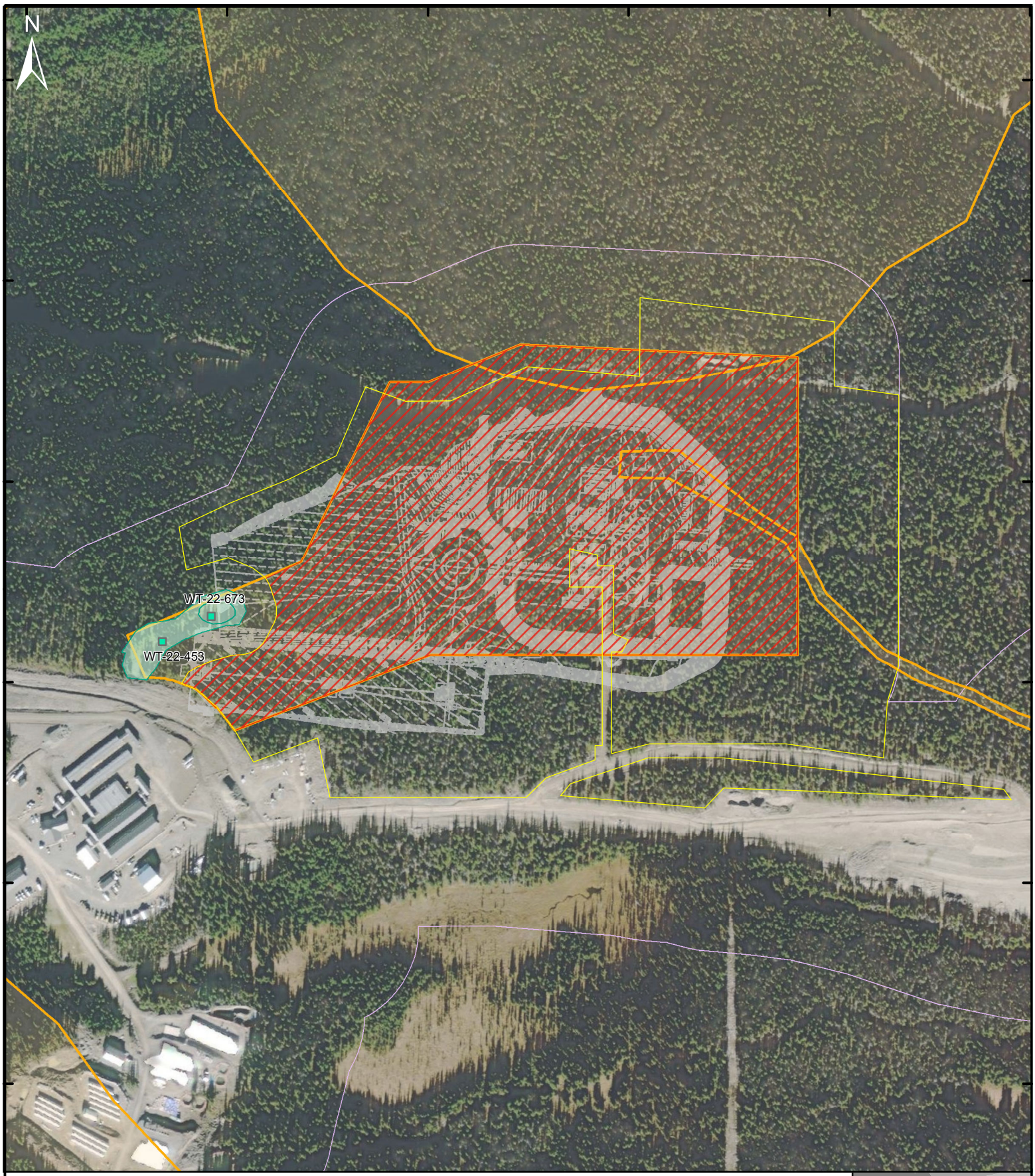


Blackwater Project

Wetlands within the Proposed Plant Site

Figure 1

Date: 2022-09-06

Map Number: BLW-007

Coordinate System: NAD 1983 UTM Zone 10N

Projection: Transverse Mercator

Datum: North American 1983

ECOLOGIC environmental consulting

- Wetland Field Plot (Adjacent to Mine)
- Wetland
- Proposed Expanded Early Works Clearing Limits - 26.4 ha Clearing (Under Discussion with LDN and UFN)
- Early Works Clearing Limits - 14.9 ha Clearing
- Mine Footprint
- Plant Site Infrastructure
- Plant Site Clearing Limits

0 50 100 150

1:5,000 m

TABLE 2. HABITAT SUITABLITY RATINGS FOR WT-22-453

Species	Life Requisite- Season	Suitability rating
Western Toad	Reproducing Eggs- Growing	Suitable
	Hibernating - Winter	Suitable
Ring-necked Duck	Living- Growing	Not Suitable
Olive-sided flycatcher	Living- Growing	Very High
Little Brown Myotis	Living- Growing	High
Caribou	Living- Winter, Summer, Fall, Spring	Very Low
Grizzly Bear	Living- Spring, Fall	Low
	Living- Summer	Moderate
Moose	Living- Spring, Winter	Low
	Living- Summer	Moderate
Muskrat	Living – Growing, Winter	Not Suitable

WT-22-673

WT-22-673 (Photo 2) is classified as a Wm00 marsh (unclassfied marsh association). It is a properly functioning wetland that during time of assessment was flooded from natural causes. It is a graminoid dominated level forest marsh opening dominated by grey sedge (*Carex canesens*) with some water sedge (*Carex aquatilis*), along with *Polystichum spp.* covering the marsh floor and peatmoss (*Sphagnum spp*.) on raised humocks. Barclay's willow (*Salix Barclayi)* and Drummonds willow (*Salix Drummondii*) surround the edge of the wetland. The wetland had 90% open water and is characterized by mineral soils, silt over silty clay loam.

