



APPLIED & INNOVATION RESEARCH CENTRE

SUPPORTING LEARNERS, COMMUNITY AND INDUSTRY THROUGH INNOVATION

Open Data for Open Government in Rural BC The Digital Basin

Canadian Rural Revitalization Foundation Conference
Fall 2016



Dr. Terri MacDonald
BC Regional Innovation Chair in
Rural Economic Development

Agenda

Background

State-of-the-Basin Report

Open Data & Digital Basin Application

Usage Scenario

Challenges & Lessons Learned





APPLIED & INNOVATION
RESEARCH CENTRE
Selkirk College

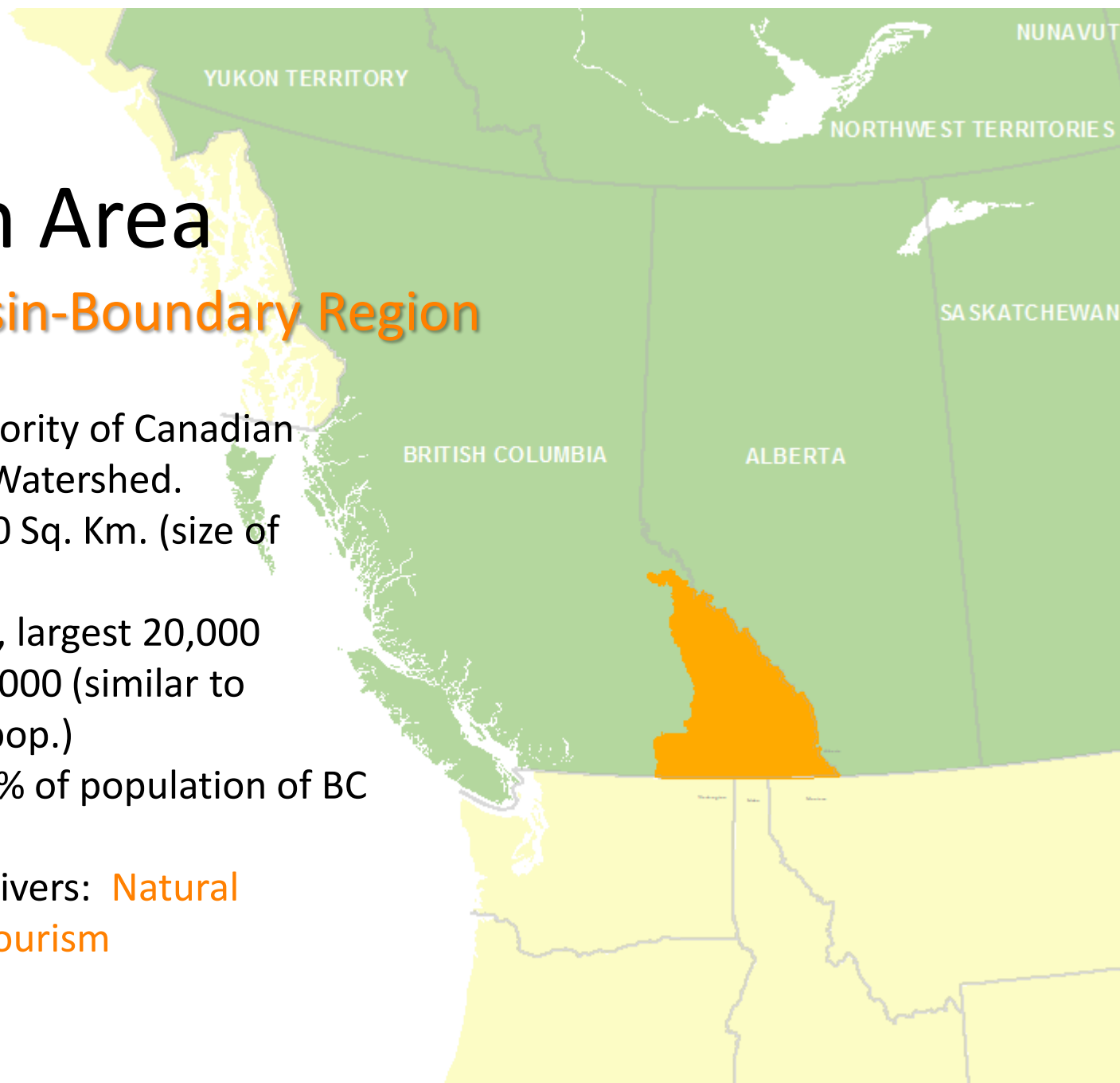


Offering support for community and industry partners, faculty, and students engaging in applied research activities.

Research Area

Columbia Basin-Boundary Region


- Comprises a majority of Canadian Columbia River Watershed.
- Land area 83,000 Sq. Km. (size of Austria)
- 28 Communities, largest 20,000
- Population: 161,000 (similar to Sudbury's total pop.)
- Accounts for 3.7% of population of BC
- 9% of area of BC
- Key economic drivers: **Natural Resources and Tourism**



28 Communities in Region Offer a Unique and Cherished Lifestyle



Photo credit: Nelson Kootenay Lake Tourism

A photograph of a forest fire. Thick smoke rises from the ground, partially obscuring the trees. Bright orange and yellow flames are visible, consuming the lower parts of the trees and the forest floor. The scene is hazy and dramatic, illustrating the threat to the forest environment.

Yet that lifestyle is continually threatened...

Local governments, organizations, and businesses must work to build sustainable economic viability while balancing the needs of the population.

2008-Present, Annual State-of-the-Basin Report



http://www.cbt.org/Initiatives/State_of_the_Basin/

State of the Basin Indicators

WHAT'S INSIDE		
INTRODUCTION	What is indicator reporting? About the State of the Basin model.	2
DEMOGRAPHICS	How many people live in local areas? What age and gender are they? How many children and elders depend on the workforce for support?	6
HEALTH	How long do we live? What causes the most deaths?	8
EDUCATION - LEARNING	How well-prepared are children for learning and life? How many students achieve high school graduation? How educated is the workforce?	10
ECONOMY	What are the trends in the regional tourism and forest sectors?	12
EMPLOYMENT	What's the difference in the number of new retirees and new workers? What are recent unemployment levels?	14
INCOME	How much do we earn? How many people receive government support?	16
BUILT INFRASTRUCTURE - HOUSING	What types of housing exist? How many households are renting homes? How affordable is housing?	18
CONSERVATION	How much water do we use? How do we treat wastewater?	21
ENVIRONMENT	How much protected area exists? How are two species-at-risk faring? Have local streamflows changed? What are the air quality conditions? How has climate changed?	22
COMMUNITY AND SOCIETY	How many of us donate to charity and how much do we donate? What are the local crime rates?	26
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INTRODUCTION



Testing the Waters

This report is intended to test the concept of indicator reporting in the Basin by presenting a sample of credible, locally-relevant information.

We need your input

Please read this report and visit the website. Let us know what you think by completing the feedback form enclosed in this report or online. Your input will help CBT to evaluate this model.

State of the Basin website:

www.cbt.org/stateofthebasin

Questions?

Please refer to the contact information on the inside back cover for people who can be contacted for various types of support.

DEMOGRAPHICS



Demographics describe the age, gender, ethnicity and family structure of residents in a particular area. This information is used to understand current community needs for public services and to predict future needs.

Population estimates in the Basin:

Population estimates are for full-time residents and do not include part-time residents or seasonal home-owners. Determining the number of part-time home-owners is a challenge that is being looked at by the Selkirk Regional Innovation Chair (see contact below).

Population estimates are based on the 2006 census and have been adjusted by BC Stats to incorporate an estimate of the census undercount. They will differ from the estimates provided by Statistics Canada.

TOTAL POPULATION 2001/2006¹

What does this measure?

The total number of residents in local areas and the Basin in 2006 compared to 2001.

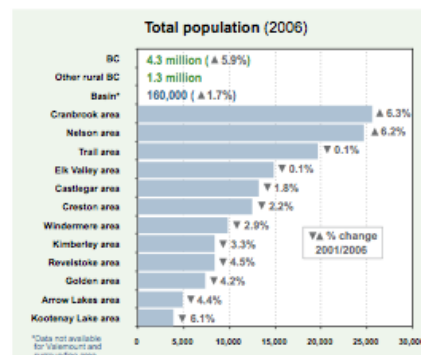
Why is this important?

The total population gives us an idea of the types of services that are likely to be available in an area. Changes in total population over time signal potential shifts in community needs.

What are the trends and current conditions?

A total of 158,923 people are estimated to have resided in the Basin in 2006. This is 3.7% of the provincial population of 4.3 million. Total population in the Basin declined by 1.7% over five years while the provincial population grew by almost 6%.

There are substantial differences in total population in local areas across the Basin. These differences range from regional centres like Cranbrook, Nelson and Trail with about 20-25,000 people, to large rural areas with less than 5,000 residents. In the past five years the population change in local areas has varied from increases of 6% to declines of 6%.



NUMBER OF PEOPLE BY AGE AND GENDER – 2006²

What does this measure?

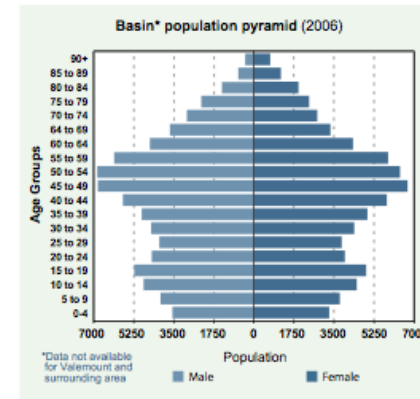
The total number of people in the Basin in 2006 in five year age groups or 'cohorts' for females and males.

Why is this important?

As we age our needs change: young people need family care, schooling, and recreation services, working people are concerned about employment opportunities and daycare and during retirement supportive housing and other services are essential. Health needs shift over time as well. Substantial differences between the size of age groups may signal a need to significantly change services and economic opportunities.

What are the trends and current conditions?

The Basin population pyramid (see pyramid) shows there are fewer children in the Basin below 10 years old than from 10 to 20 years. From 25-44 years the cohort size grows continuously. The relatively large number of 'boomers' aged 45-59 who will be retiring in the next 20 years are shown, followed by much smaller, older cohorts.



State of the Basin Report, 2008

A wealth of information, trends, graphs and the occasional map for each indicator.



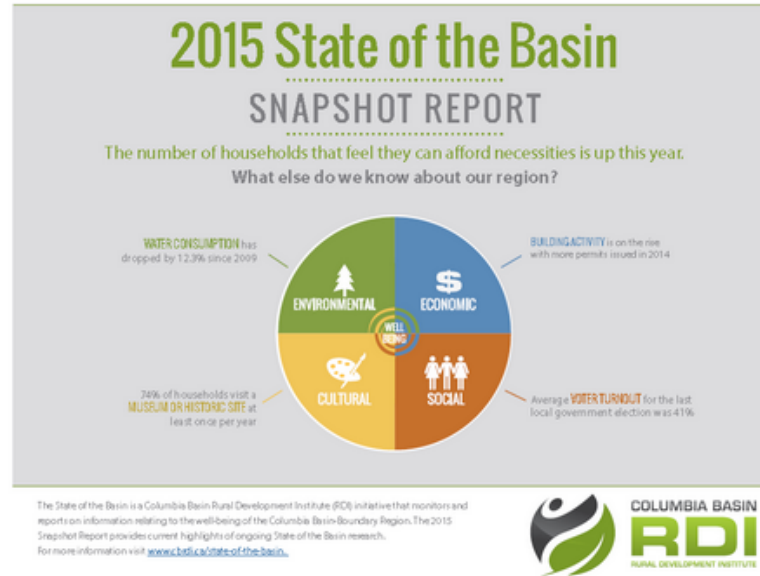
COLUMBIA BASIN
RDI
RURAL DEVELOPMENT INSTITUTE

Launched in 2011 with annual funding by the Columbia Basin Trust (CBT) under an 8-year partnership agreement

The RDI is tasked with producing annual State of the Basin reports – including the ‘Long Report’ in years following Census releases with the goal of supporting ‘informed decision-making’

STATE OF THE BASIN

The State of the Basin is an RDI initiative to monitor and report on information relating to well-being in the Columbia Basin-Boundary region.



2015 State of the Basin Report

Download the [2015 State of the Basin Snapshot Report](#) and be sure to explore this year's [Trends Analyses](#) for in-depth discussion of each indicator.

2014 State of the Basin Report

Download the [2014 State of the Basin Snapshot Report](#)

2013 State of the Basin Report

Download either the [2013 Long Report](#), or the [2013 Snapshot Report](#)

2012 State of the Basin Report

Download the [2012 State of the Basin Snapshot Report](#)

Digital Basin Project was Conceived

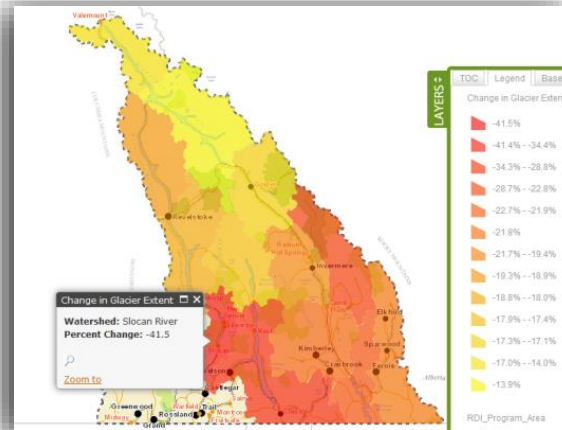
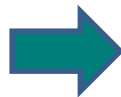
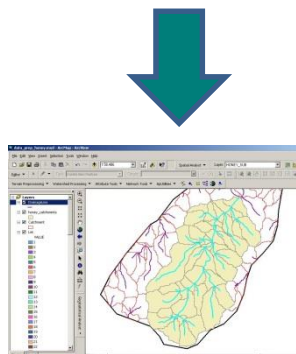


Microsoft Excel - [Workbook Name].xlsx

Area	Population	Area (km²)	Population Density
Headwater Area	1,200	100	12
Upper Valley Area	2,500	200	12.5
Lower Valley Area	1,800	150	12
Headwater Area	1,200	100	12
Upper Valley Area	2,500	200	12.5
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Microsoft Excel - [Workbook Name].xlsx

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Lower Valley Area	1,800	150	12



What is Open Data?

Any data that is available in standard machine-readable formats, is freely available and accessible over the Internet, and is unencumbered by license restrictions and can be re-used in any imaginable way.

What is Open Government?

Open access, open dialogue and open data. Canada's Open Government initiative aims to increase government accountability and transparency, foster citizen engagement and support entrepreneurship.

