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New Graph Environment
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250-777-1518
Date: 2021-07-10

Ministry of Environment Skeena Region
3726 Alfred Ave 1st Floor
Smithers, BC V0J 2N0

Re: Fish Permit Application

This permit application can also be viewed online at this link. 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

Rationale for sampling is to inform fish presence/absence and species composition/density as part of habitat confirmations to prioritize fish passage restoration at barrier culverts as per the Fish Passage Technical Working Group Phase 2 protocol. 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. Sampling is proposed at a portion of the 15 - 30 sites (Table 1) where we will be performing habitat confirmations this summer and may occur well upstream of the crossing locations. The current list of candidate streams is extensive and will be narrowed down through the results of field assessments, modeling, ongoing communications with Wet'suwet'en, Skeena Fisheries Commission, DFO, Gitxsan Watershed Authority, FLNR and other stakeholders.

It is unlikely that sampling will be conducted at more than 15 of the streams listed (Table 1) however until the sites are visited in the field it is difficult to determine where sampling will be most beneficial to inform the prioritization and monitoring. Sampling methodologies will be dependent on the site, fish species suspected, type of habitat encountered, risks to aquatic organisms potentially present and ongoing communications with numerous stakeholders. Sampling methods may include

minnowtrapping, electrofishing, and dipnetting upstream and downstream of barrier culvert locations.

Please note that the sampling will be completed before October 15, 2021 however the period is listed as Dec 31, 2021 on the application to allow time outside of the busy field season for the data to be processed, QA'd and organized so that required reporting can be as informative as possible when submitted. Results and methodologies from last year's assessments can be referenced here at this link.

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

Al Irvine, R.P.Bio

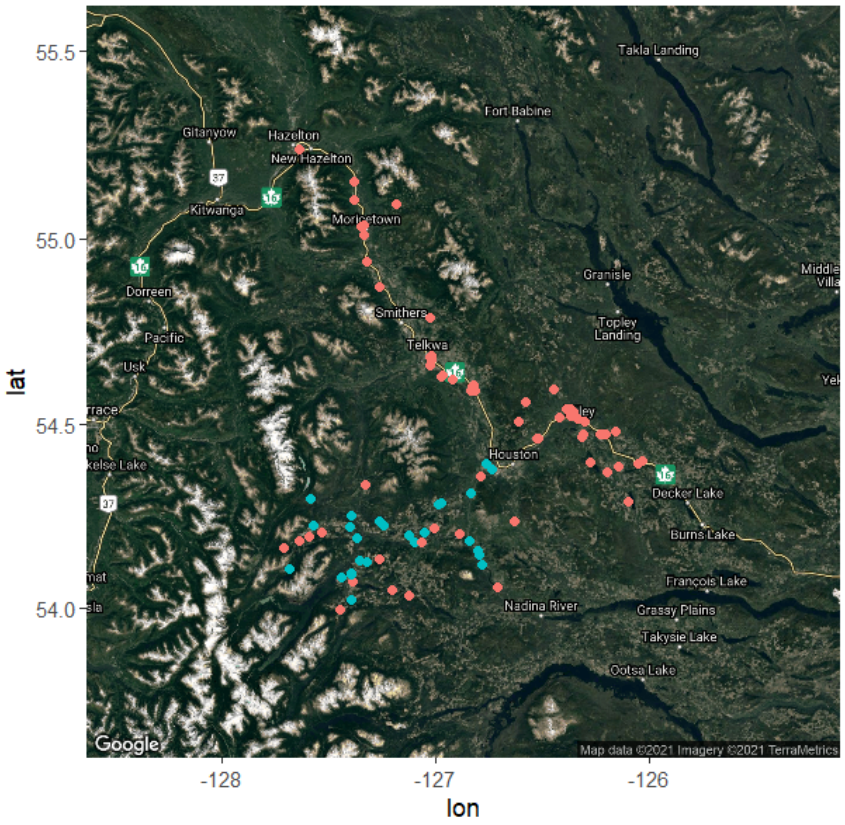

Figure 1. Map of potential sampling areas. High priority sites in red and moderate priority in green.

