idfs_03_07.shp	Not reported	Annually	None

Appendix II: Geospatial Data Sets – Canada

Covers geospatial datasets from the Canadian side of the CCE

Theme	Type	Source	Source date		Description	Metadata	Name/Format	Spatial resolution	Update freq	Distribution/use restrictions
Anthro	Administration	Canada Land Survey System	2008 (latest update)	AB BC	11 out of 31 census subdivisions with information on administration areas, ancillary line, land parcel, plan envelope and plan polygon table. Some CSD also have information on surveys in progress and delineate indian reserves.	No	Census subdivisions (.shp): Blood148 (Alberta) Blood148A (Alberta) Bummers Flat 6 (BC) Eden Valley (Alberta) Isidores Ranch 4 (BC) Kootenay (BC) Peigan Timber (Alberta) Piikani Reserve (Alberta) Tobacco (BC) Waterton Lakes National Park (Alberta)			The Licensee shall identify the source of the Data, in the following manner, where any of the Data are redistributed, or contained within Derivative Products: © Her Majesty the Queen in Right of Canada, Department of Natural Resources. All rights reserved.
Anthro	Administration	Canada Land Survey System	2009 (latest update)	AB BC	Provide the administrative boundaries (exterior limits) of Canada Lands which includes Indian Reserves, Cree-Naskapi Category 1A and 1A-N Lands, Yukon First Nations Settlement Lands, Kanesatake Mohawk Interim Land Base, National Parks, National Park Reserves, National Marine Conservation Areas and Aboriginal Land Claims Settlement Areas. More specific information related to each administrative boundary can be found in the Entity and Attribute section. Administrative boundaries were compiled from Surveyor General Branch's cadastral datasets and survey records archived in the Canada Lands Survey Records.	Yes (.txt)	CLAB_AB_2009-11-02.shp CLAB_BC_2009-11-02.shp		Daily	
Anthro	City	Alberta Sustainable Resource Development	Last modified on 1-Jul-	AB	The City dataset is comprised of all the polygons that represent Cities in Alberta. City is a municipality type defined under the authority of the	Yes (.xml)	city.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the

			09		Municipal Government Act. The formation of a City can occur when a majority of the buildings are on parcels of land smaller than 1850 square meters and there is a population of 10 000 or more.					CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	City	Alberta Sustainable Resource Development	Mar-09	AB	The Improvement District dataset is comprised of all the polygons that represent large unincorporated rural areas in Alberta. Improvement District is a large unincorporated rural area defined under the authority of the Municipal Government Act and administered under the Improvement District Act. The provincial and federal governments have the primary responsibility in the Improvement District except for school affairs.	Yes (.xml)	id.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	City	Alberta Sustainable Resource Development	Dec-08	AB	The Municipal District dataset is comprised of all the polygons that represent Municipal Districts in Alberta. Municipal District is a municipality type defined under the authority of the Municipal Government Act. The formation of a Municipal District occur when a majority of the buildings used as dwellings are on parcels of land with an area of at least 1850 square meters and there is a population of 1000 or more. A municipal district is a government form in rural areas of the province.	Yes (.xml)	mun_dist.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	City	Alberta Sustainable Resource Development	Mar-09	AB	The Specialized Municipality dataset is comprised of all the polygons that represent Specialized Municipalities in Alberta. Specialized Municipality is a type of municipality which does Not meet the needs of the residents of a proposed municipality such as City, Municipal District, Town or Village; but formed to provide for a form of local government that will provide for the orderly development of the municipality or by any other reason that is appropriate in the	Yes (.xml)	spmun.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.

					circumstances. Specialized municipalities are unique municipal structures that can be formed without resorting to special Acts of the legislature. Often, specialized municipalities allow urban and rural communities to coexist in a single municipal government.					
Anthro	City	Alberta Sustainable Resource Development	Jul-09	AB	The Town dataset is comprised of all the polygons that represent Towns in Alberta. Town is a municipality type defined under the authority of the Municipal Government Act. The formation of a Town can occur if a majority of buildings are on parcels of land smaller than 1850 square metres and there is a population of 1000 or more.	Yes (.xml)	town.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	City	Alberta Sustainable Resource Development	May-09	AB	The Village dataset is comprised of all the polygons that represent Villages in Alberta. Village is a municipality type defined under the authority of the Municipal Government Act. The formation of a Village can occur when a majority of the buildings are on parcels of land smaller than 1850 square meters and there is a population of 300 or more.	Yes (.xml)	village.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Cutblocks	Alberta Sustainable Resource Development		AB	Cutblock coverage for the B9, B10, B11 area which contains updates for the years from 1987-2007.	Yes (.txt)	b9cuts.e00		Annually	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Cutblocks	Alberta Sustainable Resource Development		AB	Cutblock coverage for the C4 area which contains updates for the years from 1989-2005. No cutblocks coverage for Cypree Hills or Co1Co2.	Yes (.txt)	c4cuts.e00		Annually	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health

										Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Cutblocks	Alberta Sustainable Resource Development		AB	Cutblock coverage for the C5 area which contains updates for the years from 1986-2004.	Yes (.txt)	c5cuts.e00		Annually	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Cutline	Alberta Sustainable Resource Development	Apr-09	AB	This layer contains arc representation of cutlines within Alberta.	Yes (.xml)	cutlines.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Emissions	GeoBC distribution services (order # 351172)	Jul-01	BC	Evenly spaced, 1 kilometre square polygons in BC Albers projection, covering all of British Columbia, with the exception of the lower Fraser Valley. Grid square boundaries are oriented along the X,Y axes (0 degrees, 90 degrees) in the BC Albers coordinate	Yes (.html)	ACE_GA_1KM	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Emissions	B.C. Ministry of the Environment	30-Mar-07	BC	Allocates emissions from Heavy-Duty Diesel Vehicles licensed for highway use. Emissions are assigned to 1km grid squares according to the length of road inside each square. The road data was extracted from the Transportation Centerline Network.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_HDDV_EM ISSIONS_1KM_SV W		Not Planned	Not freely downloadable by the public. Viewable.

Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from Heavy-Duty Diesel Vehicles licensed for highway use. Emissions are assigned to 5km grid squares according to the length of road inside each square. The road data was extracted from the Transportation Centerline Network.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_HDDV_EM ISSIONS_5KM_SV W		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from Heavy-Duty Gasoline Vehicles licensed for highway use. Emissions are assigned to 1km grid squares according to the length of road inside each square. The road data was extracted from the Transportation Centerline Network.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_HDGV_EM ISSIONS_1KM_SV W		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from Heavy-Duty Gasoline Vehicles licensed for highway use. Emissions are assigned to 5km grid squares according to the length of road inside each square. The road data was extracted from the Transportation Centerline Network.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_HDGV_EM ISSIONS_5KM_SV W		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from Light-Duty Diesel Vehicles licensed for highway use. Emissions are assigned to 1km grid squares according to the length of road inside each square. The road data was extracted from the Transportation Centerline Network.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_LDDV_EMI SSIONS_1KM_SVW		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from Light-Duty Diesel Vehicles licensed for highway use. Emissions are assigned to 5km grid squares according to the length of road inside each square. The road data was extracted from the Transportation Centerline Network.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_LDDV_EMI SSIONS_5KM_SVW		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from Light-Duty Gasoline Truck licensed for highway use. Emissions are assigned to 1km grid squares according to the length of road inside each square. The road data was extracted from the Transportation Centerline Network.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_LDGT_EMI SSIONS_1KM_SVW		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from Light-Duty Gasoline Truck licensed for highway use. Emissions are assigned to 5km grid squares according to the length of road inside each square. The road		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_LDGT_EMI SSIONS_5KM_SVW		Not Planned	Not freely downloadable by the public. Viewable.

					data was extracted from the Transportation Centerline Network.					
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from Light-Duty Gasoline Vehicles licensed for highway use. Emissions are assigned to 1km grid squares according to the length of road inside each square. The road data was extracted from the Transportation Centerline Network.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_LDGV_EMI SSIONS_1KM_SVW		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from Light-Duty Gasoline Vehicles licensed for highway use. Emissions are assigned to 5km grid squares according to the length of road inside each square. The road data was extracted from the Transportation Centerline Network.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_LDGV_EMI SSIONS_5KM_SVW		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from railways. Emissions are assigned to 1km grid squares according to the length of railway inside each square.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_RAILWAY_ EMISSIONS_1KM_ SVW		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Emissions	B.C. Ministry of the Environment	Mar-07	BC	Allocates emissions from railways. Emissions are assigned to 5km grid squares according to the length of railway inside each square.		WHSE_ENVIRONM ENTAL_MONITORI NG_AEI_RAILWAY_ EMISSIONS_5KM_ SVW		Not Planned	Not freely downloadable by the public. Viewable.
Anthro	Forest	GeoBC distribution services (order # 351132)	Nov-03	BC	This is the spatial layer reflecting operational activities. The spatial layer for a range tenure, which is an area of Crown range over which a Range Act tenure applies. A tenure holder may apply for a Non-use harvestable forage deduction against a tenure	Yes (.html)	FTEN_RNGPG	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Forest	GeoBC distribution services (order # 351212)	Jun-07	BC	This is a spatial layer that reflects operational activities for cut blocks contained within harvesting authorities. The Forest Tenures Section (FTS) is responsible for the creation and maintenance of digital Forest Atlas files for the province of British	Yes (.html)	FTN_C_B_PL	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

Anthro	Forest	GeoBC distribution services (order # 351212)	Jun-07	BC	This is a spatial layer that reflects operational activities for harvesting authorities. The harvesting authority is a legal area cleared by the Ministry of Forests and Range (that is, No other claims for the land exist) for harvesting purposes. This corr	Yes (.html)	FTN_HA_SVW	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Heritage	Alberta Sustainable Resource Development	Apr-99	AB	Geoadministrative Areas spatial data provides seamless coverage for Geoadministrative Areas that have been defined by Departmental clients as being critical to their business. To provide the definitive source of spatial Geoadministrative Areas data for direct use by decision makers and in Departmental business systems.	Yes (.txt)	fnaoi.e00			Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Heritage	Alberta Sustainable Resource Development	Mar-10	AB	The Listing of Historic Resources is comprised of all the polygons that represent Historic Resources areas in Alberta. Historic Resources are land sections that possess kNown historic resources or have high potential for their presence, including archaeological, paleontological, historical, natural and cultural resources.	Yes (.xml)	lhr.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Irrigation	Alberta Sustainable Resource Development	Sep-05	AB	The Irrigation District dataset is comprised of all the polygons that represent the Irrigation Districts of Alberta Agriculture and Rural Development established under the Irrigation Districts Act to (a) convey and deliver water through the irrigation works, (b) divert and use quantities of water in accordance with the terms and conditions of its license, (c) to construct, operate and maintain the irrigation works and, (d) to maintain and promote the ecoNomic viability of the area.	Yes (.xml)	irdist.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.

Anthro	Line feature	Alberta Sustainable Resource Development	Apr-09	AB	This layer contains arc representation of pipeline access within Alberta.	Yes (.xml)	pipelines.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Line feature	Alberta Sustainable Resource Development	Apr-09	AB	This layer contains arc representation of power lines within Alberta.	Yes (.xml)	powerlines.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Line feature	Alberta Sustainable Resource Development	Jul-07	AB	This layer contains arc representation of the Alberta railway network.	Yes (.xml)	railines.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Line feature	Alberta Sustainable Resource Development	Aug-09	AB	This is a raw pipeline layer marketed by IHS Energy as their "Enhanced Pipeline Data". It is stored as shipped and has Not been altered in any way.	Yes (.xml)	rawpipes.e00		Quarterly	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.

Anthro	Point/polygon feature	Alberta Sustainable Resource Development	Last modified on 31-Jul-08	AB	The facility point layer contains point representation of the facility point features in Alberta.	Yes (.txt)	facilities.e00			Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Point/polygon feature	Alberta Sustainable Resource Development	Oct-09	AB	Well site data is acquired Quarterly through a contract with IHS Energy (Canada) Ltd. and reformatted by RIMB. This data contains Active, Abandoned and Newly Licensed Wells. The Active and Abandoned Wells exist, the Newly Licensed Wells are proposed. This means that the Newly Licensed Wells can exist in a data load and the same well may not exist in a subsequent data load. Multiple points can exist at the same location. These multiple points provide a temporal representation of the well site. The last digit of the UWI Surface and UWI Bottom values indicates the sequence number of the point for the well site. The largest value indicates the latest attributes for the well at that location as of the currency date, while the lesser values indicate historical attributes.	Yes (.xml)	wellsites.e00		Quarterly	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Point/polygon features	Alberta Sustainable Resource Development	Last modified on 20-Feb-09	AB	Access and Facility polygons refer to the area on the ground representing one of the features required to be captured from the source data. Examples of access polygons are airport runways and airstrip runways, and examples of facility polygons are sand/gravel pits, mill sites and tailing ponds.	Yes (.txt)	acc_poly.e00			Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Railway	B.C. Ministry of the Environment	Feb-03	BC	Transportation features such as airfields, ferry route, roads, retaining walls, bridges, rail lines, tunnels,		Railways	1:20,000	Daily	Not freely downloadable by the public. Viewable.

					pipelines, transmission lines, etc (see http://srmwww.gov.bc.ca/gis/trimfeatu res.htm for full list). The TRIM program produces digital maps, which is a collection of coverages to conform with the BC Geographic System layout. TRIM mapping consists of 7,027 mapsheets covering the province of British Columbia at a scale of 1:20 000.					
Anthro	Recreation	GeoBC distribution services (order # 351172)	Feb-08	BC	The spatial representation of a recreation feature. This can be either a recreation reserve, recreation site, or an interpretative forest.	Yes (.html)	FTEN_RECPT	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Recreation	GeoBC distribution services (order # 351492)	Jan-04	BC	The RFI identifies areas of land and water encircling a recreation feature or combination of features that support, or have the potential to support, one or more recreation activities. These areas are rated for their significance or importance to recreati	Yes (.html)	REC_INVTRY	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Recreation	GeoBC distribution services (order # 351492)	Jan-04	BC	The ROS Inventory characterizes and represents recreation opportunities as mixes or combinations of settings and probable experience opportunities arranged along a continuum or spectrum of ROS classes. The spectrum is set out in terms of seven ROS classes	Yes (.html)	REC_OPSPec	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Recreation	GeoBC distribution services (order # 351172)	Feb-08	BC	This is a spatial layer showing Ministry of Forests Recreation Points. These are the point spatial representation for features such as recreation sites.	Yes (.html)	REC_SITE_P	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Recreation	Alberta Sustainable Resource	Last modified on	AB	The area of forest land declared under Forest Recreation Regulation for recreational use.	Yes (.txt)	forrec.e00		as Needed	Data use restricted to Crown Managers Partnership member use

		Development	24-Apr-08							for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Recreation	Alberta Sustainable Resource Development	Feb-08	AB	The Habitat Conservation Area dataset is comprised of all the polygons that represent the Habitat Conservation Areas established in Alberta. Habitat Conservation Areas are areas where habitats are protected with restricted activities such as hunting, camping, etc.	Yes (.xml)	habitatca.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Recreation	Alberta Sustainable Resource Development	Sep-08	AB	The Natural Area is comprised of all the polygons that represent areas to preserve and protect sites of local significance and provide opportunities for low-impact recreation and nature appreciation activities in Alberta.	Yes (.xml)	natarea.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Recreation	Alberta Sustainable Resource Development	Jul-08	AB	The Provincial Recreation Area dataset is comprised of all the polygons that represent the provincial recreation areas in Alberta that support outdoor recreation and tourism; they often provide access to lakes, rivers, reservoirs and adjacent Crown land.	Yes (.xml)	provra.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Recreation	Alberta Sustainable Resource Development	Last modified on 13-	AB	The point represents Hamlet, Locality and Townsite. Hamlet is an unincorporated place, usually containing eight (8) or more occupied	Yes (.txt)	ucultpt.e00			Data use restricted to Crown Managers Partnership member use for the purposes of the

			Jan-09		dwelling and at least one (1) retail business outlet. Locality is an unincorporated place or an area with scattered population. Townsite is a federally administered village.					CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Road	Alberta Sustainable Resource Development	Apr-09	AB	This layer contains arc representation of the Alberta road network.	Yes (.xml)	roads.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Roads	GeoBase	2008 (latest update)	AB BC	Compatible with GeoBase landcover.	Yes (.xml)	nrn_rn_ab_shp_en nrn_rn_bc_shp_en Two linear entities: Road Segment and Ferry Connection Segment Three punctual entities: Junction, Blocked Passage, Toll Point	1:10 000	Annually	Subject to this Agreement, Canada hereby grants to the Licensee a Non-exclusive, fully paid, royalty-free right and licence to exercise all Intellectual Property Rights in the Data. This includes the right to use, incorporate, sublicense (with further right of sublicensing), modify, improve, further develop, and distribute the Data; and to manufacture and / or distribute Derivative Products derived from or for use with the Data. The Licensee shall identify GeoBase® as a data source where any of the Data are redistributed, or contained within Derivative Products, and use of the Data shall Not be construed as an endorsement by GeoBase® of those Derivative Products.

