

WATER RESOURCES FOR WILDFIRE SUPPRESSION

Argenta and Johnsons Landing Region

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PUBLICLY AVAILABLE VERSION
CONFIDENTIAL DETAILS REMOVED



Columbia Basin Water Monitoring Framework

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LAND ACKNOWLEDGEMENT

Living Lakes Canada acknowledges that our water stewardship work originated in the unceded traditional territories of the Ktunaxa, Secwepemc, Sinixt and Syilx Nations who have stewarded these lands for generations. Recognizing Indigenous People as the rightful caretakers of their unceded territories, we work to complement their intergenerational work and Indigenous-led water stewardship initiatives.

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The Water Resources for Wildfire Suppression Project is a collaboration between Living Lakes Canada and the communities of Argenta and Johnsons Landing located in the Regional District of Central Kootenay (RDCK):



This project is made possible thanks to support from the Province of British Columbia, the Community Fund of North Kootenay Lake, and the RDCK's Kootenay Lake Local Conservation Fund.



INTRODUCTION

The purpose of this project is to document and share the resources that are available in the Argenta and Johnsons Landing area for wildfire suppression.



To ensure the privacy of residents, detailed information about waterline owners and standpipe locations have been removed from this publicly available version. **The full report is available to fire professionals only.**

The atypical hydrologic landscape found in the area makes finding water more difficult than in other areas. Due to the permeable streambeds and karst geology frequently found in this area, streams regularly disappear into the ground only to reappear further downstream. Springs emerge periodically throughout the landscape as well.

This resource will provide wildfire protection crews with detailed

knowledge of available water supplies and access routes to them. The report also informs of fire suppression resources available in the community including trained personnel and available equipment.

The digital map products which are provided to fire professionals give fire crews detailed accurate structure locations and types, civic addresses, and photos and locations of pumping locations on natural stream sites and available standpipes.



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One of the most important resources when fighting wildfire is, of course, water, and having the ability to deliver enough water to the areas that need it to saturate structures, create wet lines, and extinguish fires. Kootenay Watershed Science (previously known as the North Kootenay Lake Water Monitoring Project or NKLWMP) has been monitoring watersheds in this region for over 12 years and has greatly improved our knowledge of watershed function in the area.

Now operating under the umbrella of Living Lakes Canada's Columbia Basin Water Monitoring Framework (CBWMF), this project draws on the knowledge gathered through the CBWMF as well as taking advantage of streamflow modelling through use of the BC Water Tool, and watershed data available from historical Water Survey of Canada hydrometric stations.

This project is a collaborative effort with the communities of Argenta and Johnsons Landing. The report and knowledge contained can be shared with interested stakeholders and fire suppression crews, thereby facilitating set up and preparation of fire suppression strategy.

By providing details of trained personnel and equipment in the region, we hope that these people and resources can be used to collaborate with wildfire specialists coming from further afield. This report and associated map products empower local and out-of-region firefighters with accurate information that will improve response time and effectiveness, thereby saving property and even lives.

DISCLAIMER

The recommendations made in this plan are based on streamflow probabilities for the conditions observed at the time of the survey in 2023. Actual streamflow may vary from the estimates provided in this report and dwellings will change over time as well. It must be understood that all fire and streamflow scenarios cannot be addressed and that this plan is not an absolute. The key to continued credibility of this plan is that it is maintained and accurately updated regularly. This document should be reviewed by knowledgeable community members and wildfire professionals and updated on an annual basis prior to wildfire season.

COMMUNITY OVERVIEW

The communities of Argenta and Johnsons Landing are low-density rural areas located at the north end of Kootenay Lake on the eastern shore. They are located within the Regional District of Central Kootenay (RDCK) Electoral Area D approximately 50 km north of Kaslo, BC. The communities are accessible via Argenta/Johnsons Landing (A/JL) Road, a thin gravel road that follows the lake. It is important to note that the A/JL Road is a long, isolated road that could easily be cut off if a fire was to burn alongside it. There is no other exit and entry to Argenta or Johnsons Landing by road.

While parts of the community are located close to the lake with easy access to lake water using pumps and hoses, most of the residences are higher up the slope where accessing lake water would be quite difficult. There are several small streams coming off the mountain above the community that act as the water supply for most residents and will be essential for fighting fire in this region. Locations of useful fire pump deployment sites on these streams are documented in this report.

Much of the area has a very well developed older (100-year-old) forest cover with a range of tree species: Western cedar, Hemlock, Interior Douglas-fir, larch, and pine. There also is a considerable amount of diseased or bug-killed trees in some areas.

It is important for fire crews to know that there is very little cell phone service near the community. Also, since the electrical power supply could be easily cut off, given that lines reach the community via a long stretch next to potentially ignitable forest, backup generators and gas pumps are essential.

