Technical Committee Update

December 5, 2024

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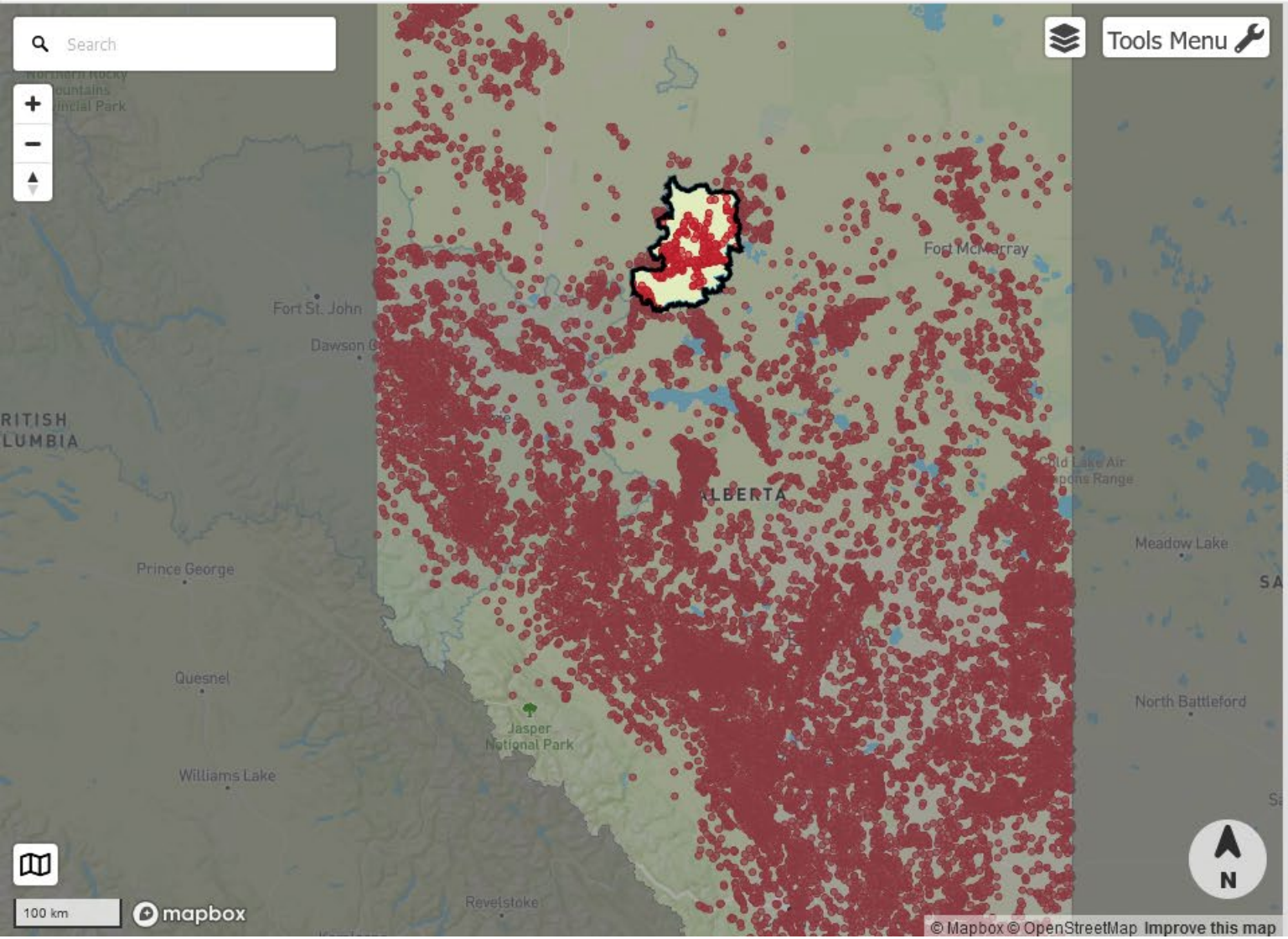

Spatial Analysis Module

About

The Spatial Analysis Module accesses multiple spatial data sets from a variety of sources and computes spatial indictor values according to user interest. It may be useful to represent the level of cumulative impact from anthropogenic activities in a watershed over time. It can be used to aggregate and summarize other types of spatial data within user specified areas.

Area of Interest

Map Layer

Hydrometric Station Watersheds

Layer Polygon(s)

Selected polygons

Station Name	Station Number
LOON RIVER NEAR THE MOUTH	07JC003

Generate a Mask layer for the selected Area of Interest

Opacity

Spatial Data

Map Layer

Abandonded Wellsites 2018

Data Attribute

Abandoned Date

Spatial Data

Map Layer

Abandonded Wellsites 2018

Data Attribute

Abandoned Date

+ Add Filter

Map Layer

Harvest Areas 2018

Data Attribute

Feature Type

+ Add Filter

Map Layer

Road Centerlines 2018

Data Attribute

Feature Type

+ Add Filter

Map Layer

Spills

Data Attribute

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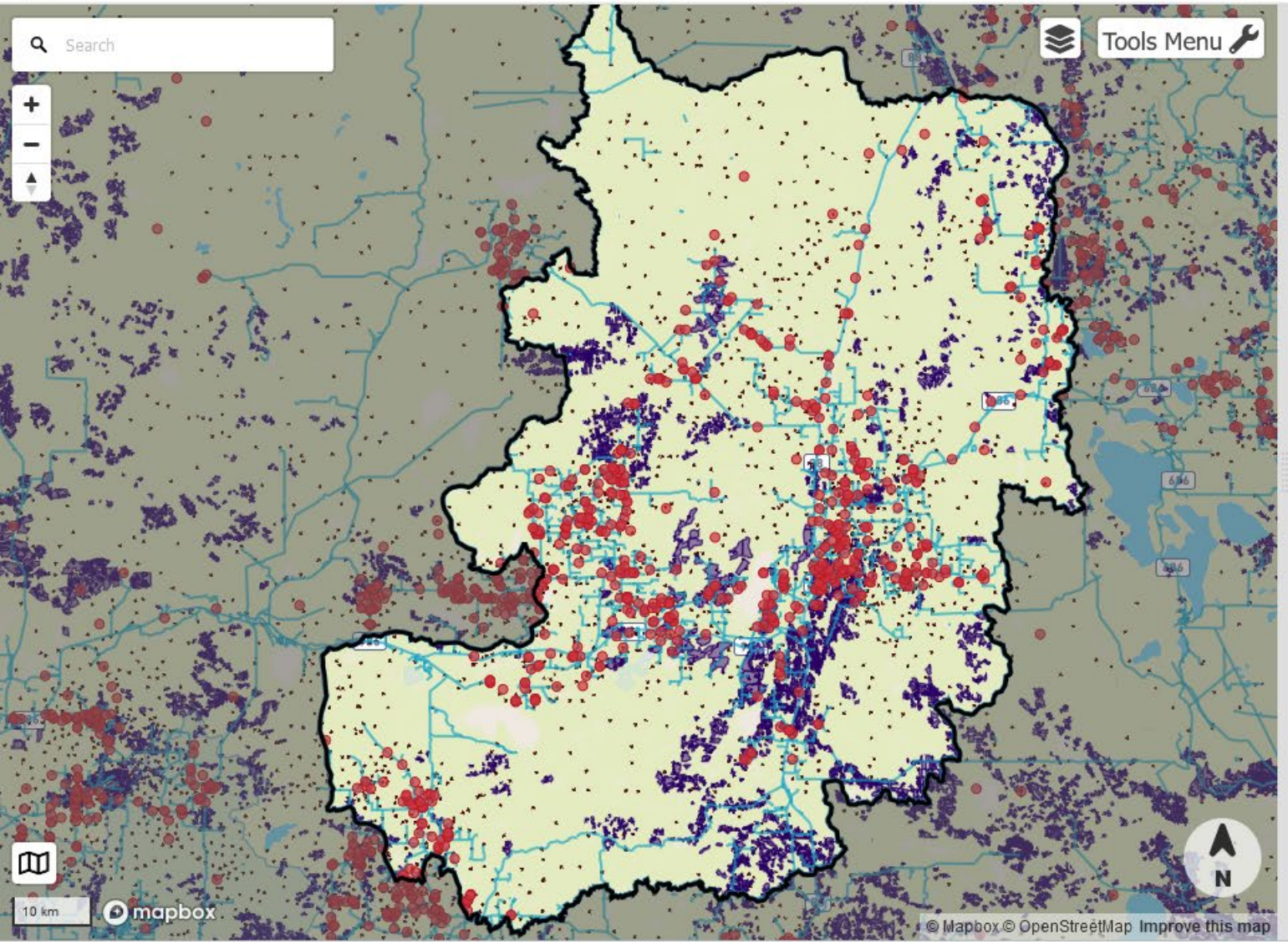
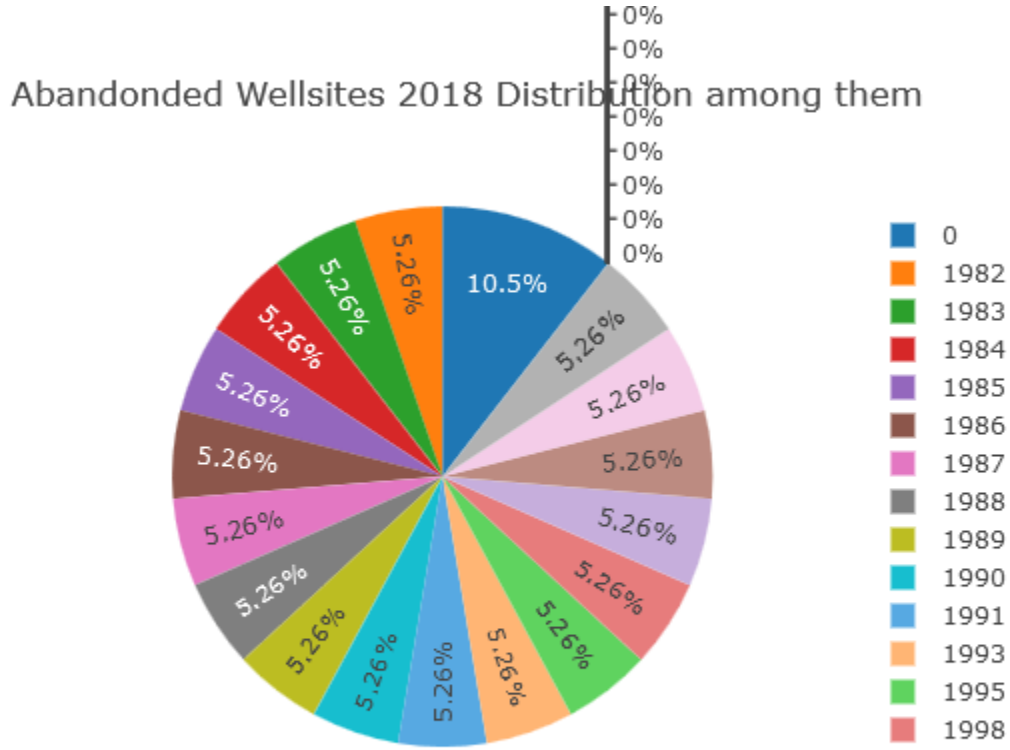