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

id	Stream	watershed_code_50k	watershed_code_20k	lat	long	sp_upstr
3042	Barren Creek	460-704700	400-431358-694148	54.50932	-126.6142	–
3054	–	460-778000-76002	400-431358-763808-706575	54.59474	-126.4478	{RB}
3139	–	460-744900-44300	400-431358-732614-408992	54.56012	-126.5773	–
57944	Toboggan Creek	460-242900	400-431358-237852	54.93977	-127.3183	{CC,CH,CO,CT,DV,KO,L,LSU,MW,OS,PK,RB,SK,SST,ST}
58159	McDowell Creek	460-435300	400-431358-427289	54.67521	-127.0204	{CO,RB}
123445	Tyhee Creek	460-430900	400-431358-423347	54.68440	-127.0263	{BB,C,CAS,CC,CH,CM,CO,CT,GPW,LSU,MW,NSC,PCC,PK,PW,RB,RDC,RS
123446	Tyhee Creek	460-430900	400-431358-423347	54.68713	-127.0218	{BB,C,CAS,CC,CH,CM,CO,CT,GPW,LSU,MW,NSC,PCC,PK,PW,RB,RDC,RS
123770	John Brown Creek	460-201500	400-431358-197707	55.01008	-127.3326	{BT,CH,CT,DV,RB}
123776	Corya Creek	460-185400	400-431358-181726	55.03681	-127.3341	{DV,RB}
123794	–	460-081700-43900-45900-6600	400-431358-079962-441999-443832-677294-095277-187251-279058	55.09398	-127.1806	{DV}
123795	–	–	400-431358-079962-441999-443832-677294-095277-187251-279058-161086	55.09473	-127.1855	{SA}
124420	Station Creek	460-007300	400-431358-007243	55.24045	-127.6375	{BT,CO,CT,DV,PK,RB,SP}
124487	Porphyry Creek	460-125600	400-431358-123856	55.15630	-127.3823	{DV,RB}
124500	Helps Creek	460-437000	400-431358-430066	54.65954	-127.0228	{CT,DV,LNC,LSU,RB}
124501	–	460-458800	400-431358-450642	54.63182	-126.9757	{DV,RB}
124504	Coffin Creek	460-472700	400-431358-464077	54.62079	-126.9195	{CSU,CT,DV,LSU,MW,RB,RSC}
195288	Gibson Creek	460-496100-08700	400-431358-485911-075489	54.59190	-126.8188	{CT,RB}

195290	Gibson Creek	460-496100-08700	400-431358-485911-075489	54.59318	-126.8328	{CT,RB}
197360	Riddeck Creek	–	400-431358-585806-266600-990817	54.05795	-126.7093	{LSU,RB}
197365	–	460-600600-23900-32500	400-431358-585806-266600-360267	54.15719	-126.8005	–
197378	–	460-600600-23900-59400	400-431358-585806-266600-641933	54.11705	-126.7802	{DV,LNC,MW,RB}
197379	–	460-600600-23900-13000	400-431358-585806-266600-148535	54.18203	-126.8400	{CO,RB}
197640	–	460-636000-36664	400-431358-623573-329057	54.23614	-126.6322	{RB}
197658	Byman Creek	460-750400	400-431358-737582-024023	54.51881	-126.4222	{CO,CSU,LNC,LSU,RB,RSC,ST}
197662	Richfield Creek	460-788200	400-431358-773280	54.51552	-126.3365	{CH,CO,LKC,LNC,LSU,RB,SST,ST}
197663	Johnny David Creek	460-778000	400-431358-763808	54.52188	-126.3696	{RB}
197664	Barren Creek	460-704700	400-431358-694148	54.46354	-126.5243	{CH,CO,CT,L,RB,SST,ST}
197665	–	4600	400-431358	54.46280	-126.5217	{BB,BMC,BT,CAS,CBA,CC,CH,CO,CSU,CT,DV,L,LKC,LNC,LSU,LT,LW,MW,N
197667	–	460-458800	400-431358-450642	54.63316	-126.9690	{CT,DV,RB}
197668	Coffin Creek	460-472700	400-431358-464077	54.62098	-126.9193	{CSU,CT,DV,LSU,MW,RB,RSC}
1001800048	Cesford Creek	460-800700	400-431358-785328	54.50844	-126.3062	–
1001800050	Bulkley River	4600	400-431358	54.40228	-126.0352	{BMC,CSU,LKC,LNC,LSU,NSC,RB,RSC}
1001800050	Bulkley River	4600	400-431358	54.40228	-126.0352	{BMC,CSU,LKC,LNC,LSU,NSC,RB,RSC}
1001800355	Ailport Creek	460-829700-20600	400-431358-815756	54.47325	-126.2121	{CO,CT,RB}
1001800356	Watson Creek	460-829700	400-431358-815756-166390	54.47603	-126.2159	{CO,RB}
1001800422	Ailport Creek	460-829700	400-431358-815756	54.47269	-126.2294	{CO,CT,RB}

