

Al Irvine
New Graph Environment
al@newgraphenvironment
250-777-1518
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Re: Safety Plan

This safety plan can also be viewed [online](#) with the latest version of this pdf downloadable [here](#).

A summary of sites to be potentially assessed is included as Table [1](#), details of fish species potentially encountered is presented in Table [2](#) and an overview map of displaying potential sample locations is included as Figure 1. A kml file of the sites is included as an attachment to the application and can also be downloaded [from here at this link](#).

Work will include [fish passage assessments](#) and [habitat confirmations](#). Presence/absence of fish, species composition/density and distribution limits can be useful for prioritizing which crossings are a best fit for fish passage restoration and help inform follow up monitoring so electrofishing and minnowtrapping may be conducted. Standard Fish and Fish Habitat Inventory Standard Field Form [site cards](#) are used to gather habitat data.

Please do not hesitate to contact me if you have any questions or concerns.

A handwritten signature in black ink, appearing to read "Al Irvine".

Al Irvine, R.P.Bio

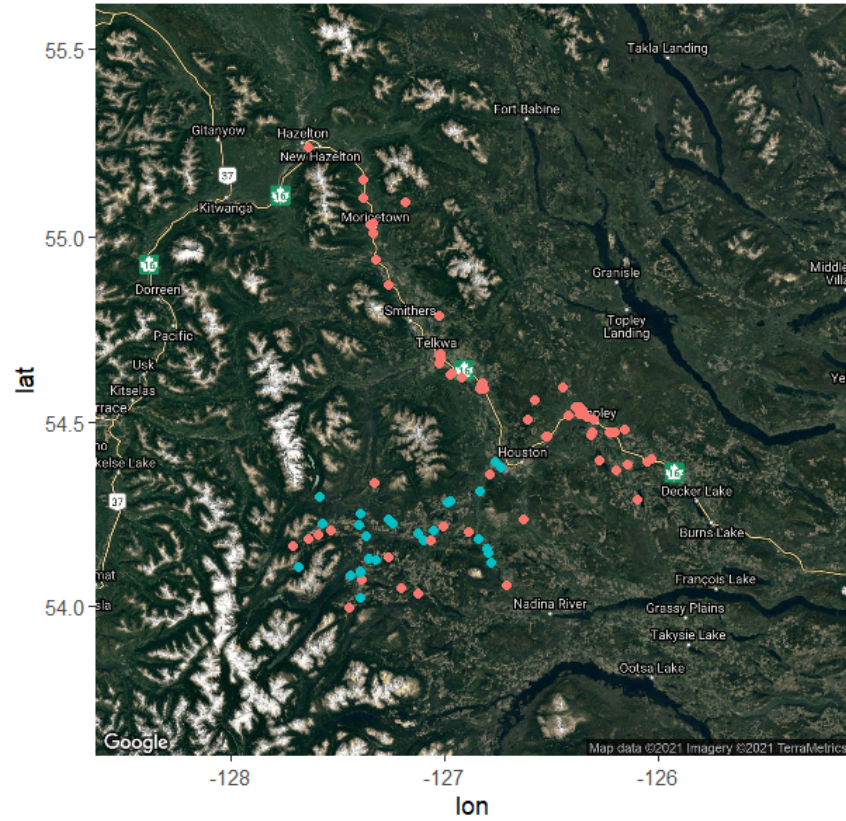


Figure 1. Map of potential sampling areas. High priority sites in red and moderate priority in green.

Table 1: Potential sample locations in the Bulkley River and Morice River watershed groups.