4 models of Open Data

1. Over the wall, where government internal data assets are made public
2. Code exchange, where government hosts hackathons
3. Civic issue tracking
4. Participatory open data, where engaged citizens help to define the sorts of data that government collects and distributes

Tiers of Capacity & Collaboration

Tier 1: Share maps over the web

Tier 2: Geospatial information sharing partnerships

Tier 3: Fully spatially enabled, where access to a wide range of information is provided across a variety of technologies including mobile and desktop

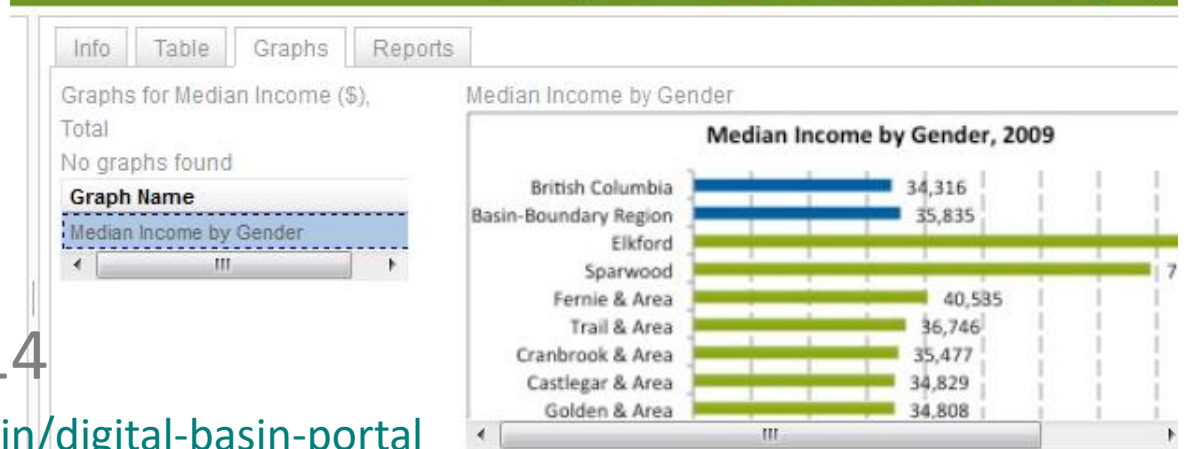
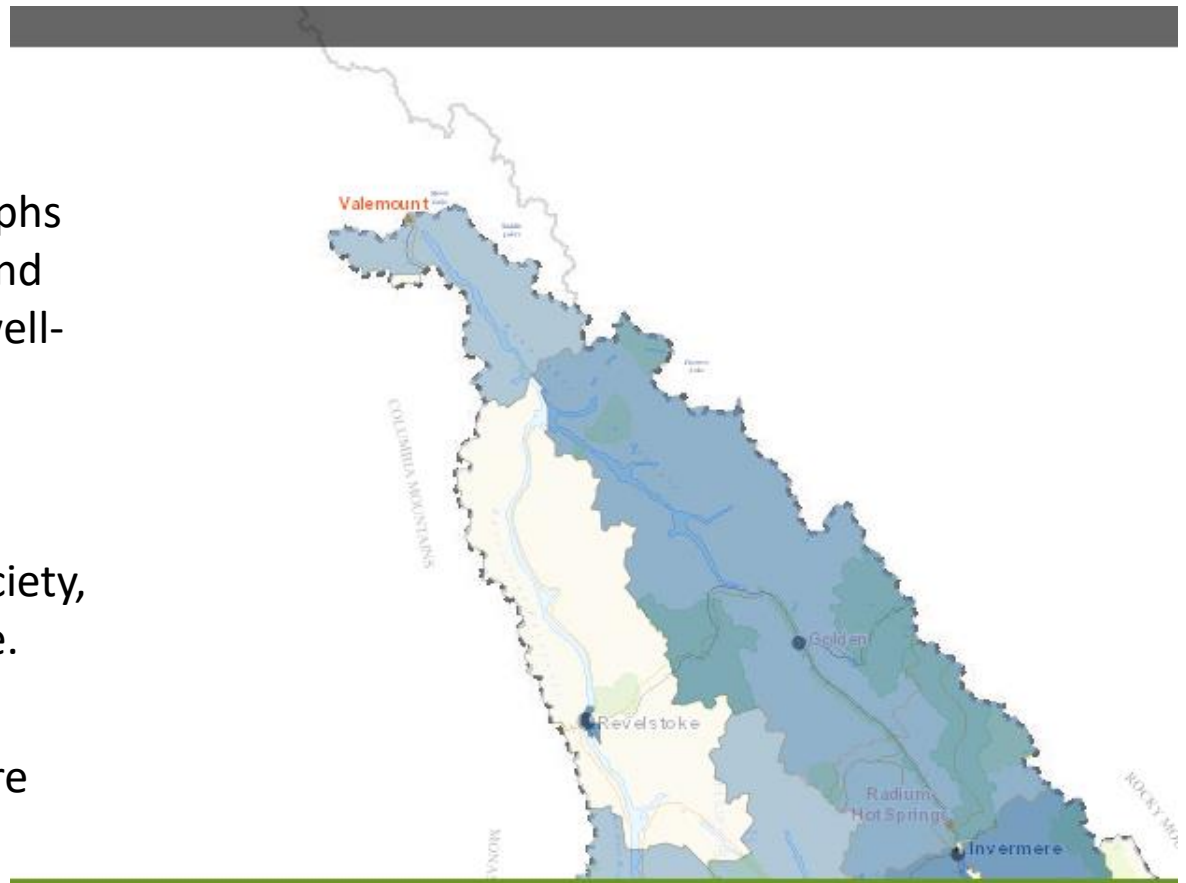
The Future: Spatial data is delivered over the web so that the spatial data infrastructure (SDI) merges with a broader ecosystem of shared and searchable data

The Digital Basin

Up-to-date maps, data, graphs and reports on indicators and assets related to regional well-being.

Over 100 data layers on environment, economy, society, and culture available online.

Designed to foster and share research.



Launched early 2014

www.cbrdi.ca/state-of-the-basin/digital-basin-portal

Extensive Data Repository

The RDI reports on and provides analysis of over 40 indicators, for example:

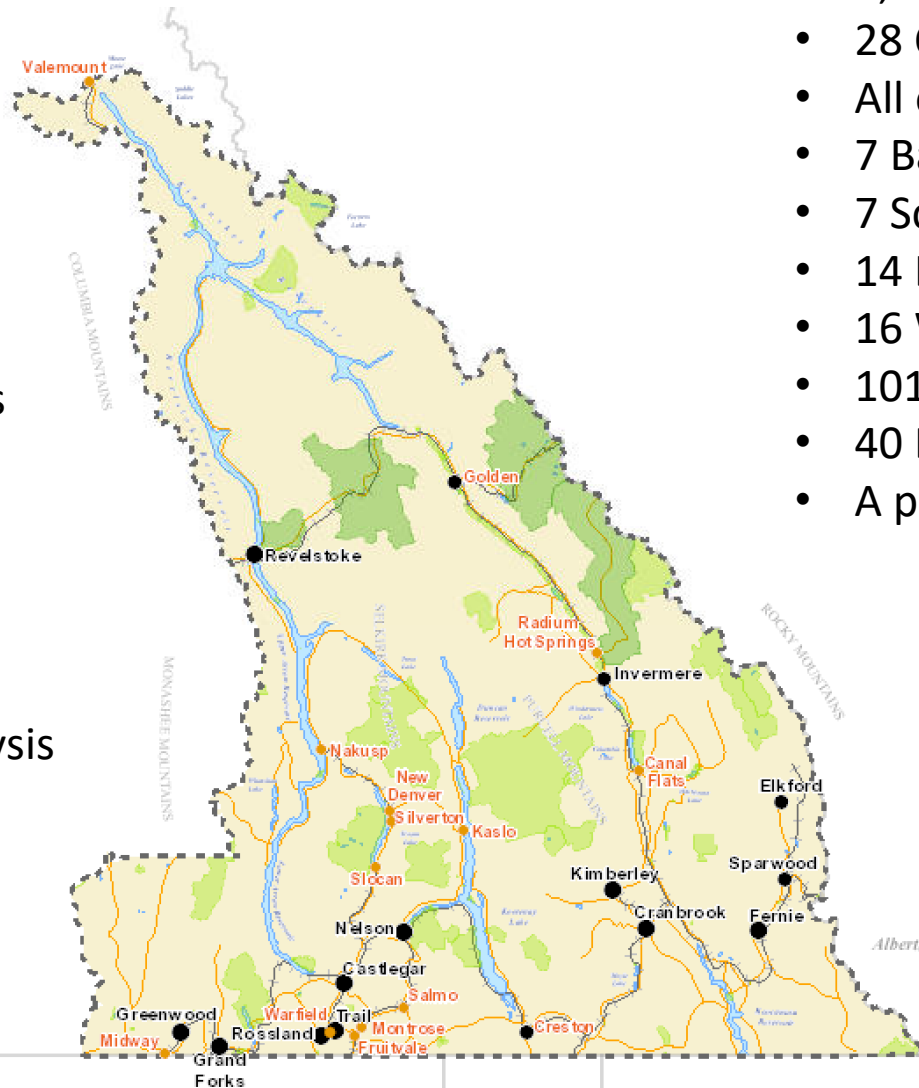
- Air quality
- Growing season
- Wildfire history
- Endangered ecosystems
- Local government spending
- Languages spoken at home
- Access to parks and recreation
- Galleries and Art Centres
- Property values
- Major investments
- Income
- Traffic volumes
- Population trends
- High school completion
- Children at risk
- Crime Rates

Supported by over 200 data sets from a variety of sources including government reports and local research.

Data at a Regional Scale

- Indicators
- Assets
- Reports
- Graphs
- Maps
- Tables
- Site Analysis

- 8,619,422 Ha
- 28 Communities
- All or part of 5 Regional Districts
- 7 Basin Boundary Trading Corridors
- 7 School Districts
- 14 Local Health Areas
- 16 Watershed Groups
- 101 Prov. Parks, 4 Nat'l Parks
- 40 BEC sub-zone ecosystems
- A population of approx. 160,000



A Big Picture Tool

- For Decision Makers, Investors, Researchers, and Citizens
- Adds context to information of interest by overlaying data on a visual map
- Applies big picture information to a locality by filtering data by a smaller area



Explore the Digital Basin

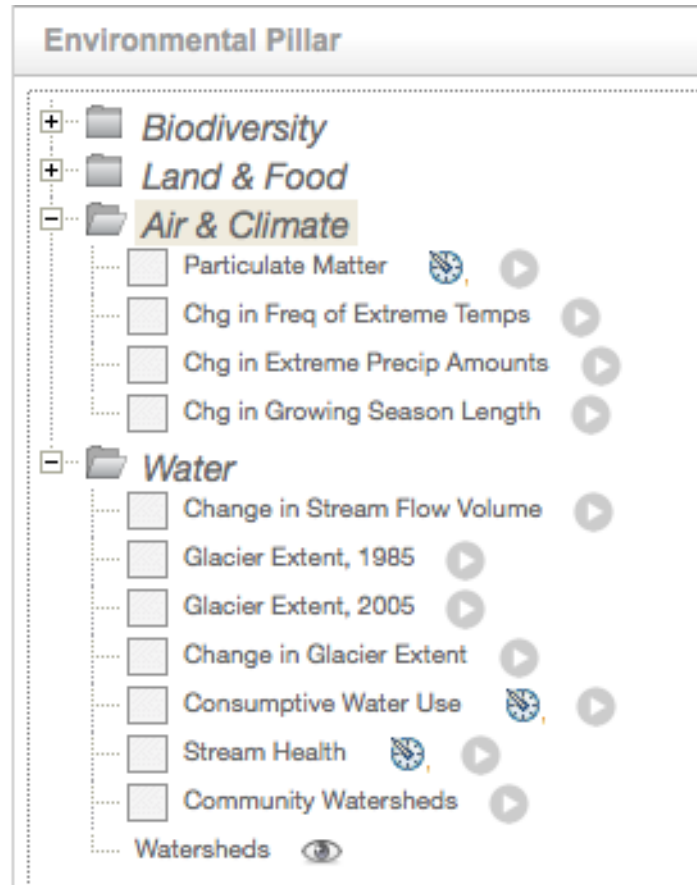
Scenario:

In 2014, the state-of-the-union report on climate change singled out the rapid melt (over 20%) of BC and Alaska glaciers as a major concern. (CBC, May 2014).

As a local decision maker working on a task force for Climate Change Resilience, you turn to the Digital Basin for a more complete picture.

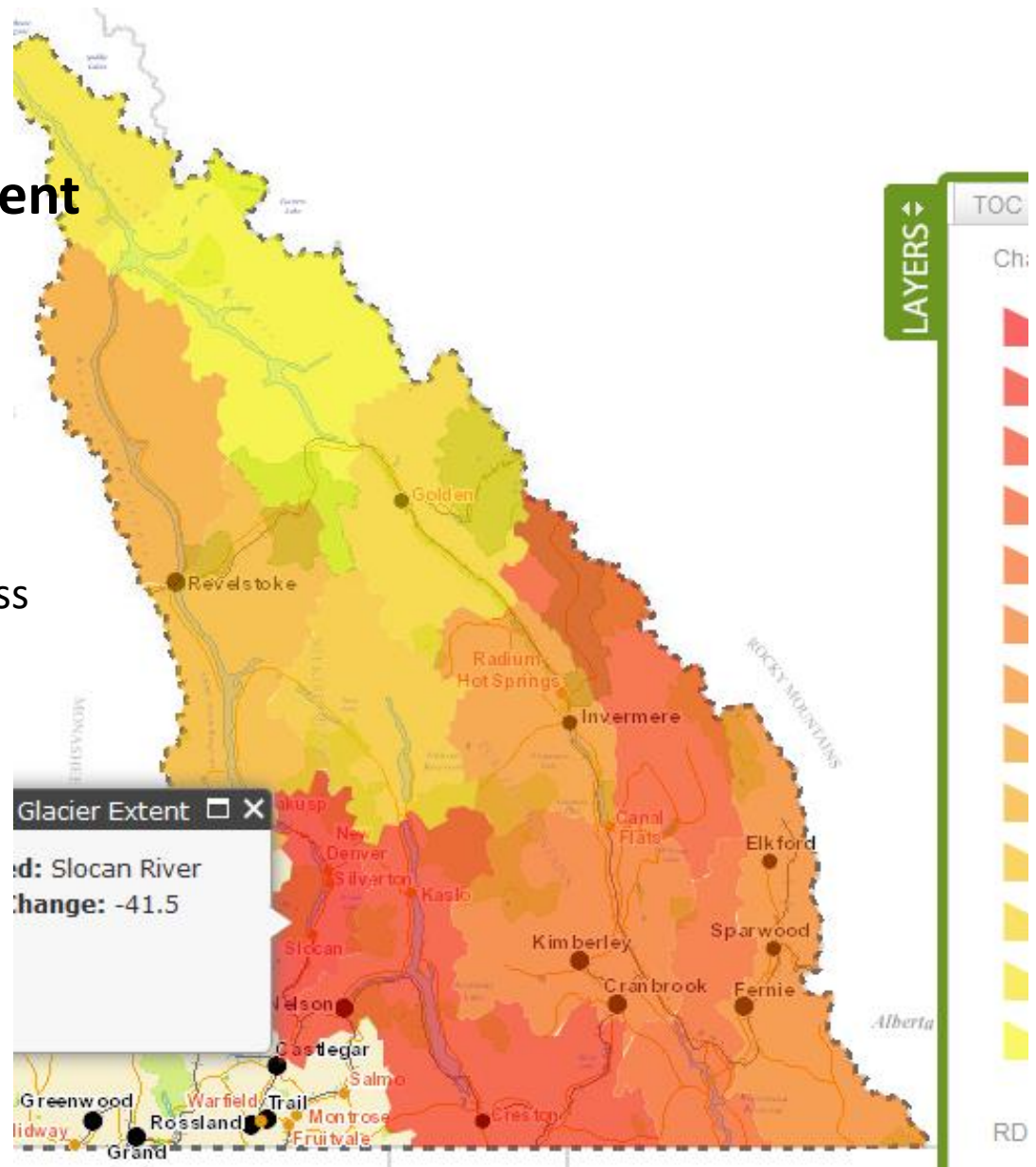
Photo credit: Nelson Kootenay Lake Tourism

Glacier and Climate Data?