Clipping Area: 6807 km²

# of Decimal Places: 3

Abandonded Wellsites 2018			
Abandoned Date	Data Field Count	Sum of Areas (km²)	Clipped geometry / Area of Interest
2004	47	0.431	0.000
2005	60	0.584	0.000
2006	28	0.299	0.000
2007	19	0.183	0.000
2008	40	0.454	0.000
2009	31	0.332	0.000
2010	15	0.137	0.000
2011	14	0.113	0.000
2012	8	0.094	0.000
2013	21	0.285	0.000
2014	19	0.181	0.000
2015	18	0.234	0.000
2016	17	0.166	0.000
2017	14	0.142	0.000
2018	19	0.175	0.000


Abandonded Wellsites 2018 Distribution among them
0%
0%
0%
0%
0%
0%
0%
10.5%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
5.26%
0
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1993
1995
1998

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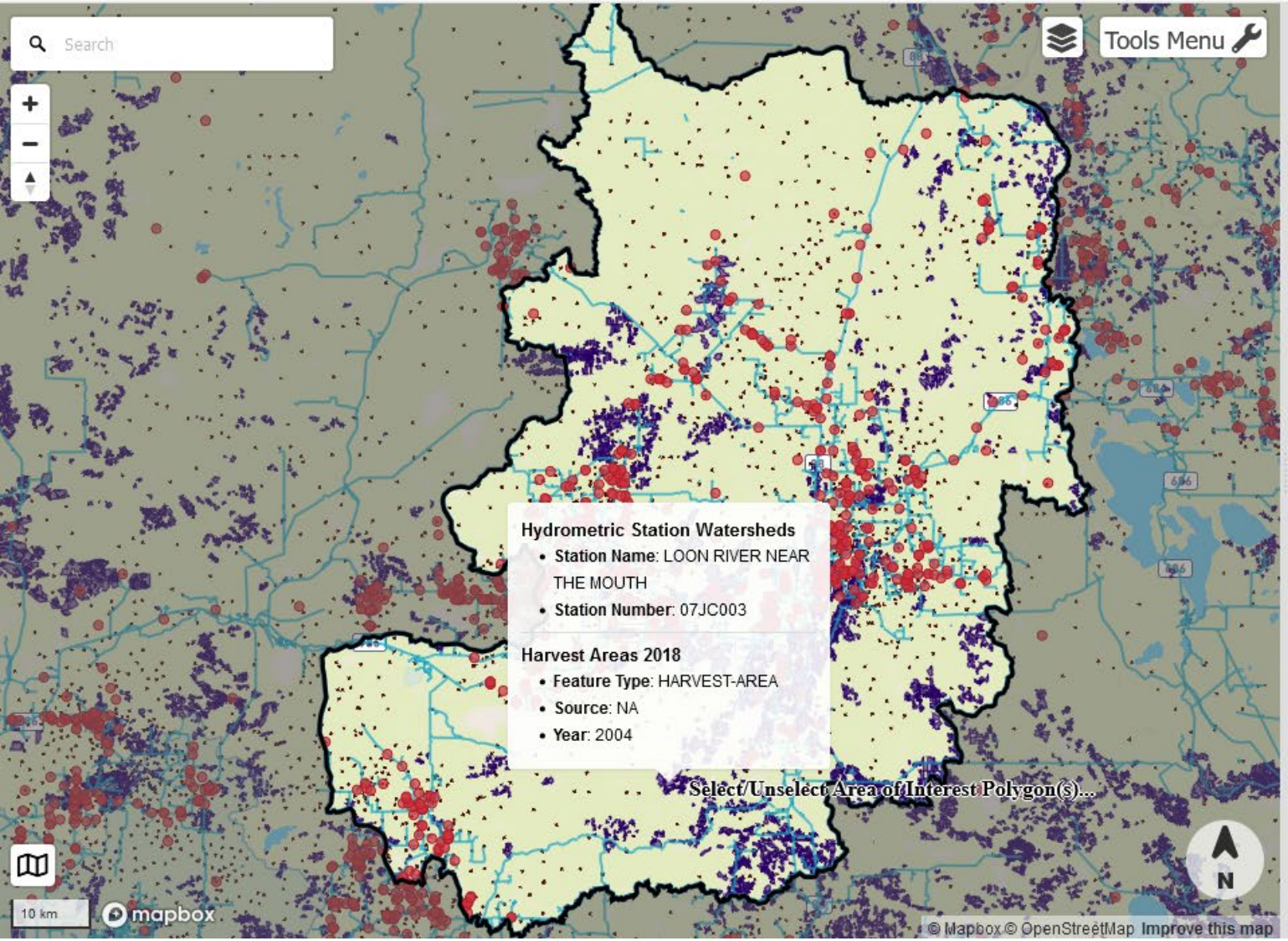
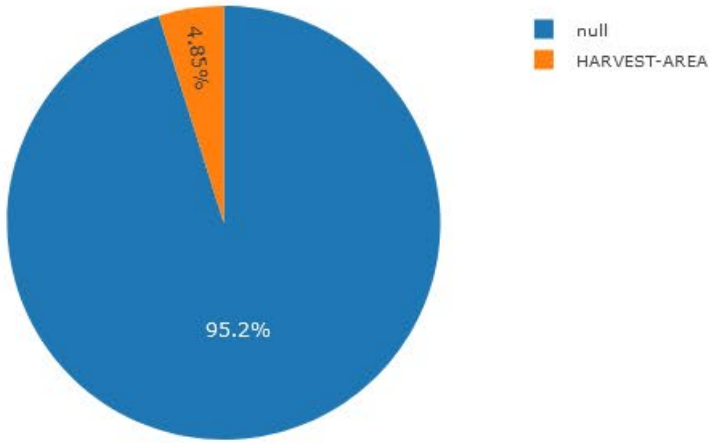


Feature Type	Data Field Count	Sum of Areas (km²)	Clipped geometry / Area of Interest
HARVEST-AREA	2260	329.896	0.048