agg_id	Stream	lat	long	source	my_text	sp_upstr
3042	Barren Creek	54.50932	-126.6142	2020	–	–
3054	–	54.59474	-126.4478	2020	–	{RB}
3139	–	54.56012	-126.5773	2020	–	–
57944	Toboggan Creek	54.93977	-127.3183	cwf	–	{CC,CH,CO,CT,DV,KO,L,LSU,MW,OS,PK,RB,SK,SST,ST}
58159	McDowell Creek	54.67521	-127.0204	2020	–	{CO,RB}
123445	Tyhee Creek	54.68440	-127.0263	2020	–	{BB,C,CAS,CC,CH,CM,CO,CT,GPW,LSU,MW,NSC,PCC,PK,PW,RB,RDC,RS}
123446	Tyhee Creek	54.68713	-127.0218	2020	–	{BB,C,CAS,CC,CH,CM,CO,CT,GPW,LSU,MW,NSC,PCC,PK,PW,RB,RDC,RS}
123770	John Brown Creek	55.01008	-127.3326	cwf	–	{BT,CH,CT,DV,RB}
123776	Corya Creek	55.03681	-127.3341	cwf	–	{DV,RB}
123794	–	55.09398	-127.1806	2020	–	{DV}
123795	–	55.09473	-127.1855	2020	–	{SA}
124420	Station Creek	55.24045	-127.6375	cwf	–	{BT,CO,CT,DV,PK,RB,SP}
124487	Porphyry Creek	55.15630	-127.3823	2020	–	{DV,RB}
124500	Helps Creek	54.65954	-127.0228	2020	–	{CT,DV,LNC,LSU,RB}
124501	–	54.63182	-126.9757	2020	–	{DV,RB}
124504	Coffin Creek	54.62079	-126.9195	2020	–	{CSU,CT,DV,LSU,MW,RB,RSC}
195288	Gibson Creek	54.59190	-126.8188	2020	–	{CT,RB}
195290	Gibson Creek	54.59318	-126.8328	2020	–	{CT,RB}
197360	Riddeck Creek	54.05795	-126.7093	2020	–	{LSU,RB}
197365	–	54.15719	-126.8005	morice	Smaller channel width.	–
197378	–	54.11705	-126.7802	morice	Large wetland complex upstream.	{DV,LNC,MW,RB}
197379	–	54.18203	-126.8400	morice	Less than 1km of potential habitat but very large channel width.	{CO,RB}
197640	–	54.23614	-126.6322	2020	–	{RB}
197658	Byman Creek	54.51881	-126.4222	cwf	–	{CO,CSU,LNC,LSU,RB,RSC,ST}
197662	Richfield Creek	54.51552	-126.3365	cwf	–	{CH,CO,LKC,LNC,LSU,RB,SST,ST}
197663	Johnny David Creek	54.52188	-126.3696	cwf	–	{RB}
197664	Barren Creek	54.46354	-126.5243	2020	–	{CH,CO,CT,L,RB,SST,ST}
197665	–	54.46280	-126.5217	2020	–	{BB,BMC,BT,CAS,CBA,CC,CH,CO,CSU,CT,DV,L,LKC,LNC,LSU,LT,LW,MW,N}

197667	–	54.63316	-126.9690	2020	–	{CT,DV,RB}
197668	Coffin Creek	54.62098	-126.9193	2020	–	{CSU,CT,DV,LSU,MW,RB,RSC}
1001800048	Cesford Creek	54.50844	-126.3062	manual	–	–
1001800050	Bulkley River	54.40228	-126.0352	cwf	–	{BMC,CSU,LKC,LNC,LSU,NSC,RB,RSC}
1001800050	Bulkley River	54.40228	-126.0352	cwf	–	{BMC,CSU,LKC,LNC,LSU,NSC,RB,RSC}
1001800355	Ailport Creek	54.47325	-126.2121	cwf	–	{CO,CT,RB}
1001800356	Watson Creek	54.47603	-126.2159	manual	–	{CO,RB}
1001800422	Ailport Creek	54.47269	-126.2294	cwf	–	{CO,CT,RB}
1001800752	–	54.39789	-126.2769	cwf	–	{BB,CSU,LSU,LW,NSC,PCC,RB,RSC}
1001801122	Ailport Creek	54.47578	-126.2090	cwf	–	{CO,CT,RB}
1001801133	–	54.47401	-126.3094	cwf	–	{BB,CBA,CC,CSU,LKC,LSU,LW,MW,NSB,NSC,PCC,RB,RSC}
1001801773	Boulder Creek	55.10651	-127.3787	cwf	–	{BT,DV}
1001801969	–	54.46801	-126.3181	cwf	–	{BB,CBA,CC,CSU,LKC,LSU,LW,MW,NSB,NSC,PCC,RB,RSC}
1001802044	Ailport Creek	54.48329	-126.1602	cwf	–	{CT,RB}
1001802088	Robert Hatch Creek	54.54393	-126.3727	cwf	–	{LSU,RB}
1001802089	Johnny David Creek	54.54204	-126.3894	cwf	–	{RB}
1001802106	Robert Hatch Creek	54.53465	-126.3576	cwf	–	{LSU,RB}
1001802760	Deep Creek	54.60713	-126.8238	cwf	–	{C,CT,DV,RB}
1001802820	Deep Creek	54.60520	-126.8274	cwf	–	{C,CH,CM,CO,CT,DV,PK,RB,SA,SK,ST}
1001803682	Crow Creek	54.37200	-126.1977	cwf	–	{CAS,LNC,RB,RSC}
1001804694	–	54.29223	-126.1020	cwf	–	{RB}
1001805529	Bulkley River	54.39509	-126.0545	cwf	–	{BMC,CAS,CO,CSU,LKC,LNC,LSU,NSC,RB,RSC}
1001805529	Bulkley River	54.39509	-126.0545	cwf	–	{BMC,CAS,CO,CSU,LKC,LNC,LSU,NSC,RB,RSC}
1001805532	Crow Creek	54.38684	-126.1460	cwf	–	{CAS,CO,LNC,PL,RB,RSC}
1001805553	Glass Creek	54.87356	-127.2593	cwf	–	{CC,CO,CT,DV,KO,LSU,MW,OS,RB,SK,ST}
1001805665	Canyon Creek	54.78797	-127.0237	cwf	–	{CO,DV,RB,TR}
1014000009	–	54.38009	-126.7377	morice	In Houston with rail upstream. Maybe very modified.	{RB}
1014000255	Nado Creek	54.13167	-127.2638	morice	CBR - 2.2m culvert.	–
1014000271	–	54.39277	-126.7668	morice	Just below Klinger Lake. Good for coho?	{EB,RB}
1014000312	–	54.08456	-127.4368	morice	Smaller stream potentially	