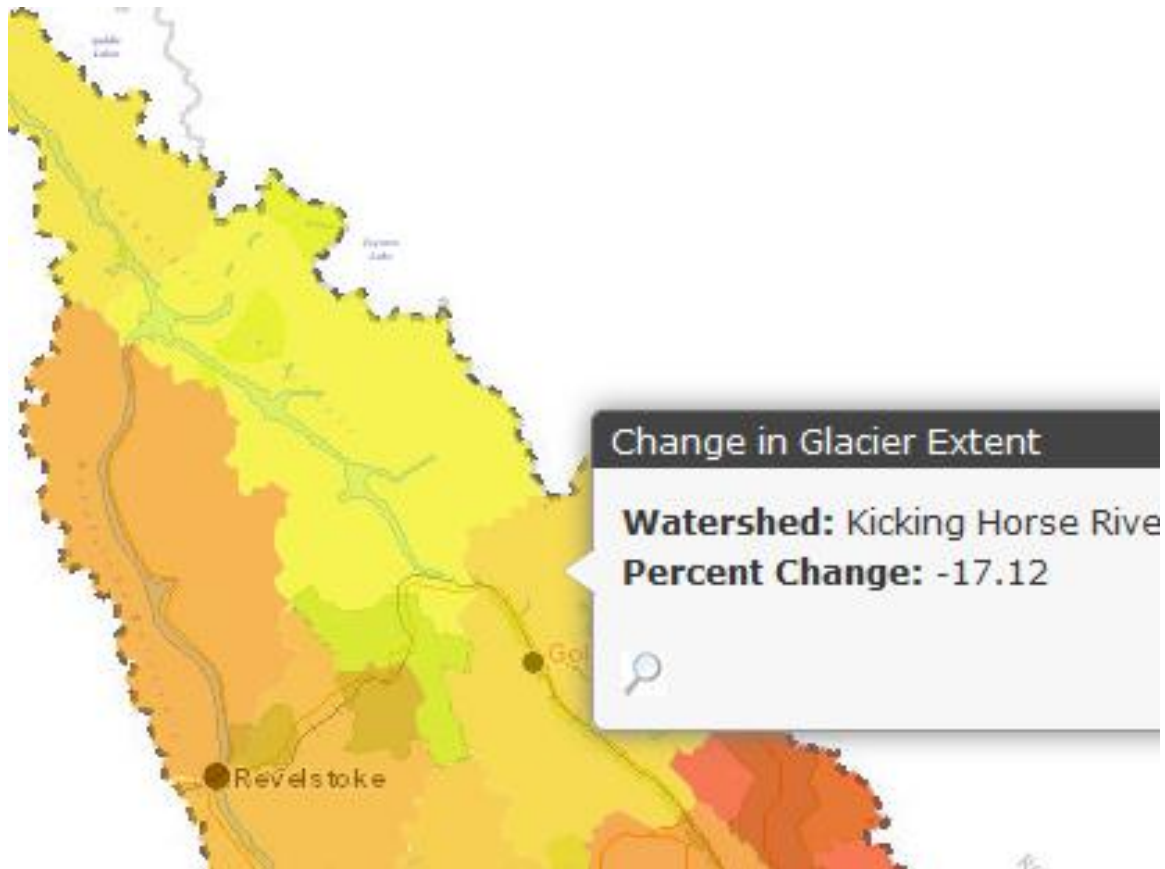


% Change in Glacier Extent

- 1985 – 2005
- Over half of the region's 2935 glaciers have lost over 20% of area.
- Slocan Valley has over 40% loss



Glacier Extent – drill down



Golden & Area Sub-Corridor which has extent changes under 20%.

Glacier Loss Comparison

Slocan Valley

Year	Count	Total Area (Ha)	Area Lost (Ha)
1985	26	1089	
2005	27	820	
1985 - 2005			269

Golden & Area

Year	Count	Total Area (Ha)	Area Lost
1985	864	118,880	
2005	1000	103,902	
1985 - 2005			14,987

Comparing land area lost against the Slocan Valley Sub-Corridor you can see some hard facts that weren't clear from the % Change indicator.

Glacier Extent, 2005 Meta Data

[Info](#) [Table](#) [Graphs](#) [Reports](#)

Glacier Extent, 2005

Description: This layer shows the extent of glaciers in the region as of 2005 (median date). Glacier outlines were confirmed using remote sensing.

Data Source: R. Wheate, UNBC. See Bolch, T., Menounos, B., and Wheate, R. (2010). Landsat-based inventory of glaciers in western Canada, 1985-2005. Remote Sensing of Environment, 114, 127-137.

Geographic Scope: Basin-Boundary region

Last Updated: 2013-10-10

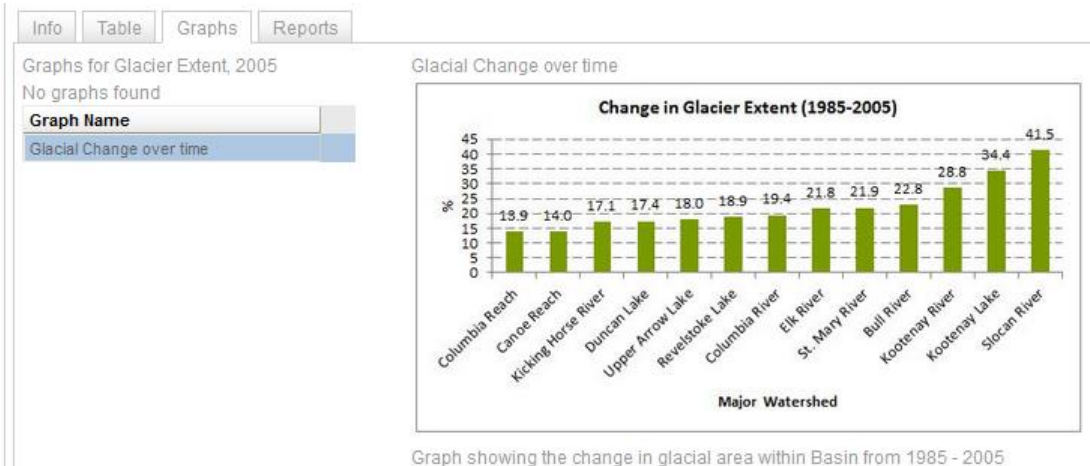
Researcher's Assessment of Data Quality:
Is up-to-date: Yes, Is accurate: Yes, Is complete: Yes

Data Quality Comments: Most recent complete analysis was done in 2005. Update expected for 2013.

Information about the layer is readily available.


Glaciers Data – Additional Information

- View graphs and reports

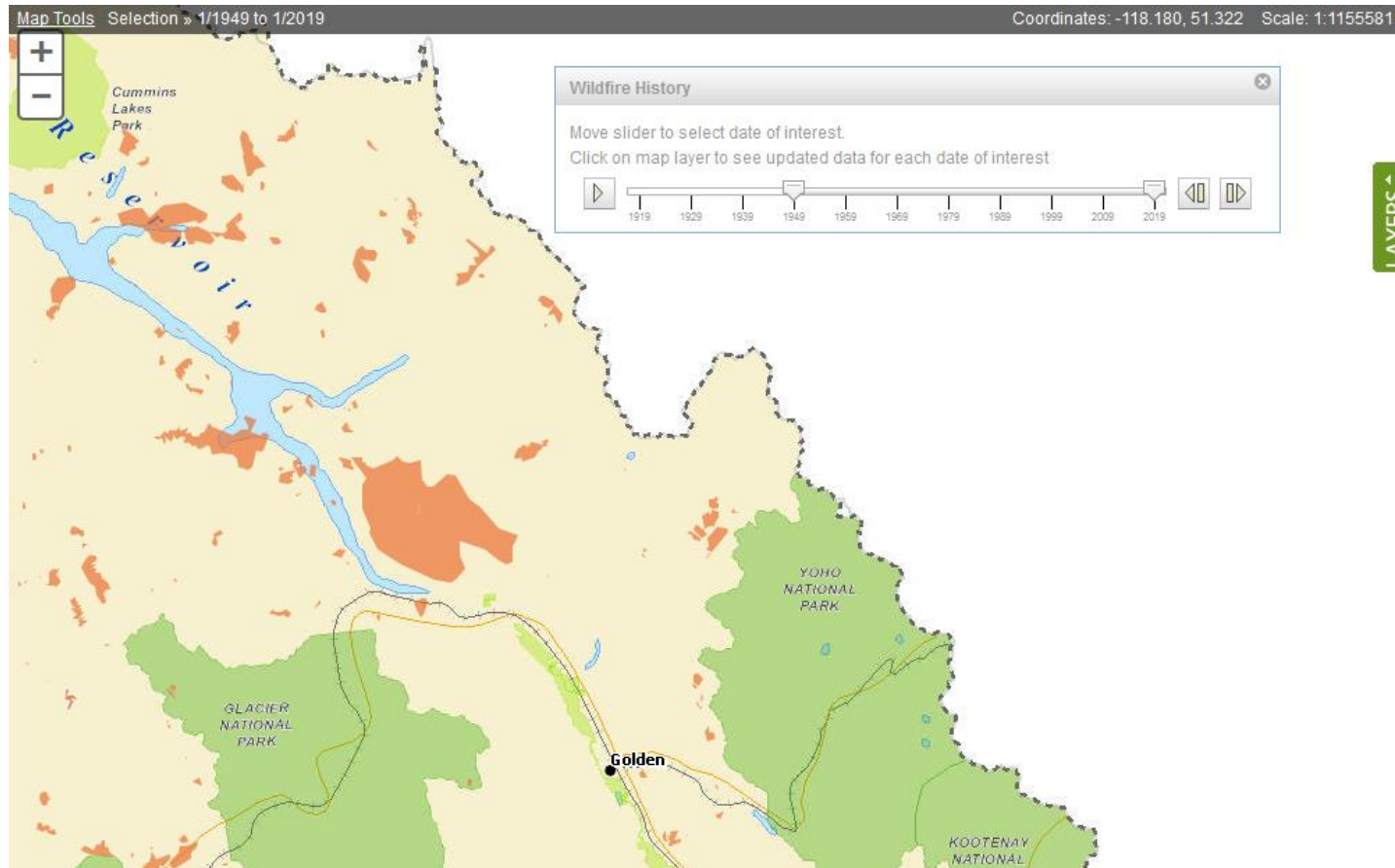


Info Table Graphs Reports

Reports for Glacier Extent, 2005

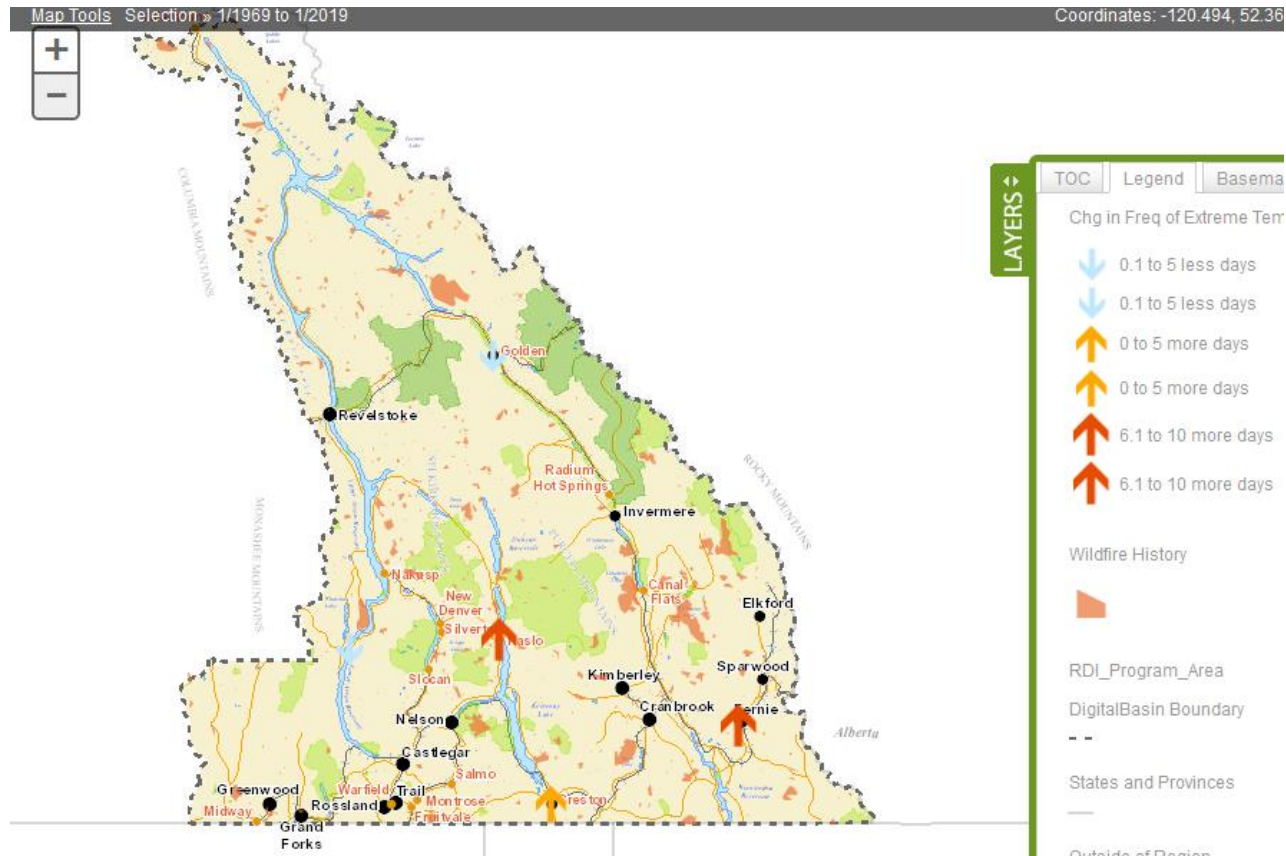
	Report Name	Description
	Glacial Trends Analysis	Glaciers Trend Analysis from 1985 - 2005

Over a 100 years of Wildfire History



Explore other Climate Change Indicators for Golden & Area.