COMMUNITY RESOURCES

ARGENTA

The community of Argenta has formed the Argenta Safety And Preparedness Society (ASAPS). The group includes:

- 21 trained individuals with current S100 and S185 certification
- 12 additional members whose S100 is not up to date, as well as 5 additional responders who have not taken the training
- 3 Certified Fallers (2 have Dangerous Tree Assessor (DTA), 1 is a Qualified Supervisor Trainer (QST) and Enform Level 2 instructor)
- 1 Emergency Management Certification (Justice Institute British Columbia)
- 1 approved S100/S185 trainer and Ground Search and Rescue (GSAR) member
- 6 First Aid Level 1
- 1 trained but not practising nurse
- 1 First Aid Level 3 in the area
- 2 Medical First Responders in the area

The full version of this report contains contact information for key group members.

The community of Argenta has a large supply of fire suppression equipment that is well organized and regularly maintained and is available for wildfire response. Equipment includes several high pressure pumps, relay tanks, 5,000 feet of 1.5" hose, 3,000 feet of 0.75" hose, 50 sprinklers with staging equipment, hand tools and chainsaws, protective clothing and PPE, maintenance tools, spare parts and hose line appliances, first aid gear and more.

There is also a stock of plywood squares for erecting signage as part of their evacuation plan. All equipment is stored in a shed next to the community hall in upper Argenta. The location of the shed is included on the attached maps.

Since there is no cell phone service in the community and landline service could easily be cut off in the event of a fire, the group uses radios to communicate and organize in the event of an emergency.

If additional emergency crews are deployed to the area, it is recommended that they communicate with the ASAPS on channel GMRS 7.0.

BULMERS POINTE

The community of Bulmers Pointe is a sparsely populated area on the shore of Kootenay Lake. Bulmers Pointe has a system of hydrants and standpipes throughout the community generally in need of maintenance. The system is supplied via electric pumps that are located deep in Kootenay Lake and delivered to a reservoir/treatment facility.

This community could benefit from more organization around wildfire suppression planning and regular testing of their hydrants and standpipes. Residents of this community are generally present part time, with a few full-time residents.

SALISBURY

The group of residents at Salisbury Creek have a full-sized fire pump, hose and tools and several 1.5-inch standpipes supplied by the 8-inch penstock which feeds their micro hydro plant. One of the standpipes is suitable for filling a water tender.

JOHNSONS LANDING

The community of Johnsons Landing has a small supply of fire suppression equipment that is stored in a mobile trailer.

AVAILABLE WATER RESOURCES

Water resources that could be used for wildfire protection are detailed in this section. Sources are separated into standpipes and natural stream sources. Standpipes would likely be the first line of defense for homeowners and fire crews. The location of standpipes was only recorded for the Argenta area.

Natural stream sources are locations on a stream that are suitable for extracting water. There may be other water sources available in the region as well, but the ones detailed here include the best locations for quick deployment of a fire pump and could be sourced first in the event of a fire.

There is also water available at most properties from garden hose spigots, many of which are high pressure. These are not detailed in this report.

STANDPIPES

As a first line of defense, this work documents the available standpipes throughout Argenta. To protect the privacy of residents detailed standpipe information is not available in this publicly available version of the report. Standpipes for Johnson’s Landing and Bulmers Pointe are not included, but could be added to future versions of this document. The full version of this report contains coordinates, name of owner of the standpipe, and static pressure of the system. This information is available in the associated map products and can be found in Table 2 of the full report. Images of each standpipe are presented in Appendix B (full report only) and in the digital map products (available to fire professionals only).

Standpipes are often located near residences and an effort should be made to contact the landowner before use. It is important to note that residents may already be using them for sprinkler systems or direct action, and available water volumes could become limited.

The ASAPS members will have knowledge of existing water use that they can share with any incoming crews.



Table 1 – Argenta Standpipes (Details removed from this publicly available version, full version available to fire professionals upon request)

Name	Latitude	Longitude	Diameter Standpipe (Inches)	Diameter Pipeline (Inches)	Source	Pressure (PSI)	Owner	Fittings	Notes
SP1			1			88		FQC, GH	Located inside garden enclosure
SP2			1.5			?		FQC, GH	FQC needs repair below ground
SP3			2			87		2" FNP thread	6 feet down inside the wooden enclosure, under repair, will likely have a standpipe soon.
SP4			1.5			77		FQC, GH	Just behind house
SP5			1.5			59		FQC	20m NE of house
SP6			1			87		GH	Next to house
SP7			1.5			286		FQC	For emergency use with permission. Volume can be lower here later in the season and running at full pressure could exceed discharge amount.
SP8			1.5	8	Salisbury Creek	?		FQC	Salisbury Creek - Just below the west side of road is a standpipe with 1.5" Fire Hose Quick Coupling coming off an 8" penstock for hydro plant. Good place for filling a water tender.
SP9			1.5			71		FQC	Winter shut off below ground in front of garage door
SP10			1.5			68		1.5 Female Pipe Threads	Needs FQC, under plywood insulation. 100' east of garden shed.
SP11			2					No FQC yet	3-inch line coming into box.
SP12			2			40		FQC	Coming off the 3" mainline. 100' south of the new house. In the same trench is the 3" main.
SP13			2					2" PVC, 2" male Pipe threads	Main line is 3"
SP14			2			20		GH, 2" ball valve (broken)	Have FQC on a 2" standpipe. Currently needs repair. Still has water, could pump from here with 2" NPT fitting. source is DeWitt spring.
SP15			1.5			68		1.5" NPT, GH	Currently not working