Harvest Areas 2018 Distribution in Area of Interest



Harvest Areas 2018 Distribution among them

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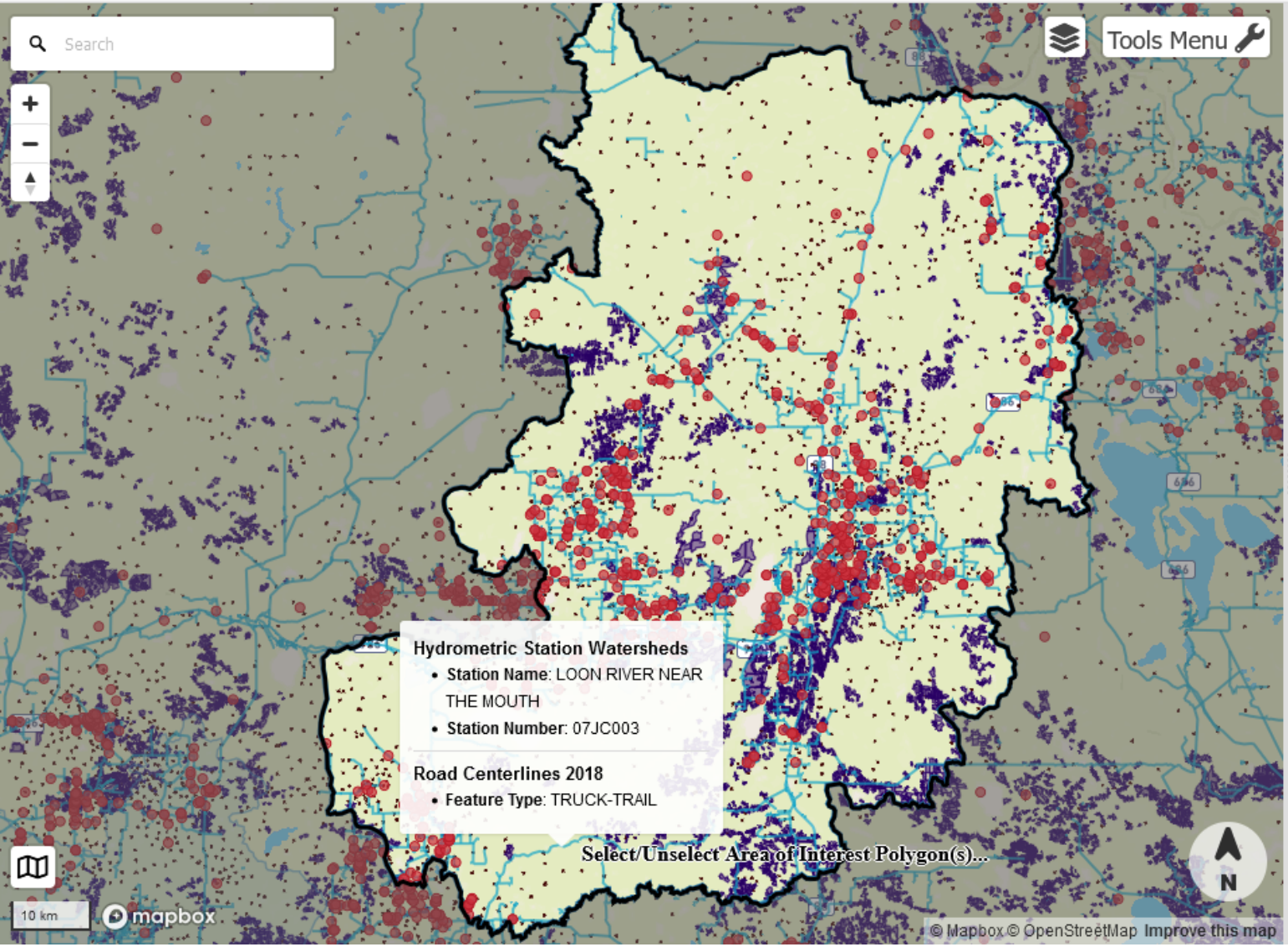
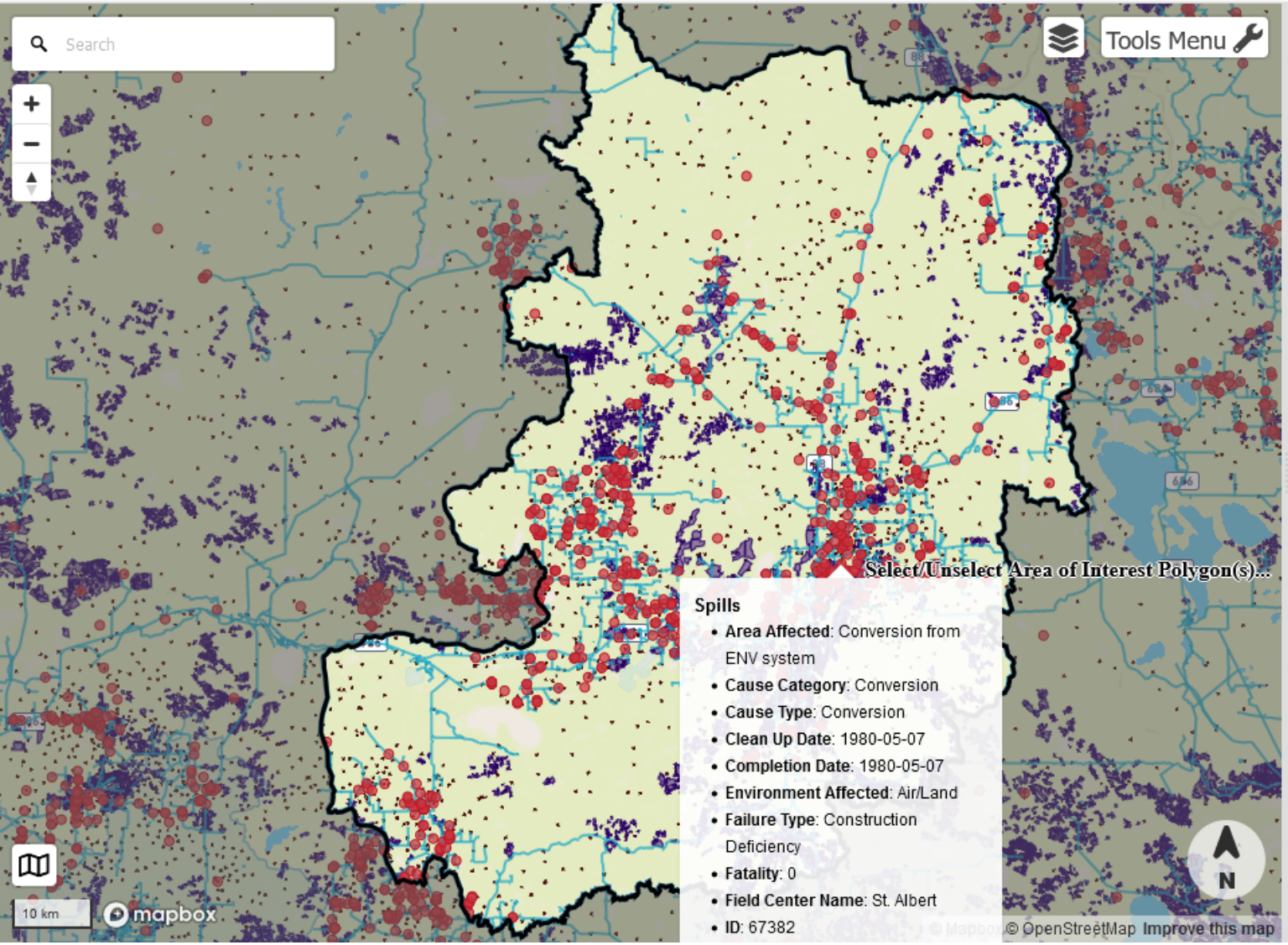


Road Centerlines 2018			
Feature Type	Data Field Count	Sum of Lengths (km)	Clipped geometry / Area of Interest
AIRP-RUNWAY	20	4.857	0.001
FORD-WINTER-XING	1	0.048	0.000
ROAD	7	9.312	0.001
ROAD-GRAVEL-1L	2735	1314.881	0.193
ROAD-GRAVEL-2L	239	67.191	0.010
ROAD-PAVED-UNDIV-1L	2	0.185	0.000
ROAD-PAVED-UNDIV-2L	311	172.906	0.025
ROAD-UNCLASSIFIED	166	19.482	0.003
ROAD-UNIMPROVED	668	293.214	0.043
ROAD-WINTER-ACCESS	106	142.727	0.021
TRAIL-ATV	53	16.408	0.002
TRUCK-TRAIL	391	271.916	0.040