suitable for upstream migrating

{DV}

juvenile salmon. DV upstream.

1014000379	—	54.25210	-127.3909	morice	Cascade noted adjacent to crossing but no FISS sample sites.	—
					Coho in mainstem Thautil nearby.	—
					Stream splits to two tribs just upstream.	
					Low gradient with wetlands	
1014000507	—	54.22661	-127.5698	morice	upstream and CO,CT and others downstream.	—
1014000509	—	54.12580	-127.3180	morice	Channel width 1.5 m downstream at FISS site.	—
1014000565	—	54.33777	-127.3300	morice	Stealhead and bulltrout nearby	—
1014000569	—	54.28134	-126.9841	morice	FISS site downstream does not mention intermittent as is FWA tag.	—
1014000571	—	54.28765	-126.9767	morice	Lots of low gradient habitat but split into many tribs.	{DV,RB}
1014000674	—	54.19924	-127.1256	morice	Coho downstream.	—
1014000683	—	54.20767	-127.0517	morice	Top end of lake.	—
1014000718	—	54.14672	-126.7971	morice	Models as over 2m wide and has fish obs upstream.	{DV,RB}
1014000777	—	54.09047	-127.3922	morice	Two small tribs upstream.	—
1014000788	—	54.09355	-127.3954	morice	Steeper system.	—
1014000796	Fenton Creek	54.20165	-126.8913	morice	Major culvert (5m wide).	{CC,CO,DV,RB,SP}
1014000798	Peacock Creek	54.36059	-126.7921	morice	Fish way noted as having issues in Smith 2018.	—
1014000801	—	54.31559	-126.8358	morice	Quite steep.	—
1014000908	—	54.22097	-127.3994	morice	Steelhead and coho points just downstream.	—
					Good sized lake upstream. Road not visible in aerial imagery. Follow up with foresters before heading out in field.	{DV,RB}
1014000931	—	53.99557	-127.4459	morice	Very close to Naninka.	{CT,DV}
1014000991	—	54.17901	-127.1012	morice	Steeper stream.	—
1014001002	—	54.19188	-127.3659	morice	Smaller stream with coho upstream of crossing.	{CO}

1014001029	–	54.17869	-127.0657	morice	Very close to Morice mainstem.	{CT,RB}
1014001080	–	54.02044	-127.3923	morice	Smaller potential high value habitat gain but Nanika in Nanika system so in high value watershed.	{CT}
1014001161	McBride Creek	54.07139	-127.3875	morice	CBR indicates "major culvert" at 4.5m width.	{BB,CAS,CO,CSU,CT,DV,LDC,LSU,LT,LW,MW,PCC,RB,RSC,WSU}
1014001195	–	54.12903	-127.3542	morice	Low gradient and close to mainstem but low elevation watershed.	–
1014001198	–	54.10794	-127.6851	morice	Models as a bit larger of a channel with 0.75km <5% and DV upstream.	{DV}
1014001222	Lamprey Creek	54.04738	-127.2029	morice	Large lake headed system.	{CT,DV,LKC,RB,RB/CT}
1014001245	–	54.18341	-127.6371	morice	Coho, steelhead and other species upstream.	{CO,CT,DV,LKC,SP}
1014001247	–	54.19550	-127.5928	morice	Multiple species (including CO) noted upstream with lots of modelled habitat.	{CO,CT,DV,LKC}
1014001427	–	54.23806	-127.2653	morice	Potentially fish bearing according to http://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=50411 .	–
1014001534	–	54.29848	-127.5862	morice	Channel models as small. Flows into lake.	–
1014001542	–	54.20825	-127.5335	morice	Many fish points upstream and downstream. Low grades.	{CT,DV}
1014001563	–	54.21925	-127.0061	morice	Lots of low gradient and lake upstream.	{CCT,CT,LKC}
1014001769	–	54.22487	-127.2404	morice	Appears of highest value for rearing.	{CT}
1024704566	Corya Creek	55.03451	-127.3448	cwf	–	{DV,RB}
1024740003	–	54.03348	-127.1239	morice	Lots of lake upstream.	{CAL,LKC,RB,RSC}

Table 2: Fish species recorded in the Bulkley River and Morice River watershed groups.