Name	Latitude	Longitude	Diameter Standpipe (Inches)	Diameter Pipeline (Inches)	Source	Pressure (PSI)	Owner	Fittings	Notes
SP16			1			58		FQC	Also many GH and sprinklers in the nearby forest at this residence.
SP17			1			157		FQC	30' east of the house, uphill side. No photo.
SP18			1.25	1.25		86		FQC	30' SW of log house
SP19			1.5			69		NPT, FQC (soon)	150' SE of the log house. This water comes from a tank that is filled by a creek. If using a fire hose, it is advised to ask Sean and Uli to limit water use or the tank will drain faster than water source can fill it.
SP20			1	3		92		FQ3, GH	30' south of house
SP21			1.5	3	Argenta Creek	92		FQC	
SP22			1	3	Argenta Creek	68		FQC, GH	NE corner of hayfield
SP23			1.5	3	Argenta Creek	69		FQC, GH	Near Heli access location. Top edge of field below pond.
SP24			1.25	1.25	Argenta Creek	50		FQC, GH	80' above old barn
SP25			1.5	1.25	Argenta Creek	42		FQC, GH	Eason Line 1.5 inches
SP26			1	1	Argenta Creek	?		FQC, GH	Not functioning, valve plugged below ground
SP27			1.5	1.25	Argenta Creek	54		FQC, GH	20' NW of old house
SP28			1	1.25	Argenta Creek	73		FQC	Near bottom of Wolfe Rd.
SP29			1.25	1.25	Argenta Creek	56		FQC, GH	25' NE of cabin
SP30			1.5		Argenta Creek	66		FQC, GH	Needs 1.5" rubber washer on FQC coupling
SP31			1.5	1.5	Argenta Creek	65		FQC, GH	Owners own line not shared. 25' SE of house.
SP32			1.25	1.5	Argenta Creek	?		FQC, GH	Owners own line, not shared. Under repair.

Name	Latitude	Longitude	Diameter Standpipe (Inches)	Diameter Pipeline (Inches)	Source	Pressure (PSI)	Owner	Fittings	Notes
SP33			1.25	2	Argenta Creek	124		FQC, GH	Owners own line, not shared. 25' east of house.
SP34			1.25	3	Argenta Creek	110		FQC, GH	Close to tractor shed. Comes from 3-inch line.
SP35			1.5	1.5	Argenta Creek	125		FQC, GH	South field. Comes from a 3-inch line.
SP36			1	1.5	Argenta Creek	49		FQC, GH	By south cabin. Comes from 3-inch line.
SP37			1.5	2	Argenta Creek	80		FQC, GH	25' north of house. Comes from 3-inch line.
SP38			1.5	1.5	Argenta Creek	35		FQC, GH	Booster pump box by fire shed
SP39			2	2	Argenta Creek	34.5		FQC	Close to the hall woodshed. Can pump from this 2" line.
SP40			1.5	1.5	Spring via water ditch	22		FQC, GH	Ball valve needs repair. 2 other standpipes similar a little higher by garden.
SP41			1.5	1.5	Carter Creek	92		FQC, GH	100' north of the house. From 3" pipe.
SP42			1.5	2	Dewitt Spring	135		FQC, GH	50ft north of house
SP43			1.5	2	Dewitt Spring	151		FQC, GH	50' east of log house
SP44			1.5	2	Dewitt Spring	147		FQC	Near the lumber shed. Halfway between the 2 houses. Beside the upper driveway.
SP45			1.5	2	Argenta Creek	91		FQC, GH	20' NE of house
SP46			1.5	1.5	Argenta Creek	69		FQC, GH	60' south of house
SP47			1.5	1.5	Argenta Creek	74		FQC, GH	20' south of old meeting house near lake.
SP48			1.5	1.5	Argenta Creek	210/250		FQC	125' south of the power plant near the lake. Pressure: 210 (power plant running), 250 (static).
SP49			1.5	1.5	Argenta Creek -	211/ 250		FQC, GH	100' north of a tall shed. Pressure: 211 (power plant running), 250 (static).