Spills



ROAD-PAVED-UNDIV-1L	2	0.185	0.000
ROAD-PAVED-UNDIV-2L	311	172.906	0.025
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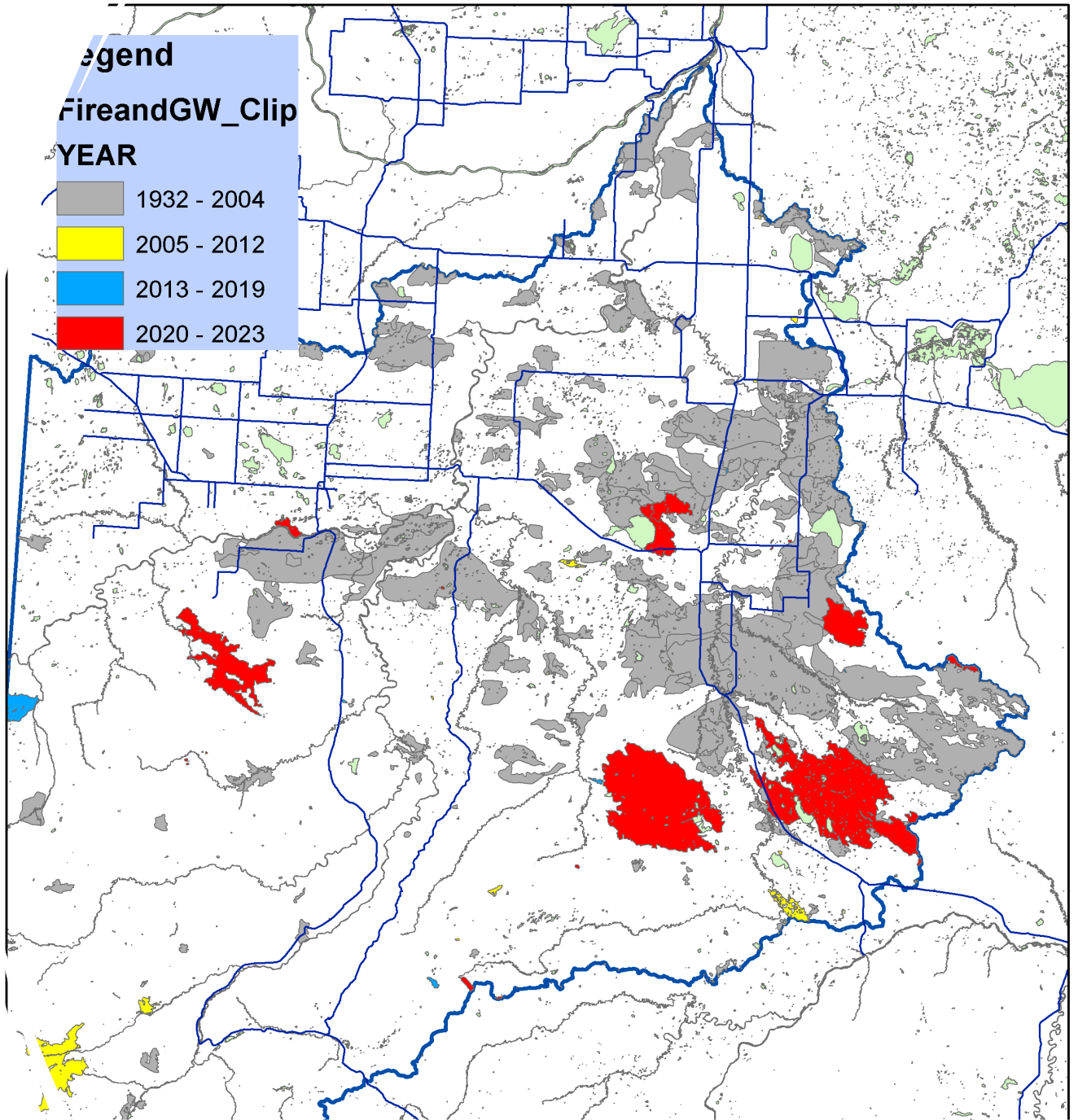
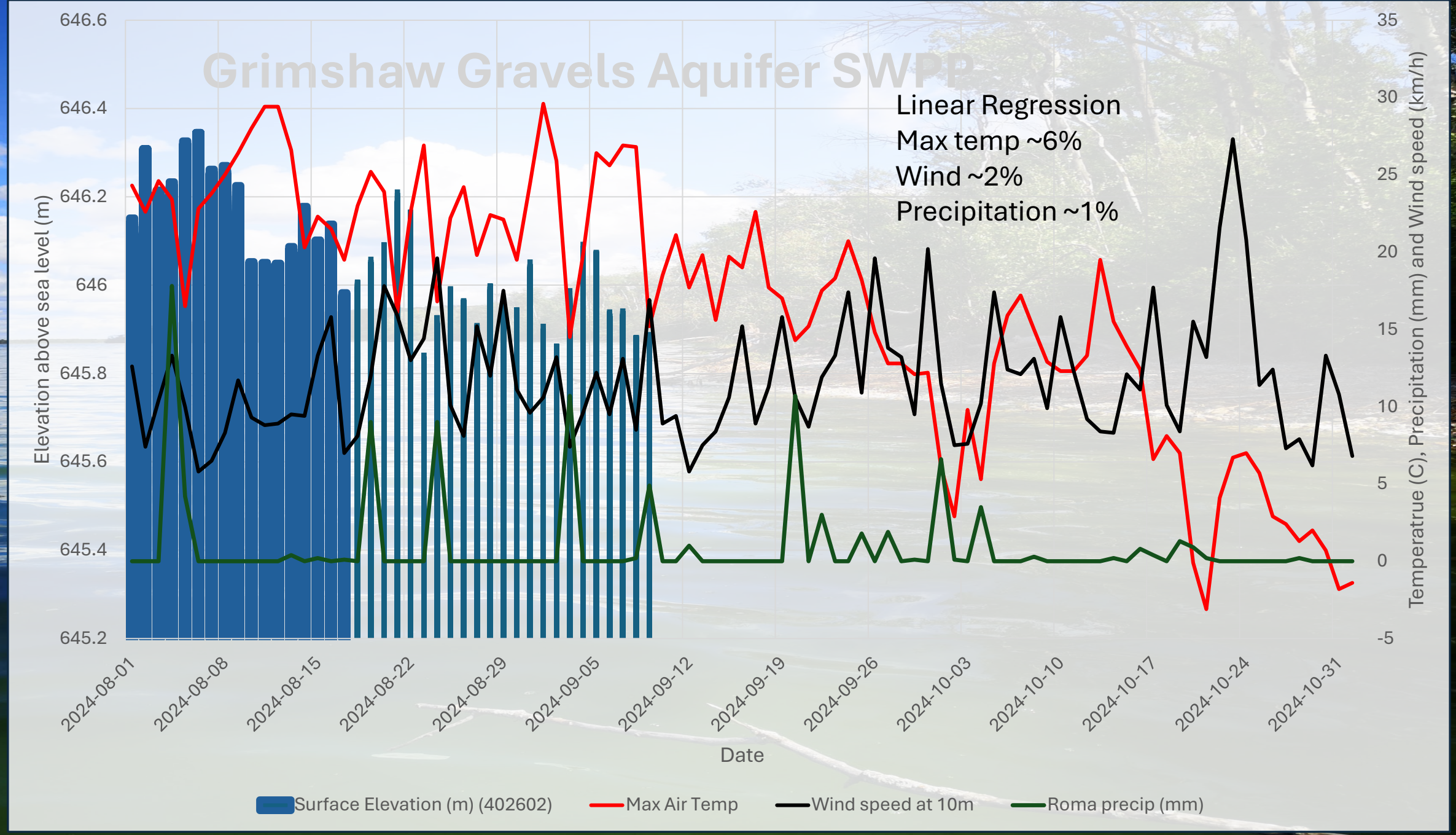
ROAD-UNIMPROVED	668	293.214	0.043
ROAD-WINTER-ACCESS	106	142.727	0.021
TRAIL-ATV	53	16.408	0.002
TRUCK-TRAIL	391	271.916	0.040

Spills		
Area Affected	**Data Field Count**	**Point Density in the Area of Interest**
100 square meters or less	222	0.000
Conversion from ENV system	429	0.000
over 100 but less than 1000 square meters	62	0.000
over 1000 square meters	12	0.000
No Value	14	0.000

Cumulative effects of wildfire on groundwater

- InnoTech Alberta
- MPWA contributes field work in Peace
- Waiting for funding approval




Grimshaw Gravels Aquifer SWPP
Linear Regression
Max temp ~6%
Wind ~2%
Precipitation ~1%
Elevation above sea level (m)
646.6
646.4
646.2
646
645.8
645.6
645.4
645.2
Temperatrue (C), Precipitation (mm) and Wind speed (km/h)
35
30
25
20
15
10
5
0
-5
2024-08-01
2024-08-08
2024-08-15
2024-08-22
2024-08-29
2024-09-05
2024-09-12
2024-09-19
2024-09-26
2024-10-03
2024-10-10
2024-10-17
2024-10-24
2024-10-31
Date
Surface Elevation (m) (402602)
Max Air Temp
Wind speed at 10m
Roma precip (mm)

Lower Peace Freshwater Contaminant Reduction

This project was undertaken with the financial support of:
Ce projet a été réalisé avec l'appui financier de :

Environment and Climate Change Canada
Environnement et Changement climatique Canada