Anthro	Roads	Stats Canada	2006-2009	AB BC	Road Network File MORE DETAILED THAN GEOBASE. Updated every year. Contains information such as street name, type, direction, address range and road rank. Also included on each side of every road arc are identification names and codes for the following levels of geography: • province/territory • census subdivision • census metropolitan area • census agglomeration • census tract.	No	Road data for each province for 2006, 2007, 2008 and 2009.	1:50,000	Annually	The Licensee shall include the following Notice where any of the Data is contained within Derived Products, Source: Geography Division, Statistics Canada, Census Subdivision Boundary Files, 2008, 92-162-XWE/XWF.
Anthro	Roads	MapCruzin		AB BC	North American Highway Border Crossings North American Railroad Border Crossings Canada Highways U.S. Highways	No				
Anthro	Roads	GeoBC distribution services (order # 351212)	Nov-05	BC	Discontiguous segments of as-built roads reported by forest licensees as per requirements in sections 86(2) and 86(4) of the Forest Planning and Practices Regulation until March 31, 2008, when this requirement was discontinued by Order in Council	Yes (.html)	ABR_R_SL	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Roads	GeoBC distribution services (order # 351221)	Apr-07	BC	The layer contains partially attributed road data (PAR) for the named roads from the Digital Road Atlas (DRA), with data up to April 2007. For information on the fully attributed and up-to-date DRA data, please visit http://ilmbwww.gov.bc.ca/bmgs/products	Yes (.html)	DRA_LINESP	1:20,000 - 1:50,000	Quarterly	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Roads	B.C. Ministry of the Environment	Jan-99	BC	AMA - Access Management Areas; restrictions of all types of motorized vehicles; online might be able to find out if the restriction is for the entire year, for certain seasons	Yes	qama_ek (in folder srmmp > ama)	1:250,000		to be determined
Anthro	Roads	B.C. Ministry of the Environment		BC	Rocky Mountain Forest District - Highways; TRIM (Terrain Resource Inventory Mapping) at the provincial level	No	RMFD_Highways			to be determined

Anthro	Roads	B.C. Ministry of the Environment		BC	Highways, streets, tenured and untenured logging roads, forest service roads all merged into a single shapefile; Peter recommends using this layer	No	TEN_ROAD_RMFD_Merge2 (in folder tenured roads)			to be determined
Anthro	Trail	GeoBC distribution services (order # 351011)	Jun-98	BC	Trans Canada Trail - BC Portion	Yes (.html)	TRNS_CDN_T	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Trail	Alberta Sustainable Resource Development	Last modified on 2-Nov-06	AB	The area of forest land declared under Forest Recreation Regulation for Non-motorized recreational use.	Yes (.txt)	forrt.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Water feature	Alberta Sustainable Resource Development	Modified on 23-Apr-02	AB	The hydrography point layer consists of features such as water control devices, dams, rapids, and other features that may influence flow.	Yes (.txt)	hydropoints.e00			Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Anthro	Wells	GeoBC distribution services (order # 351011)	Jan-07	BC	Provides Non-confidential information about the sub-surface bottom hole location of a well. The event view provides drilling information and the location for each bottom hole.	Yes (.html)	BOT_HOL_EV	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

Anthro	Wells	GeoBC distribution services (order # 351011)	Jan-07	BC	Provides Non-confidential information about the sub-surface bottom hole location of a well. The status view provides information on the current status of the bottom hole.	Yes (.html)	BOT_HOL_ST	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Wells	GeoBC distribution services (order # 351132)	Feb-08	BC	Point features showing the location of ground water wells in BC.	Yes (.html)	GW_WTR_WEL	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Wells	GeoBC distribution services (order # 351132)	Feb-08	BC	Point features showing the location of ground water wells in BC joined with attributes. Artesian wells are flowing wells at the time of drilling.	Yes (.html)	GW_WW_WRBC	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Wells	GeoBC distribution services (order # 351011)	Jan-07	BC	Provides Non-confidential information about the surface location of a well. The event view provides general well information and location information for the surface hole.	Yes (.html)	SUR_HOL_EV	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Wells	GeoBC distribution services (order # 351011)	Jan-07	BC	Provides Non-confidential information about the surface location of a well. The status view provides information on the current status of the surface hole.	Yes (.html)	SUR_HOL_ST	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro	Wells	GeoBC distribution services (order # 351011)	Jan-07	BC	A line connecting the surface hole location and the bottom hole location of an oil or gas well. The line does Not represent the actual well bore,	Yes (.html)	WEL_DIR_SU	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions

		351011)			but instead shows the shortest distance between the two points.					set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Anthro GeoAdmin HydroGeo	Roads, Trails, Campground s, Bridges, Wetlands...	GeoGratis	Information current as of 1989-1992. Population categories determined from Statistics Canada 1986 Census data.	AB BC	It contains 1:2 million scale National Atlas digital base map data for Canada of: Political boundaries Built-up area City (pop. 50000+) Dams Outlines of water features Indian reserves National and provincial parks Railways Roads	Yes (.txt)	2m_ab_g_e00 2m_bc_g_e00	1:2,000,000		It is NoT for redistribution or resale. This allows users to use the data as they please, as long as the data source is shown. © Department of Natural Resources Canada. All rights reserved. Here is the link to the license agreement read chapter 3. (http://geogratias.gc.ca/geogratias/en/licence.jsp)
Anthro HydroGeo	Roads, Trails, Campground s, Bridges, Wetlands...	GeoGratis	2008 (latest update)	AB BC	A large quantity of data (bridge, buildings, parks). See NTDB spreadsheet.	Yes (.xlm)	39 folders, one per mapsheet. All data are shapefiles.	1:50,000	as Needed	The Licensee shall identify the source of the Data, in the following manner, where any of the Data are redistributed, or contained within Derivative Products: "© Department of Natural Resources Canada. All rights reserved."
Fauna	Badger	B.C. Ministry of the Environment	Oct-04	BC	East Kootenay Badger Telemetry Data	Yes	abdgl_ek04 (in folder badger > pre2005)	unkNown		to be determined
Fauna	Badger	B.C. Ministry of the Environment	Oct-04	BC	East Kootenay Badger Sighting Data	Yes	abdgs_ek04 (in folder badger > pre2005)	unkNown		to be determined
Fauna	Badger	B.C. Ministry of the Environment	Oct-04	BC	East Kootenay Badger Telemetry Data - Natal Locations	Yes	abgfg_ek04 (in folder badger > pre2005)	unkNown		to be determined
Fauna	Badger	B.C. Ministry of the Environment	Mar-04	BC	Badger Study Area Boundary	Yes	bbdgbnd (in folder badger > pre2005)	1:250,000	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Fall 97	BC	Badger Trapping Study Area	Yes	bbdgtsek (in folder badger > pre2005)	1:2,000,000	Ongoing	to be determined

Fauna	Badger	B.C. Ministry of the Environment	Dec-01	BC	Badger 100% MCP Home Ranges to Dec 20, 2002	Yes	lbdg1_ek (in folder badger > pre2005)	Ground-based: +-10m; Air-based: +-100m	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Jan-00	BC	Badger 90% MCP Home Ranges to Sept 29, 1999	Yes	lbdg9inv (in folder badger > pre2005)	Ground-based: +-10m; Air-based: +-100m	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Feb-03	BC	Telemetry Badger Home Ranges to Feb 23, 2003	Yes	lbdgthr (in folder badger > pre2005)	Ground-based: +-10m; Air-based: +-100m	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Mar-04	BC	Badger Telemetry to February, 2004	Yes	lbdgt04 (in folder badger > pre2005)	Ground-based: +-10m; Air-based: +-100m	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Dec-01	BC	Badger Telemetry to December 20, 2002	Yes	lbdgt_ek (in folder badger > pre2005)	Ground-based: +-10m; Air-based: +-100m	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment		BC	Translocated Badger MCP Home Ranges to Dec 17, 2003	Yes	lbdgthr (in folder badger > pre2005)	Ground-based: +-10m; Air-based: +-100m	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Dec-01	BC	Proposed Badger Release Areas	Yes	qbdgr_ek (in folder badger > pre2005)	Ground-based: +-10m; Air-based: +-100m	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Feb-99	BC	Badger Sightings, 1968-19 Nov 2002	Yes	qbdgs_ek02 (in folder badger > pre2005)	1:250,000	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Mar-04	BC	Badger Sightings, 1968-19 Jan 15, 2004 (shifted 2 points to reflect the proper locations, there were 2 typos in the Northing item for No 256 and 623 - may, 2004)	Yes	qbdgsek04 (in folder badger > pre2005)	1:250,000	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Mar-04	BC	Badger Sightings, 1968-19 Jan 15, 2004	Yes	qbdgsek04bu (in folder badger > pre2005)	1:250,000	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Fall 97	BC	Badger Sighting Study Area	Yes	qbdgssek (in folder badger > pre2005)	1:250,000	Ongoing	to be determined

Fauna	Badger	B.C. Ministry of the Environment	May-04	BC	Badger Habitat Suitability	Yes	tbudgh_ekbu (in folder badger > pre2005)	initial 50m grid	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Dec-01	BC	Badger 100% MCP Home Ranges to Dec. 2005	Yes	lbdg1ekc (in folder badger)	Ground-based: +-10m; Air-based: +-100m	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Dec-01	BC	Badger Telemetry to December 2005	Yes	lbdgtekc (in folder badger)	Ground-based: +-10m; Air-based: +-100m'	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	Feb-99	BC	Badger Sightings, 1968 - Dec 2005	Yes	qbdgsekc (in folder badger)	1:250,000	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment	2004	BC	Badger Habitat Suitability (March 17, 2006 - created new grid with 3 classes available (Low/Medium/High))	Yes	tbdgh_ek (in folder badger)	initial 50m grid	Ongoing	to be determined
Fauna	Badger	B.C. Ministry of the Environment		BC		Yes	imagenan (in folder badger)			to be determined
Fauna	Badger	B.C. Ministry of the Environment		BC		Yes	tbdgh_ek0 (in folder badger)			to be determined
Fauna	Badger	B.C. Ministry of the Environment		BC		Yes	tbdgh_ek1 (in folder badger)			to be determined
Fauna	Badger	B.C. Ministry of the Environment		BC		Yes	tbdgh_ek_g_u (in folder badger)			to be determined
Fauna	Badger	B.C. Ministry of the Environment		BC		Yes	tbdgh_ek_gd (in folder badger)			to be determined
Fauna	Badger	B.C. Ministry of the Environment		BC		Yes	tbdgh_ek_ms (in folder badger)			to be determined
Fauna	Badger	B.C. Ministry of the Environment		BC		Yes	tbdgh_ek_i_u (in folder badger)			to be determined
Fauna	Badger	B.C. Ministry of the Environment	Oct-04	BC	East Kootenay Badger Telemetry Data	Yes	abdgl (in folder badger)	unkNown		to be determined
Fauna	Badger	B.C. Ministry of the Environment	Oct-04	BC	East Kootenay Badger Sighting Data	Yes	abdgs (in folder badger)	unkNown		to be determined

Fauna	Badger	B.C. Ministry of the Environment	Oct-04	BC	East Kootenay Badger Telemetry Data - Natal Locations	Yes	abgfg (in folder badger)	unkNown		to be determined
Fauna	Badger	B.C. Ministry of the Environment	Oct-04	BC	Badger Study Area Boundary	Yes	bbdgbnd (in folder badger)	unkNown		to be determined
Fauna	Bull Trout	B.C. Ministry of the Environment		BC		No	tdfn_wig (in folder inventory)			to be determined
Fauna	Bull Trout	B.C. Ministry of the Environment		BC		No	tred_wig (in folder inventory)			to be determined
Fauna	Grizzly	B.C. Ministry of the Environment	Dec-02	BC	Inventory and Classification of Avalanche paths for grizzly habitat	Yes	agbac (in folder srmmp)	1:20,000 - 1:50,000		to be determined
Fauna	Grizzly	B.C. Ministry of the Environment	Sum 96	BC	mountain blocks for managing bear population	Yes	gbmu_r4 (in folder grizzly)	1:250 000		to be determined
Fauna	Grizzly	B.C. Ministry of the Environment		BC	mountain blocks for managing bear population	No	gbmu_r4_2 (in folder grizzly)			to be determined
Fauna	Grizzly	B.C. Ministry of the Environment		BC	mountain blocks for managing bear population	Yes	gbmu_r4_3 (in folder grizzly)			to be determined
Fauna	Grizzly	B.C. Ministry of the Environment		BC		Yes	gr_rds_buff (in folder grizzly)			to be determined
Fauna	Grizzly	B.C. Ministry of the Environment		BC			DNA_1996			to be determined
Fauna	Grizzly	B.C. Ministry of the Environment		BC			DNA_1997			to be determined
Fauna	Grizzly	B.C. Ministry of the Environment		BC			Avalanche_Chutes_GRIZ			
Fauna	Sapsucker	B.C. Ministry of the Environment		BC	Williamson's sapsucker; pending approval	No	WISA (in folder WHAs)			to be determined
Fauna	Sensitive Species	GeoBC distribution services (order # 351212)	Mar-03	BC	A spatial view of Non-sensitive locations of species and ecological communities at risk. Data collected and mapped by the Conservation Data Centre.	Yes (.html)	BIO_NS_SVW	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

Fauna	Sensitive Species	GeoBC distribution services (order # 351212)	Mar-03	BC	Spatial layer containing the Conservation Data Centre's kKnown sensitive locations of endangered species and ecosystems, masked for public viewing and download.	Yes (.html)	BIOT_MS_SP	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Fauna	Sensitive Species	B.C. Ministry of the Environment	Mar-03	BC	A spatial view of Non-sensitive locations of species and ecological communities at risk. Data collected and mapped by the Conservation Data Centre.		Sens_Species		Daily	Downloadable. Viewable.
Fauna	Species Occurrence	GeoBC distribution services (order # 351492)	Dec-03	BC	Wildlife radio-telemetry may be defined as the transmission of information from a transmitter on a free-ranging wild animal to a receiver. Wildlife-related telemetry is also kKnown as radio tagging, radio-tracking or simply ?tagging? or ?tracking?. Advance	Yes (.html)	SPI_TEL_NS	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Fauna	Species Occurrence	GeoBC distribution services (order # 351492)	Dec-03	BC	A wildlife observation is an encounter with the focal species (taxa) or its sign. An observation is made when a surveyor makes a visit to a Design Component on a specific date at a specific time. Each observation may be geo-referenced in itself or simply	Yes (.html)	SPWLDLFNNS	1:20,000 - 1:50,000	fortnightly	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Fauna	Species Occurrence	B.C. Ministry of the Environment	2004	BC	sight occurrences database intersected with Range & Pasture Units within the EK Trench, NDT4	No	alpec_ca (in folder red_blue_ek_specie s)	1:20,000		to be determined
Fauna	Tailed Frog	B.C. Ministry of the Environment	Jan-02	BC	line coverage of basin and sub-basin boundaries for the Yahk w	Yes	qtfrbayk (in folder tailedfrogs)	100m linear		to be determined
Fauna	Tailed Frog	B.C. Ministry of the Environment	Jan-02	BC	line coverage for Tailed frog demographic zones	Yes	qtfrbdeyk (in folder tailedfrogs)	10m linear		to be determined
Fauna	Tailed Frog	B.C. Ministry of the Environment	Jan-02	BC	point coverage of locations surveyed for tailed frog	Yes	qtfrobyk (in folder tailedfrogs)	100m point		to be determined
Fauna	Tailed Frog	B.C. Ministry of the Environment	Jan-02	BC	point coverage of sediment source sites	Yes	qtfyseyk (in folder tailedfrogs)	100m point		to be determined