Name	Latitude	Longitude	Diameter Standpipe (Inches)	Diameter Pipeline (Inches)	Source	Pressure (PSI)	Owner	Fittings	Notes
SP50			2	2	Carter Creek	160+		FQC	Off of the switchback of Brenton south driveway. FQC is 10' from the valve box.
SP51			1.5	2	Carter Creek	149		FQC, GH	East side of house
SP52			0.75	1.5	Spring	?		GH	Only 3/4 to GH but will be good pressure. Underground valve is seized. Strategically important location. May be limited volume so use a small nozzle size.
SP53			1	1.5	Spring	160		GH	Only 3/4 to GH but will be good pressure. Underground valve is seized. Strategically important location. May be limited volume so use a small nozzle size.
SP54			1.5		Carter Creek	60		FQC, GH	In the garden shed 30' SW of the house.
SP55			?	?		170		FQC	Good waterline, great pressure. Will be installed soon, standpipe with FQC.
SP56			1.5	2	Carter Creek	72		FQC	25' east of house. Land Coop waterline 4"
SP57			1	2	Carter Creek	135		FQC	Comes from a 3" pipeline. 135psi is dynamic with Pelton wheel running, static is probably 170
SP58			1	1.5	Argenta Creek	106		GH	Location 100' south of the shed on the bench below the house. Strategically important. Pressure 106 (after reducer)
SP59			1	1.5	Argenta Creek	?		FQC, GH	Second FQC down below in a box on a 1.5" line.

NATURAL STREAM SITE WATER SOURCES

This report details 29 accessible natural stream site locations where fire pumps could be easily deployed in the Argenta/Johnson's Landing area. Some of the streams in the area including Kootenay Joe, Argenta and Bulmers are affected by the permeable geology of the area and can go underground and reemerge as seeps or springs.

This can make it more difficult for fire crews to find water as they may pass by a dry stream bed which in fact has significant flow just downstream or upstream of the dry section.



This report details information about these sometimes challenging-to-find resources, making it possible for fire crews to quickly and easily obtain the water needed for suppression activities.

The locations were recommended by local resident and fire suppression expert Rik Valentine and then visited by Living Lakes Canada hydrologist Paul Saso. All points were then mapped and are available in the associated map products. In the full report, Table 3 (referred to as Table 2 in this report) contains a list of all recommended water source points with details about their locations. To protect the privacy of residents some details have been removed from this publicly available version of the report.

In the full report, photos of all locations and descriptions are available by clicking on each waypoint in the digital map products and are also presented in Appendix A. Site codes are a combination of the stream or source name with the elevation of the location as the second part of the name. For instance, ARG-691 indicates that the source is in the Argenta Creek watershed, and the extraction location is at 691m



KOOTENAY JOE CREEK © PAUL SASO

elevation. Sources included require minimal or no development or equipment to make them functional. Some will require damming of a culvert to create a pool while others have existing pools, others may require sandbags or digging to create a suitable pool into which a hose or pump could be placed. In the full report, equipment needed at each location is described in Table 3, included in the digital map products, and in Appendix A. Pictures of the sites are linked to the points in the digital map products and shown in Appendix A.

Sites have varying levels of access.. While some are directly accessible in a car or truck, others must be accessed by quad, walking trail, or bushwhacking. For more difficult to find locations, GPS tracks have been provided. This is noted in Table 3 (full report only) and tracks are available in the associated map products.

This report also includes the amount of water that is expected to be flowing at each of the natural stream sites during July, August and September. Each location has a high and low expected flow rate. Flow rates were estimated using a combination of historical records and by using the BC Water Tool.

Table 2: Natural Stream locations

Site Code	Creek Name	Latitude	Longitude	Access	Access notes	Description	Estimated Expected Discharge (m ³ /s)						Est. Source
							July		August		September		
							Low	High	Low	High	Low	High	
ARG-691	Argenta Creek	50.166911	-116.915156	Road accessible		Argenta creek, roadside. At switchback of upper Argenta road. Culvert could be damned, and a fire pump deployed here.	Ukn	Ukn	Ukn	Ukn	Ukn	Ukn	
ARG-713	Argenta Creek	50.167319	-116.913128	Trail Access		Short walk above the community hall, with access from the north side of Argenta creek. A pump's suction hose could be dropped right into the intake structure.	Ukn	Ukn	Ukn	Ukn	Ukn	Ukn	
ARG-728	Argenta Creek	50.166957	-116.911892	Walking Trail		Access from south side to just upstream of power plant canal. Water intakes for residential supply with Johnson screens	0.0846	0.2422	0.061	0.178	0.048	0.108	WSC
ARG-742	Argenta Creek	50.167022	-116.910738	Walking Trail		Access from the south side. Johnson screens.	0.0846	0.2422	0.061	0.178	0.048	0.108	WSC