1001800752	–	460-834400-26900	400-431358-820938	54.39789	-126.2769	{BB,CSU,LSU,LW,NSC,PCC,RB,RSC}
1001801122	Ailport Creek	460-829700-20600	400-431358-815756	54.47578	-126.2090	{CO,CT,RB}
1001801133	–	460-834400	400-431358-820938	54.47401	-126.3094	{BB,CBA,CC,CSU,LKC,LSU,LW,MW,NSB,NSC,PCC,RB,RSC}
1001801773	Boulder Creek	460-142600	400-431358-140529	55.10651	-127.3787	{BT,DV}
1001801969	–	460-834400-26900	400-431358-820938	54.46801	-126.3181	{BB,CBA,CC,CSU,LKC,LSU,LW,MW,NSB,NSC,PCC,RB,RSC}
1001802044	Ailport Creek	460-829700-20600	400-431358-815756	54.48329	-126.1602	{CT,RB}
1001802088	Robert Hatch Creek	460-788200-05100	400-431358-773280-070140	54.54393	-126.3727	{LSU,RB}
1001802089	Johnny David Creek	460-778000	400-431358-763808	54.54204	-126.3894	{RB}
1001802106	Robert Hatch Creek	460-788200-05100	400-431358-773280-070140	54.53465	-126.3576	{LSU,RB}
1001802760	Deep Creek	460-496100	400-431358-485911	54.60713	-126.8238	{C,CT,DV,RB}
1001802820	Deep Creek	460-496100	400-431358-485911	54.60520	-126.8274	{C,CH,CM,CO,CT,DV,PK,RB,SA,SK,ST}
1001803682	Crow Creek	460-917900	400-431358-912160	54.37200	-126.1977	{CAS,LNC,RB,RSC}
1001804694	–	460-924300-43400	400-431358-918528-419839	54.29223	-126.1020	{RB}
1001805529	Bulkley River	4600	400-431358	54.39509	-126.0545	{BMC,CAS,CO,CSU,LKC,LNC,LSU,NSC,RB,RSC}
1001805529	Bulkley River	4600	400-431358	54.39509	-126.0545	{BMC,CAS,CO,CSU,LKC,LNC,LSU,NSC,RB,RSC}
1001805532	Crow Creek	460-917900	400-431358-912160	54.38684	-126.1460	{CAS,CO,LNC,PL,RB,RSC}
1001805553	Glass Creek	460-242900-51500	400-431358-237852-484634	54.87356	-127.2593	{CC,CO,CT,DV,KO,LSU,MW,OS,RB,SK,ST}
1001805665	Canyon Creek	460-325400	400-431358-319200	54.78797	-127.0237	{CO,DV,RB,TR}
1014000009	–	–	400-431358-585806-028917	54.38009	-126.7377	{RB}
1014000255	Nado Creek	460-600600-57600	400-431358-585806-637722	54.13167	-127.2638	–
1014000271	–	460-600600-02700	400-431358-585806-			