Fauna	Winter Range	GeoBC distribution services (order # 351537)	Mar-05	BC	The dataset contains approved legal boundaries for ungulate winter range and specified areas for ungulate species.	Yes (.html)	WCP_UWR_SP	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Fauna	Winter Range	B.C. Ministry of the Environment		BC	APPROVED UNGULATE WINTER RANGES	Yes	tuwra_4-008			to be determined
Fauna	Woodpecker	B.C. Ministry of the Environment		BC	Lewis woodpecker, listed species under SARA; pending approval	No	LEWO_remainder (in folder WHAs (wildlife habitat))			to be determined
GeoAdmin	Cadastral	B.C. Ministry of the Environment	Jun-05	BC	Crown land in the Regional District of East Kootenay (RDEK)	Yes	acrown_rdek (in folder rdek (regional district eastern Kootney)_2005)			to be determined
GeoAdmin	Cadastral	B.C. Ministry of the Environment	Jun-05	BC	Iterated Cadastral Fabric layer for the Regional District of East Kootenay (RDEK)	Yes	aicf_rdek (in folder rdek_2005)			to be determined
GeoAdmin	Cadastral	B.C. Ministry of the Environment	Jun-05	BC	Other land classified as neither private Nor crown by the Regional District of East Kootenay (RDEK); includes Federal Crown & Indian Reserves among other classifications	Yes	aother_rdek (in folder rdek_2005)			to be determined
GeoAdmin	Cadastral	B.C. Ministry of the Environment	Jun-05	BC	Private land parcels in the Regional District of East Kootenay (RDEK)	Yes	apriv_rdek (in folder rdek_2005)			to be determined
GeoAdmin	Cadastral	B.C. Ministry of the Environment		BC	Enhanced Resource Development Zones; intensive management/logged, less restrictions	Yes	flat_erz (in folder srmmp)			to be determined
GeoAdmin	Cadastral	B.C. Ministry of the Environment		BC	Resource management zones, landuse plan 1990's "Kootneybound land use plan"; implementation zones	No	qrmz_cb (in folder srmmp)			to be determined
GeoAdmin	Cadastral	B.C. Ministry of the Environment	Sep-02	BC	Southern Rocky Resource Management Plan; 5-6 years ago; more detail; representation from different sectors; detailed land use	Yes	tsrmp_cb (in folder srmmp)			to be determined
GeoAdmin	Cadastral	B.C. Ministry of the Environment		BC	BC land commission; zoned out low elevation areas to maintain agricultural value; different zoning	No	(in folder alr)			to be determined
GeoAdmin	Cadastral	B.C. Ministry of the Environment	7-Nov-01	BC	AnNotation layer, RDCK Cadastre	Yes	vaha_ck (in folder geology)			to be determined

GeoAdmin	Cadastral	B.C. Ministry of the Environment		BC	Elkview property boundary	No	Elkview Ops Property Boundary			to be determined
GeoAdmin	Cadastral	Alberta Sustainable Resource Development	Mar-05	AB	Compiled by Spatial Data Warehouse Ltd. (SDW), on behalf of the Government of Alberta, the ATS v4.1 Polygons - Quarter Section with Road Allowance layer contains polygons that represent the the location of Quarter Sections and adjacent Road Allowance Segment polygons, derived from the Master Alberta Township System points file published as ATS Version 4.1, dated March 31, 2005, and clipped to an updated Spatial Data Warehouse Ltd. (SDW) created version of the Alberta provincial boundary.	Yes(.xml)	ats_4_1.shp		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Cadastral	Alberta Sustainable Resource Development	Last modified on 30-Nov-09	AB	This data set contains the block and lot boundaries as transcribed from Land Title Office registered plans of survey for all Lot and Block extents as compiled in the Spatial Data Warehouse Ltd. (SDW) Urban and Rural Cadastral Mapping Program. This layer ddoes Not contain information for the municipalities of Edmonton or Calgary. The information for these municipalities is managed by each municipality independently.	Yes (.xml)	block_lot.e00		Monthly	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Cadastral	Alberta Sustainable Resource Development	Last modified on 30-Nov-09	AB	This data set contains hydrography boundaries derived from various sources for the Urban and Rural Cadastral Mapping Program. Sources for the boundaries include: Land Title Office registered plans of survey; official township plans; digitized boundaries ffrom large scale aerial photography captured for the Urban Cadastral Mapping program; 1:20,000 Provincial Base Mapping Series, 1:250,000 scale hydrography and federal National Topographic Data Base (NTDB) for the Rural Cadastral Mapping program. This layer does Not contain information for the municipalities of Edmonton or Calgary. The information for these	Yes (.xml)	c_hydro.e00		Monthly	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.

					municipalities is managed by each municipality independently.					
GeoAdmin	Cadastral	Alberta Sustainable Resource Development	Last modified on 30-Nov-09	AB	This data set contains the extents for untitled and titled parcels with registered Certificates of Title at Alberta Land Titles. The polygonal extents are compiled in the Spatial Data Warehouse Ltd. (SDW) Urban and Rural Cadastral Mapping Program using the compiled cadastral layers as base information. This layer does Not contain information for the municipalities of Edmonton or Calgary. The information for these municipalities is managed by each municipality independently.	Yes (.xml)	ownership.e00		Monthly	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Cadastral	Alberta Sustainable Resource Development	Last modified on 30-Nov-09	AB	This data set contains the survey plan boundaries as transcribed from Land Titles Office registered plans of survey for all survey plan extents as compiled in the Spatial Data Warehouse Ltd. (SDW) Urban and Rural Cadastral Mapping Program. This layer does Not contain information for the municipalities of Edmonton or Calgary. The information for these municipalities is managed by each municipality independently.	Yes (.xml)	plan.e00		Monthly	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Cadastral	Alberta Sustainable Resource Development	Last modified on 30-Nov-09	AB	This data set contains the right of way survey plan boundaries as transcribed from Land Title Office registered plans of survey for all right of way extents as compiled in the Spatial Data Warehouse Ltd. (SDW) Urban and Rural Cadastral Mapping Program. This layer does Not contain information for the municipalities of Edmonton or Calgary. The information for these municipalities is managed by each municipality independently.	Yes (.xml)	row.e00		Monthly	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Cadastral	Alberta Sustainable Resource Development	Aug-07	AB	The Integrated Resource Plan - Sub-Regional dataset is comprised of all the polygons that represent the Sub-Regional Integrated Resource Plans (IRP) in Alberta. All the Sub-Regional	Yes (.xml)	irpsr.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health

					IRPs were completed under the Integrated Resource Planning Program, from 1976 to approximately 1995. These plans were endorsed by the Government of Alberta with most being approved by Cabinet. The Sub-Regional Plans describe land-use zonation and objectives within individual defined planning areas, to ensure overall consistency with Regional goals and objectives. An Integrated Resource Plan (IRP) is a plan which identifies the values and associated land and resource management goals for the planning area in consideration of the maintenance of social, economic, and ecological values. The IRP provides direction regarding the type of land and resource management activity that would facilitate meeting the stated objectives in the planning area (for example: recreation, grazing, industrial and commercial activities). The public was often involved in contributing input to the development of an IRP. The plans were endorsed by the Government of Alberta in various periods.					Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Cadastral	Alberta Sustainable Resource Development	Mar-09	AB	The ATS Version 4.1 ASRD Quarter Section Polygon and Road allowance Polygon layer contains polygons that represent the atomic polygon structure of the Alberta Township System (ATS), derived from the Master Alberta Township System points file published as ATS Version 4.1, dated March 31, 2005. The layer includes Quarter Section polygons and Road Allowance segment polygons adjacent to the NW, SW, and SE Quarter Sections.	Yes (.xml)	qtr_ra_41.e00		Not Planned	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Cadastral, Private Land	B.C. Ministry of the Environment		BC	Parcels given by the Ministry of Energy, Mines and Petroleum to, initially, oil companies, then mining, and today they are owned by TIMBEC	Yes	cgrants_cb (in folder empr)			to be determined

GeoAdmin	Census boundaries	Stats Canada	2006	AB BC	Map of all census subdivisions across Canada	No	gcsd00a06a_e.shp	1:50,000	Occasionally	The Licensee shall include the following Notice where any of the Data is contained within Derived Products, Source: Geography Division, Statistics Canada, Census Subdivision Boundary Files, 2008, 92-162-XWE/XWF.
GeoAdmin	Census boundaries	Stats Canada	2008	AB BC	Map of all census subdivisions across Canada	No	gcsd00a08a_e.shp	1:50,000	Occasionally	The Licensee shall include the following Notice where any of the Data is contained within Derived Products, Source: Geography Division, Statistics Canada, Census Subdivision Boundary Files, 2008, 92-162-XWE/XWF.
GeoAdmin	Census boundaries	Stats Canada	2009	AB BC	Map of all census subdivisions across Canada	No	gcsd00a09a_e.shp	1:50,000	Occasionally	The Licensee shall include the following Notice where any of the Data is contained within Derived Products, Source: Geography Division, Statistics Canada, Census Subdivision Boundary Files, 2008, 92-162-XWE/XWF.
GeoAdmin	Census boundaries	Stats Canada	2001	BC	Dissemination block boundary file for BC delineated for 2001	No	EastKootney2001.shp		5yrs	Highly restricted
GeoAdmin	Census boundaries	Stats Canada	2006	BC	Dissemination block boundary file for BC delineated for 2006	No	EastKootney2006.shp		5yrs	Highly restricted
GeoAdmin	Census boundaries	Stats Canada		AB	Dissemination block boundary file for AB delineated for 2001					Highly restricted
GeoAdmin	Census data	E-STATS	2001	AB BC	Population statistics, 2001	n/a	AB(BC)_Citizenship_Immigration_Aboriginals.xls AB(BC)_Education_Earning.xls AB(BC)_Income.xls AB(BC)_Labour_Place_Commute_Unpaid.xls AB(BC)_Language_	---	5yrs	Redistribution prohibited. Before data is used, need to determine whether the agreement signed between the Crown Managers Partnership and the University of Calgary allows us to use the data provided in E-Stats.

							Mobility.xls AB(BC)_MaritalStat_ Families_Dwellings_ Household.xls AB(BC)_pop&dwel.x ls AB(BC)_pop.xls			
GeoAdmin	Census data	E-STATS	2006	AB BC	Population statistics, 2006	n/a	ALBERTA_2006.xls BC_2006.xls	---	5yrs	Redistribution prohibited. Before data is used, need to determine whether the agreement signed between the Crown Managers Partnership and the University of Calgary allows us to use the data provided in E-Stats.
GeoAdmin	Dwelling numbers	Stats Canada	2001	AB BC	Dwelling numbers per dissemination area, 2001	n/a	GeoSuite > 2001, xls files	---	5yrs	Redistribution prohibited. Before data is used, need to determine whether the agreement signed between the Crown Managers Partnership and the University of Calgary allows us to use the data provided in GeoSuite.
GeoAdmin	Dwelling numbers	Stats Canada	2006	AB BC	Dwelling numbers per dissemination block and area, 2006	n/a	GeoSuite > 2006, xls files Prefix DA - Dissemination area Prefix DB - Dissemination block	---	5yrs	Redistribution prohibited. Before data is used, need to determine whether the agreement signed between the Crown Managers Partnership and the University of Calgary allows us to use the data provided in GeoSuite.
GeoAdmin	Dwelling numbers	Stats Canada	2006	AB BC	Dwelling numbers per census subdivision, 2006	n/a	Dwell_ab_06.dbf Dwell_bc_06.dbf	~25m	5yrs	Materials on this website were produced and/or compiled by Statistics Canada for the purpose of providing Canadians with direct access to information about current trends and issues that affect their lives. Free information may be reproduced, in whole or in part and by any means, without further permission from Statistics Canada, subject to the following

										conditions: - The reproduction is done solely for the purposes of private study, research, criticism, review, newspaper summary, and/or for Non-commercial purposes. - Statistics Canada is fully acknowledged as the source department. Source: (If appropriate "Adapted from") Statistics Canada, complete URL, date of extraction
GeoAdmin	Fire control	Alberta Sustainable Resource Development	Sep-09	AB	The Fire Control Zone dataset is comprised of all the polygons that represent Fire Control Zones in Alberta. Fire Control Zone is legislated to show geographical areas established for the purposes of closure orders and fire control orders under the Alberta Forest and Prairie Protection Act.	Yes (.xml)	firecntlz.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Forest	GeoBC distribution services (order # 351132)	Jan-05	BC	The spatial representation for a Forest District. A Forest District is an administrative area established by the Ministry, within Forest Regions. These Ministry of Forests (MOF) boundaries have changed from the boundaries captured in FADM DISTRICT REGION	Yes (.html)	FADM_DIST	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351132)	Mar-03	BC	The spatial representation for a Forest Addition, which is any Forest land that is to be designated by the Lieutenant Governor, into an established forest, to be managed and used for the social and economic benefit of the Province.	Yes (.html)	FADM_PF_AD	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order #	Mar-03	BC	The spatial representation for a Forest Deletion, which is any Forest land that is to be removed from the land designated by the Lieutenant	Yes (.html)	FADM_PF_DE	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions

		351132)			GoverNor into an established forest.					set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351132)	Mar-03	BC	The spatial representation for a Forest Exclusion, which is an areas or block excluded from Provincial Forest at the time of the original establishment by Order in Council.	Yes (.html)	FADM_PF_EX	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351132)	Mar-03	BC	The spatial representation for a Provincial Forest, which is any forest land that is designated by the Lieutenant GoverNor in council, to be managed and used for the social and ecoNomic benefit of the Province.	Yes (.html)	FADM_PRFOR	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351132)	Jan-10	BC	The spatial representation for a Forest Region. A Forest Region is an area that is designated by the Lieutenant GoverNor in council and published as regulations which establishes the Ministry's management areas. These Ministry of Forests(MOF) boundaries h	Yes (.html)	FADM_REGN	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351212)	Aug-08	BC	This is a spatial layer showing Ministry of Forests Free Use Permits. These are permits issued by the Ministry that authorize the permittee to cut and use Crown timber without charge. The permit is confined to a small area and for short durations of time.	Yes (.html)	FTEN_FUP	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351212)	Mar-03	BC	Layers prefaced with TEN contain legacy information and tenures Not yet migrated to the appropriate FTEN layer. TEN layers were last updated on April 1, 2005. TEN layers will be archived once data migration is complete (estimated completion - September 20	Yes (.html)	FTEN_ML_PY	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the

										Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351172)	Jun-07	BC	This is a spatial layer that reflects operational activities for road sections contained within a road permit. The Forest Tenures Section (FTS) is responsible for the creation and maintenance of digital Forest Atlas files for the province of British Colum	Yes (.html)	FTEN_RS_LN	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351212)	Nov-03	BC	The spatial layer for the legal boundaries for forest act tenures and permits that pertain to forest use. The file types include types Timber Licence (A06), Christmas Tree Permit (B02), Licence to Cut (B05, B06), Log Salvage (B17) and Special Use Permit (	Yes (.html)	FTEN_TU_PG	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351212)	Jan-08	BC	This is a spatial layer showing Ministry of Forests Map Notation Polygons. These are polygonal spatial representation for a Notation on the Forest Atlas which records the area of interest of other government agencies and individuals.	Yes (.html)	FTN_M_NT_P	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351212)	Jan-08	BC	This is a spatial layer showing Ministry of Forests Real Property Projects. These are spatial representations of land that is under intensive management/administration by the Ministry of Forests for various purposes consistent with the Forest Act.	Yes (.html)	FTN_R_PR_P	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Forest	GeoBC distribution services (order # 351172)	Nov-03	BC	Spatial representation of a reserve of retention area associated with a silvicultural system. Reserves are forest patches or individual trees retained during harvesting, or other forestry operations to provide habitat, scenic, biodiversity, and other valu	Yes (.html)	RSLT_FCREC	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