Site Code	Creek Name	Latitude	Longitude	Access	Access notes	Description	Estimated Expected Discharge (m ³ /s)						Est. Source
							July		August		September		
							Low	High	Low	High	Low	High	
BUL-580	Lower Bulmer	50.13011	-116.91116	Road accessible		Culvert under Bulmer road where Bulmer Creek crosses. Culvert could be dammed, and a fire pump deployed here. Normally dries up in summer.	0.07	0.58	0	0.01	0	0.01	BCWT/ Local Knowledge
BUL-632	Bulmers Creek	50.128749	-116.908136	Road accessible		Bulmers creek crossing under Argenta-Johnsons Ldg. road. Culvert could be dammed for a fire pump. At this point the creek normally goes dry mid-summer. Water can be found further upstream.	0.12	1.1	0	0.01	0	0.01	
BUL-731	Upper Bulmer	50.127922	-116.902919	Hiking, no trail	100m from main road. See Track Access BUL-731	Greater flows at this point and above. Below this point the stream disappears mid-summer into sediment. Some pools here where a pump could be deployed.	0.12	1.1	0.03	0.1	0.03	.1	BCWT/ Local Knowledge

Site Code	Creek Name	Latitude	Longitude	Access	Access notes	Description	Estimated Expected Discharge (m ³ /s)						Est. Source
							July		August		September		
							Low	High	Low	High	Low	High	
CAR-753	Carter Creek	50.184784	-116.911272	Road accessible		Carter creek at foot of driveway, culvert under upper Argenta RD. Culvert would need to be blocked off with plywood or tarp.	0.02	0.08	0.01	0.03	0.01	0.03	BCWT
CAR-791	Carter Creek	50.186717	-116.908292	Walking Trail		Carter creek. Good fire pump site, good volume, 50' north of log house. Another pump site just downstream where driveway crosses Carter creek.	0.02	0.08	0.01	0.03	0.01	0.03	BCWT
CAR-807	Carter Creek	50.187015	-116.90755	Narrow 4WD or walking trail	250m from the main road. See track Access CAR-807.	Flume and water intake for 4" group water system. Good creek volume. Fire pump could be deployed here using caution not to compromise the water system.	0.02	0.08	0.01	0.03	0.01	0.03	BCWT

Site Code	Creek Name	Latitude	Longitude	Access	Access notes	Description	Estimated Expected Discharge (m ³ /s)						Est. Source
							July		August		September		
							Low	High	Low	High	Low	High	
CAR-821	Carter Creek	50.191255	-116.909001	Road accessible		Carter creek at end of public road turn-around, beginning of Carter Creek FSR. 50' east of road, good volume, good spot for filling water tender. Good location for a fire pump.	0.02	0.08	0.01	0.03	0.01	0.03	BCWT
DW-901	Dewitt Spring	50.190575	-116.904761	Road accessible	See track Access DW-901	Dewitt Spring at side of Spur 1 on Woodlot 491. There is a culvert here that empties into a steel tank beside the road.	0.0061	0.0065	0.0046	0.0058	0.0038	0.0047	Local Study (2005, 2006)
GAR-1149	Gar Creek	50.0857	-116.84935	Quad Trail	Very good trail branches off Kootenay Joe FSR. See track GAR-1149 Access	Located on a Gar Creek tributary.	0	0.02	0	0.01	0	0.01	BCWT

Site Code	Creek Name	Latitude	Longitude	Access	Access notes	Description	Estimated Expected Discharge (m ³ /s)						Est. Source
							July		August		September		
							Low	High	Low	High	Low	High	
GAR-575	Gar Creek	50.08192036	-116.8799709	Road accessible		KWS hydrometric station. There is a pool behind a wooden weir here. The pool can sometimes fill with sediment but is usually clear. A pump could be deployed here. High flows continue later in the summer in this creek than others in the area.	0.09	0.34	0.06	0.109	0.054	0.08	KWS
GAR-628	Gar Creek	50.083079	-116.877328	Road accessible		Gar creek at road crossing. Good room to park etc. Culvert could be dammed here, and a fire pump deployed. Later higher flows than most creeks in the area.	0.09	0.34	0.06	0.109	0.054	0.08	KWS
GAR-763		50.0838842	-Ω	Road accessible		Culvert could be dammed and a fire pump deployed here, or use higher site GAR-803.	0.09	0.34	0.06	0.109	0.054	0.08	KWS