032105		54.39277	-126.7668	{EB,RB}			
1014000312	–	460-600600-63200-09800	400-431358-585806-700175-118208	54.08456	-127.4368	{DV}	
1014000379	–	460-600600-50800-20300	400-431358-585806-558169-195266	54.25210	-127.3909	–	
1014000507	–	460-600600-50800-00500-3900	400-431358-585806-558169-005657-383788	54.22661	-127.5698	–	
1014000509	–	460-600600-57600-40600	400-431358-585806-637722-297130	54.12580	-127.3180	–	
1014000565	–	460-600600-50800-51300	400-431358-585806-558169-493891	54.33777	-127.3300	–	
1014000569	–	460-600600-17000-18900-3601	400-431358-585806-190109-194271-156457	54.28134	-126.9841	–	
1014000571	–	460-600600-17000-18900	400-431358-585806-190109-194271	54.28765	-126.9767	{DV,RB}	
1014000674	–	460-600600-39700	400-431358-585806-439733	54.19924	-127.1256	–	
1014000683	–	460-600600-35600-07800	400-431358-585806-397552-070076	54.20767	-127.0517	–	
1014000718	–	460-600600-23900-39300	400-431358-585806-266600-435069	54.14672	-126.7971	{DV,RB}	
1014000777	–	460-600600-63200	400-431358-585806-700175-297749	54.09047	-127.3922	–	
1014000788	–	460-600600-63200-28000-0600	400-431358-585806-700175-279690	54.09355	-127.3954	–	
1014000796	Fenton Creek	460-600600-26600	400-431358-585806-299343	54.20165	-126.8913	{CC,CO,DV,RB,SP}	
1014000798	Peacock Creek	460-600600-07100	400-431358-585806-071935	54.36059	-126.7921	–	
1014000801	–	460-600600-12000	400-431358-585806-132958-039027	54.31559	-126.8358	–	
1014000908	–	460-600600-50800-00500-0630	400-431358-585806-558169-005657-004976	54.22097	-127.3994	–	
1014000912	–	460-600600-50800-00500-5730	400-431358-585806-558169-005657-566240	54.16261	-127.7088	{DV,RB}	
1014000931	–	–	400-431358-585806-708951-231411-111148	53.99557	-127.4459	{CT,DV}	
1014000991	–	–	400-431358-585806-416313	54.17901	-127.1012	–	

1014001002	–	460-600600-52400	400-431358-585806-576683	54.19188	-127.3659	{CO}
1014001029	–	460-600600-36400-00800	400-431358-585806-405041-009425	54.17869	-127.0657	{CT,RB}
1014001080	–	460-600600-64400-11700-4190	400-431358-585806-708951-079969-562197	54.02044	-127.3923	{CT}
1014001161	McBride Creek	460-600600-63200	400-431358-585806-700175	54.07139	-127.3875	{BB,CAS,CO,CSU,CT,DV,LDC,LSU,LT,LW,MW,PCC,RB,RSC,WSU}
1014001195	–	460-600600-57600-18800	400-431358-585806-637722-145083	54.12903	-127.3542	–
1014001198	–	460-600600-50800-00500-7930	400-431358-585806-558169-005657-776656	54.10794	-127.6851	{DV}
1014001222	Lamprey Creek	460-600600-36400	400-431358-585806-405041	54.04738	-127.2029	{CT,DV,LKC,RB,RB/CT}
1014001245	–	460-600600-50800-00500-5610	400-431358-585806-558169-005657-536175	54.18341	-127.6371	{CO,CT,DV,LKC,SP}
1014001247	–	460-600600-50800-00500-4290	400-431358-585806-558169-005657-425535	54.19550	-127.5928	{CO,CT,DV,LKC}
1014001427	–	–	400-431358-585806-494461-108341-458581	54.23806	-127.2653	–
1014001534	–	460-600600-50800-00500-2830-4066-283	400-431358-585806-558169-005657-271238-385828-175163	54.29848	-127.5862	–
1014001542	–	460-600600-50800-00500-3770	400-431358-585806-558169-005657-369090	54.20825	-127.5335	{CT,DV}
1014001563	–	460-600600-33000	400-431358-585806-366398	54.21925	-127.0061	{CCT,CT,LKC}
1014001769	–	460-600600-44500-38900	400-431358-585806-494461-373723	54.22487	-127.2404	{CT}
1024704566	Corya Creek	460-185400	400-431358-181726	55.03451	-127.3448	{DV,RB}
1024740003	–	460-600600-36400-64100	400-431358-585806-405041-630893	54.03348	-127.1239	{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