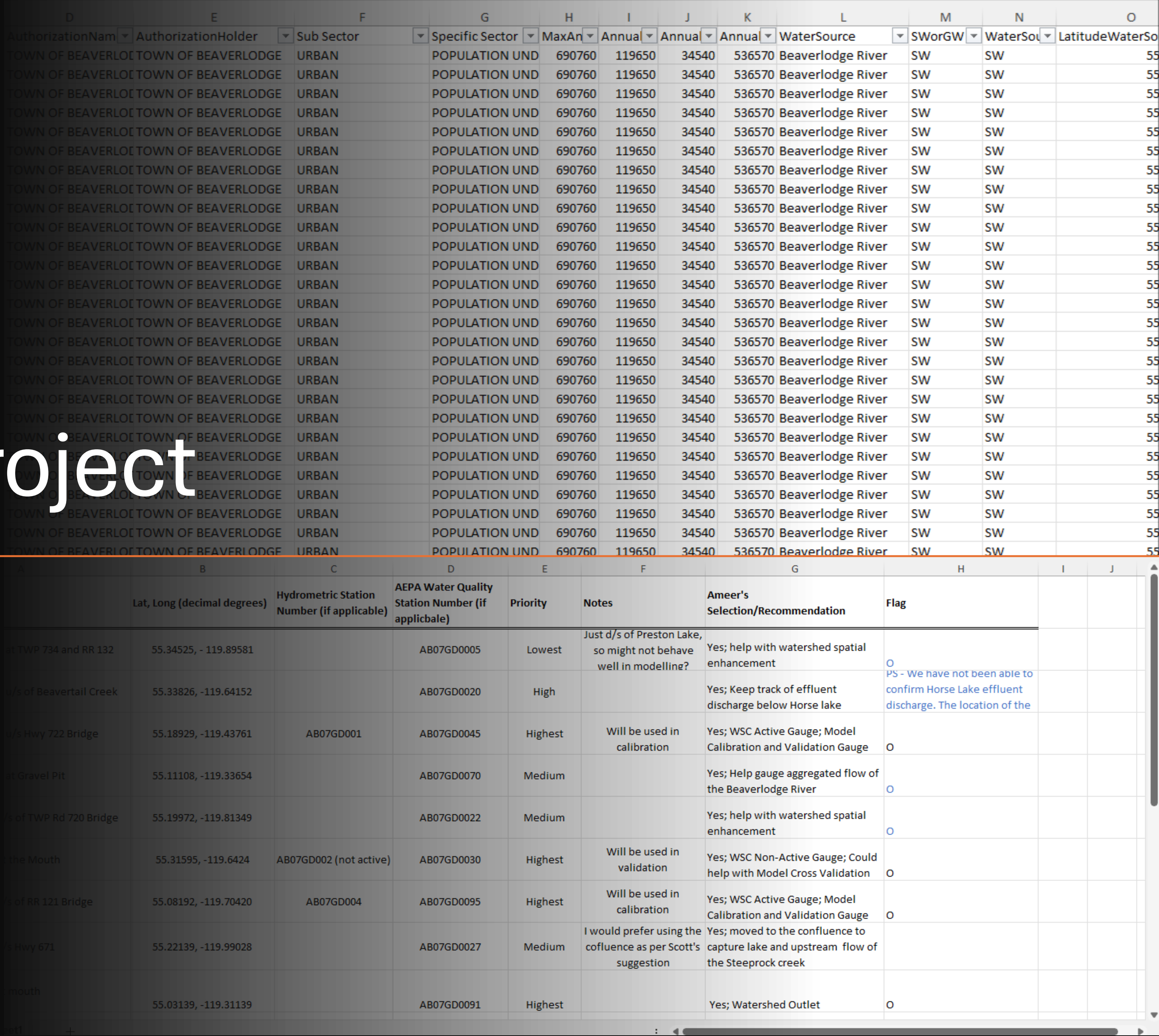

SCHOOL BUS
70
70

Activity Indiccator	Performance Indicator	Measure	Target	Actual
Environmental Indicators	Area of shoreline protected, stabilized or improved	# of hectares	4.5	4.5
Environmental Indicators	Area of habitat in which management or restoration actions have been implemented through project activities	# of hectares	4.5	5.5
Environmental Indicators	Amount of indigenous plants, trees, and shrubs planted	# of plants/tree/shrubs	3000	~9,000
Environmental Indicators	Percentage of Indigenous plants, trees and shrubs that survived	% of plant/trees/shrubs	75	91.7
Capacity Building Indicators	Participants in activity(ies)	# of participants	20	52
Capacity Building Indicators	Youth participants in activity(ies)	# of youth participants	45	34
Capacity Building Indicators	People reached as a result of project communication activities	# of people	2000	6,617
Capacity Building Indicators	People reached who indicated they would modify their behaviour as a result of project activities	# of people	10	11

Peace River Tributaries Project

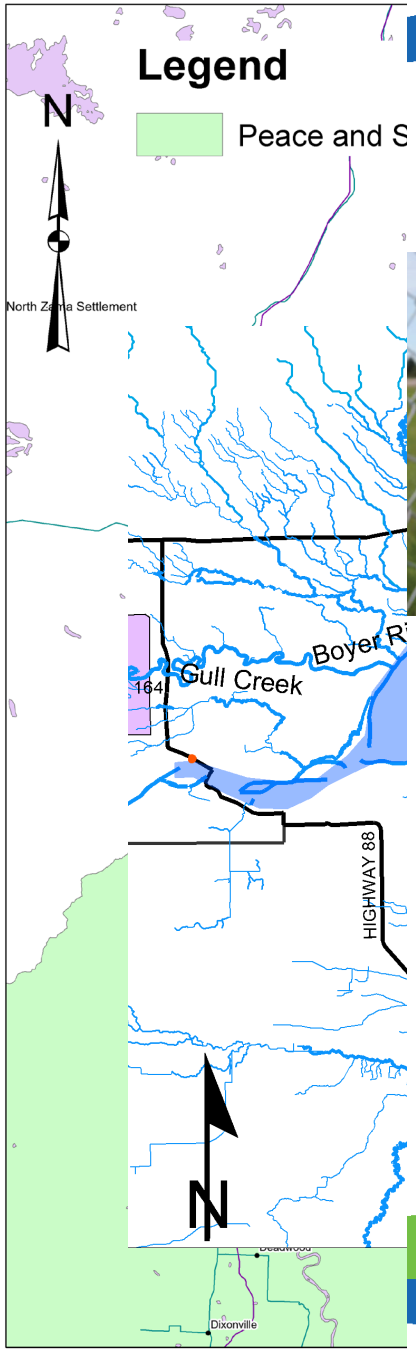
- Partners – Northern Sunrise County, Mackenzie County and landowners
- WRRP application

Redwillow Watershed Restoration Project



Reducing Invasive Species in the Peace-Athabasca Delta

Little Red River Cree Nation



ALBERTA invasive species COUNCIL

abinvasives.ca
info@abinvasives.ca

Last Updated April 2023

Canada Thistle

Cirsium arvense (aka Creeping thistle)

Provincial Designation: Noxious

Photo credits: Nicola Kimmel, Government of Alberta

Naspasinahikewin:

ôma oskihtpak kîpetahk ohci (Europe) kotak askiy kâsihkâtek ekwa semâk misiweya ohci ocepihk papâmih astewa. ocepihka misiweya ocepihkewa tipiskohca (nântaw apitaw kekac niyânan metres) ekwa kwayaskwaskitewa (nântaw nikotwasik metres).

tasicikewin:

Canada okaminakasiy kiweyisk ohpikowew ayahci pahpihtosaya askiy maka ahci kakiy ophikowew ekota askiy nântaw cîki sîpîy ekwa âkawâstehikan kâyâk. nac poko nântaw mikoskâcihikewi ekwa askiy ka kitiskaweki. osâmi kweyakamihk kasteyihk ocepihka oma oskihtepak kiweyisk kîkohpikow ispî namoya kimowaki âpo makîkway nipiy kâstek ekwa pimâcihiwewin astewa capasîs askiy kâstekaw nehiyaw oskihtepaka.

Identification:

Etah ka pesakikit miscikos: apakihtak ka pasipotekeyihk, ka simatastek ekwa mistikowikeyihk sakahkwaneyihk cîki tahkohc ohci ekwa ohpikow nântaw niyânan (.5) ahpo peyak ekwa âpihtaw peyak (1.5) mitres.

nîpiya: nîpiya mohci mohkomânak ehascinakosiwa, askihtakosiwa, wâsihkopayewa waskic ohci ekwa ka ispayihk kîkway iyintonawihowita esakicihcikaneyit etah ka pesakikit miscikos. capasîs nîpiya nac poka emisawa ekwan apisîsitaw nac poko kâ amacowetaw. nîpiy cîpayihki pîtos ehasinakosiwa âtiht sôskwawa namoya kîkway astewa ekwa âtiht kînikawa kîkway astewa.

wapikwanewa: wapikwanewa ehohpikîwa cîki cîpayihki etah ka pesakikit miscikos âtiht ketis apisis mâka âtiht mihceti. wapikwanewa ostikwân kâkwayiwat moci ehascinakosiwa ekwa wapikwanewa apisîsiwa pihcâyihk ekâ kanihtâ âhkameyihtamihk. itasinâsowa wapikwanewa pîtos ehasinakosiwa mâna pîtos ka itasinâsowitaw, kîspin ka âpihtimiihkwak apo kâ wâpikwanîwinakwataw apo kâ wapiskisitaw.

pakitinikan: pakitinikana ekosîsi kasinakositaw osam mâna kâ kweyihki yotiki. kekac kakiyaw pakitinikana ohpikîwa pâmiyes peyak askiy, mâka pakitinikana kâ ayipayitaw kakiy ohpikîwa nântaw nîstanaw askîwin.

kitinikewin:

nâc poko kweyisk ka kitinikewihk askiy poko nîkân ka nâkateyihtamihk oskihtêpak takohci ekwa asamîna ka pakitinikane miswe ohci kîkway oskihtêpaka kâ nitaweyihtami semâk. Canada okâminakasiy kâ swewepinamowin pakitinikana poko pîsim ekota kâyâhk âhpo namoya kweyisk ka opihkowa mîna namoya kweyisk opihkowa kîspin katipiskayihk. namoya ka kitiskahwewi osâm misiwe okâminakasiy ka opihkowa.

paminikewin:

kekac kakiyaw Canada okâminakasiy oskihtêpaka capasîs askiy astewa; poko kâ nipahitaw mônahikanâhtika ahpo misiwe ka opihkowa. poko ka wiyasiwâtisowi pamiyes kweyisk kanâkateyihmiht kîspin namoya manicôsak ekota kâmîcitaw oskihtêpaka.