Site Code	Creek Name	Latitude	Longitude	Access	Access notes	Description	Estimated Expected Discharge (m ³ /s)						Est. Source
							July		August		September		
							Low	High	Low	High	Low	High	
GAR-803	Gar Creek	50.083964	-116.864958	Walking Trail	450m walk to site. See track Access GAR-803.	Good access from the south side. Pump should be placed just below some existing intakes to not disturb.	0.09	0.34	0.06	0.109	0.054	0.08	KWS
GRN-618	Gardner Creek	50.090472	-116.883431	Road accessible		Gardner creek at switchback beside road, culvert under AJL road. Culvert could be blocked, and a fire pump deployed in the creek.	0.01	0.04	0	0.02	0	0.01	BCWT
KL-530ARG	Kootenay Lake	50.16844	-116.92396	Road accessible	Walking trail to upper Argenta where hose could be run.	Could pump from the lake here and run hose through the culvert and then up the steep road to upper Argenta.	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	
KOJO-795	Kootenay Joe	50.075184	-116.861386	Walking Trail	800m, quad access 1/2 way. See track Access KOJO-795	Always some flow at this site. Good pools to set up intake. KWS site. Other parts of this creek are often only flowing subsurface during the summer months.	0.077	0.356	0.033	0.104	0.025	0.078	KWS

Site Code	Creek Name	Latitude	Longitude	Access	Access notes	Description	Estimated Expected Discharge (m ³ /s)						Est. Source
							July		August		September		
							Low	High	Low	High	Low	High	
LP-561	Unnamed ditch	50.140636	-116.913205	Road accessible		Low point along Argenta-Johnsons Landing Road about 1km before Bulmers Pointe land. Culvert will require blocking off. Limited volume but has sustained a fire pump before.	Ukn Low	Ukn Low	Ukn Low	Ukn Low	Ukn Low	Ukn Low	
MAC-569	Macdonald Brook	50.091260	-116.886868	Road accessible		MacDonald Brook, culvert under Argenta-Johnsons Landing Road. Limited volume, may be insufficient for a fire pump.	0	0.01	0	0.01	0	0.01	BCWT
PRS-715	Press Road Culvert	50.17504	-116.91167	Road accessible		Culvert with some flow in summer bottom of Press Road 10m from stop sign. Culvert could be damned, and a fire pump deployed here.	Ukn Low	Ukn Low	Ukn Low	Ukn Low	Ukn Low	Ukn Low	
SAL-602	Salisbury Creek	50.106025	-116.900611	Road accessible		Large creek crosses the road here via a culvert. Just below the	0.1	0.67	0.04	0.19	0.03	0.14	BCWT

MAPPING PRODUCTS

One focus of this project was to create digital map products that could be used by fire suppression teams when working in the Argenta and Johnsons landing area. The intention is to make it quick and easy for fire crews to access a variety of important data about available water resources and structures in the area to facilitate fire suppression activities. These maps are not publicly available but are available for fire crews and professionals.

Information about structures in the area was provided by Selkirk College. The GIS layer shows each structure in the Argenta and Johnsons Landing area and notes what type of structure it is (shop, house, etc). This layer was created in 2020 using LIDAR and in consultation with residents the type of structure and house numbers were added. It should be recognized that over time new structures will be built, and others will be removed, therefore it is important that this layer be refreshed regularly.










Stream source pump sites and standpipe locations were recommended by local residents and then mapped using GPS. Each site has associated images and detailed information about the site. Access trails to each of the sites that are not directly on a road were also mapped and GPS tracks are available.

Printable maps of natural stream site pump locations without full details are included in this report. See Maps 1 and 2 on the following pages.