GeoAdmin	Forest	B.C. Ministry of the Environment		BC	Mature Management Areas - for the Southern Rocky Mtn Mgmt Plan; similar to old growth	Yes	amature (in folder srmmp)			to be determined
GeoAdmin	Forest	B.C. Ministry of the Environment		BC		No	dcb_fdp (in folder forest cover)			to be determined
GeoAdmin	Forest	B.C. Ministry of the Environment		BC	Delinates areas at high elevations that is thought to be unable to regenerate if logged; restrictions made	Yes	fcop (in folder forest cover)			to be determined
GeoAdmin	Forest, Roads	GeoBC distribution services (order # 351172)	Jan-08	BC	Tracks amendments to the length of a section in a road application . (Road Permit, FSR, or SUP Road)	Yes (.html)	FTN_R_SEC	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	GreenWhite	Alberta Sustainable Resource Development	Jan-09	AB	The Green/White Area dataset is comprised of all the polygons that represent the Green and White areas in the province of Alberta for the Department of Alberta Sustainable Resource Development (ASRD) administrative purpose.	Yes (.xml)	green_white.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Health	GeoBC distribution services (order # 351132)	Feb-09	BC	Health Authority boundaries. 2002 boundary configuration	Yes (.html)	HLTH_ATH_B	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Health	GeoBC distribution services (order # 351132)	Feb-09	BC	Health Service Delivery Area boundaries. 2003 boundary configuration. Sixteen areas covering the province used to provide program delivery and services.	Yes (.html)	HLTH_SDL_A	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

GeoAdmin	Health	GeoBC distribution services (order # 351132)	Apr-07	BC	Local Health Area 1997 boundary configuration. In April 1997, the Ministry of Health redefined the provincial health regions, prior to this date the province was divided into 80 Local Health Areas (LHA) which were used for analytical purposes. They origin	Yes (.html)	LOC_HLTH_A	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Heritage	Alberta Sustainable Resource Development	Apr-08	AB	The Ecological Reserve is comprised of all the polygons that represent areas to preserve and protect natural heritage in an undisturbed state for scientific research and education in Alberta.	Yes (.xml)	ecores.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Heritage	Alberta Sustainable Resource Development	Aug-08	AB	The Heritage Rangeland is comprised of all the polygons that represent areas to preserve and protect natural features that are representative of Alberta's prairies and grazing is used to maintain the grassland ecology.	Yes (.xml)	hrange.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Heritage	Alberta Sustainable Resource Development	Feb-09	AB	The Indian Reserve dataset is comprised of all the polygons that represent Indian Reserves in Alberta. Indian Reserve lands are lands set aside for the exclusive use and benefits of the Band(s) to which it is assigned. The federal government has primary jurisdiction over these lands and the people living on them.	Yes (.xml)	indian_res.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Heritage	Alberta Sustainable Resource Development	May-08	AB	The Treaty Boundary dataset is comprised of all the polygons that represent the historical treaty lands of Canada negotiated by First	Yes (.xml)	treaty.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the

					Nations over the years through treaty-making between 1867 - 1999. The approximate boundaries illustrate the traditional territories described in First Nations Statements of Intent to negotiate treaties which have been submitted to, and accepted.					CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Hunting	GeoBC distribution services (order # 351492)	Oct-05	BC	This dataset contains boundary lines of LEH Zones. Limited Entry Hunting (LEH) are hunting opportunities created via a "lottery", and the details are found in the LEH SyNopsis. Participation in the LEH draw is available to any resident of BC who legally pos	Yes (.html)	WAALAH_BDY	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Hunting	GeoBC distribution services (order # 351492)	Jul-07	BC	Current Limited Entry Hunting (LEH) Zones polygons are hunting opportunities created via a "lottery", and the details are found in the LEH SyNopsis. Participation in the LEH draw is available to any resident of BC who legally possesses a BC Resident Hunter	Yes (.html)	WAALAH_CYR	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Hunting	GeoBC distribution services (order # 351492)	Oct-05	BC	Limited Entry Hunting (LEH) are hunting opportunities created via a "lottery", and the details are found in the LEH SyNopsis. Participation in the LEH draw is available to any resident of BC who legally possesses a BC Resident Hunter Number. The purpose of	Yes (.html)	WAALAH_PLY	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Hunting	B.C. Ministry of the Environment		BC	Vehicle access hunting closures; restriction of hunting using motorized means	No	tvahc_r4			to be determined
GeoAdmin	Hunting	B.C. Ministry of the Environment		BC	restricted access / No shooting boundary of the mine property North of Hwy 3	No	EVC Restricted Access			to be determined
GeoAdmin	Hunting	B.C. Ministry of the Environment		BC	Sparwood No shooting boundary (according to our records)	No	Municipal_No_Shooting_Area			to be determined
GeoAdmin	Hunting	B.C. Ministry of the Environment		BC	restricted access / No shooting boundary of the mine property south of Hwy 3	No	Sparwood Ridge Restricted Area			to be determined

GeoAdmin	Hunting	B.C. Ministry of the Environment		BC		No	NoHunting			to be determined
GeoAdmin	Hunting	B.C. Ministry of the Environment		BC		No	NoShooting			to be determined
GeoAdmin	Hunting, Game Zones	GeoBC distribution services (order # 351552)	Jul-97	BC	Amalgamations of Wildlife Management Units which share similar ecological characteristics and hunter harvest patterns, and thus provide a suitable geographical framework for implementing population management strategies.	Yes (.html)	WAAGMZ_SVW	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Hunting, Guide Areas	GeoBC distribution services (order # 351552)	Nov-06	BC	Areas defined by certificate under the British Columbia Wildlife Act to guide outfitters, for the purpose of guiding residents, Non-residents or Non resident alien hunters to hunt big game species.	Yes (.html)	WAAGOA_SVW	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Hunting, Traplines	GeoBC distribution services (order # 351552)	Jun-07	BC	This dataset delineates areas for which registration is granted to one or more licensed trappers for the trapping of fur bearing animals under the BC Wildlife Act. Traplines are designated by a regional manager of the recreational fisheries and wildlife pr	Yes (.html)	WAATRP_ARS	1:20,000 - 1:50,000	unkNown	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Indian Reserves	GeoBC distribution services (order # 351212)	Feb-05	BC	Provide the administrative boundaries (exterior limits) of Canada Lands which includes Indian Reserves, Cree-Naskapi Category 1A and 1A-N Lands, Yukon First Nations Settlement Lands, Kanesatake Mohawk Interim Land Base, National Parks, National Park Reser	Yes (.html)	CLAB_INRES	1:20,000 - 1:50,000	Monthly	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Land Use	GeoBC distribution services (order # 351212)	Jul-09	BC	The spatial representation for agricultural reserve land, which is a parcel of land, based on soil and climate, deemed necessary to be maintained for agricultural use. The ALR digital data is Not considered the official representation of the ALR.	Yes (.html)	ALC_POLYS	1:20,000 - 1:50,000	Quarterly (2009-10-31)	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including

					The Agri					copyright, remain with the Provincial Government.
GeoAdmin	Land Use	GeoBC distribution services (order # 351011)	Mar-92	BC	This layer represents Land use polygons as determined by a combination of analytic techniques, mostly using Landsat 5 image mosaics . BTM 1 was done on a federal satellite image base that was only accurate to about 250m. The images were geo-corrected, Not	Yes (.html)	BTM_PLU_V1	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Land Use	GeoBC distribution services (order # 351552)	Mar-03	BC	The spatial representation for a Timber Supply Area or TSA Supply Block: A Timber Supply Area is a designated area established by the Ministry in order to practice sound, integrated, resource management principles to improve the allowable annual cuts. TSA	Yes (.html)	FADM_TSA	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Land Use	GeoBC distribution services (order # 351011)	Mar-09	BC	Spatially identified and mapped legal objective points as determined from strategic land and resource planning processes in the province of British Columbia. Legal objectives can encompass objectives developed and grandfathered under Now repealed Forest P	Yes (.html)	RMP_LG_PL	1:20,000 - 1:50,000	continual	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Land Use	GeoBC distribution services (order # 351011)	Mar-09	BC	Spatially identified and mapped legal objective lines as determined from strategic land and resource planning processes in the province of British Columbia. Legal objectives can encompass objectives developed and grandfathered under Now repealed Forest Pr	Yes (.html)	RMP_LG_PN	1:20,000 - 1:50,000	continual	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Land Use	GeoBC distribution services (order # 351011)	Mar-09	BC	A spatially identified line on land and/or water that has been mapped for specific land and/or resource uses as determined through a strategic land and resource planning process. This layer represents Non-legalized planning lines only, thus the direction	Yes (.html)	RMP_NLG_LN	1:20,000 - 1:50,000	continual	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

GeoAdmin	Land Use	GeoBC distribution services (order # 351011)	Mar-09	BC	A spatially identified polygon on land and/or water that has been mapped for specific land and/or resource uses as determined through a strategic land and resource planning process. This layer represents Non-legalized planning lines only, thus the directi	Yes (.html)	RMP_NLG_PL	1:20,000 - 1:50,000	continual	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Land Use	GeoBC distribution services (order # 351172)	Feb-08	BC	Strategic land and resource plans (SLRPs) provide direction for Crown land use through the establishment of broad land use goals, planning zone designations, objectives and strategies. This layer represents an integrated regional consensus-based process,	Yes (.html)	RMPSLR_SVW	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C14 for SRMMP	Yes	aplfl_c14 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C15 for SRMMP	Yes	aplfl_c15 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C16 for SRMMP	Yes	aplfl_c16 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C17 for SRMMP	Yes	aplfl_c17 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C18 for SRMMP	Yes	aplfl_c18 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C19 for SRMMP	Yes	aplfl_c19 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C20 for SRMMP	Yes	aplfl_c20 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C21 for SRMMP	Yes	aplfl_c21 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C22 for SRMMP	Yes	aplfl_c22 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C23 for SRMMP	Yes	aplfl_c23 (in folder srmmp)			to be determined

GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C24 for SRMMP	Yes	aplfl_c24 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C25 for SRMMP	Yes	aplfl_c25 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C26 for SRMMP	Yes	aplfl_c26 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C27 for SRMMP	Yes	aplfl_c27 (in folder srmmp)			to be determined
GeoAdmin	Land Use	B.C. Ministry of the Environment	Jun-03	BC	Planning file for LU C28 for SRMMP	Yes	aplfl_c28 (in folder srmmp)			to be determined
GeoAdmin	Land Use	GeoBC distribution services (order # 351212)	Jul-09	BC	The spatial representation for a segment of the boundary of an Agricultural Land Reserve (ALR), which is a parcel of land, based on soil and climate, deemed necessary to be maintained for agricultural use. The ALR digital data is Not considered the offici	Yes (.html)	ALC_LINES	1:20,000 - 1:50,000	Quarterly (2009-10-31)	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Land Use Roads	GeoGratis	1950-1970	AB BC	Land use classified into 14 classes: build-up areas mines, open excavations outdoor recreation horticulture, poultry cropland pasture, forage crops grazing and rangeland productive woodland Non-productive woodland swamp, marsh, bog... dunes, beaches rock water	Yes	lu_Merge.shp Landuse (coverage converted from .e00) *CLI also provides coverage of Land Capability for Recreation, Agriculture, Forestry, Ungulates, Waterfowl	1:50,000	None planned	Copying and redistribution of part or all of this dataset is acceptable, provided that the contents of this file are included with the redistribution and they acknowledge Agriculture and Agri-Food Canada's authorship.
GeoAdmin	Landuse	Alberta Sustainable Resource Development	Last modified on 7-Feb-08	AB	A registered interest in land by Parks and Protected Areas Division, Alberta Community Development to which conditions to industrial activity will apply.	Yes (.txt)	crprotect.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee

										member from Alberta.
GeoAdmin	Landuse	Alberta Sustainable Resource Development	Last modified on 28-Sep-07	AB	This data was compiled from many Integrated Resource Plan (IRP) studies as well as the Eastern Slopes Policy and were used in the former Special Places 2000 project planning process. Data as created to provide an analysis to use as a basis for Nominating some Special Places Sites for later designation in that Program that wrapped up in year 2001, namely the Don Getty Wildland Provincial Park (comprised mainly of Zones: 1 Prime Protection & 2 Critical Wildlife). With the single exception of designated natural areas, zoning and any associated policy direction for managing resources and surface access on general Crown lands included in those zones, does Not apply to lands that have been designated as a park or protected area under the Provincial Parks Act, the Willmore Wilderness Park Act or the Wilderness Areas, Ecological Reserves, Natural Areas and Heritage Rangelands Act.	Yes (.txt)	esluz.e00			Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Landuse	Alberta Sustainable Resource Development	Last modified on 18-Jun-09	AB	Exploration Restricted Area was developed from reported flowing holes as per the Exploration Regulation (AR 214/98). Primarily used for planning, processing and approval of Geophysical applications.	Yes (.txt)	explra.e00		Maintenance	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Landuse	Alberta Sustainable Resource Development	Last modified on 24-Apr-08	AB	The Alberta government has established limitations on recreational use in certain environmentally sensitive areas in the Province. These areas have been designated as	Yes (.txt)	fluz.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use

					forest land use zones, under the authority of section 46 of the Forests Act.					subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Management Areas	GeoBC distribution services (order # 351132)	Nov-08	BC	TA_MGMT_AREAS_SPATIAL_SVW contains the spatial representation (polygon) of the management area boundaries established pursuant to section 3 of the Muskwa-Kechika Management Area Act. The view was created to provide a simplified view of this data from the	Yes (.html)	TA_MAS_SVW	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Management Areas, Old Growth	GeoBC distribution services (order # 351212)	Jul-09	BC	These are spatially defined areas of old growth forest that are identified during landscape unit planning or an operational planning process. Forest licensees are Not required to follow direction provided by Non-legal OGMA's when preparing FSPs, and may ch	Yes (.html)	OGMA_NLEGC	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Management Areas, Old Growth	B.C. Ministry of the Environment		BC	Mature old growth management areas for Golden, Revelstoke, Invermere...; government designated; should coincide with HCVF	Yes	aog_cb (in folder OGMA)			to be determined
GeoAdmin	Management Areas, Old Growth	B.C. Ministry of the Environment		BC	Old growth management area	Yes	aogma (in folder srmmp)			to be determined
GeoAdmin	Management units	Alberta Sustainable Resource Development	Last modified on 18-Jun-08	AB	Each fish management zone is divided into watershed units to expand on specific regulations established to meet water body and fish population needs.	Yes (.txt)	fishunit.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Management units	Alberta Sustainable Resource Development	Aug-09	AB	The Forest Management Agreement Area dataset is comprised of all the polygons that represent the areas of land which the Province of Alberta agrees upon Forest Management Agreement holders having the rights	Yes (.xml)	fma.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE

					to establish, grow, harvest and remove timber.					Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Management units	Alberta Sustainable Resource Development	May-09	AB	The Forest Management Unit dataset is comprised of all the polygons that represent the defined areas of forest land that located within the Green Area to be managed in Alberta.	Yes (.xml)	fm.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Management units	Alberta Sustainable Resource Development	Jul-07	AB	The Forest Protection Area dataset is comprised of all the polygons that represent the administrative areas established by Forest Protection, Forestry Division of Alberta Sustainable Resource Development concerned with the prevention and control of damage	Yes (.xml)	for_protect.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Management units	Alberta Sustainable Resource Development	Last modified on 28-Mar-08	AB	The 2nd level of administrative units of Fish and Wildlife Division, Alberta Sustainable Resource Development to manage their services.	Yes (.txt)	fwdist.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Management units	Alberta Sustainable Resource Development	Last modified on 18-Jun-09	AB	Registered Fur Management Areas (RFMA's) are parcels of public land allocated to the holder of a Registered Fur Management License by the Department of Sustainable Resource Development. These registered trappers may form	Yes (.txt)	regfurma.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use

					partnerships with other trappers to trap within their RFMA's.					subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Management units	Alberta Sustainable Resource Development	Last modified on 2-Nov-06	AB	Areas where wildlife animals are seasonally regulated and controlled under the Wildlife Regulation AR 143/79.	Yes (.txt)	wca.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Management units	Alberta Sustainable Resource Development	Feb-08	AB	An area of wildlife managed under the Wildlife Act, Alberta Regulation 143/79.	Yes (.txt)	wmunit.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Military	Alberta Sustainable Resource Development	Feb-08	AB	The DND Military Base dataset is comprised of all the polygons that represent the Military Bases established for the Department of National Defence, Government of Canada, within the Province of Alberta. Military Base is the area owned by the Department of National Defence, Government of Canada where various military activities occur.	Yes (.xml)	dndmb.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Mineral	GeoBC distribution services (order # 351011)	Dec-05	BC	Holds administrative areas for all mining divisions within the province of British Columbia. Although these boundaries are Not actively used, they are still valid.	Yes (.html)	MINDIVPOLY	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the