40 and 100 Year Trends of Extreme Temperatures



Overlay additional data.

Explore the Digital Basin

Scenario:

In 2012, provincial, local and economic leaders came together to 'prove' employment lands supply was hindering investment and business expansion.

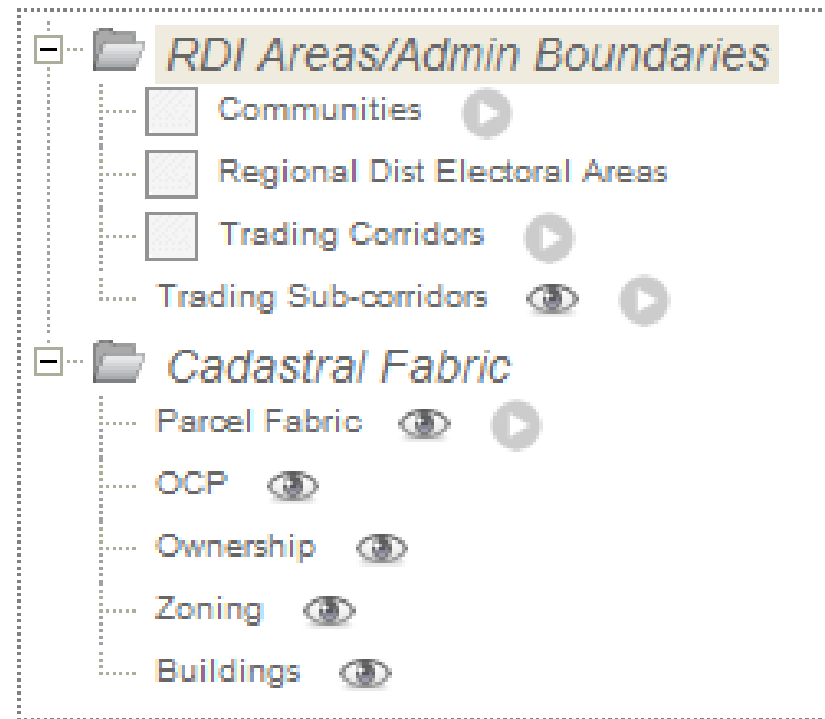
As a local decision maker working on a task force for Business Retention and Expansion and related land use planning you turn to the Digital Basin for a more complete picture.



Open Data Requirements

Multi-year data sharing agreements with 28 municipalities and 5 regional districts for cadastral fabric data

Data sharing agreements with provincial ministries
e.g. Ministry of Transportation, BC Assessment

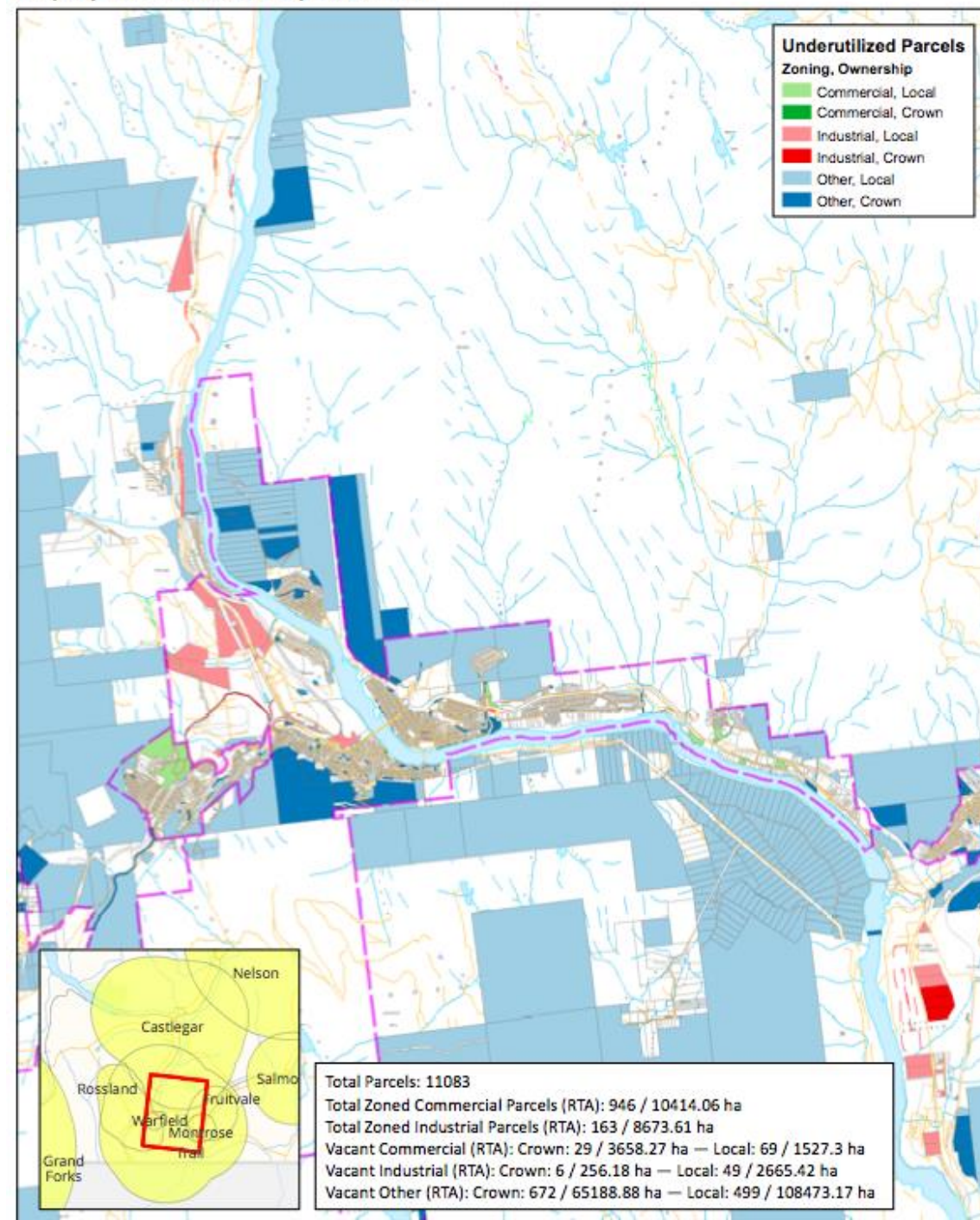




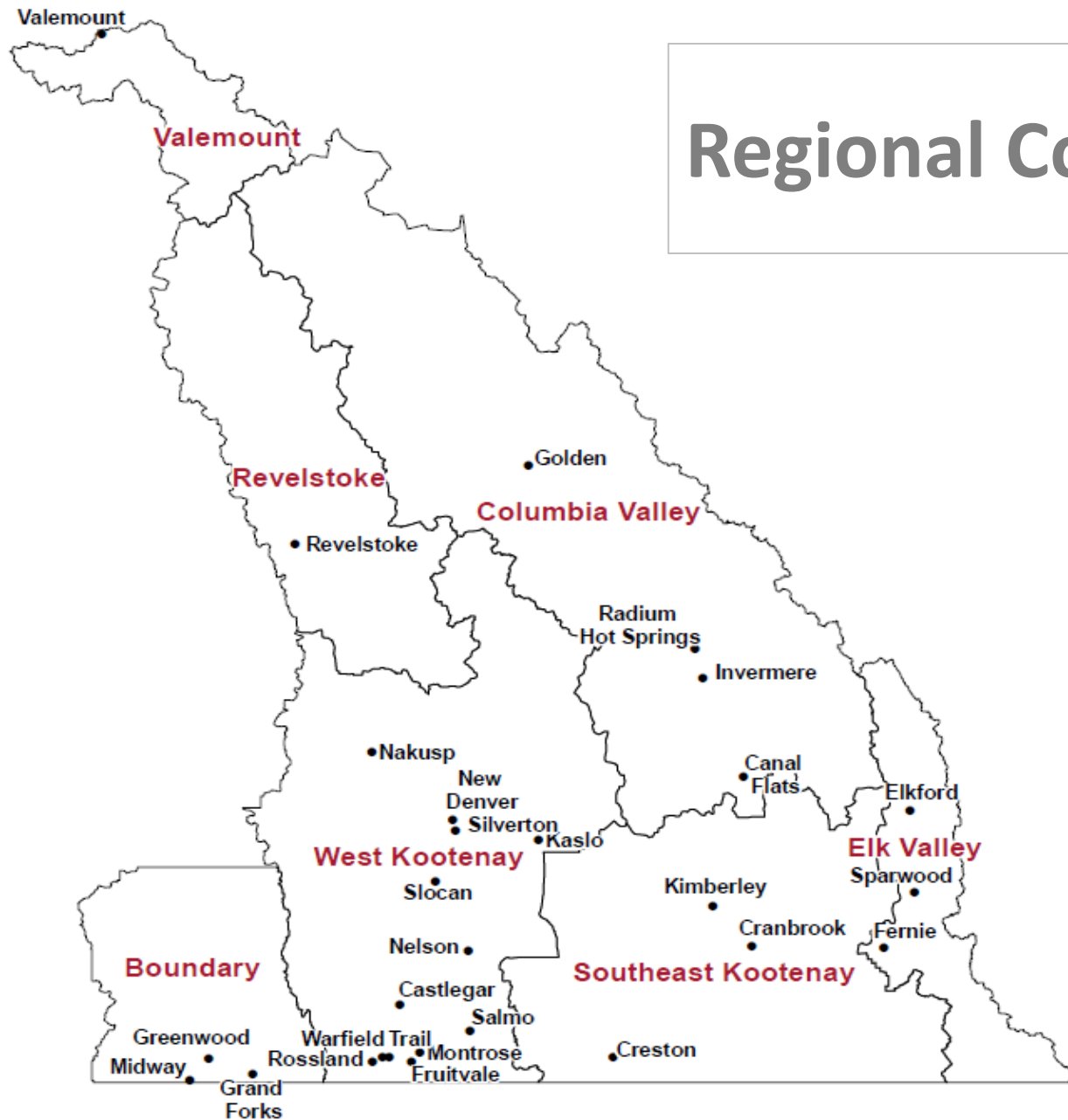
Regional District	Zoning	Ownership	Parcel Count	Hectares
Regional District of Central Kootenay	Commercial	CROWN	41	38.48
		PRIVATE	172	426.71
	Industrial	CROWN	114	5868.37
		PRIVATE	291	4170.84
	Other	CROWN	3957	1313495.74
		PRIVATE	2244	452755.12
Regional District of Kootenay Boundary	Commercial	CROWN	84	3823.06
		PRIVATE	145	1786.12
	Industrial	CROWN	67	5771.46
		PRIVATE	81	11205.81
	Other	CROWN	1472	183560.99
		PRIVATE	874	171281.63
		UNKNOWN	1	13.33

Land Supply by Regional District

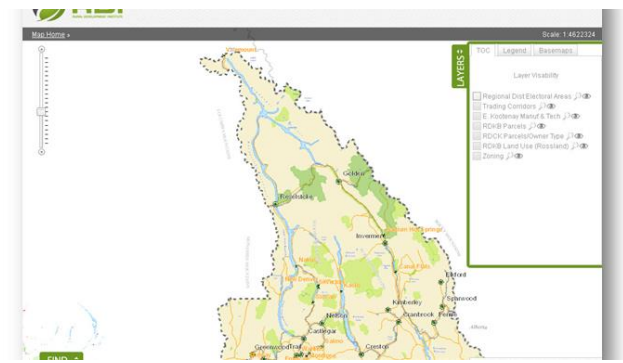
Land Supply by Retail Trade Area



Regional Corridors



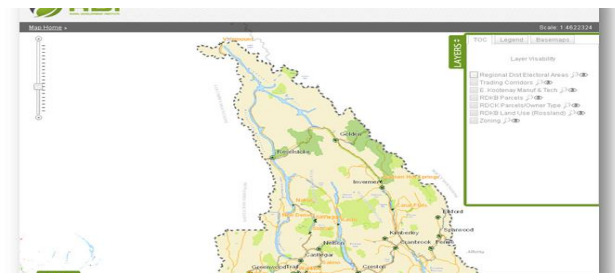
Land Supply



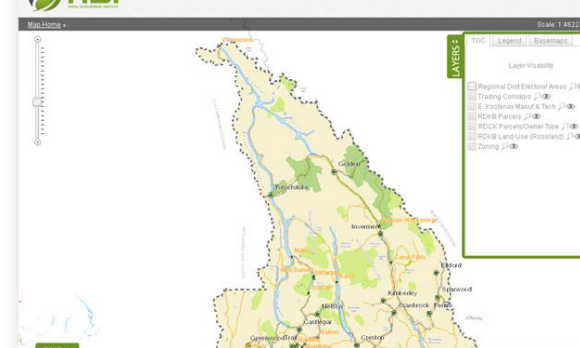
Corridor	Commercial Parcels	Commercial Area	Industrial Parcels	Industrial Area	Other Parcels	Other Area	Total Parcels	Total Area
Boundary Corridor	76	258.82	46	9,791.25	385	64,549.26	507	74,599.33
Columbia Valley Corridor	58	1,038.10	2	210.48	548	107,844.77	608	109,093.35
Elk Valley Corridor	8	37.37	2	8.10	201	294,668.97	211	294,714.44
Revelstoke Corridor	33	572.11	25	430.28	180	137,505.48	238	138,507.87
Southeast Kootenay Corridor	112	482.35	81	1,771.83	930	228,576.01	1123	230,830.20
Valemount Corridor	33	152.22	8	111.16	43	4,708.50	84	4,971.87
West Kootenay Corridor	216	1,906.48	313	4,447.35	2240	405,387.98	2769	411,741.81
Total	536	4,447.46	477	16,770.44	4527	1,243,240.98	5540	1,264,458.87