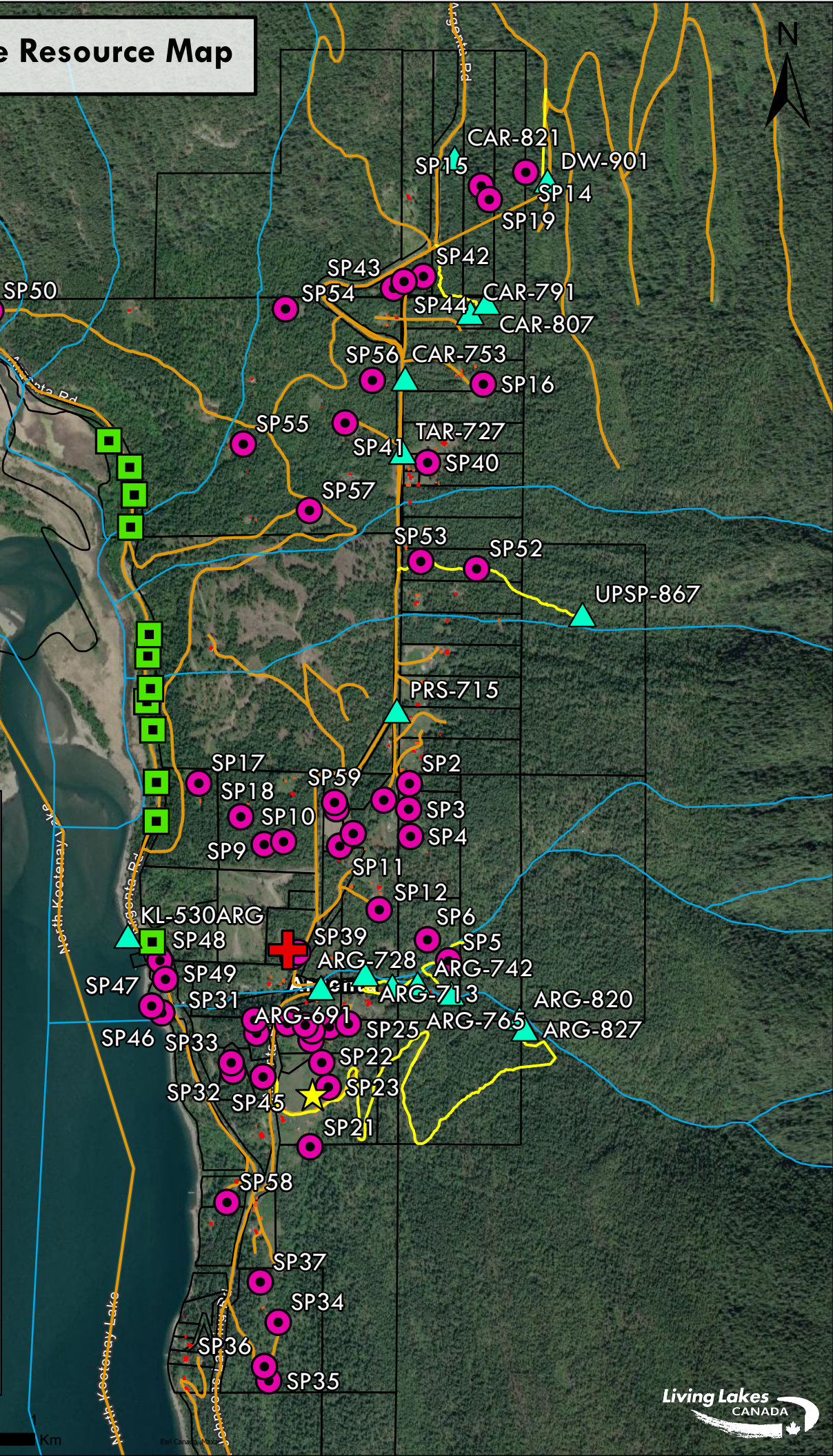
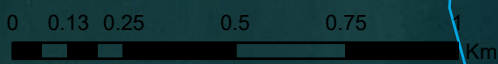
Argenta Area Fire Resource Map



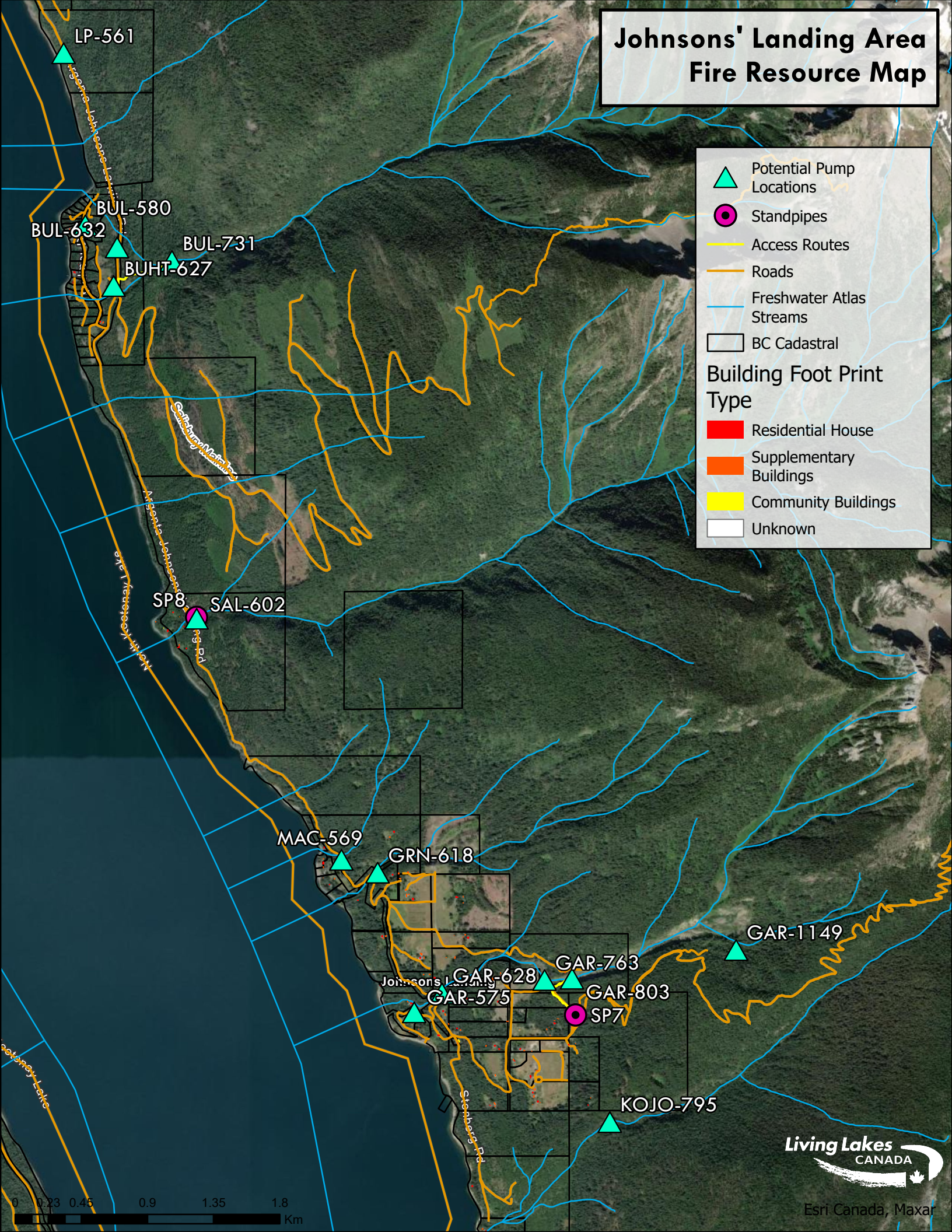
-  Potential Pump Locations
-  Equipment Shed
-  Heli Access
-  Culverts
-  Standpipes
-  Access Routes
-  Roads
-  Freshwater Atlas Streams
-  BC Cadastral