										Provincial Government.
GeoAdmin	Mineral	GeoBC distribution services (order # 351011)	Jan-05	BC	Holds data for mineral and placer claims within the Province of British Columbia. This is the spatial view utilized by Mineral Titles Online to display claims and leases. Coal data is DRAFT only and should Not be used.	Yes (.html)	MTA_ACQ_TE	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Mineral	GeoBC distribution services (order # 351212)	Dec-05	BC	Holds data for all Mineral and Placer Claims within the province of British Columbia.	Yes (.html)	MTA_AT_PLY	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Mineral	GeoBC distribution services (order # 351212)	Dec-05	BC	The located layer contains only the legacy tenures that would have come from MIDA. Tenures are represented by an outline of the tenure. A tenure is a form of ownership of mineral rights over a parcel of land which has been located by a method set out in t	Yes (.html)	MTA_LTPOLY	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Mineral	GeoBC distribution services (order # 351011)	Dec-05	BC	Holds data for all mineral and placer Claims survey points within the province of British Columbia.	Yes (.html)	MTA_PSTPNT	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Mineral	GeoBC distribution services (order # 351172)	Dec-05	BC	Defines areas within the province of British Columbia where mineral, placer and coal claims are restricted.	Yes (.html)	SITE_POLY	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

GeoAdmin	Mineral, Coal Fields	GeoBC distribution services (order # 351011)	May-01	BC	A polygon coverage showing the location of coalfields with coalbed methane (cbm) potential in BC	Yes (.html)	GEOL_COAL	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Mineral, Coal Tenure	GeoBC distribution services (order # 351212)	Mar-03	BC	Legacy layer for coal tenure polygons (MIDA) from the Ministry of Energy, Mines and Petroleum Resources. Please refer to Mineral Titles Online (MTO) for mineral and placer data.	Yes (.html)	EMPR_CT_PG	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Mineral, Mines	B.C. Ministry of the Environment	Oct-02	BC	AREAS WHERE MINING IS ALLOWED AND NOT ALLOWED	Yes	amins_cb (in folder srmmp)	1:20,000		to be determined
GeoAdmin	Oil	GeoBC distribution services (order # 351212)		BC		No	PTSA_PT_PY	1:20,000 - 1:50,000		public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Oil	GeoBC distribution services (order # 351212)		BC		No	PTSA_TT_PY	1:20,000 - 1:50,000		public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Oil	GeoBC distribution services (order # 351212)		BC		No	PTSLGSGRD1	1:20,000 - 1:50,000		public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

GeoAdmin	Oil	GeoBC distribution services (order # 351212)		BC		No	PTSLGSGRDB	1:20,000 - 1:50,000		public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Oil	GeoBC distribution services (order # 351212)		BC		No	PTSLGSGRDM	1:20,000 - 1:50,000		public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Oil	GeoBC distribution services (order # 351212)		BC		No	PTSLGSGRDN	1:20,000 - 1:50,000		public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Park	Alberta Sustainable Resource Development	Feb-08	AB	The National Park is comprised of all the polygons that represent areas set aside for recreation, under the jurisdiction of the Federal Government (Parks Canada) in Alberta.	Yes (.xml)	natpark.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Park	Alberta Sustainable Resource Development	Sep-09	AB	The Provincial Park is comprised of all the polygons that represent parks that preserve natural heritage; they support outdoor recreation, heritage tourism and natural heritage appreciation activities that depend upon and are compatible with environmental protection where natural, historical, and cultural landscapes and features are	Yes (.xml)	park.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one

					protected under Provincial Parks Act in Alberta.					Steering Committee member from Alberta.
GeoAdmin	Park	Alberta Sustainable Resource Development	Feb-08	AB	The Provincial Sanctuary - Corridor Wildlife dataset is comprised of all the polygons that represent the Provincial Sanctuary - Corridor Wildlife areas in Alberta. Provincial Sanctuary - Corridor Wildlife is area designated for the protection of wildlife within 400 yards corridors of various road centre-lines.	Yes (.xml)	pscw.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Park	Alberta Sustainable Resource Development	Feb-08	AB	The Provincial Sanctuary - Restricted Area dataset is comprised of all the polygons that represent the Provincial Sanctuary - Restricted Areas in Alberta. Provincial Sanctuary - Restricted Area is an area designated for the protection of game bird which contain varying levels of restriction with respect to access and / or use by the public. Such areas refer to the areas around various rivers and lakes.	Yes (.xml)	psra.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Park	Alberta Sustainable Resource Development	Sep-04	AB	The Provincial Sanctuary - Wildlife dataset is comprised of all the polygons that represent the Provincial Sanctuary - Wildlife areas in Alberta. Provincial Sanctuary - Wildlife is an area designated for the protection of wildlife which contains varying levels of restriction with respect to access and / or use by the public.	Yes (.xml)	psw.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
GeoAdmin	Park	Alberta Sustainable Resource Development	Sep-09	AB	The Wildland Park dataset is comprised of all the polygons that represent areas to preserve and protect natural heritage and provide opportunities for backcountry recreation in Alberta.	Yes (.xml)	wlpark.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one

										Steering Committee member from Alberta.
GeoAdmin	Parks	GeoBC distribution services (order # 351212)	Feb-05	BC	Provide the administrative boundaries (exterior limits) of Canada Lands which includes Indian Reserves, Cree-Naskapi Category 1A and 1A-N Lands, Yukon First Nations Settlement Lands, Kanesatake Mohawk Interim Land Base, National Parks, National Park Reser	Yes (.html)	CLAB_NATPK	1:20,000 - 1:50,000	Monthly	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Parks	GeoBC distribution services (order # 351011)	Jul-04	BC	The Parks and Protected Areas dataset contains outline for Provincial Protected areas boundaries for all protected areas desingnated by OIC or legislation.	Yes (.html)	PKS_PTD_AR	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Parks	GeoBC distribution services (order # 351212)	Nov-08	BC	TA_PARK_ECORES_PA_SVW contains Parks and protected areas managed for important conservation values and are dedicated for the preservation of their natural environments for the inspiration, use and enjoyment of the public. Places of special ecological impo	Yes (.html)	TA_PEP_SVW	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Parks	B.C. Ministry of the Environment		BC	Protective areas	Yes	qparks_r4 (in folder Parks)			to be determined
GeoAdmin	Parks	B.C. Ministry of the Environment		BC	boundary Glacier National Park, Montana	Yes	aglac_us (in folder Parks)			to be determined
GeoAdmin	Parks	B.C. Ministry of the Environment		BC	Protected Areas as mapped by Crown Lands, LUCO, BC Parks, Contractors, and Regional Planning Tables	Yes	aparks_r4 (in folder Parks)			to be determined
GeoAdmin	Provincial boundary	Alberta Sustainable Resource Development	Feb-07	AB	The Provincial Boundary dataset is a polygon that represents the Province of Alberta.	Yes (.txt)	provincial.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH

										Committee and one Steering Committee member from Alberta.
GeoAdmin	Range Tenure	GeoBC distribution services (order # 351537)	Jan-08	BC	This is a spatial layer showing Ministry of Forests spatial representation for a range tenure, which is an area of Crown range over which a Range Act tenure applies. A tenure holder may apply for a Nonuse harvestable forage deduction against a tenure's to	Yes (.html)	FTN_RNG_PY	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Recreation	GeoBC distribution services (order # 351172)	Feb-08	BC	This is a spatial layer showing Ministry of Forests Recreation Lines. These are the linear spatial representation for features such as recreation trails.	Yes (.html)	FTN_REC_LN	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Recreation	GeoBC distribution services (order # 351172)	Feb-08	BC	The spatial representation of a recreation feature. This can be either a recreation reserve, recreation site, or an interpretative forest.	Yes (.html)	FTN_REC_PL	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Recreation	GeoBC distribution services (order # 351172)	Jan-08	BC	This is a spatial layer showing Ministry of Forests Map Notation Lines. These are the spatial representation of the polygonal geometry for FSR Dedications and FSR Gravel Pits.	Yes (.html)	FTN_S_AC_R	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Recreation, Scenic	GeoBC distribution services (order # 351492)	Jan-04	BC	Vegetative or Non-vegetative objects alongside major roads and highways preventing passers by from seeing the surrounding landscape.	Yes (.html)	REC_SCRN	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

GeoAdmin	Recreation, Scenic	GeoBC distribution services (order # 351537)	Apr-08	BC	The spatial view REC VIMS SCENIC AREA SVW is a multi part polygon feature, that indicates that the Forest District Manager has identified, or made kNow, a Visual Landscape Inventory. Once a visual landscape inventory for an area has been completed, the	Yes (.html)	REC_V_SC_A	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Recreation, Scenic	GeoBC distribution services (order # 351492)	Jan-04	BC	The VLI identifies and delineates areas of visual sensitivity near communities and along travel corridors throughout the province. It includes information about the visual condition, characteristics and sensitivity to alteration.	Yes (.html)	REC_VLND	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Recreation, Scenic	GeoBC distribution services (order # 351492)	Jan-04	BC	The VPT inventory theme includes two layers which provide the identification and location of viewpoints and viewing directions from which visual sensitivity units are rated and photos taken. It also identifies areas of visual screening along travel corrid	Yes (.html)	REC_VPNT	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Recreation, Scenic	GeoBC distribution services (order # 351492)	Jan-04	BC	A direction one looks from a viewpoint towards a visual landscape. When a view is paNoramic, it is to the middle of that paNoramic view.	Yes (.html)	REC_VWDIR	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Roads	GeoBC distribution services (order # 351172)	Apr-08	BC	Uniquely identifies all road segments within a road section.	Yes (.html)	FTN_RD_SGM	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Sample Plots	GeoBC distribution services (order #	Feb-09	BC	Growth and Yield dataset is a provincial data set that comprised of Permanent Sample Plots (PSP). The Ministries and resource developers	Yes (.html)	GRY_PSP_AC	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions

		351492)			will want the active sample locations to determine where there are recognized feature conflicts with any resource deve					set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Sample Plots	GeoBC distribution services (order # 351492)	Feb-09	BC	Growth and Yield dataset is a provincial data set that comprised of Permanent Sample Plots (PSP). Researchers such as GY modellers and those wanting to know the position of all samples will use the all status view to better understand the spatial distribu	Yes (.html)	GRY_PSP_AL	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Water Management	GeoBC distribution services (order # 351132)	Aug-98	BC	Water Stewardship Division, Water Management administrative areas. Water Districts are jurisdictional areas established by the WATER REGULATIONS.	Yes (.html)	LWADM_DA	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Water Management	GeoBC distribution services (order # 351132)	Aug-98	BC	Water Stewardship Division, Water Management administrative areas. Water Precincts are a jurisdictional area within a Water District.	Yes (.html)	LWADM_PS	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Wildlife, Habitat Areas	GeoBC distribution services (order # 351552)	Nov-08	BC	TA_WILDLIFE_MGMT_AREAS_SV W contains the spatial representation (polygon) of the areas for which administration and control has been transferred to the Ministry of Environment (MoE) via the Land Act due to the significance of their wildlife/fish values and	Yes (.html)	TA_WMA_SVW	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Wildlife, Habitat Areas	GeoBC distribution services (order # 351537)	Mar-05	BC	The dataset contains approved legal boundaries for wildlife habitat areas and specified areas for species at risk and regionally important wildlife.	Yes (.html)	WCP_WHAPLY	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the

										Provincial Government.
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_113 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_114 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_115 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_116 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_117 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_118 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_119 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_120 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_121 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_122 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_123 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_124 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_144 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment		BC	Approved wildlife habitat area	No	wha_4_145 (in folder WHAs)			to be determined
GeoAdmin	Wildlife, Habitat Areas	B.C. Ministry of the Environment	Jun-05	BC	Polygon cover, Land Acquired for Wildlife	Yes	tInd_fs_ekcp			to be determined

GeoAdmin	Wildlife, Management Units	GeoBC distribution services (order # 351552)	Nov-96	BC	Wildlife Management Units	Yes (.html)	WAAWMU_SVW	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Wildlife, Protected Areas	GeoBC distribution services (order # 351172)	Jul-09	BC	Biogeoclimatic Ecosystem Classification (BEC) subzone/variant/phase boundaries with "percent protected", "number of overlapping protected areas" and other attributes added as a result of geoprocessing in the Protected Area System Overview (PASO) applicati	Yes (.html)	PSPCTBGCCD	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Wildlife, Protected Areas	GeoBC distribution services (order # 351172)	Jul-09	BC	Biogeoclimatic Ecosystem Classification (BEC) zone boundaries with "percent protected", "number of overlapping protected areas" and other attributes added as a result of geoprocessing in the Protected Area System Overview (PASO) application. Protected are	Yes (.html)	PSPCTBGCZN	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Wildlife, Protected Areas	GeoBC distribution services (order # 351172)	Jul-09	BC	Ecosection boundaries with "percent protected", "number of overlapping protected areas" and other attributes added as a result of geoprocessing in the Protected Area System Overview (PASO) application. Protected area and park representation by ecosection	Yes (.html)	PSPCTCSTP	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
GeoAdmin	Wildlife, Protected Areas	B.C. Ministry of the Environment		BC	Protected Areas of BC - Kootenay Region	Yes	qprk_r4 (in folder Parks)			to be determined
GeoAdmin	Wildlife, Protected Areas	B.C. Ministry of the Environment		BC	Protected Area Strategy Goal 2 Candidate Areas V3 - Jan 19, 2007	Yes	tpas2_r4 (in folder Parks)			to be determined
GeoAdmin		GeoBC distribution services (order # 351132)	Jun-05	BC	The spatial representation for WLAP Regions. A WLAP Region is an administrative area established by the Ministry and is an administrative area which is used to manage regional activities.	Yes (.html)	WLAPREGBDY	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including

										copyright, remain with the Provincial Government.
GeoAdmin		B.C. Ministry of the Environment		BC	Lower Cummins PA options, Kootenay Boundary SLUP Region	Yes	lcummins (in folder Parks)			to be determined
GeoAdmin Land Features	Forest	GeoBC distribution services (order # 351172)		BC		No	R_INV_HIST	1:20,000 - 1:50,000		public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Bathymetry	GeoBC distribution services (order # 351492)	Mar-08	BC	The Bathymetric Maps layer is a spatial layer that enables users to spatially tell at a glance which maps have existing bathymetric maps. Links in the attribute table allow the user to link to the source maps through their Internet Browser	Yes (.html)	BS_MS_SVW	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	DEM	GeoBase	1996	AB BC	Mosaicked 39 tiles cover Canadian part of CCE	Yes (.xlm)	*geobase_dem* DEM > GeoBase (.dem) 082G1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 082H1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13 082I4, 5 082J1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1:50,000	as Needed	Subject to this Agreement, Canada hereby grants to the Licensee a Non-exclusive, fully paid, royalty-free right and licence to exercise all Intellectual Property Rights in the Data. This includes the right to use, incorporate, sublicense (with further right of sublicensing), modify, improve, further develop, and distribute the Data; and to manufacture and / or distribute Derivative Products derived from or for use with the Data. The Licensee shall identify GeoBase® as a data source where any of the Data are redistributed, or contained within Derivative Products, and use of the Data shall Not be

										construed as an endorsement by GeoBase® of those Derivative Products.
HydroGeo	DEM	B.C. Ministry of the Environment		BC	Aspect of 82g projected in BC Albers	No	82g-albers-aspect (in folder DEM)			to be determined
HydroGeo	DEM	B.C. Ministry of the Environment		BC	Aspect of 82g projected in UTM	No	82g-utm-aspect (in folder DEM)			to be determined
HydroGeo	DEM	B.C. Ministry of the Environment		BC	Slope (in deg) of 82g projected in UTM	No	82g-utm-slope-deg (in folder DEM)			to be determined
HydroGeo	DEM	B.C. Ministry of the Environment		BC	Aspect of 82j projected in BC Albers	No	82j-albers-aspect (in folder DEM)			to be determined
HydroGeo	DEM	B.C. Ministry of the Environment		BC	Aspect of 82j projected in UTM	No	82j-utm-aspect (in folder DEM)			to be determined
HydroGeo	DEM	B.C. Ministry of the Environment		BC	Slope (in deg) of 82j projected in UTM	No	82j-utm-slope-deg (in folder DEM)			to be determined
HydroGeo	DEM	B.C. Ministry of the Environment		BC	Hillshade for the entire province of BC	No	bc_bcalb_hillshade_bw_315 (in folder DEM)			to be determined
HydroGeo	DEM	Alberta Sustainable Resource Development		AB			grd_82g.e00 grd_82h.e00 grd_82i.e00 grd_82j.e00			Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
HydroGeo	DEM	Alberta Sustainable Resource Development	Jun-94	AB	This dataset contain all of the 1:20 000 scale index contour information converted from the Provincial Digital Base Mapping Project.	Yes (.xml)	contours_i.e00		Not Planned	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.