Community / Corridor	Total Respondents	Plans to Expand within 3 Years	Expansion Plans, Constrained by Appropriately Zoned Land	% Constrained	Primary Sectors Constrained
Sparwood	64	27	14	52%	construction, other services (i.e. repair & maintenance)
Fernie / Elkford	13	suppressed			
Cranbrook	32	22	6	27%	information & cultural industries
Kimberley	57	31	8	26%	retail trade
Creston	12	suppressed			
Columbia Valley	8	suppressed			
Golden	108	54	16	30%	accommodation & food services, retail trade
Revelstoke	2	suppressed			
Nakusp	46	17	12	71%	retail trade, agriculture
Slocan Valley	80	35	8	23%	retail trade
Nelson	30	9	2	22%	suppressed
Castlegar	7	suppressed			
Kaslo	19	suppressed			
Lower Columbia	150	52	8	15%	retail trade, retail / wholesale trade
Boundary	59	26	4	15%	suppressed
Total	687	246	64	26%	

Land Demand



Employment Lands within Municipalities



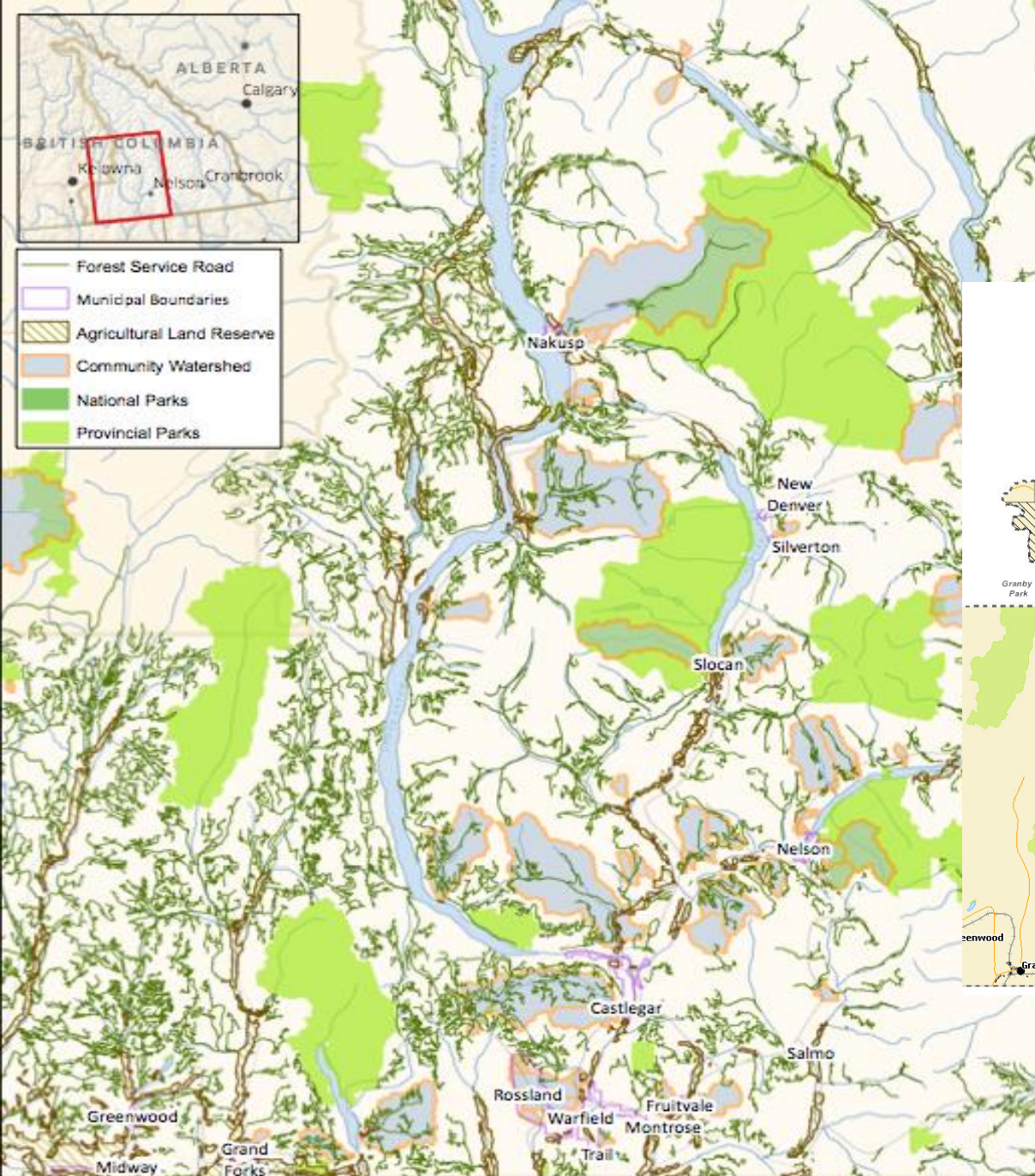
Corridors	Zoning	Vacant Municipal Parcels	Total Vacant Parcels	% Vacant Parcels within Municipality	Vacant Municipal Area (Ha)	Total Vacant Area (Ha)	% Vacant Area within Municipality
Boundary Corridor	Commercial	59	76	78%	57.84	258.82	22%
	Industrial	17	46	37%	58.70	9,791.25	1%
Columbia Valley Corridor	Commercial	34	58	59%	197.46	1,038.10	19%
	Industrial	0	2	0%	0.00	210.48	0%
Elk Valley Corridor	Commercial	8	8	100%	37.37	37.37	100%
	Industrial	2	2	100%	8.10	8.10	100%
Revelstoke Corridor	Commercial	32	33	97%	558.29	572.11	98%
	Industrial	24	25	96%	364.99	430.28	85%
Southeast Kootenay Corridor	Commercial	99	112	88%	251.11	482.35	52%
	Industrial	70	81	86%	477.54	1,771.83	27%
Valemount Corridor	Commercial	33	33	100%	152.22	152.22	100%
	Industrial	0	8	0%	0.00	111.16	0%
West Kootenay Corridor	Commercial	182	216	84%	1,629.08	1,906.48	85%
	Industrial	245	313	78%	1,862.53	4,447.35	42%
Commercial Total		447	536	83%	2,883.37	4,447.46	65%
Industrial Total		358	477	75%	2,771.87	16,770.44	17%
Total		805	1013	79%	5,655.24	21,217.89	27%

Corridor	Utilized Commercial	Total Vacant Commercial	% Utilized Commercial	Utilized Commercial (Ha)	Total Vacant Commercial (Ha)	% Utilized Commercial (Ha)
Boundary Corridor	1315	1391	95%	8,421.34	8,680.16	97%
Columbia Valley Corridor	1916	1974	97%	25,930.55	26,968.65	96%
Elk Valley Corridor	610	618	99%	11,268.68	11,306.05	100%
Revelstoke Corridor	753	786	96%	5,640.69	6,212.80	91%
Southeast Kootenay Corridor	1324	1436	92%	11,632.89	12,115.24	96%
Valemount Corridor	136	169	80%	611.39	763.61	80%
West Kootenay Corridor	3439	3655	94%	12,930.92	14,837.40	87%
Total	9493	10029	95%	76,436.46	80,883.91	95%

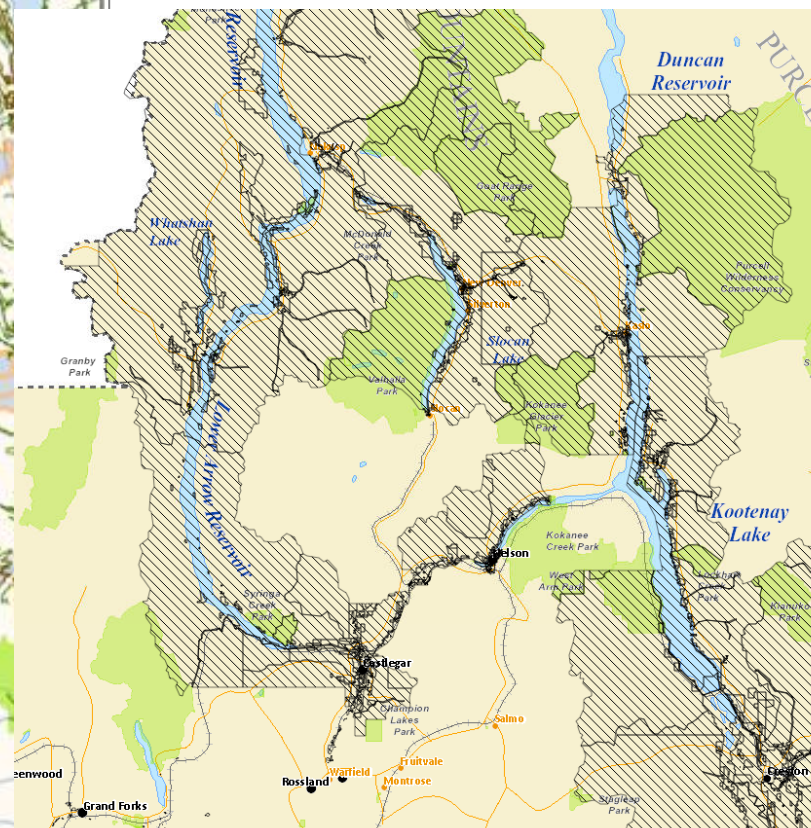
Corridor	Utilized Industrial	Total Vacant Industrial	% Utilized Industrial	Utilized Industrial (Ha)	Total Vacant Industrial (Ha)	% Utilized Industrial Area
Boundary Corridor	130	176	74%	8,876.31	18,667.56	48%
Columbia Valley Corridor	15	17	88%	2,805.34	3,015.82	93%
Elk Valley Corridor	105	107	98%	35,603.29	35,611.39	100%
Revelstoke Corridor	153	178	86%	2,858.15	3,288.43	87%
Southeast Kootenay Corridor	458	539	85%	5,808.04	7,579.87	77%
Valemount Corridor	33	41	80%	2,112.92	2,224.08	95%
West Kootenay Corridor	531	844	63%	14,611.33	19,058.68	77%
Total	1425	1902	75%	72675.38	89445.83	81%

Utilization





Conflicting land use ideas and presence of an OCP



Possible Constraints

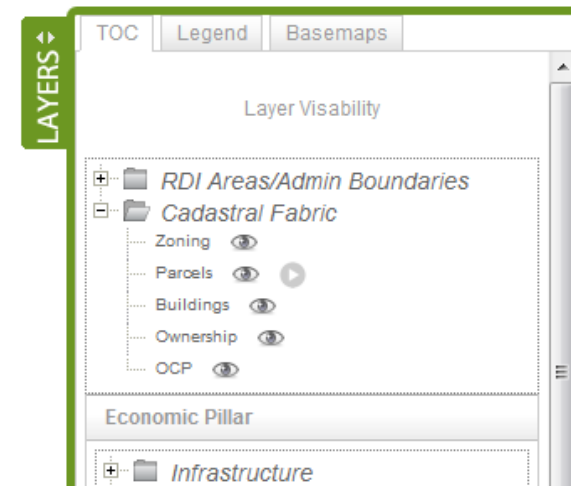
Sources: Province of BC, Government of Canada, Local and Regional Governments, RDI, SGRC
Datum / Projection: WGS 1984 / World Mercator

Highlights of Analysis



- Majority of BRE expansion barriers may be the result of a matching problem
- Possible constraints on commercial lands in the Elk Valley Corridor and on industrial lands in the Elk Valley and Columbia Valley Corridors
- 83% of commercial and 75% of industrial lands are located within municipal boundaries'
- 95% of the regions' commercial and 75% of the regions' industrial parcels are being utilized
- Constraints to utilization may include proximity-based land use conflicts and lack of an Official Community Plan

The Site Selector Tool



DATA



Layer Selection

Parcel Selector Tool

Location Filter:

Map Extent

Info

Table

Graphs

Reports

Location:

RDCK ▼

Community:

Castlegar ▼

Min Size (Ha):

Max Svc Dist (Km):

Max Hwy Dist (Km):

Grade:

Any ▼



Zoning:

Industrial ▼

Within (Km):

Max Size (Ha):

Developed:

Any ▼

Max Transit Dist (Km):

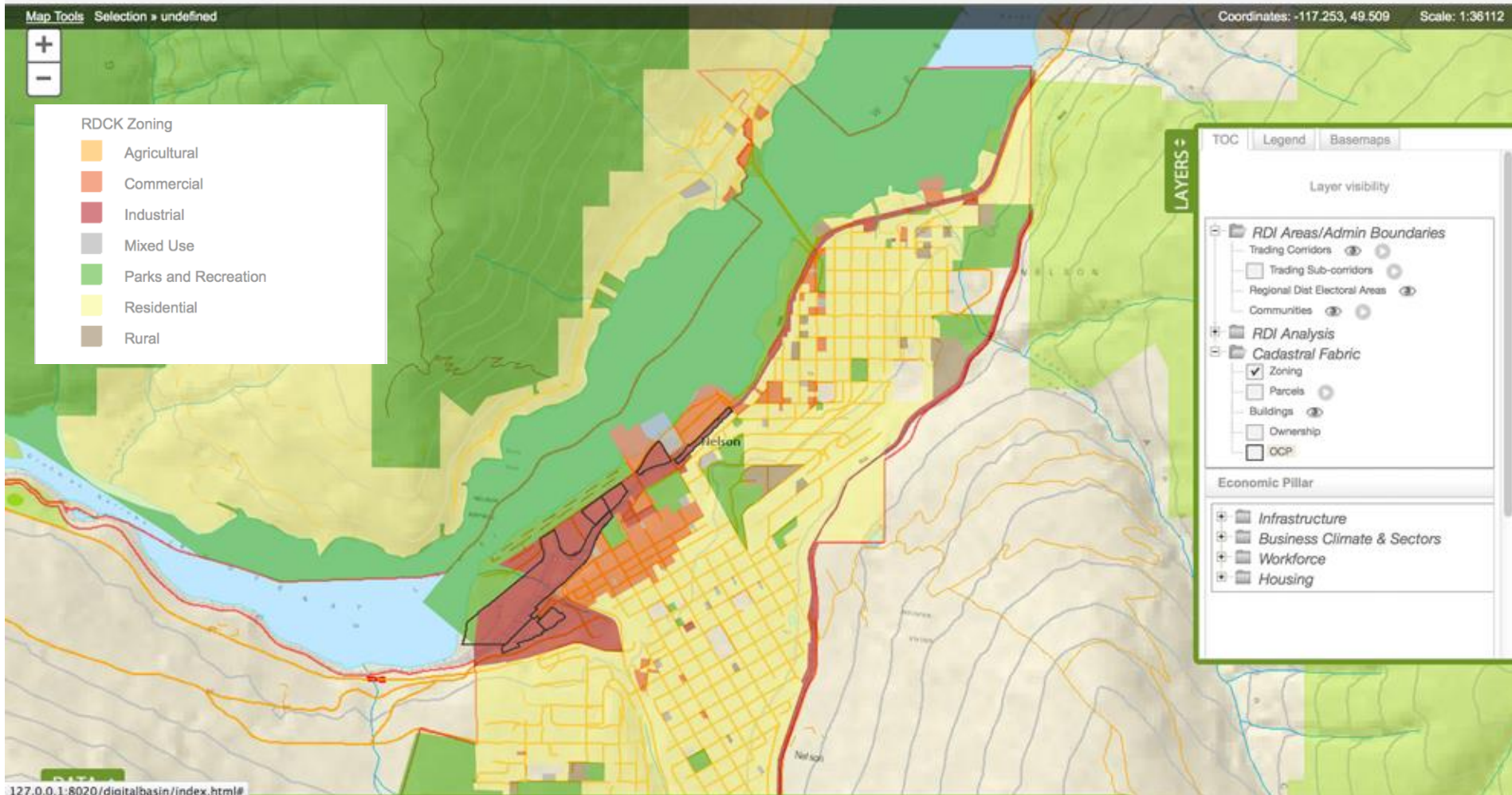
Search Results

Nelson zoning only:

- Nelson and 10 Km surrounding.
- Industrial zoned (center of parcel is on zone)
- Min size 10 Ha
- Within 1Km from power
- Within 3 Km from Maorj Hwy
- Within 1 Km from water service
- 30 % Area of parcel must be at or below 10% grade

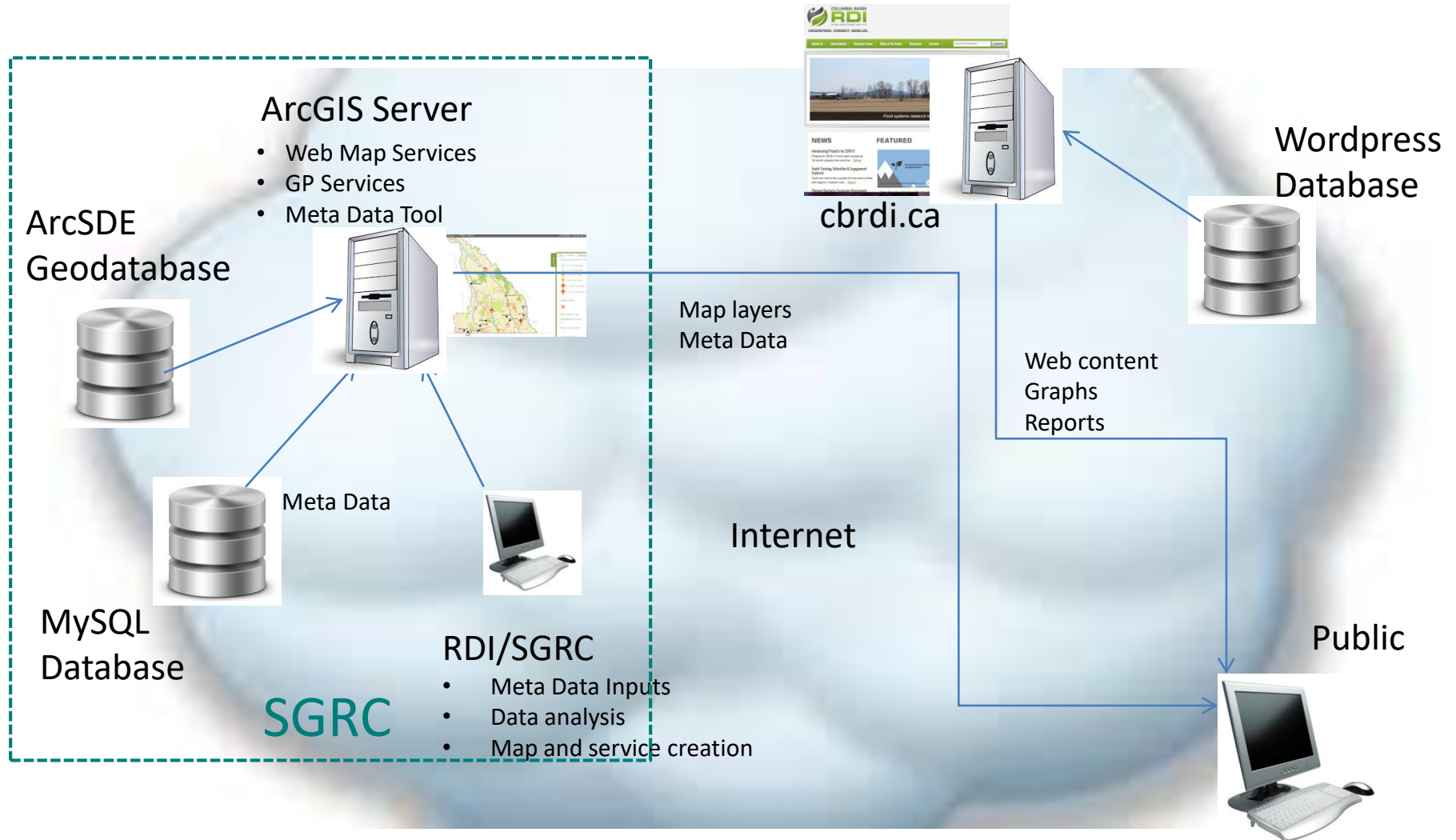


ABOUT LOGIN





Parcels outlined in black meet the filtering criteria

Digital Basin Architecture



Meta Data Tool

Meta Data >>

 Save  Delete

Sharing Agreement:

Public Domain

Researcher:

nraynolds@selkirk.ca

Description:

Location of art galleries and art and cultural centres.

Contact Person:

Nadine Raynolds

Data Source:

Public domain from internet, and primary research by Selkirk Geospatial Research Centre.

Database Location:

RDI@PostSDE_rdi_cultural.sde\rdi_cultural.rdi.GalleriesAndCentres

File Data Location:

P:\SGRC\Projects\RDI\StateOfTheBasin2013\CulturalPillar\GIS_Data\cultureData\arts\GalleriesAndCentres

Geographic Scope:

Columbia Basin Boundary region

Data Quality

☐ Has Meta-Data ☐ Is Up To Date ☐ Is Accurate ☐ Is Complete

Comments:

Data may not be fully complete. Contact information is subject to change.

Map Name:

Culture_Inventory

Portal Layer Id:

gallerieslayer

Attachment:

Date Received:

2013-10-09

Last Update:

2013-10-09

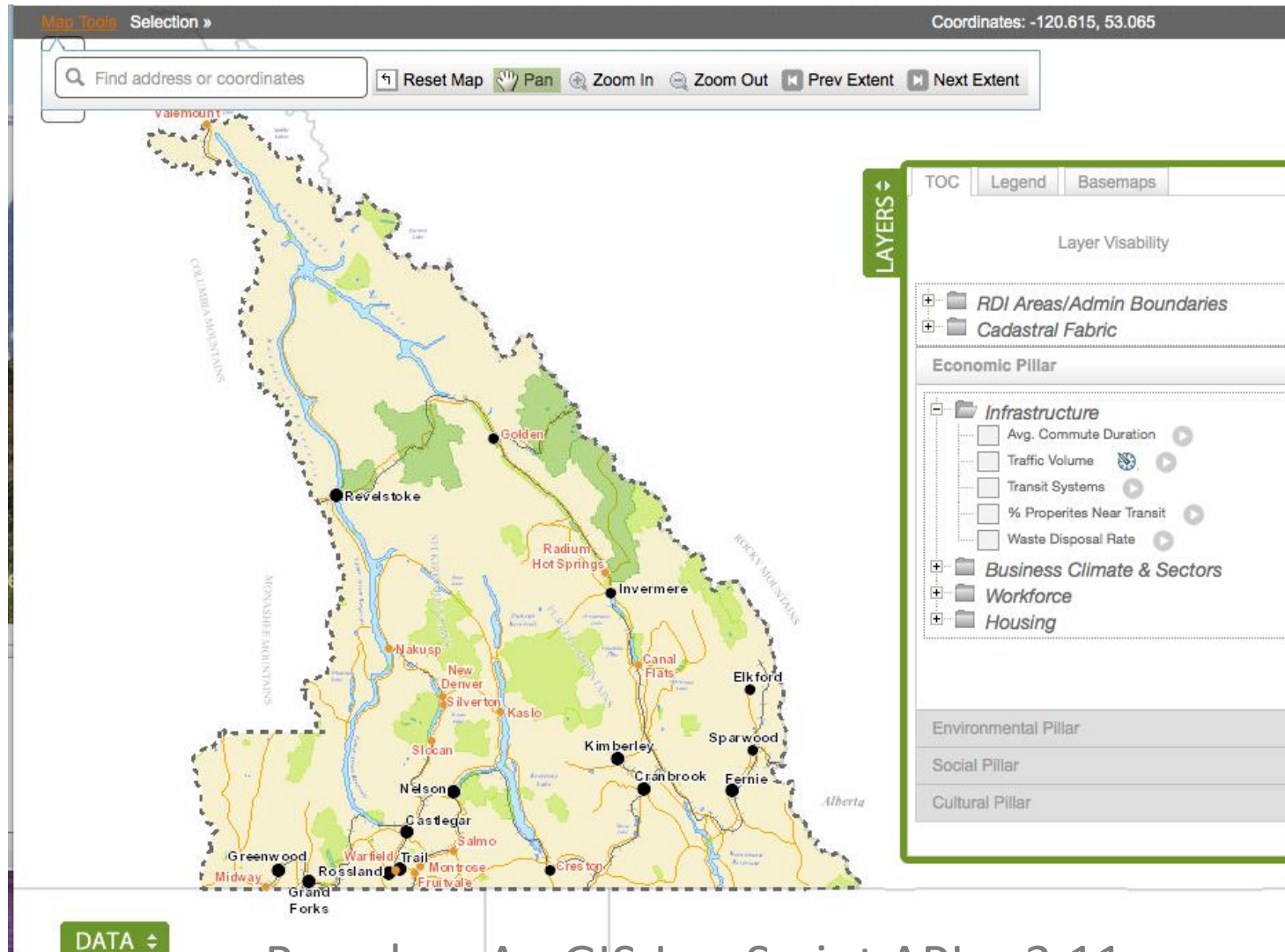
Refresh On:

2014-06-02

Upload File

Download File

Configurable JavaScript Viewer



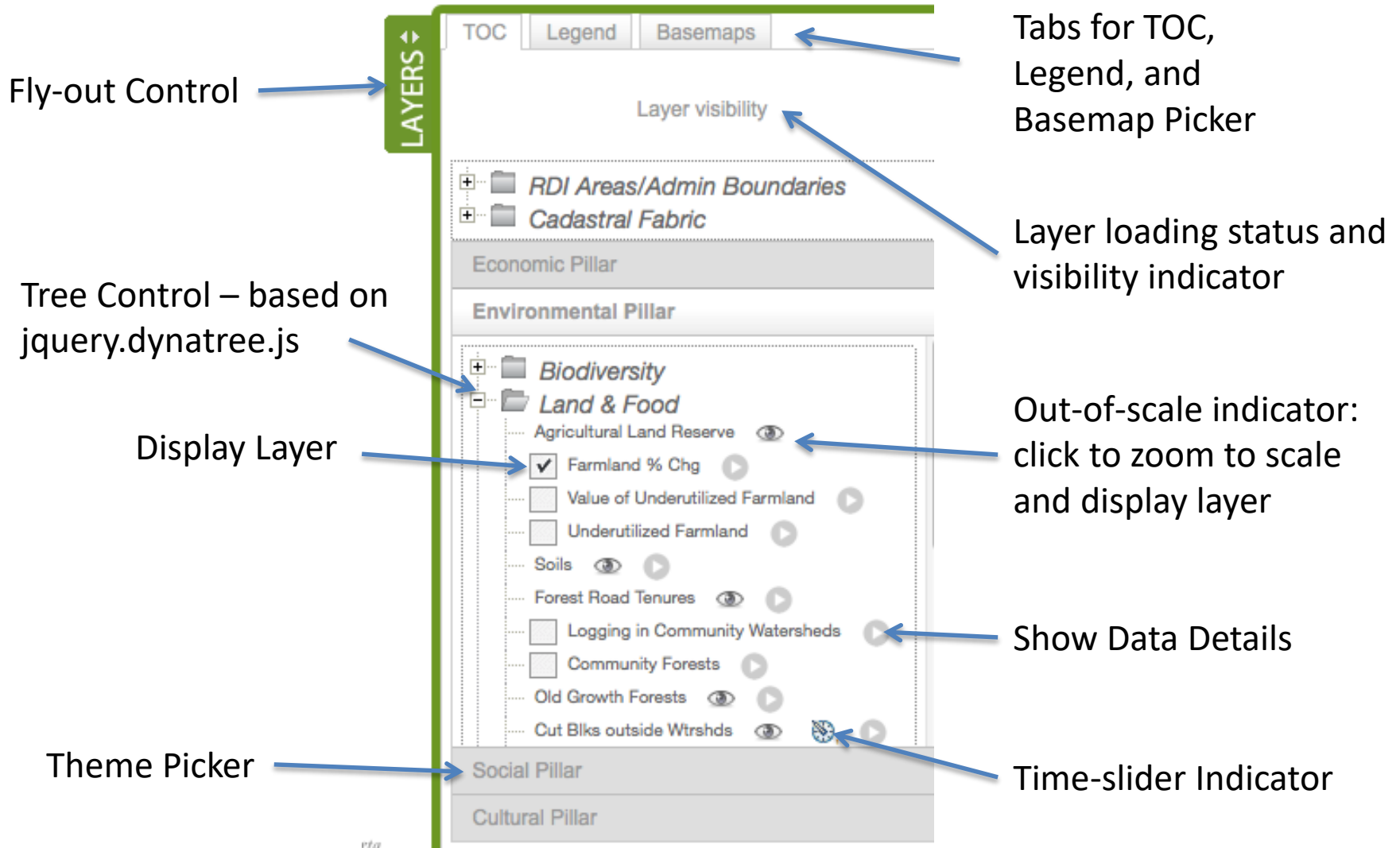
Based on ArcGIS JavaScript API v. 3.11

Viewer Components

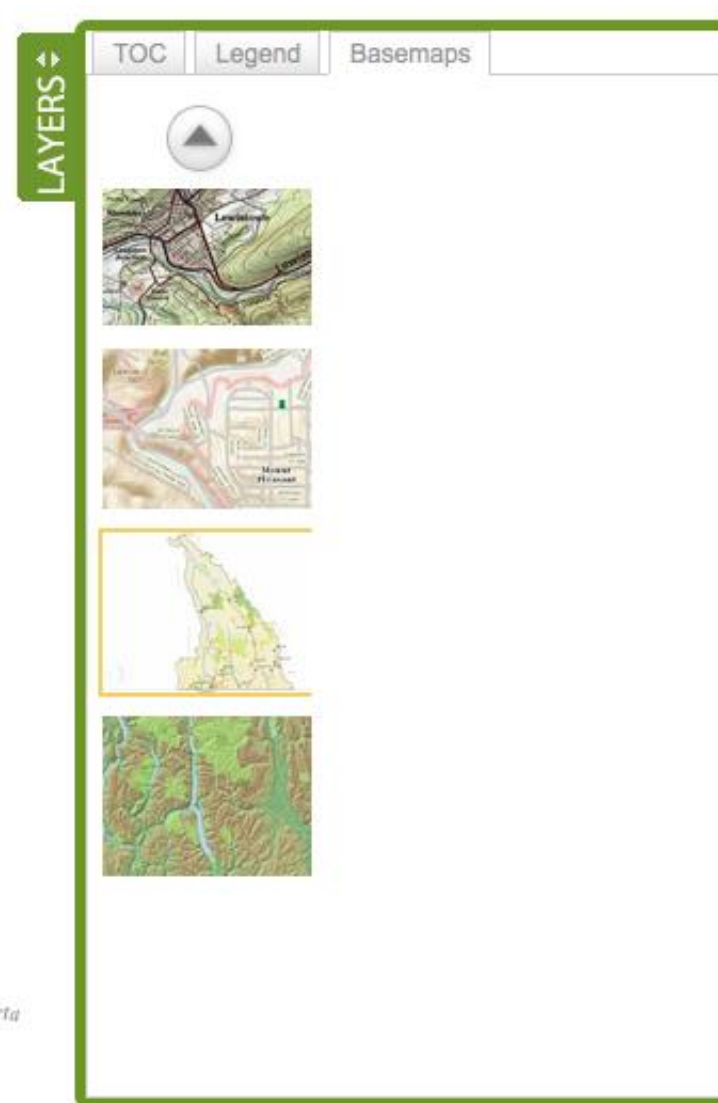
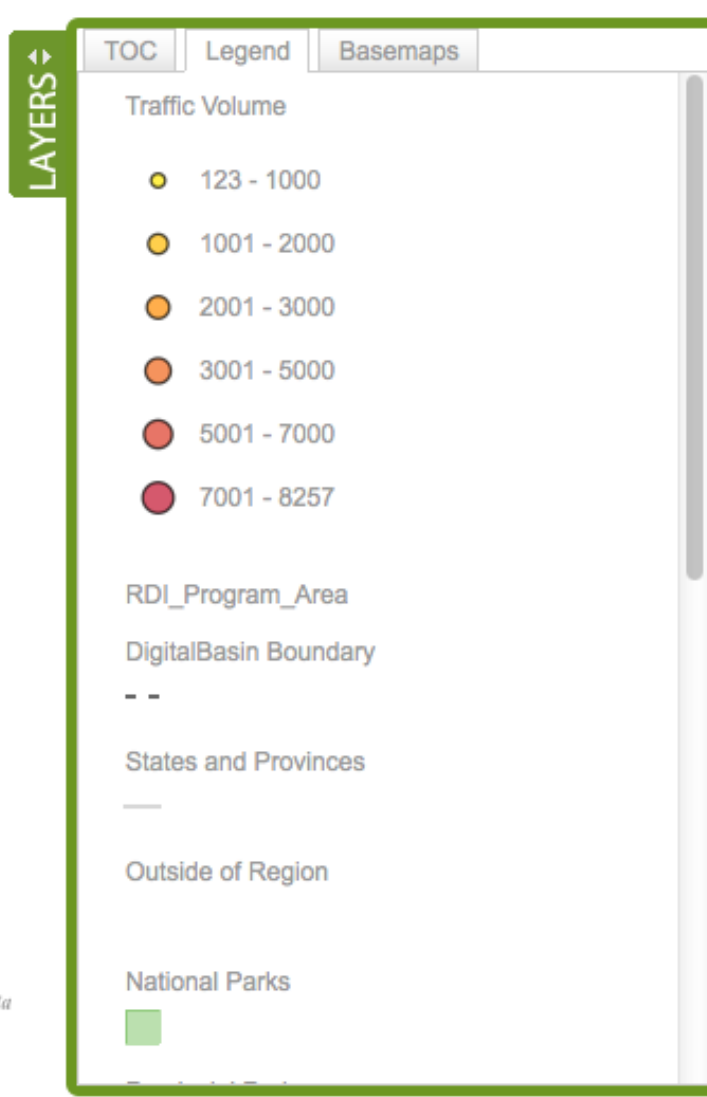
The screenshot displays a map viewer interface with several key components and annotations:

- Map Tools Pop-up:** A blue arrow points to the 'Map Tools' pop-up menu, which includes a search bar labeled 'Find address or coordinates' and buttons for 'Reset Map', 'Pan', 'Zoom In', 'Zoom Out', 'Prev Extent', and 'Next Extent'.
- Current mouse coordinates and map scale:** A blue arrow points to the top right corner of the interface, showing the coordinates '-120.104, 53.345' and the scale '1:4622324'.
- Map Pane with Custom Basemap:** The central map area displays a custom basemap of a region in British Columbia, Canada, with various towns and geographical features labeled.
- Fly-out for Layer Controls:** A blue arrow points to the 'LAYERS' fly-out panel on the right side of the map. This panel includes a 'TOC' (Table of Contents) tab, a 'Legend' tab, and a 'Basemaps' tab. It lists several layers, including 'RDI Areas/Admin Boundaries', 'Cadastral Fabric', and 'Infrastructure'. The 'Infrastructure' layer is expanded, showing sub-layers like 'Avg. Commute Duration', 'Traffic Volume', 'Transit Systems', '% Properties Near Transit', and 'Waste Disposal Rate'. Other pillars listed include 'Business Climate & Sectors', 'Workforce', 'Housing', 'Environmental Pillar', 'Social Pillar', and 'Cultural Pillar'.
- Fly-up for Data Details:** A blue arrow points to the 'DATA' button at the bottom left of the map pane.

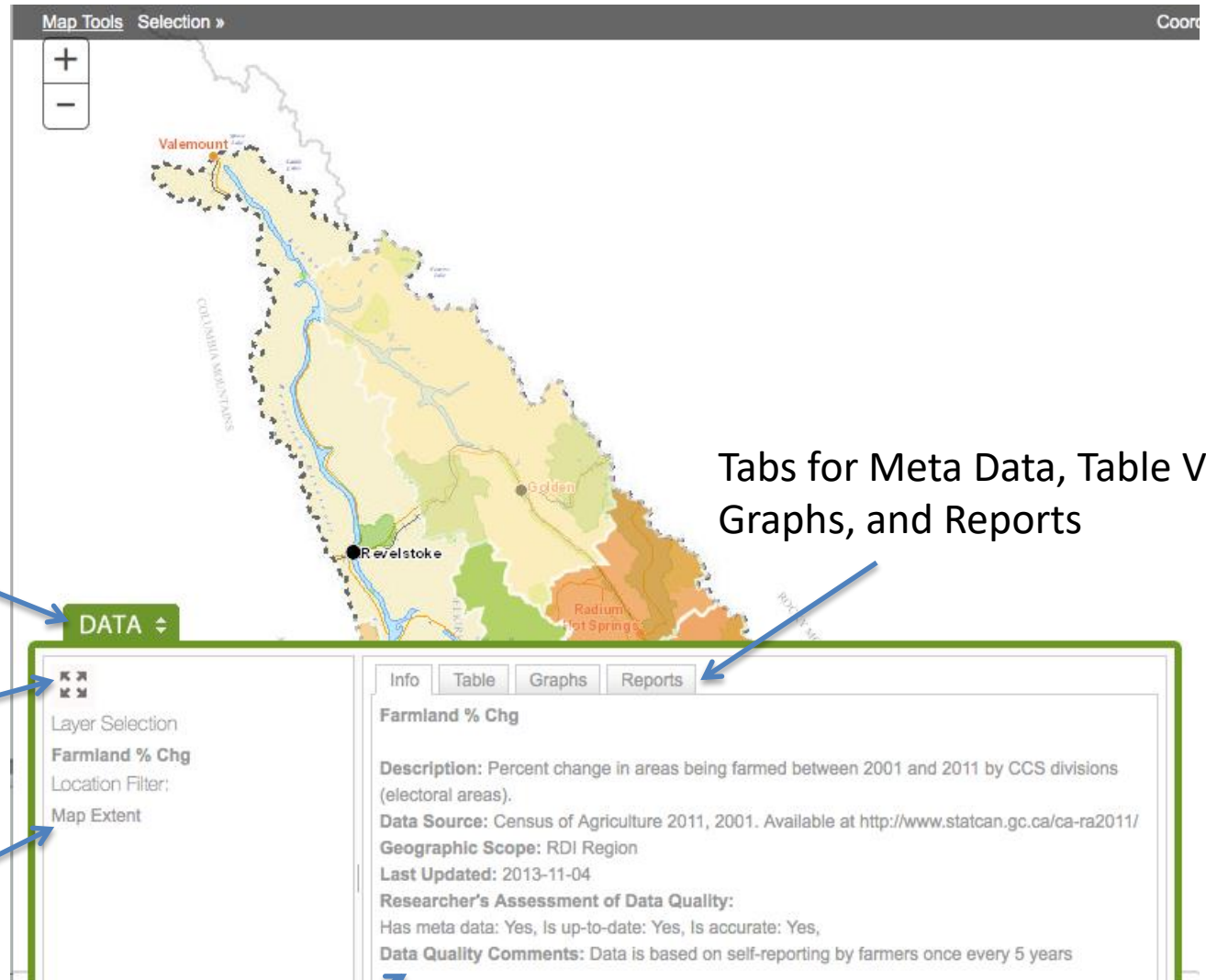
Layer Controls



Legend and Base Map Picker



Data Details



Data
Fly-up
Control

Tabs for Meta Data,
Table View,
Graphs, and Reports




















Expand dialog
control

Select-by-
location filter
indicator

Meta Data

Layer Selection			
Farmland % Chg			
Location Filter:			
Map Extent			

Info	Table	Graphs	Reports	
Filter by location: <input type="text"/> Search				
EXPORT	19 Farmland % Chg records found.			
CCS Name	ALR Area (Ha)	Area being farmed in 2011 (Ha)	Farmed Land Change 2001-2011(%)	Zoom To
Central Kootenay E	1133.3	706	10.83	
East Kootenay A	14,303.19	5970	-15.81	
Kootenay Boundary E	39,165.08	36,045	-24.12	
East Kootenay E	48,046.32	6134	-40.02	
Central Kootenay H	4583.53	2804	28.62	
Central Kootenay D	7485.82	975	44.87	
East Kootenay F	56,861.08	15,293	-36.86	
Columbia-Shuswap A	9752.49	6867	-3.76	
Central Kootenay B	7637.22	5781	-11.67	
Central Kootenay C	14,483.96	8163	-12.08	
Central Kootenay G	2432.07	1144	83.04	
Kootenay Boundary B, C	5918.29	1377	-42.07	
Central Kootenay J	1869.55	885	-30.81	
Central Kootenay A	506.06	580	-68.82	
East Kootenay B	67,507.1	13,820	-9.9	
Kootenay Boundary D	9028.76	6019	-14.45	
East Kootenay G	23,526.23	7289	-35.68	
Central Kootenay K	22,973.25	3695	-12.48	
East Kootenay C	55,276.18	31,566	1.74	

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Central Kootenay K	22,973.25	3695	-12.48		
East Kootenay C	55,276.18	31,566	1.74		

Data Query

Location Filters based on:

- Current map extent
- Community
- Trading sub-corridor

Query criteria –
provided when
needed

Export to Excel

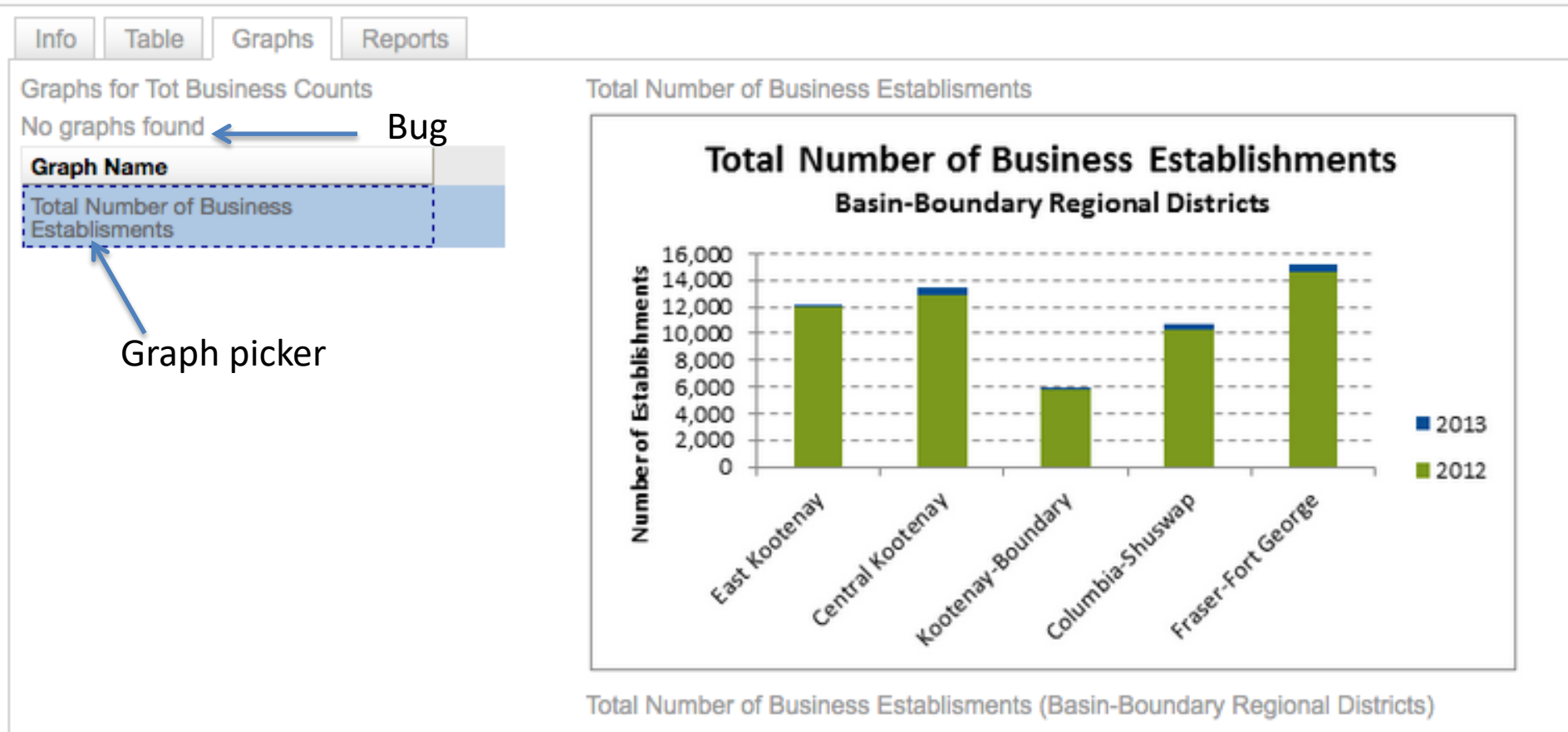
The screenshot displays a web-based data query interface. On the left, a sidebar contains 'Layer Selection' with 'Business Bankruptcies' selected, and 'Location Filter' with 'Map Extent' chosen. The main panel has tabs for 'Info', 'Table', 'Graphs', and 'Reports'. The 'Table' tab is active, showing a query for the years 2010 to 2015, filtered by location. An 'EXPORT' button is visible above the table. The table has four columns: 'Development Region', 'Year', 'Number of Bankruptcies', and 'Zoom To'. The first five rows of data are for 'Kootenay' in the years 2010 through 2014. Annotations with blue arrows point to the 'EXPORT' button, the 'Development Region' column header, and a magnifying glass icon in the 'Zoom To' column. A search bar at the top right includes fields for 'From year' and 'To year', a 'Filter by location' checkbox, and a 'Search' button.