Building Foot Print Type

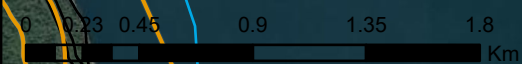
-  Residential House
-  Supplementary Buildings
-  Community Buildings
-  Unknown



Johnson's Landing Area Fire Resource Map



▲ Potential Pump Locations
● Standpipes
— Access Routes
— Roads
— Freshwater Atlas Streams
 BC Cadastral
Building Foot Print Type
■ Residential House
■ Supplementary Buildings
■ Community Buildings
 Unknown



RECOMMENDATIONS

During the preparation and data acquisition phases of this report, we have discovered numerous opportunities for enhancements of the current plans for wildfire scenarios. The following are suggestions for continued work that will improve the wildfire response in this region.

- The Argenta Safety And Preparedness Society (ASAPS) currently has in place an evacuation plan that makes use of radio communication between members of the community. Since there is no cellular service in this location and the telephone landline service could easily be cut off by an advancing fire, the use of radios is important for this community. The communication plan is structured such that there are several leaders with radios who are then responsible for informing five to six nearby households of any developments. The RDCK also has an official evacuation plan for the community, but they have not communicated this plan to the community. Since it is clearly important for a community to be aware of their own evacuation plan, it is strongly recommended that the RDCK and the ASAPS meet to share, discuss, and merge their plans. This will ensure any evacuation of the region can proceed efficiently and without the confusion that will be caused by having two separate procedures attempting to operate at the same time.
- This plan details the available water supply that could be used by wildfire responders in the event of a fire. Further work could be done to assess the pressure and sustainable volume of water that can be expected at each site in high demand situations. For instance, the site GAR OUTLET-779 has a very high pressure (300 psi off a 4" line), however, in very low flow conditions there may not be enough volume at the intake during summer low flows to use the outlet at high volume without drawing air down the line which could in turn damage the upstream pressure reducing stations.
- It is important that regular maintenance and testing of standpipes and hydrants is completed to ensure they are ready for use when needed.



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- The ASAPS is a well-supplied and trained volunteer fire suppression team with experience responding to fires in the Argenta region. Given the response time of crews coming from nearby centers, the ASAPS should be contacted first in the event of a fire. It is recommended that government wildfire specialists combine efforts with the ASAPS so that the local knowledge, expertise, and quick response time made possible by this group can be maximized.
- This report and associated map products should be amended regularly as new information becomes available. It would be useful to continue searching for and cataloging additional standpipes or natural water sources that are not included in this report.
- Additional projects could be completed that proposes strategies for fighting fires occurring in specific areas of the community. Such as if a fire is moving down the mountain from above, blowing in from the south, etc.
- Continued initiatives that mitigate fire related threats to the community including Firesmart initiatives, fuel management, etc. should also be continued. Mitigation efforts could also reach outside the boundaries of the residential areas to adjacent land where there are high fuel loads and difficult access.
- Further work should be done to assess the location and status of hydrants and standpipes in the Johnsons Landing and Bulmers Pointe communities and prepare more detailed plans for these areas.