HydroGeo	DEM	Alberta Sustainable Resource Development	Sep-00	AB	This layer includes the cartographic entities required for the production of basic cartographic map output products. Most entities in this layer are derived from the 1:20 000 PBDM products, supplemented by point features from the 1:50 000, and AVI program products.	Yes (.txt)	hydrocarto.e00			Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
HydroGeo	DEM	B.C. Ministry of the Environment		BC	25 metre Digital Elevation Model for columbia basin		dem_bc25m			
HydroGeo	Fans	B.C. Ministry of the Environment		BC	aluvial sands, restrict human development	No	tfans_cb (in folder srmmp)			to be determined
HydroGeo	Fans	B.C. Ministry of the Environment		BC	KTFAN - MOELP Region 4 Area Fan location and priority classification	No	apex_r4 (in folder geology > alluvfan)			to be determined
HydroGeo	Fans	B.C. Ministry of the Environment		BC	Alluvial fans	Yes	tfans_r4 (in folder geology > alluvfan)			to be determined
HydroGeo	Floods	GeoBC distribution services (order # 351132)	Jul-07	BC	Index containing links to Floodplain Mapping Reports stored in Ecological Reports Catalogue (EcoCat).	Yes (.html)	FLDP_REPRT	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Floods	GeoBC distribution services (order # 351132)	Apr-04	BC	Global Positioning Survey of existing Flood Protection Works (appurtenant structures on dikes) in British Columbia.	Yes (.html)	FPW_AS_SVW	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Floods	GeoBC distribution services (order # 351132)	Apr-04	BC	Global Positioning Survey of Existing Flood Protection Works (dike crests) in British Columbia.	Yes (.html)	FPW_FPWKLN	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including

										copyright, remain with the Provincial Government.
HydroGeo	Floods	B.C. Ministry of the Environment	import ed from RDCK on 02/08/ 26	BC	floodplain boundaries along lakes, rivers & stream where the floodplain bylaw is in place	Yes	aflp_ck (in folder geology)			to be determined
HydroGeo	Flow	GeoBC distribution services (order # 351132)	Mar- 97	BC	100 year peak flow isolines in cubic metres per second (m3/s) for 100 square kilometre watersheds and 100 year return period.	Yes (.html)	HYD_10_PFL	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Flow	GeoBC distribution services (order # 351132)	Sep- 96	BC	10 year peak flow isolines in cubic metres per second (m3/s) for 100 square kilometre watersheds and 10 year return period.	Yes (.html)	HYD_BC_H_Z	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Flow	GeoBC distribution services (order # 351132)	Jan-96	BC	Zones that represent areas of homogeneous hydrologic and geomorphological characteristics.	Yes (.html)	HYD_LFZ_PY	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Flow	GeoBC distribution services (order # 351132)	Sep- 96	BC	Watershed boundary delineated from Canada-BC hydrometric station for hydrologic analysis.	Yes (.html)	HYD100_PFL	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Geology	B.C. Ministry of the Environment	Jun-99	BC	Polygon coverage of Geology of the kootenays	Yes	qgeol_r4 (in folder geology)	1:250k		to be determined

HydroGeo	Glaciers	GeoBC distribution services (order # 351172)	Sep-08	BC	Glaciers and ice masses for the province.	Yes (.html)	CWB_GLACIR	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Hydrology	GeoBase	1994	AB BC	20 basins with extensive hydrographic features: lakes, reservoirs, rivers, streams, canals, islands, obstacles (waterfalls, rapids, rocks in water) and constructions (dams, wharves, dikes), and linear drainage network and the toponymic information (geographical names).	Yes (.xml)	Shapefiles 05AA, AB, AC, AD, AE, AF 05BF, BL 08NF, NG001, NG002, NK0X1 11AA	1:50,000	as Needed	Subject to this Agreement, Canada hereby grants to the Licensee a Non-exclusive, fully paid, royalty-free right and licence to exercise all Intellectual Property Rights in the Data. This includes the right to use, incorporate, sublicense (with further right of sublicensing), modify, improve, further develop, and distribute the Data; and to manufacture and / or distribute Derivative Products derived from or for use with the Data. The Licensee shall identify GeoBase® as a data source where any of the Data are redistributed, or contained within Derivative Products, and use of the Data shall Not be construed as an endorsement by GeoBase® of those Derivative Products.
HydroGeo	Hydrology	AAFC	2008	AB BC	Products based on Environment Canada's watershed designations. It contains 311 basins which cover (in Canada) Northern British Columbia, Alberta, Saskatchewan, Manitoba, and (in the United States) North Dakota, Montana, and Minnesota that are based on the first four-character designation of the hydrometric gauging stations' names.	Yes (.txt)	sub_ec.shp (Environment Canada 3-Character sub-basins) sub_4c.shp (Environment Canada 4-Character sub-basins) network.shp (Hydrometric gauging station	1:50,000	as Needed	All reproductions of the Canada Digital Data shall include the Notice: "Reproduced and distributed with the permission of Agriculture and Agri-Food Canada*" and shall carry the caveat : "Canada makes No representation and gives No warranty of any kind

							network) station.shp (Hydrometric gauging station) eff.shp (Incremental effective drainage areas dissolved) effect.shp (Incremental effective drainage areas) gross.shp (Incremental gross drainage areas) Non.shp (Incremental Non- contributing drainage areas) linework.shp (Lines of gross and effective drainage area boundaries) maj_sys.shp (Major drainage systems) sub_pf.shp (PFRA sub-basins)			with respect to the accuracy, usefulness, Novelty, validity, scope, completeness or currency of the Canada digital data and expressly disclaims any implied warranty of merchantability or fitness for a particular purpose of the Canada digital data." All distributions of Value- Added Products and of the Canada Digital Data, in whole or in part, and any sub-licence by you of your rights hereunder, shall be evidenced by a written agreement consistent with this Agreement and containing the terms and conditions set out.
HydroGeo	Landform	B.C. Ministry of the Environment	Oct-02	BC	Geological formations such as a: Dry river bed, cliff/scarp, esker, lava bed, moraine, scree, slide, volcanic crater, cliff/drop-off, ridge rock bluff, or rock outcrop. TTRIM-EBM is a 2D product containing TRIM 1 features excluding topoNoymy, contours and DEM for which area based features have been closed to form polygons, symbol points have been replaced with polygons and vertical integration of streams has been removed.		Landform		Not Planned	Not freely downloadable by the public. Not viewable by public.
HydroGeo	Station, Climate	GeoBC distribution services (order # 351812)	Feb- 04	BC	Location of climate observation stations, British Columbia	Yes (.html)	CLIMAT_STN	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

HydroGeo	Station, Hydrometric	GeoBC distribution services (order # 351132)	Jun-03	BC	Active and discontinued hydrometric stations in BC (2001) as determined by Environment Canada.	Yes (.html)	BCHGRMTRCS	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Station, Hydrometric	GeoBC distribution services (order # 351812)	Apr-08	BC	Active hydrometric stations in BC as determined by Environment Canada.	Yes (.html)	BCHYDSTN_A	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Stream	Alberta Sustainable Resource Development	Jun-05	AB	The Single Line Hydrography Network (SLNET) contains all captured single line representations of hydrographic features. In addition, single line representations of polygonal features and single line arbitrary network connectors are in the file.	Yes (.xml)	slnet.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
HydroGeo	Water	Alberta Sustainable Resource Development	Dec- 96	AB	Base Waterbody is the ASRD base hydrography polygon dataset, and comprises seamless provincial extent hydrography polygon features collected from various sources of provincial base and resource map based data and some federal topographic data.	Yes (.xml)	hydropolys.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
HydroGeo	Water	Alberta Sustainable Resource Development	Feb- 08	AB	The Restricted Water dataset is comprised of all the polygons that represent those waters on or occurring within that portion of Alberta described as the Restricted Waters Areas where fish farming activity is prohibited and restricted.	Yes (.xml)	rwater.e00		as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use

					Restricted Water is waters within that portion of Alberta on file in the records of the Government of Alberta, Department of Sustainable Resource Development. Formerly, Restricted water was separated from Prohibited Water [Prohibited Water' means those waters in the following portions of Alberta: All lands within the watershed of the Raven River, the North Raven River and the creek flowing into the Raven River locally known as Beaver Creek.]. However, in 2008 Prohibited Water was amalgamated with Restricted Water.					subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
HydroGeo	Water Obstructions	GeoBC distribution services (order # 351172)	Sep-08	BC	Water obstacles (rapids, falls, etc).	Yes (.html)	CWB_OBSTRT	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Water Quality	GeoBC distribution services (order # 351536)	Jan-03	BC	Polygon features showing ground water quality zones of total dissolved solids. Does Not represent current or historic conditions. Retained for demonstration purposes. Do Not use for any practical purpose.	Yes (.html)	GW_TDS_PLY	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Water Quality	GeoBC distribution services (order # 351011)	Mar-07	BC	The B.C. Ministry of Energy, Mines and Petroleum Resources (MEMPR) has been involved in reconnaissance-scale stream sediment and water surveys since 1976. As part of Canada's National Geochemical Reconnaissance (NGR) program, the RGS program continues to	Yes (.html)	RGS_S_AREA	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Water Quality	GeoBC distribution services (order # 351011)		BC		No	RGS_S_PNT	1:20,000 - 1:50,000		public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including

										copyright, remain with the Provincial Government.
HydroGeo	Water Quality	GeoBC distribution services (order # 351132)	Jun-07	BC	Province-wide SDE spatial view displaying consumptive water licence points of diversion.	Yes (.html)	WLS_POD_DS	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Waterbodies	GeoBC distribution services (order # 351172)	Sep-08	BC	All lake polygons for the province.	Yes (.html)	CWB_LAKES	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Waterbodies	GeoBC distribution services (order # 351172)	Sep-08	BC	All bank edges (of rivers, lakes, and wetlands), delimiter edges, glacier edges, and administrative boundary edges. These are the linear features that makeup the polygonal waterbodies.	Yes (.html)	CWB_LN_BDY	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Waterbodies	GeoBC distribution services (order # 351172)	Sep-08	BC	All double line river polygons for the province.	Yes (.html)	CWB_RIVERS	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Waterbodies	GeoBC distribution services (order # 351172)	Sep-08	BC	Flow network arcs (observed, inferred and constructed). Contains No banks, coast or watershed boundary arcs. Directionalized and connected. Contains heirarchial key and route identifier.	Yes (.html)	CWB_STRM_N	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

HydroGeo	Waterbodies	GeoBC distribution services (order # 351711)	Mar-08	BC	This spatial layer displays lakes that have had full or partial surveys, and contains information regarding the dates of those surveys and an indication of the data collected on each survey date.	Yes (.html)	FIS_LK_SVW	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Waterbodies	GeoBC distribution services (order # 351132)	Nov-07	BC	Multi-part polygon features representing developed ground water aquifers in BC. Many of the aquifers boundaries presented do Not represent science or geology based delineations; but, are "administrative" boundaries based on limited data available. They ma	Yes (.html)	GW_AQUIFER	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Waterbodies	GeoBC distribution services (order # 351132)	Mar-98	BC	Zones of homogeneous low flow characteristics.	Yes (.html)	HYD_NAR_LN	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Waterbodies	B.C. Ministry of the Environment		BC	Rocky Mountain Forest District - Creeks; TRIM (Terrain Resource Inventory Mapping) at the provincial level	No	RMFD_Creeks			to be determined
HydroGeo	Waterbodies	B.C. Ministry of the Environment		BC	Rocky Mountain Forest District - Streams; TRIM (Terrain Resource Inventory Mapping) at the provincial level	No	RMFD_Streams			to be determined
HydroGeo	Waterbodies, Manmade	GeoBC distribution services (order # 351172)	Sep-08	BC	All manmade waterbodies, including reservoirs and canals, for the province.	Yes (.html)	CWB_MM_WTR	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Watershed	GeoBC distribution services (order # 351172)	Jul-09	BC	Supersedes the '(DEPRECATED) BC Community Watersheds' dataset BC_COMMUNITY_WATERSHEDS. This 1:20,000. scale inventory contains digital maps of community	Yes (.html)	COM_WS_PUB	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular

					watershed boundaries. The watershed boundaries show the location of watersheds that supply communities					dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Watershed	GeoBC distribution services (order # 351172)	Sep-08	BC	All named watershed polygons.	Yes (.html)	CWB_NAMWTR	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Watershed	GeoBC distribution services (order # 351172)	Sep-08	BC	All principal and Non-principal watershed boundary edges. These are the linear features that makeup the watershed polygons.	Yes (.html)	CWB_WS_BDY	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Watershed	GeoBC distribution services (order # 351172)	Sep-08	BC	Polygons delimiting the watershed group boundary, which is a collections of drainage areas. In-land groups will contain a single polygon, coastal groups may contain multiple polygons (one for each island).	Yes (.html)	CWB_WS_GRP	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Watershed	GeoBC distribution services (order # 351172)	Sep-08	BC	All fundamental watershed polygons generated from watershed boundary lines, bank edges, delimiter edges, coastline edges, and administrative boundary edges.	Yes (.html)	CWB_WS_PLY	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Watershed	GeoBC distribution services (order # 351132)	Sep-96	BC	Normal Annual RuNoff for 1961 - 1990, in mm.	Yes (.html)	HYD_WB_PLY	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.