Development Region	Year	Number of Bankruptcies	Zoom To
Kootenay	2010	7	
Kootenay	2011	7	
Kootenay	2012	12	
Kootenay	2013	6	
Kootenay	2014	3	

Sort data by column

Zoom to item location

Graphs







Graph info for each layer pulled from database

Reports

Info Table Graphs Reports

Reports for Tot Business Counts

	Report Name	Description
	Business Starts and Stops trends analysis	Trends analysis explaining the starts and closures of businesses per year
	GDP by Sector Trends Analysis	Trends Analysis explaining the GDP by Sector
	GDP Trends Analysis	Trends analysis explaining the GDP
	Trend Analysis: Business Counts	An indicator measuring the number of businesses with active establishments, by year and Regional District.

Click to download PDF report

Report info for each layer pulled from database

Challenges & Lessons Learned

- Decision-makers may need convincing on why share data (and why dedicate the resourcing to do so)
 - use case scenarios and examples of related ‘informed’ decision-making
- Need education on what data government can share, with who and how
 - Knowledge Briefs, webinars and presentations on open data and privacy guidelines
- Limited capacity of local government staff to prepare & provide data
 - co-op students needed, support local government capacity building, create data frameworks / systems / tools for communities
- No common data formats or definitions (schema / metadata)
 - regional data dictionary needed, resources are required to standardize, host and update regional data, build capacity and create tools for local government staff

Challenges & Lessons Learned

- Ongoing data costs of data retrieval, processing and dissemination is difficult to keep funded
 - Explore sustainability models / for-fee data partnerships, grant funding
- Maintenance of software and server systems that make up spatial data infrastructure are also costly
 - Explore sustainability models / for-fee data partnerships, grant funding

Challenges & Lessons Learned

- Provincial government may need convincing of why share data (and why dedicate the resourcing to do so)
 - use case scenarios and examples of related ‘informed’ decision-making
- Provincial government researchers are not prepared to provide regional sub-sets of data that are needed for local level decision-making
 - Help researchers incorporate this end goal into their design, including use of regional networks to increase their response rate
- User interface matters
 - Digital Basin redesign to allow users to access data through variety of platforms rather than requiring entry by map platform (reports, maps, data spreadsheets, site selector tool, open data portal)
- Limited motivation and capacity of decision-makers to use data to support decision-making
 - co-op students needed, support local government capacity building, create data frameworks / systems / tools for communities, use case scenarios



APPLIED & INNOVATION RESEARCH CENTRE

SUPPORTING LEARNERS, COMMUNITY AND INDUSTRY THROUGH INNOVATION

Digital Basin 2.0

Improving User Interface and Integrating Online Tools

June 2016



Digital Basin

The Basin-Boundary region's online portal for data, reports, maps and resources for research-based decisions.

I want to...

Keyword Search

Digital Basin
Catalogue

State of the Basin
Catalogue

Digital Basin
iMap

Digital Basin Site
Selector Tool

Open Data
Catalogue



Seedlot Area of Use Spatial Data Locator 🔥

A Data Mashup Framework application that provides links to the Spatial Seedlot Area of Use Spatial Data. The data is stored on an ftp server in zip files. For Class A...



Natural
Resources

Record Published: 2016-06-16

Record Last Modified: 2016-06-16

Seedlot Spatial Area of Use 🔥

The Seedlot Spatial Area of Use (AOU) data was created for each Seedlot registered in the Seed Planning and Registry web application (SPAR). The Chief Forester's Standards for...



Natural
Resources

Record Published: 2016-06-16

Record Last Modified: 2016-06-16

fgdlb

Sites Registry (Open Government License) 🔥

This dataset is a subset of the Sites Registry dataset. The Sites Registry is a collection of locations that are important to government carrying out its business, including...



Service

Record Published: 2016-06-15

Record Last Modified: 2016-06-15

other wms

Digital Basin Catalogue

The Basin-Boundary region's online portal for data, reports, maps and resources for research-based decisions.

I want to...

Digital Basin
Catalogue

State of the Basin
Catalogue

Digital Basin
iMap

Digital Basin Site
Selector Tool

Open Data
Catalogue

Keyword Search

Filter by...

Topic

Location

Release Date

Resource Type

Seedlot Area of Use Spatial Data Locator 🔥



Natural
Resources

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Record Published: 2016-06-16

Record Last Modified: 2016-06-16

Seedlot Spatial Area of Use 🔥



Natural
Resources

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Record Last Modified: 2016-06-16

fgdb

Sites Registry (Open Government License) 🔥



Service

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Record Published: 2016-06-15

Record Last Modified: 2016-06-15

other wms

State of the Basin Catalogue

The Basin-Boundary region's online portal for data, reports, maps and resources for research-based decisions.

I want to...

Digital Basin
Catalogue

State of the Basin
Catalogue

Digital Basin
iMap

Digital Basin Site
Selector Tool

Open Data
Catalogue

Keyword Search

Filter by...

Topic

Location

Release Date

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Natural
Resources

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Natural
Resources

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Service

Record Published: 2016-06-15

Record Last Modified: 2016-06-15

other

wms

Digital Basin iMap

The Basin-Boundary region's online portal for data, reports, maps and resources for research-based decisions.

I want to...

Digital Basin
Catalogue

State of the Basin
Catalogue

Digital Basin
iMap

Digital Basin Site
Selector Tool

Open Data
Catalogue

Keyword Search

Filter by...

Topic

Location

Release Date

Resource Type



[Digital Basin Quick Start](#)



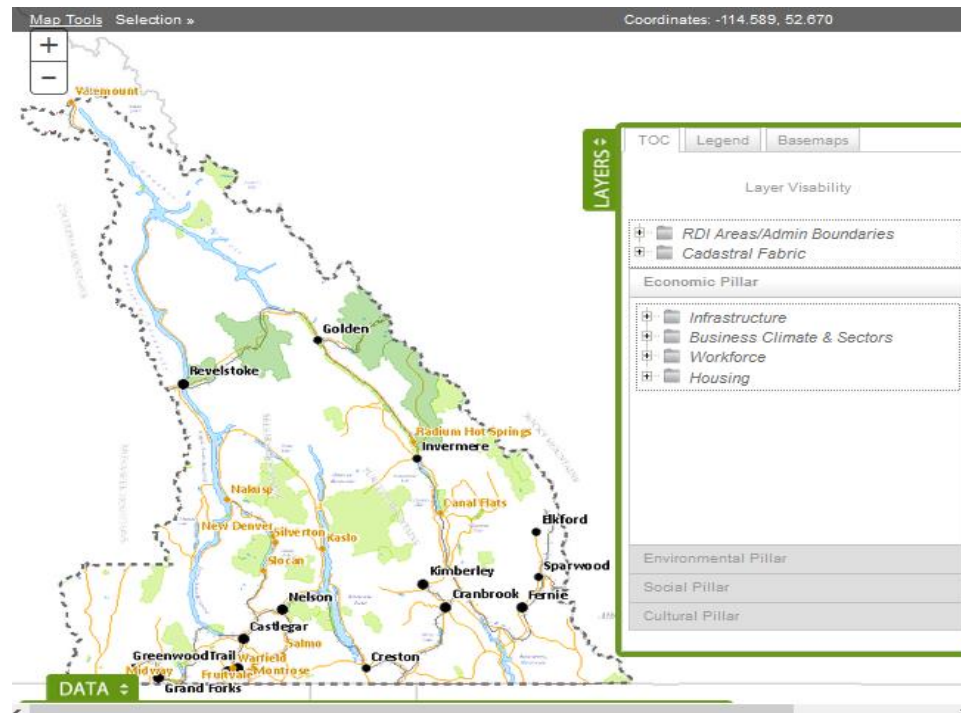
[Find Wildlife Data for
your Project](#)



[Accessing Demographic
Data](#)



[Locate Cultural Facilities
in Your Community](#)



Digital Basin Site Selector Tool



The Basin-Boundary region's online portal for data, reports, maps and resources for research-based decisions.

I want to...

Digital Basin
Catalogue

State of the Basin
Catalogue

Digital Basin
iMap

Digital Basin Site
Selector Tool

Open Data
Catalogue

Filter by...

Location

Size

Value

Zoning Classification

Grade

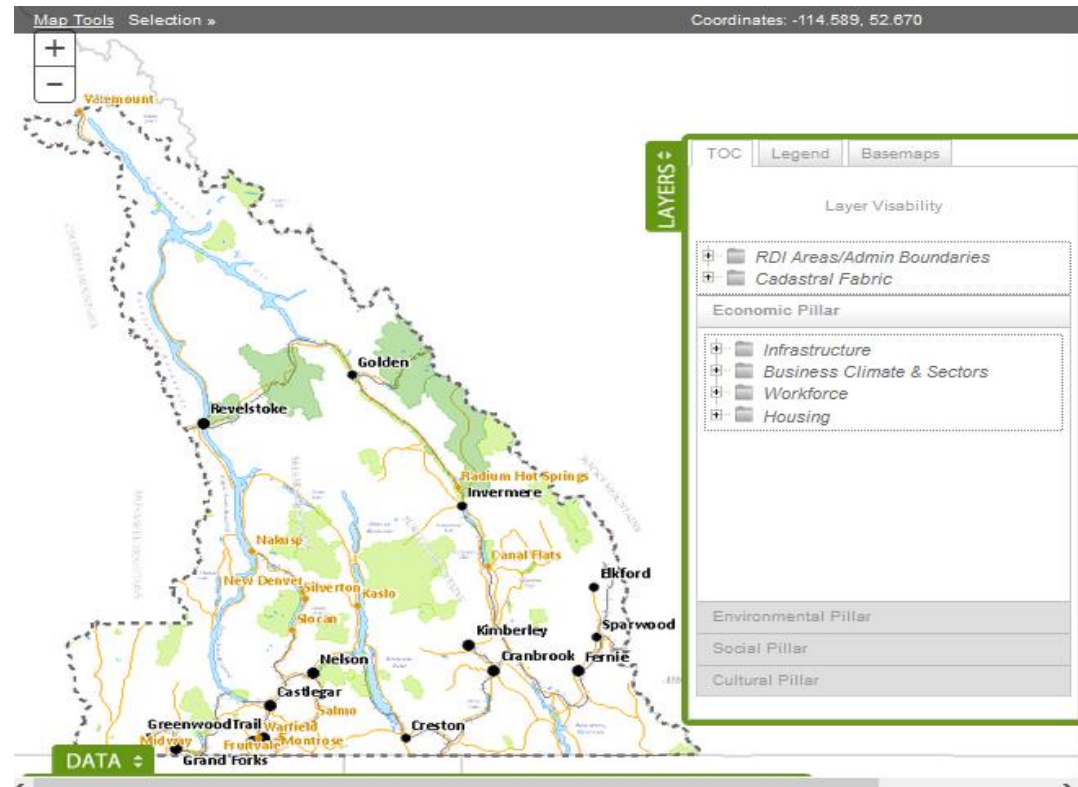
Proximity to...

Considerations...

Parcels For Sale



[Digital Basin Site
Selector Tool](#)



Welcome to the Digital Basin Site Selector Tool.

The Digital Basin Site Selector Tool is a configuration of ArcGIS and a JavaScript application that helps businesses, investors, planners, and economic development practitioners locate available sites, and combine their property search with key community, business demographic, and real estate information. The tool is designed to support informed economic development planning, business expansion, and investment decision-making. It is a single application that can be deployed by users on desktop computers and tablet devices. Please read [Disclaimer](#) prior to using the site selector tool.

Location: same as data catalogues

Size: pre-set min/max categories (acres and hectares for larger parcels)

Value: pre-set min/max categories (use MLS categories)

Zoning Classification: agriculture, commercial, industrial, mixed use, parks & recreation, residential, rural)

Grade: any, less than 3%, less than 10%, less than 20%

Proximity to...: max distance from – services (need to define), transportation (including both highway or separate out highway and transit links?)

Considerations...: close to watershed (need to define), close to conservation lands (need to define), close to possibly conflicting zoning (need to define), developed (y/n), OCP (y/n)

For sale: (any/y/n), price (need to double check with BC Assessment), property tax rates & totals, link to MLS

Digital Basin Open Data Catalogue

The Basin-Boundary region's online portal for data, reports, maps and resources for research-based decisions.



I want to...

Digital Basin Catalogue	State of the Basin Catalogue	Digital Basin iMap	Digital Basin Site Selector Tool	Open Data Catalogue
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Seedlot Area of Use Spatial Data Locator 🔥



Natural Resources

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Seedlot Spatial Area of Use 🔥



Natural Resources

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Service

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other wms



Photo credit: Nelson Kootenay Lake Tourism



APPLIED & INNOVATION RESEARCH CENTRE

SUPPORTING LEARNERS, COMMUNITY AND INDUSTRY THROUGH INNOVATION

Open Data for Open Government in Rural BC The Digital Basin

Canadian Rural Revitalization Foundation Conference
Fall 2016



Dr. Terri MacDonald
BC Regional Innovation Chair in
Rural Economic Development
www.cbrdi.ca