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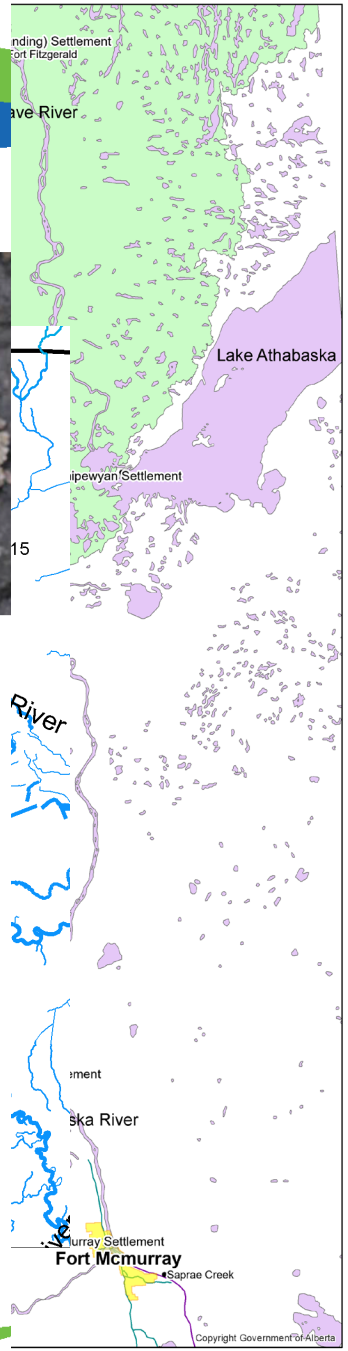
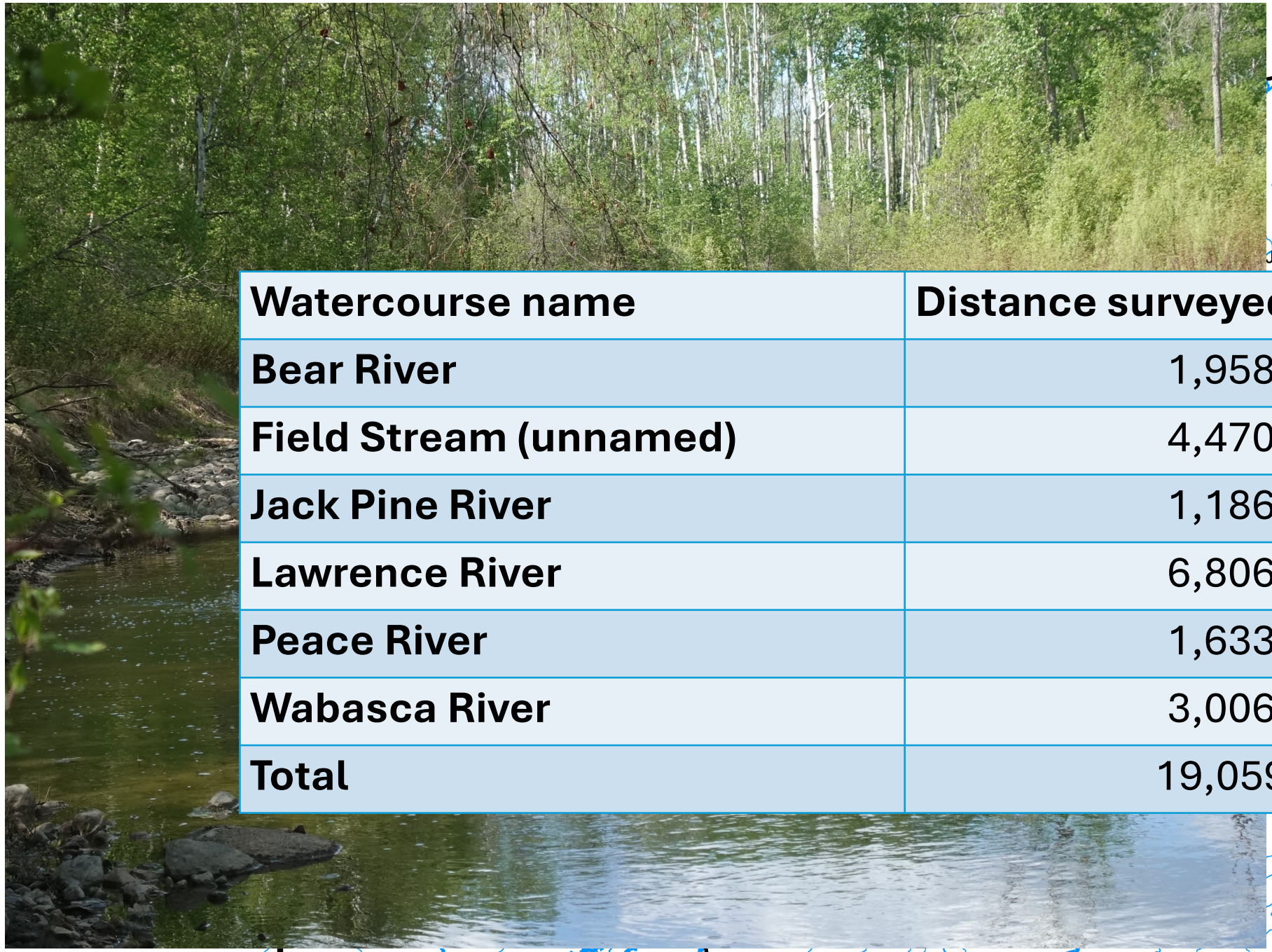
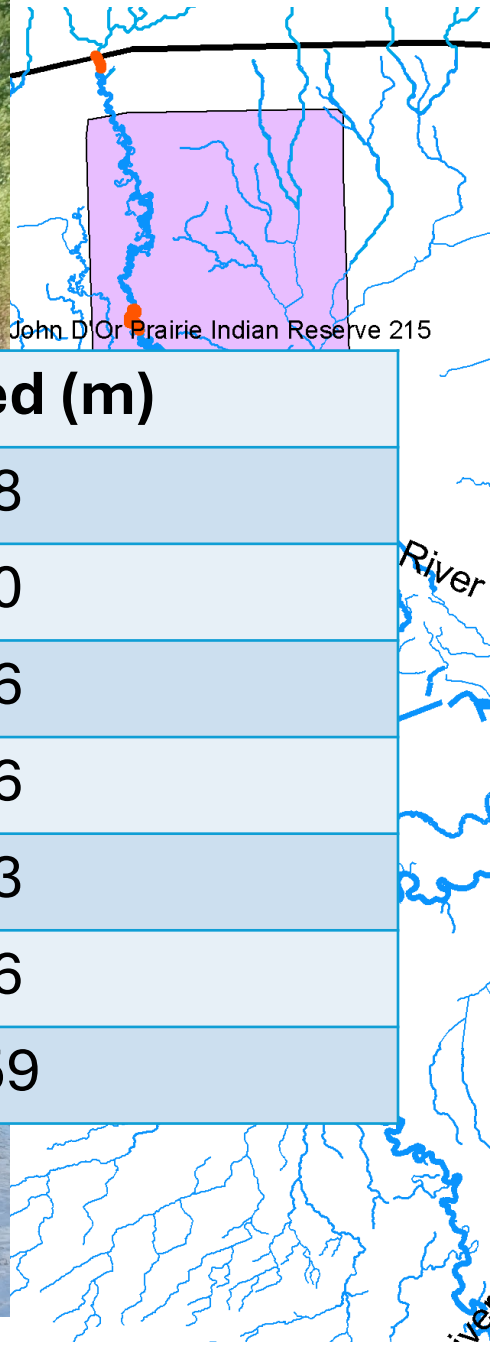




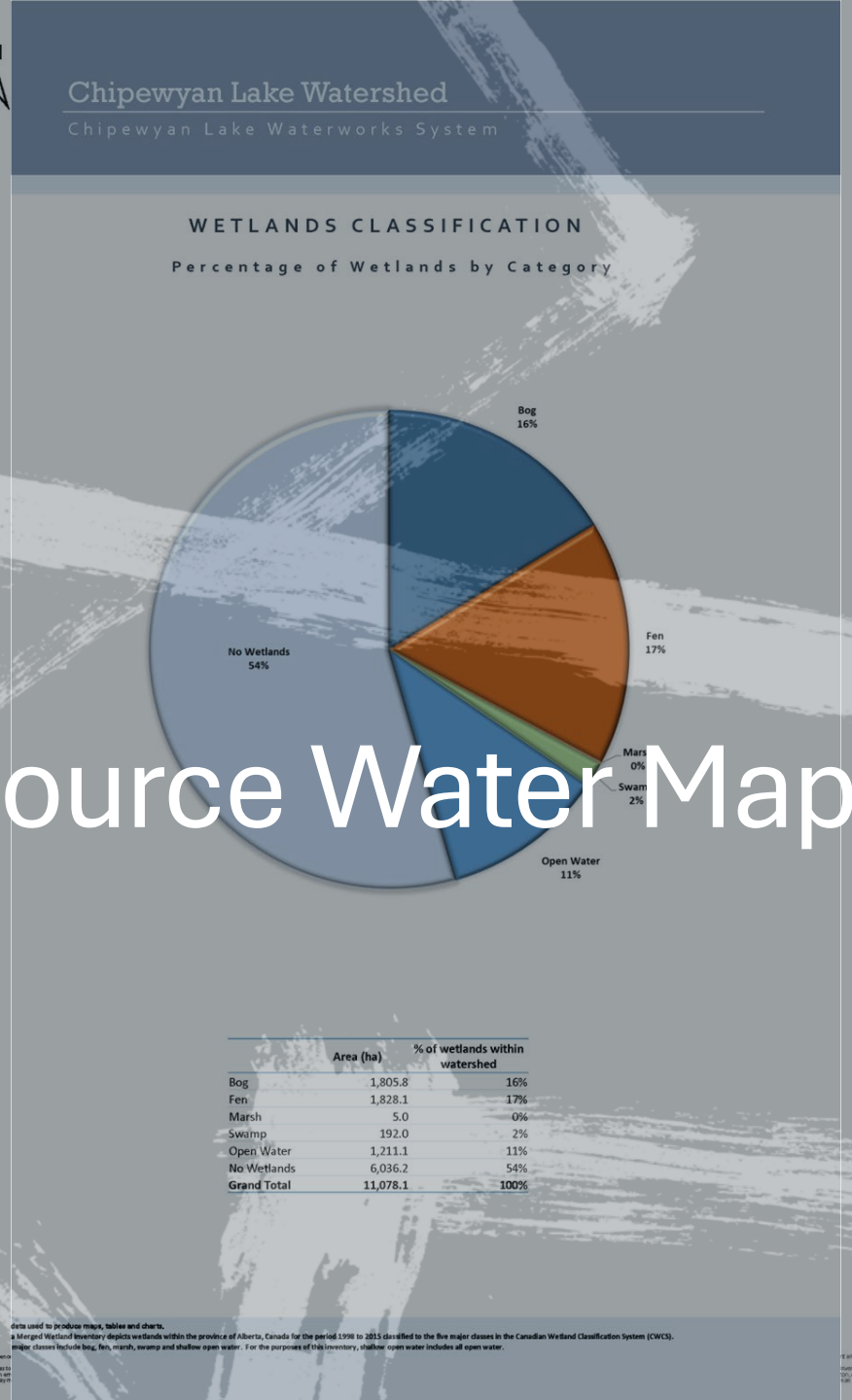


Watercourse name	Distance surveyed (m)
Bear River	1,958
Field Stream (unnamed)	4,470
Jack Pine River	1,186
Lawrence River	6,806
Peace River	1,633
Wabasca River	3,006
Total	19,059