HydroGeo	Watershed	GeoBC distribution services (order # 351172)	Mar-03	BC	Major watersheds of BC tagged with the first 3 digits of the Watershed Code (e.g.: 920).	Yes (.html)	MJR_WTRSHD	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Watershed	GeoBC distribution services (order # 351537)	Sep-05	BC	One of the spatial views of the BC WATERSHED ATLAS 50K, which is the digital basemap representation of the aquatic features depicted on NTS 1:50,000 scale Map Sheets. This spatial component of the BC WATERSHED DICTIONARY 50K is described below.	Yes (.html)	WSA_WB_SVW	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
HydroGeo	Wetland	GeoBC distribution services (order # 351537)	Sep-08	BC	All wetland polygons for the province.	Yes (.html)	CWB_WETLND	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Imagery	Air Photo	GeoBC distribution services (order # 351011)	May-09	BC	Represents the theoretical spatial extent of the ground coverage of an aerial photograph. This assumes perfectly flat ground with the photos exposed at exactly the correct altitude above the ground.	Yes (.html)	APS_PH_PLY	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Imagery	Air Photo	GeoBC distribution services (order # 351011)	May-09	BC	Layer showing the approximate photo centres of aerial photography. May be used to determine which photograph(s) may cover specific areas of interest.	Yes (.html)	APS_PHT_CN	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Imagery	Flightlines	GeoBC distribution services (order # 351011)	May-09	BC	Flightlines spatially represent the track over which an aircraft has flown to collect aerial photography.	Yes (.html)	APS_FLT_L	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions

		351011)								set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Imagery	IRS	Alberta Sustainable Resource Development	Sep-05	AB	Mosaiced orthorectified IRS imagery	Yes (.txt)	82g_irs_bal_mos_ut m11_2005sep15.tif 82h_irs_bal_mos_ut m12_2005sep15.tif 82i_irs_bal_mos_ut m12_2005sep15.tif 82j_irs_bal_mos_ut m11_2005sep15.tif	1:250,000	as Needed	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Imagery	Ortho	Alberta Sustainable Resource Development	1999-2001	AB		For Kananaskis Big Horn folder No For Valtus folder Yes (.txt)	In Kananaskis Big Horn folder 14-06-W5.tif 15-04-W5 to 15-06-W5.tif 16-05-W5 to 16-07-W5.tif 17-05-W5 to 17-07-W5.tif 18-05-W5 to 18-09-W5.tif 19-05-W5 to 19-08-W5.tif In Valtus folder T001R214 to T001R304.sid T002R204 to T002R304.sid T003R184 to T003R304	1:50,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Imagery	Ortho	Alberta Sustainable Resource Development	2006-2007	AB		Yes (.xls)	* All CIR images are in both .sid and .tif format 418003 419003, 04 420002 to 420004 421001 to 421005 422001 to 422005 423001 to 423005 424001 to 424006 425001 to 425007	0.5 m		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee

							426001 to 426007 427001 to 427007 428001 to 428014 429001 to 429016 430001 to 430016			member from Alberta.
Imagery	SPOT5	Alberta Sustainable Resource Development	2007-2008	AB	SPOT5 imagery for the Alberta portion of the study area for 2007 and 2008.	No	* All SPOT images are in a .tif format 082G01, 082G07 to G082G10, G082G15, G082G16 082H01 to 082H16 082I01 to 082I16 082J01, 082J02, 082J06 to 082J11, 082J13 to 082J16			Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	AVI	Alberta Sustainable Resource Development	6-Sep-01 Updated 7-Mar-08	AB	AVI for the B7 and B01 Forest management units, including the Peter Loughheed Provincial Park. ATS tile boundaries are removed/dissolved. AVI, a photo-based digital inventory, has been developed to identify the type, extent and conditions of vegetation,	Yes (.txt)	b7bo1_Notwp.e00	1:20,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	AVI	Alberta Sustainable Resource Development	6-Sep-01 Updated 7-Mar-08	AB	AVI for the B7 and B01 Forest management units, including the Peter Loughheed Provincial Park. ATS township boundaries are present.	Yes (.txt)	b7bo1_twp.e00	1:20,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	AVI	Alberta Sustainable Resource Development	May-03	AB	AVI for the C4 Forest management units, which contains the Forest Protection Area and 2 townships. ATS township boundaries are removed/dissolved.	Yes (.txt)	c4_Notwp.e00	1:20,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission

										from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	AVI	Alberta Sustainable Resource Development	May-03	AB	AVI for the C4 Forest management units, which contains the Forest Protection Area and 2 townships. ATS township boundaries are present.	Yes (.txt)	c4_twp.e00	1:20,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	AVI	Alberta Sustainable Resource Development	May-03	AB	AVI for the Co1 and Co2 Forest management units covers an area of approximately 35 townships or portions thereof that are primarily outside of the Forest Protection Area.	Yes (.txt)	co1co2.e00	1:20,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	AVI	Alberta Sustainable Resource Development	May-03	AB	AVI for Cypress Hills, which includes 8 townships. ATS township boundaries are removed/dissolved.	Yes (.txt)	cyphills_Notwp.e00	1:20,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	AVI	Alberta Sustainable Resource Development	May-03	AB	AVI for Cypress Hills, which includes 8 townships. ATS township boundaries are present.	Yes (.txt)	cyphills_twp.e00	1:20,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH

										Committee and one Steering Committee member from Alberta.
Land Features	AVI	Alberta Sustainable Resource Development	May-07	AB	AVI for the C5, Co1 and Co2 Forest management units. Projection NAD1927.	Yes (.txt)	c5co1co2_n27.e00	1:20,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	AVI	Alberta Sustainable Resource Development	May-07	AB	AVI for the C5, Co1 and Co2 Forest management units. Projection NAD1983.	Yes (.txt)	c5co1co2_n83.e00	1:20,000		Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	Biogeoclimatic	GeoBC distribution services (order # 351619)	May-08	BC	The current and most detailed version of the approved corporate provincial digital Biogeoclimatic Zone/Subzone/Variant/Phase map (version 7, March 31, 2008). This is the LRDW version. Use this version (or the e00 version) when performing GIS analysis	Yes (.html)	BEC_POLY	1:20,000 - 1:50,000	irregular	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Land Features	Biogeoclimatic	B.C. Ministry of the Environment	Mar-02	BC	large scale biogeoclimatic mapping for the Cranbrook forest district	Yes	tbec_cb	100 ha		to be determined
Land Features	Ecodistrict	AAFC		AB BC	The country was grouped according to very broad physiographic and ecological similarities into 15 EcoZones. The EcoZone framework is divided into a total of 194 EcoRegions (217 polygons). The elements used to guide the consistent formulation of national EcoRegions were the	No	ecodistrict.shp	1:2M		

					published national maps on climate (EcoRegions Working Group 1989), physiography (Bostock 1970), and existing provincial ecological frameworks. The differentiating characteristics of EcoDistricts are: regional landform, local surface form, permafrost distribution, soil development, textural group, vegetation cover/land use classes, range of annual precipitation, and mean temperature. EcoDistrict size is a function of regional variability of these defining attributes, and minimum size is approximately 100 k ha.					
Land Features	Forest	GeoBC distribution services (order # 351711)	Mar-03	BC	A spatial view of Non-sensitive locations of big trees. Data collected and mapped by the BC Conservation Data Centre.	Yes (.html)	BIG_TREES	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Land Features	Forest	GeoBC distribution services (order # 351172)	Nov-03	BC	RESULTS opening's forest cover polygons with inventory component provided. Current forest cover submissions into RESULTS must contain attribute and map information. However, there are historical forest cover polygon information where maps are Not availabl	Yes (.html)	RSLT_FC_IN	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Land Features	Forest	GeoBC distribution services (order # 351492)	Nov-03	BC	RESULTS opening's forest cover poylgons with silviculture component provided. Current forest cover subimssion into RESULTS must contain attribute and map information. However, there are historical forest cover polygon infomration where maps are Not availa	Yes (.html)	RSLT_FCSLV	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Land Features	Forest	GeoBC distribution services (order # 351172)	Nov-03	BC	The tree species contained within RESULT's FOREST COVER inventory and silviculture components. This view contains attribute data and is intended to be	Yes (.html)	RSLT_FCSPC	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular

					joined with the other results views to provide additional forest cover polygon species information. This					dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Land Features	Forest	GeoBC distribution services (order # 351116)	Oct-06	BC	A composite table comprising the polygon table attributes joined to the attributes from the Non veg, Non tree, land cover component, tree layer, tree species and tree volume tables. This SDE layer coverage contains vegetation cover from the Ministry of Fo	Yes (.html)	VEG_R1_PLY_N	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Land Features	Forest	GeoBC distribution services (order # 351116)	Oct-06	BC	A composite table comprising the polygon table attributes joined to the attributes from the Non veg, Non tree, land cover component, tree layer, tree species and tree volume tables. This SDE layer coverage contains vegetation cover from the Ministry of Fo	Yes (.html)	VEG_R1_PLY_S	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Land Features	Forest	B.C. Ministry of the Environment	2001	BC	Polygon cover of 3 deciduous forest species	Yes	tdf_ca (in folder deciduousforests)			to be determined
Land Features	Forest	B.C. Ministry of the Environment		BC	High Conservation value forest; Ford stewardship council; Timbec works with Peter; cover: old growth, rare and endangered species; should coincide with AOG	No	hcvf_cb_mar31 (in folder hcvf_cb_kl_mar31)			to be determined
Land Features	Forest	B.C. Ministry of the Environment		BC	Mature old growth in Cranbrook	Yes	amog_cb (in folder OGMA)			to be determined
Land Features	Forest	B.C. Ministry of the Environment		BC		Yes	fc_cb (in folder forest cover)			to be determined
Land Features	Grasslands	B.C. Ministry of the Environment		BC	High elevation grasslands, unique grass species; elk and mountain sheep winter habitat	No	heg2005			to be determined
Land Features	Grasslands	B.C. Ministry of the Environment	May-02	BC	Grasslands coverage for the Invermere and Cranbrook Forest Districts	Yes	tgras_ek (in folder grass)	1:20 000, with Biogeoclimatic Zone and Ecoregion linework at 1:250 000		to be determined

Land Features	GVI	Alberta Sustainable Resource Development	Jan-04	AB	Classify native prairie vegetation cover within the Grasslands and Foothills Fescue Natural Regions in southern Alberta to a 1/4 section resolution. Classify native vegetation cover classes within the Prairie Region (formerly a portion of the Central regi					Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from Alberta.
Land Features	Landcover	GeoBase	2000	AB BC	Landcover classed into ~40 classes (see LC worksheet), 2000	Yes (.xlm)	LC_2000v_082G_sh p LC_2000v_082H_sh p LC_2000v_082I_shp LC_2000v_082J_sh p	1:50,000	None planned	Subject to this Agreement, Canada hereby grants to the Licensee a Non-exclusive, fully paid, royalty-free right and licence to exercise all Intellectual Property Rights in the Data. This includes the right to use, incorporate, sublicense (with further right of sublicensing), modify, improve, further develop, and distribute the Data; and to manufacture and / or distribute Derivative Products derived from or for use with the Data. The Licensee shall identify GeoBase® as a data source where any of the Data are redistributed, or contained within Derivative Products, and use of the Data shall Not be construed as an endorsement by GeoBase® of those Derivative Products.
Land Features	Landcover	GeoGratis	Temporal Cover age Start Date: 01-Jan-92	AB BC	The vegetation and land cover information set has been classified into twelve categories. Information on the classification of the vegetation and land cover, raster to vector conversion, generalization for cartographic		abbc_lc_avhrr.cov			It is NoT for redistribution or resale. This allows users to use the data as they please, as long as the data source is shown. © Department of Natural Resources Canada. All

			Stop Date: 31-Dec-93		presentations is included in the paper "The Canada Vegetation and Land Cover: A Raster and Vector Data Set for GIS Applications - Uses in Agriculture" (http://geogratis.cgdi.gc.ca/download/landcover/scale/gis95ppr.pdf).					rights reserved. Here is the link to the license agreement read chapter 3. (http://geogratis.gc.ca/geogratis/en/licence.jsp)
Land Features	Landcover	Government of Canada / Agriculture and Agri-Food Canada (distributed by GeoConnections)	2000	AB BC	This product is published and compiled by Agriculture and Agri-Food Canada (AAFC), but also integrates products mapped by other provincial and federal agencies; with appropriate legend adaptations. This is an interim release including UTM Zones 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22 for corresponding agricultural regions in Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia covering approximately 370,000,000 hectares of mapped area. Mapped classes include: Water, Exposed, Built-up, Shrubland, Wetland, Grassland, Annual Crops, Perennial Crops and Pasture, Coniferous, Deciduous and Mixed forests. However, emphasis is placed on accurately delineating agricultural classes, including: annual crops (cropland and specialty crops like vineyards and orchards), perennial crops (including pastures and forages), and grasslands. Detailed class descriptions and associated digital values are included in the metadata.	Yes (.xml)	lcv_082g_aafc_30m_2000.tif lcv_082h_aafc_30m_2000.tif lcv_082i_aafc_30m_2000.tif lcv_082j_aafc_30m_2000.tif	30m	Not Planned	
Land Features	Landcover	Canadian Forest Services (distributed by SAFORAH)	2000	AB BC	Mapped classes include: NoData; Cloud; Shadow; Water; Rock/Rubble; Exposed land; SNOWice; Shrub - tall or low; Wetland - treed, shrub or herb; Herb; Coniferous - dense, open, or sparse; Deciduous - dense, open, or sparse; Mixedwood - dense, open, or sparse. Detailed class	Yes (.txt)	082G_lc_1.tif 082H_lc_1.tif 082I_lc_1.tif 082J_lc_1.tif	30m	Not Planned	

					descriptions and associated digital values are included in EOSD_legend_report-v2.pdf.					
Land Features	Predictive Ecosystem Models	B.C. Ministry of the Environment		BC	Predictive ecosystem models	Yes	aecp_cb (in folder PEM (Predictive Ecosystem Mapping))			to be determined
Land Features	Predictive Ecosystem Models	B.C. Ministry of the Environment		BC	Park predictive ecosystem models	Yes	qpkppem_dcb (in folder PEM)			to be determined
Land Features	Soil	B.C. Ministry of the Environment		BC			BC_Soils			
Land Features	Soil	B.C. Ministry of the Environment		BC			BC_Soils_82g			
Land Features		B.C. Ministry of the Environment		BC			Grass			
Natural Disturb	Fire	GeoBC distribution services (order # 351172)	Jul-09	BC	Wildfire perimeters for the current fire season. Supplied through various sources. Not to be used for legal purposes. These perimeters are updated Daily. These perimeters are rolled over to Historical Fire Polygons on April 1 of each year.	Yes (.html)	C_FIRE_PLY	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Natural Disturb	Fire	GeoBC distribution services (order # 351172)	Jul-09	BC	Wildfire location points for the current fire season. Supplied through various sources. Not to be used for legal purposes. These points are rolled over to Historical Fire Points on April 1 of each year. This layer is updated Daily.	Yes (.html)	C_FIRE_PNT	1:20,000 - 1:50,000	Daily	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Natural Disturb	Fire	GeoBC distribution services (order # 351172)	Sep-05	BC	Fire maintained ecosystem restoration for the Rocky Mountain Forest District. The data was provided by MOFR/Interior Reforestation and compiled based on the various sources including VRI, BEC, TSR2 Algorithm 2003, etc.	Yes (.html)	FIRE_MAINT	1:20,000 - 1:50,000	Annually	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Natural Disturb	Fire	GeoBC distribution services (order #	Jul-09	BC	Wildfire perimeters for all fire seasons before the current year. Supplied through various sources. Not to be used for legal purposes.	Yes (.html)	H_FIRE_PLY	1:20,000 - 1:50,000	Monthly	public domain Check metadata to determine any restrictions

		351172)			These perimeters may be updated periodically during the year. On April 1 of each year the previous year's fire perimeter					set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Natural Disturb	Fire	GeoBC distribution services (order # 351172)	Jul-09	BC	Wildfire incident locations for all fire seasons before the current season. Supplied through various sources. Not to be used for legal purposes. This data includes all incidents tracked by Wildfire Management Branch, ie. actual fires, suspected fires, nus	Yes (.html)	H_FIRE_PNT	1:20,000 - 1:50,000	Monthly	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Natural Disturb	Fire	B.C. Ministry of the Environment	1917-2008	BC	Wildfire perimeters for all fire seasons before the current year. Supplied through various sources. Not to be used for legal purposes. These perimeters may be updated periodically during the year. On April 1 of each year the previous year's fire perimeters are merged into this dataset.		HISTORIC_FIRE_P OLY_BC		Monthly	Downloadable. Viewable.
Natural Disturb	Fire History	Governem t of Alberta, Sustainable Resource Development	1931-2008	AB	Wildfires from 1931 to 1939 within the forested area of the province have been recorded and mapped in a variety of different ways. Fire perimeters have been captured using hand sketches, aerial photography, satellite imagery, global positioning systems and infrared scanning methods and have been archived in various forms. These include the transfer of line work to paper or films of forest inventory maps, provincial base maps or more recently captured in digital form. All these historical fires that have a polygon line representing the fire perimeter have recently had the line work entered into a Geographic Information System. This data set does Not represent every fire from the fire years. Rather, it represents some of the larger fires that were capable of capturing.	Yes (.txt)	hf1931to1939.shp hf1940to1949.shp hf1950to1959.shp hf1960to1969.shp hf1970to1979.shp hf1980to1989.shp hf1990to1999.shp hf2000to2009.shp	Prior to 1959 1:500,000; After 1960 1:250,000	Annually	Data use restricted to Crown Managers Partnership member use for the purposes of the CMP Ecological Health Program and CCE Landscape Analysis. Use subject to joint permission from the Chair of the EH Committee and one Steering Committee member from the Government of Alberta.
Natural Disturb	Insect	Governemen t of Alberta, Sustainable	1998-2007	AB	Mapping infestation of aspen defoliators, general forest health, and mountain pine beetle.	No	*coverages asd_1998 to asd_2007	1:500,000	as Needed	Redistribution of the Data in whole or in part, whether alone or as part of a value

		Resource Development					gen_1999 to gen_2004 *feature class polygons ab_0ufohm75p to ab_0ufohm85p ab_0ufohm04p to ab_0ufohm06p ab_0ufohm09p points ab_0ufohm01x to ab_0ufohm09x			added product, by any means whatsoever is Not permitted without the prior written consent of the Director, Forest Management Branch, Public Lands and Forests Division.
Natural Disturb	Insect	GeoBC distribution services (order # 351552)	Dec-06	BC	Area delineating the Mountain Pine Beetle Salvage area	Yes (.html)	FADM_MPBSA	1:20,000 - 1:50,000	Not Planned	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Natural Disturb	Insect	GeoBC distribution services (order # 351492)	Nov-03	BC	This represents a site infestation as an area (polygon).	Yes (.html)	PEST_INFST	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Natural Disturb	Insect	GeoBC distribution services (order # 351492)	Nov-03	BC	This is the Provincial Spots Table. A Spot represents a site infestation as point data.	Yes (.html)	PST_INF_PN	1:20,000 - 1:50,000	as Needed	public domain Check metadata to determine any restrictions set for this particular dataset. All right and title to the data, including copyright, remain with the Provincial Government.
Natural Disturb	Plant invasion	B.C. Ministry of the Environment	Apr-05		Polygon geometry for an invasive plant site. The polygon represents the area of the site. This is often defined by the extent of an invasive plant on the site (typically the dominant species) if a comprehensive inventory has been conducted or the polygon may be a site marker in the case where a comprehensive inventory is lacking.		IAPP_Invasion			Not freely downloadable by the public. Viewable.