Scientific Name	Species Name	Species Code	BC List	Provincial FRPA	COSEWIC	SARA	Bulkley	Morice
Catostomus catostomus	Longnose Sucker	LSU	Yellow	–	–	–	Yes	Yes
Catostomus commersonii	White Sucker	WSU	Yellow	–	–	–	Yes	Yes
Catostomus macrocheilus	Largescale Sucker	CSU	Yellow	–	–	–	Yes	Yes
Chrosomus eos	Northern Redbelly Dace	RDC	Yellow	–	–	–	Yes	–
Coregonus clupeaformis	Lake Whitefish	LW	Yellow	–	–	–	Yes	Yes
Cottus aleuticus	Coastrange Sculpin (formerly Aleutian Sculpin)	CAL	Yellow	–	–	–	Yes	Yes
Cottus asper	Prickly Sculpin	CAS	Yellow	–	–	–	Yes	Yes
Couesius plumbeus	Lake Chub	LKC	Yellow	–	DD	–	Yes	Yes
Entosphenus tridentatus	Pacific Lamprey	PL	Yellow	–	–	–	Yes	Yes
Hybognathus hankinsoni	Brassy Minnow	BMC	No Status	–	–	–	Yes	–
Lota lota	Burbot	BB	Yellow	–	–	–	Yes	Yes
Mylocheilus caurinus	Peamouth Chub	PCC	Yellow	–	–	–	Yes	Yes
Oncorhynchus clarkii	Cutthroat Trout	CT	No Status	–	–	–	Yes	Yes
Oncorhynchus clarkii	Cutthroat Trout (Anadromous)	ACT	No Status	–	–	–	Yes	–
Oncorhynchus clarkii clarkii	Coastal Cutthroat Trout	CCT	Blue	–	–	–	Yes	Yes
Oncorhynchus gorbuscha	Pink Salmon	PK	Yellow	–	–	–	Yes	Yes
Oncorhynchus keta	Chum Salmon	CM	Yellow	–	–	–	Yes	Yes
Oncorhynchus kisutch	Coho Salmon	CO	Yellow	–	–	–	Yes	Yes
Oncorhynchus mykiss	Rainbow Trout	RB	Yellow	–	–	–	Yes	Yes
Oncorhynchus mykiss	Steelhead	ST	Yellow	–	–	–	Yes	Yes
Oncorhynchus mykiss	Steelhead (Summer-run)	SST	Yellow	–	–	–	Yes	Yes
Oncorhynchus nerka	Kokanee	KO	Yellow	–	–	–	Yes	Yes
Oncorhynchus nerka	Sockeye Salmon	SK	Yellow	–	–	–	Yes	Yes
Oncorhynchus								

tshawytscha	Chinook Salmon	CH	Yellow	--	--	Yes	Yes
Prosopium coulterii	Pygmy Whitefish	PW	Yellow	--	NAR (Nov 2016)	Yes	Yes
Prosopium coulterii pop. 3	Giant Pygmy Whitefish	GPW	Yellow	--	--	Yes	--
Prosopium williamsoni	Mountain Whitefish	MW	Yellow	--	--	Yes	Yes
Ptychocheilus oregonensis	Northern Pikeminnow	NSC	Yellow	--	--	Yes	Yes
Pungitius pungitius	Ninespine Stickleback	NSB	Unknown	--	--	Yes	--
Rhinichthys cataractae	Longnose Dace	LNC	Yellow	--	--	Yes	Yes
Rhinichthys falcatus	Leopard Dace	LDC	Yellow	--	NAR (May 1990)	--	Yes
Richardsonius balteatus	Redside Shiner	RSC	Yellow	--	--	Yes	Yes
Salvelinus confluentus pop. 26	Bull Trout	BT	Blue	--	--	Yes	Yes
Salvelinus fontinalis	Brook Trout	EB	Exotic	--	--	Yes	Yes
Salvelinus malma	Dolly Varden	DV	Yellow	--	--	Yes	Yes
Salvelinus namaycush	Lake Trout	LT	Yellow	--	--	Yes	Yes
--	Arctic Char	AC	--	--	--	--	Yes
--	Cutthroat/Rainbow cross	CRS	--	--	--	Yes	--
--	Dace (General)	DC	--	--	--	--	Yes
--	Lamprey (General)	L	--	--	--	Yes	Yes
--	Minnow (General)	C	--	--	--	Yes	Yes
--	Salmon (General)	SA	--	--	--	Yes	Yes
--	Sculpin (General)	CC	--	--	--	Yes	Yes
--	Sucker (General)	SU	--	--	--	Yes	Yes
--	Whitefish (General)	WF	--	--	--	Yes	Yes