Activity Indicator	Performance Indicator	Measure	Target	Actual
Environmental Indicators	Area of shoreline protected, stabilized or improved	# hectares	10	10.36
Environmental Indicators	Percentage of area surveyed that will need to be controlled.	%	20	62
Environmental Indicators	Area of shoreline surveyed	# kms	20	**19.1**
Capacity Building Indicators	Volunteers participating directly in project	# people	20	28
Capacity Building Indicators	People reached as a result of project communication activities.	# people	2500	15,151

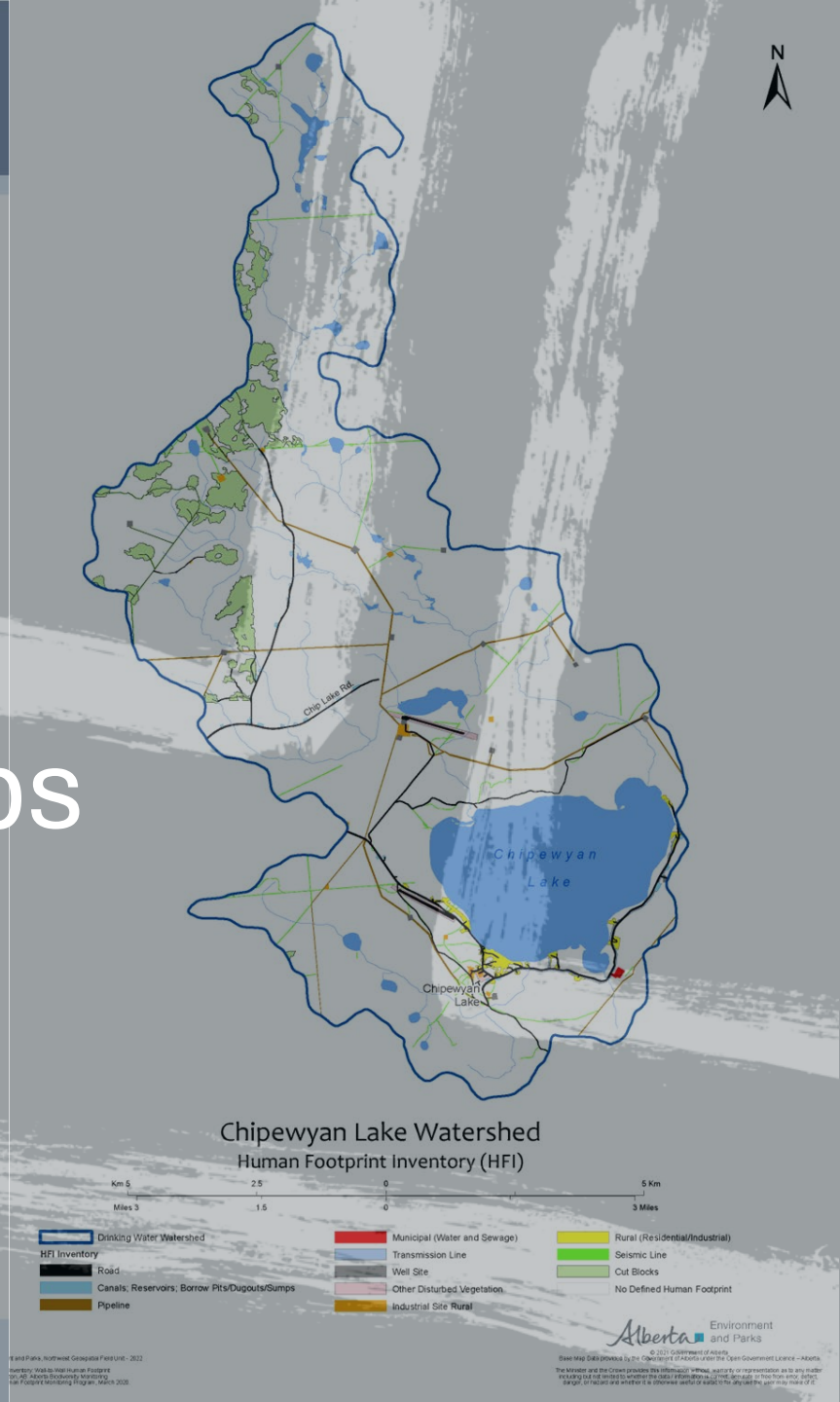
Resiliency in the Wapiti Watershed

Source Water Maps



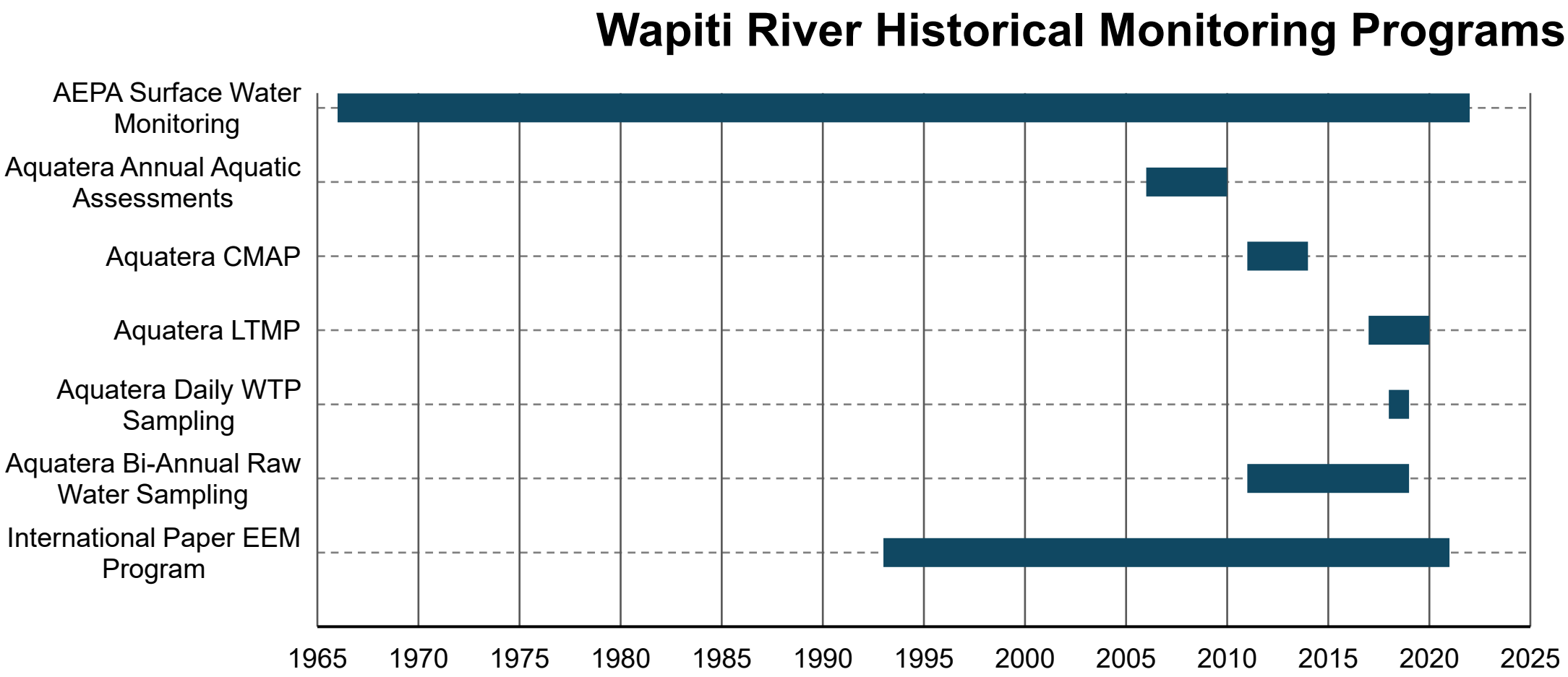
	Area (ha)	% of wetlands within watershed
Bog	1,805.8	16%
Fen	1,828.1	17%
Marsh	5.0	0%
Swamp	192.0	2%
Open Water	1,211.1	11%
No Wetlands	6,036.2	54%
Grand Total	**11,078.1**	**100%**

data used to produce maps, tables and charts.
a Merged Wetland Inventory depicts wetlands within the province of Alberta, Canada for the period 1998 to 2015 classified to the five major classes in the Canadian Wetland Classification System (CWCS).
major classes include bog, fen, marsh, swamp and shallow open water. For the purposes of this inventory, shallow open water includes all open water.