					Includes Attribute data for the site.					
Natural Disturb	Plant invasion	B.C. Ministry of the Environment	Apr-05	BC	Polygon geometry for a biological control agent treatment area. An application of a biological control. Biological control is the use of a weed's natural enemies (chiefly insects and pathogens) to reduce its population below a desired level. It can be divided into the following two approaches: inundative and classical. Inundative biological control uses mass application of an organism to attempt to eliminate a weed from an area. Like all such methods, it does Not deal with the residual seed bank in the soil or prevent the weed from establishing from aNother source at a later date. Classical biological control uses the weed's natural enemies to establish a long-term balance between the biological control organism and the weed. Includes attribute data for the treatment.		IAPP_Invasion_BIOLOGICAL_TREATMENT_POLY		as Needed	Not freely downloadable by the public. Viewable.
Natural Disturb	Plant invasion	B.C. Ministry of the Environment	Apr-05	BC	Polygon geometry for a chemical treatment area. An application of a herbicide. Various herbicides are used for spot treatments of weeds in British Columbia. The herbicide selected should depend on the target weed species and environmental factors. Application rate will be dictated by the size and accessibility of the infestation, its proximity to wells and other water, and the potential impacts of the application on Non-target vegetation. Some herbicides have residual effects and persist in the soil in an active state for some time after application. Other herbicides become inactive once they contact soil. The residual activity of a herbicide varies with rate of application, soil properties, and climate, and its impact on Non-target vegetation should be carefully considered. Includes attribute data for the treatment.		IAPP_Invasion_CHEMICAL_TREATMENT_POLY		as Needed	Not freely downloadable by the public. Viewable.

Natural Disturb	Plant invasion	B.C. Ministry of the Environment	Apr-05	BC	Polygon geometry for a mechanical treatment area. An application of a mechanical or cultural control. Mechanical weed control employs various implements and techniques to physically disturb weeds or to interrupt their reproduction by depleting root reserves through repeated defoliation of the plant. Mechanical control includes the mowing, ploughing, chopping, and crushing of weeds. Includes attribute data for the treatment.		IAPP_Invasion_MECHANICAL_TREATMENT_POLY		as Needed	Not freely downloadable by the public. Viewable.
-----------------	----------------	----------------------------------	--------	----	--	--	---	--	-----------	--

Appendix III: Geospatial Data Sets – United States and Canada

Covers geospatial datasets that extend across both the US and Canadian sides of the CCE

Theme	Type	Source	Source date	Description	Metadata	Name/Format	Spatial resolution	Update freq	Distribution/use restrictions
HydroGeo	DEM	METI and NASA	2000-ongoing	Mosaicked 17 tiles cover all the CCE	http://www.ersdac.or.jp/GDEM/E/2.html	*aster_dem* DEM > ASTER (.tif) N46W113, 114 N47W112, 113, 114, 115 N48W113, 114, 115, 116 N49W113, 114, 115, 116 N50W114, 115, 116	30m		Clearly describe that the original data of ASTER GDEM is the property of METI and NASA. CAN NoT be redistributed 1) Data whose unit is simply changed, so the original x-y-z values can be recovered 2) Data whose format is simply transformed (e.g., transformation from GeoTIFF to ESRI format) 3) Mosaicked GDEM data 4) Data subset at better resolution than the native (1 arc-second) CAN be redistributed 1) Paper materials on which the image produced from GDEM is printed 2) Re-projected images involving re-sampling 3) Data whose format is transformed so that the data can Not be converted back to the original data 4) Value-added product (e.g., flyby movie)

Land Features	Ecoregions Level III	Commission for Environmental Cooperation	1997	These draft files of of Level I, II, and III ecological regions of North America are an update and revision of files developed by Canada, the United States, and Mexico in the late 1990's in a cooperative project for the Commission for Environmental Cooperation (CEC 1997).	Yes, incomplete	NA_CEC_Areas.shp	1:2 million to 1:4 million	Not reported	None
---------------	-----------------------------	--	------	--	-----------------	------------------	----------------------------	--------------	------

Land Features	Phenology	MODIS website (distributed by WIST)	2001 2002 2003 2004	The V004 MODIS Land Cover Dynamics (MOD12Q2) product (informally called the MODIS Global Vegetation Phenology product) provides estimates of the timing of vegetation Phenology at global scales. Additionally, it also provides information related to the range and summation of the enhanced vegetation index (EVI) computed from MODIS surface reflectance data at each pixel. It identifies the vegetation growth, maturity, and senescence that mark seasonal cycles. MOD12Q2 is produced twice a year with 24 months of input data (i.e., the 12 months of interest data bracketed by six month's data on either side). The version 004 MOD12Q2 products range from 2001 through 2004. It's a product of Terra sensor. The hdf file contains 8 layers: Onset Greenness Increase Onset Greenness Maximum Onset Greenness Decrease Onset Greenness Minimum NBAR EVI Onset Greenness Min NBAR EVI Onset Greenness Max NBAR EVI Area Dynamics QC	Yes (.xml)	The CCE covers two tiles (44lat 108lon, and 54lat 136lon), thus we downloaded two tiles for each year. MOD12Q2.A200100 1.h10v03.004.20060 25141745.hdf MOD12Q2.A200100 1.h10v04.004.20060 25141749.hdf MOD12Q2.A200200 1.h10v03.004.20060 25151906.hdf MOD12Q2.A200200 1.h10v04.004.20060 25151906.hdf MOD12Q2.A200300 1.h10v03.004.20060 25155227.hdf MOD12Q2.A200300 1.h10v04.004.20060 25155226.hdf MOD12Q2.A200400 1.h10v03.004.20060 25165556.hdf MOD12Q2.A200400 1.h10v04.004.20060 25165558.hdf	1000m	Annually	MODIS data and products acquired through the LP DAAC have No restrictions on subsequent use, sale, or redistribution. In the event that data distributed from the Land Processes DAAC are incorporated into your research, please supply the following acknowledgment within your published work: "These data are distributed by the Land Processes Distributed Active Archive Center (LP DAAC), located at the U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center (lpdaac.usgs.gov)." If possible, please e-mail or send us reprints/citations of papers or oral presentations based on data obtained from the LP DAAC (see below for mailing address and e-mail address). This will help us to stay informed of how the data are being used.
---------------	-----------	-------------------------------------	------------------------------	---	------------	---	-------	----------	---

Land Features	Phenology	MODIS website (distributed by WIST)	2002 2003 2004 2005 2006	Sums to net primary production, essentially vegetation growth, at the end of the year. The hdf file contains a single layer: NPP	Yes (.xml)	The CCE covers two tiles (44lat 108lon, and 54lat 136lon), thus we downloaded two tiles for each year. MOD17A3.A2002001.h10v3.004.2003292030912.hdf MOD17A3.A2002001.h10v4.004.2003292030811.hdf MOD17A3.A2003001.h10v3.004.2004023050702.hdf MOD17A3.A2003001.h10v4.004.2004023045203.hdf MOD17A3.A2004001.h10v3.004.2005018062352.hdf MOD17A3.A2004001.h10v4.004.2005018062012.hdf MOD17A3.A2005001.h10v3.004.2006021154941.hdf MOD17A3.A2005001.h10v4.004.2006021155430.hdf MOD17A3.A2006001.h10v3.004.2007019015401.hdf MOD17A3.A2006001.h10v4.004.2007019015900.hdf	1000m	Annually	MODIS data and products acquired through the LP DAAC have No restrictions on subsequent use, sale, or redistribution.
---------------	-----------	-------------------------------------	--------------------------------------	--	------------	--	-------	----------	---

Land Features	Phenology	MODIS website (distributed by WIST)	2001 2002 2003 2004 2005 2006	The V005 MODIS Land Cover Dynamics (MCD12Q2) product (informally called the MODIS Global Vegetation Phenology product) provides estimates of the timing of vegetation Phenology at global scales. Additionally, it also provides information related to the range and summation of the enhanced vegetation index (EVI) computed from MODIS surface reflectance data at each pixel. It identifies the vegetation growth, maturity, and senescence that mark seasonal cycles. MCD12Q2 is produced twice a year with 24 months of input data (i.e., the 12 months of interest data bracketed by six month's data on either side). The version 005 MCD12Q2 products range from 2001 through 2006. It's a combined product of Terra and Aqua sensors. The hdf file contains 8 layers: Onset Greenness Increase Onset Greenness Maximum Onset Greenness Decrease Onset Greenness Minimum NBAR EVI Onset Greenness Min NBAR EVI Onset Greenness Max NBAR EVI Area Dynamics QC	Yes (.xml)	The CCE covers two tiles (44lat 108lon, and 54lat 136lon), thus we downloaded two tiles for each year. MCD12Q2.A200100 1.h10v03.005.20093 35200722.hdf MCD12Q2.A200100 1.h10v04.005.20093 35200828.hdf MCD12Q2.A200200 1.h10v03.005.20093 38144904.hdf MCD12Q2.A200200 1.h10v04.005.20093 38144835.hdf MCD12Q2.A200300 1.h10v03.005.20093 41151014.hdf MCD12Q2.A200300 1.h10v04.005.20093 41150850.hdf MCD12Q2.A200400 1.h10v03.005.20093 42155256.hdf MCD12Q2.A200400 1.h10v04.005.20093 42155234.hdf MCD12Q2.A200500 1.h10v03.005.20093 43183134.hdf MCD12Q2.A200500 1.h10v04.005.20093 43183135.hdf MCD12Q2.A200600 1.h10v03.005.20093 09202740.hdf MCD12Q2.A200600 1.h10v04.005.20093 09202728.hdf	500m	Annually	MODIS data and products acquired through the LP DAAC have No restrictions on subsequent use, sale, or redistribution. In the event that data distributed from the Land Processes DAAC are incorporated into your research, please supply the following acknowledgment within your published work: "These data are distributed by the Land Processes Distributed Active Archive Center (LP DAAC), located at the U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center (lpdaac.usgs.gov)." If possible, please e-mail or send us reprints/citations of papers or oral presentations based on data obtained from the LP DAAC (see below for mailing address and e-mail address). This will help us to stay informed of how the data are being used.
---------------	-----------	-------------------------------------	--	--	------------	--	------	----------	---

Appendix VI: Geospatial Datasets – CCE Baseline

Covers geospatial datasets that comprise the assembled baseline datasets for the CCE

Theme	Type	Source	Source date	Description	Metadata	Name/Format	Spatial resolution	Update freq	Distribution/use restrictions
Anthro	Roads	Alberta Sustainable Resource Development (SRD) Digital Road Atlas (DRA) of British Columbia U.S. Department of Agriculture (USDA)	Nov-10	Roads in the CCE	Yes (.xml)	Roads_CCE_5km Buffer_UTM11NA D83 in Road_CCE.mdb	1:20,000 - 1:50,000	Not Planned	Refer to distribution section of the metadata
GeoAdmin	Census	Statistics Canada Geosuite Montana State Library	Nov-10	Population count and number of dwellings per (Dissemination) Block of the CCE	In Progress	Census_CCE_5k mBuffer_UTM11N AD83 in Census_CCE.mdb	Largest scale possible	Not Planned	Refer to distribution section of the metadata
HydroGeo	Streams	GeoBase U.S. Geological Survey (USGS)	Nov-10	Streams found within the CCE	In Progress	Streams_CCE_5k mBuffer_UTM11N AD83 in Streams_CCE.mdb	1:20,000 - 1:50,000	Not Planned	Refer to distribution section of the metadata
HydroGeo	Watershed	Agriculture and Agri-Food Canada (AAFC) GeoBC Data Distribution Service U.S. Natural Resource Conservation Service (NRCS)	Nov-10	Watershed found within the CCE and the Waterton – Glacier International Peace Park.	In Progress	Watershed_CCE_UTM11NAD83 Watershed_CCE_Clipped_UTM11N AD83 Watershed_CCE_Clipped_ToPark_UTM11NAD83 Watershed_CCE_Parks_UTM11NA D83 Watershed_CCE_Parks_Clipped_UTM11NAD83 in Watershed_CCE.mdb	1:20,000 - 1:50,000	Not Planned	Refer to distribution section of the metadata
HydroGeo	Riparian	Stream and land cover baseline	Nov-10	Riparian habitat found within the CCE	In Progress	Riparian_CCE_5k mBuffer_UTM11N	22m	Not Planned	Refer to distribution section of the

		dataset Aster GDEM provided by METI and NASA				AD83 in Riparian_CCE.mdb			metadata
HydroGeo	Road-Stream Intersection	Road and stream baseline dataset	Nov-10	Calculated the number and density of road-stream intersection per watershed within the CCE and within the boundaries of the Waterton- Glacier park	In Progress	Crossing_Density _CCE_UTM11NA D83 Crossing_Density _Park_UTM11NA D83 Road_Crossing_C CE_UTM11NAD8 3 Road_Crossing_P arks_UTM11NAD 83 in Road_Crossing_C CE.mdb	1:20,000 - 1:50,000	Not Planned	Refer to distribution section of the metadata
Land Features	Land cover	Agriculture and Agri-Food Canada (AAFC) Canadian Forest Service (CFS) U.S. Geological Services (USGS)	Nov-10	Land cover of CCE 12 classes: NoData Water Barren Ice/Snow Wetland Grassland Agriculture Coniferous forest Deciduous forest Mixed forest	Yes (.xml)	Landcover_CCE_ 5kmBuffer_UTM1 1NAD83 in Landcover_CCE.g db	30m	Not Planned	Refer to distribution section of the metadata
Land Features	Phenology	MODIS	Nov-10	Land Cover Dynamics at 1 km ² spatial resolution from 2001 to 2004, Land Cover Dynamics at 500 m ² spatial resolution from 2001 to 2006 and Annual Net Primary Productivity at 1 km ² spatial resolution from 2001 to 2006 were mosaicked, reprojected and clipped to the CCE	In Progress	LandcoverDynam ics500m.gdb LandcoverDynam ics1km.gdb NPP1km.gdb	500m 1000m	Not Planned	Refer to distribution section of the metadata
Natural Disturb	Fire	Alberta Sustainable Resource Development (SRD)	Nov-10	Recorded fire incidences within the CCE between 1985 and 2008	In Progress	Fire_CCE_5kmBu ffer_UTM11NAD8 3 in Fire_CCE.mdb	1:20,000 - 1:50,000	Not Planned	Refer to distribution section of the metadata

		GeoBC's Data Distribution Service U.S. Forest Service District Offices							
NaturalDisturb	Insect	Alberta Sustainable Resource Development (SRD) GeoBC's Data Distribution Service U.S. Forest Service District Offices.	Nov-10	Perimeter of Large aspen tortrix and Forest tent caterpillar (Aspen defoliator, ASD) outbreaks in the CCE from 2000 to 2007 Perimeter of Mountain pine beetle (MPB) outbreaks in the CCE from 2001 to 2007	In Progress	ASD_CCE_5kmBuffer_UTM11NAD83 MPB_CCE_5kmBuffer_UTM11NAD83 MPBx_AB_5kmBuffer_UTM11NAD83 in Insects_CCE.mdb	1:20,000 - 1:50,000	Not Planned	Refer to distribution section of the metadata