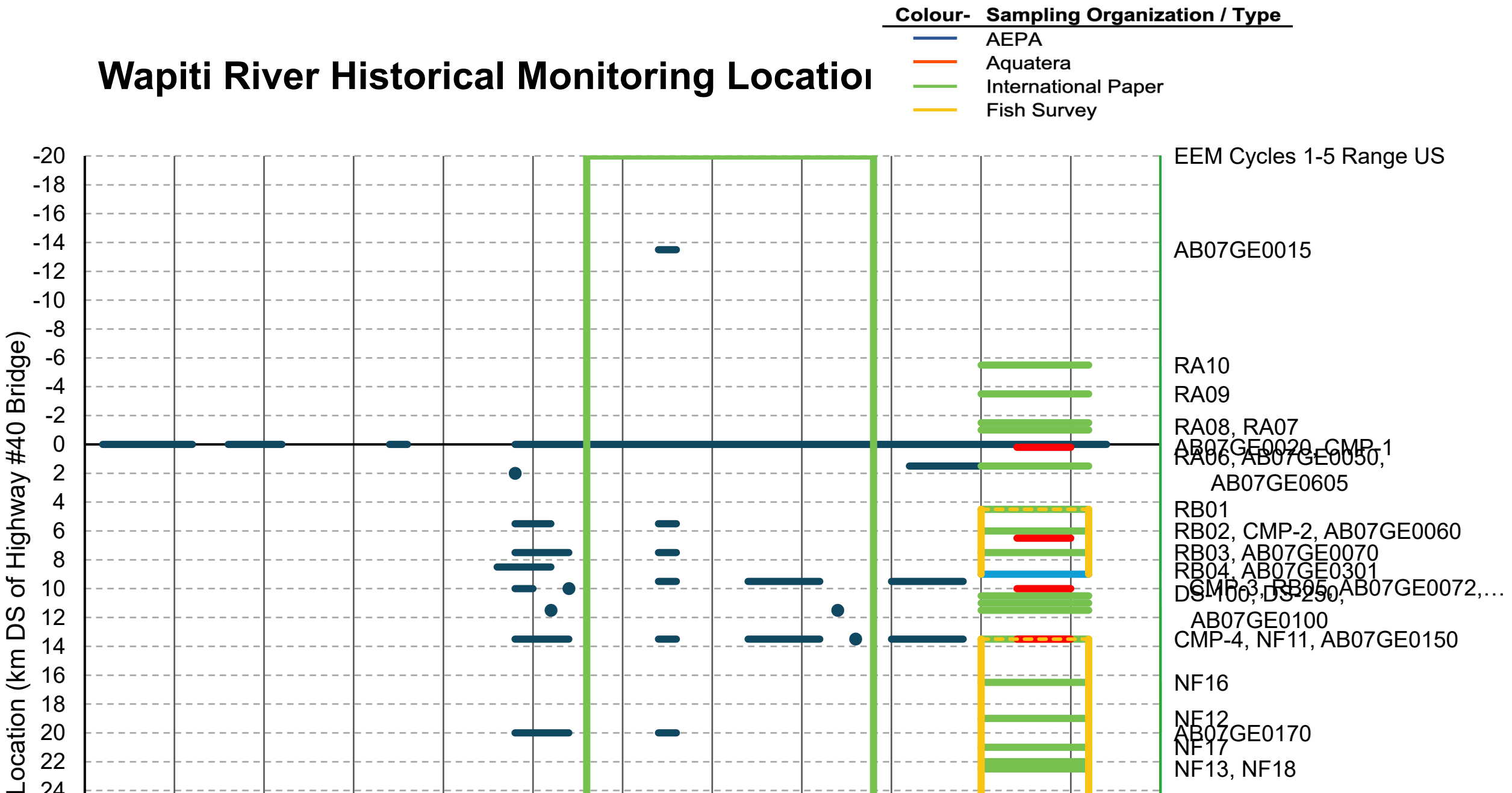


Column Labels	Beaverlodge		Calling Lake		Chipewyan Lake		Eaglesham		Fairview		Fort Vermilion	
	Human Footprint Total (Ha)	% of Human Footprint in Watershed	Human Footprint Total (Ha)	% of Human Footprint in Watershed	Human Footprint Total (Ha)	% of Human Footprint in Watershed	Human Footprint Total (Ha)	% of Human Footprint in Watershed	Human Footprint Total (Ha)	% of Human Footprint in Watershed	Human Footprint Total (Ha)	%
Agriculture	**55,974.11**	**43.4%**	**117.19**	**0.1%**			**4,036.28**	**66.3%**	**404,720.52**	**41.1%**	**1,839,245.09**	
Canals	**23.62**	**0.0%**					**6.88**	**0.1%**	**145.11**	**0.0%**	**899.87**	
Canal	23.62	0.0%					6.88	0.1%	145.11	0.0%	899.87	
Cultivation (Crop/Pasture/Bare Ground)	**55,950.49**	**43.4%**	**117.19**	**0.1%**			**4,029.40**	**66.2%**	**404,575.41**	**41.1%**	**1,838,345.22**	
Abandoned Cultivation	82.85	0.1%							5,942.88	0.6%	14,823.46	
Crop	32,395.11	25.1%	0.01	0.0%			3,855.21	63.4%	283,360.39	28.8%	1,375,153.17	
Fruits and Vegetables									0.08	0.0%	6.47	
Rough Pasture	3,964.00	3.1%	106.65	0.1%			63.05	1.0%	12,870.56	1.3%	85,392.77	
Tame Pasture	19,508.53	15.1%	10.53	0.0%			111.14	1.8%	102,401.51	10.4%	362,969.36	
Commercial and Industrial	**260.46**	**0.2%**	**190.88**	**0.2%**	**13.54**	**0.1%**	**43.29**	**0.7%**	**1,432.47**	**0.1%**	**14,752.03**	
High Density Livestock Operation	**101.19**	**0.1%**					**39.12**	**0.6%**	**196.05**	**0.0%**	**1,094.72**	
Confined Feeding Operations	101.19	0.1%					39.12	0.6%	196.05	0.0%	1,094.72	
Industrial Site Rural	**126.01**	**0.1%**	**190.88**	**0.2%**	**13.54**	**0.1%**	**4.17**	**0.1%**	**1,120.03**	**0.1%**	**12,298.43**	
Industrial Camp											166.49	
Landfill									79.99	0.0%	457.53	
Mill									47.28	0.0%	579.22	
Miscellaneous Oil/Gas Facility	29.62	0.0%	16.74	0.0%					156.72	0.0%	2,420.31	

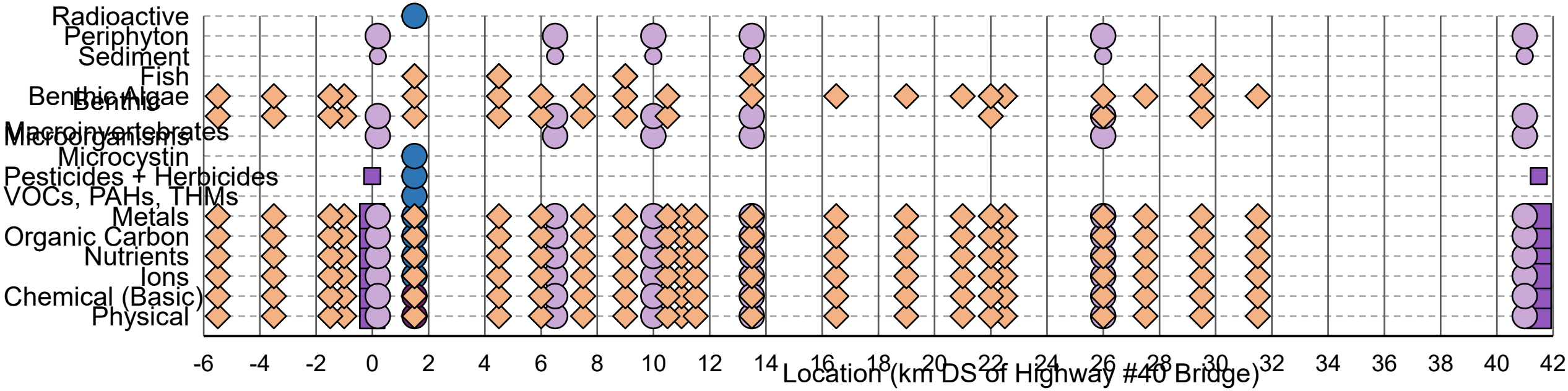
ALL | Pivot Table | Catagory %


Wapiti River Historical Monitoring Programs
AEPA Surface Water Monitoring
Aquatera Annual Aquatic Assessments
Aquatera CMAP
Aquatera LTMP
Aquatera Daily WTP Sampling
Aquatera Bi-Annual Raw Water Sampling
International Paper EEM Program
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
2025

Wapiti River Historical Monitoring Locatio



Wapiti River Sampled Water Quality Parameters



Specific Strategies

- Riparian zones
- Sediment delivery
- Wetlands