The wetland provides potential habitat for Olive-sided Flycatcher, Little Brown Myotis, Moose, Caribou, Grizzly, and Little Brown Myotis (Table 3). This site is not considered suitable for Western Toad breeding due to the extent of the ephemeral flooding.

PHOTO 2. REPRESENTATIVE PHOTO OF WT-22-673, WM00.

TABLE 3. HABITAT SUITABLITY RATINGS FOR WT-22-673

Species	Life Requisite-Season	Suitability rating
Western Toad	Reproducing Eggs- Growing	Not Suitable
	Hibernating - Winter	Not Suitable
Ring-necked Duck	Living- Growing	Not Suitable
Olive-sided Flycatcher	Living- Growing	Very high
Moose	Living- Spring, Summer, Fall, Winter	Moderate
Caribou	Living- Spring, Summer, Fall	Very Low
	Living- Winter	Moderate
Grizzly Bear	Living- Spring, Summer, Fall	Moderate
Little Brown Myotis	Living- Growing	High

Muskrat	Living – Growing, Winter	Not Suitable

REFERENCES

BC Ministry of Forests and Range and BC Ministry of Environment. 2010. Field manual for describing terrestrial ecosystems, 2nd ed. Victoria, BC. Land Manage. Handb. No. 25.

Fletcher, N.F., Tripp, D.B., Hansen, P.L., Nordin, L.J., Porter, M., and Morgan, D. 2021. Protocol for the Wetland Health Management Routine Effectiveness Evaluation. Forest and Range Evaluation Program, B.C. Ministry of Forests, Lands, Natural Resources Operations and Rural Development, Victoria, B.C.

MacKenzie, W.H. and J.R. Moran. 2004. Wetlands of British Columbia: a guide to identification. Res. Br., B.C. Min. For., Victoria, B.C. Land Manage. Handb. No. 52.

APPENDIX B. BLACKWATER GOLD PROJECT LISTED WETLANDS

ECOLOGIC CONSULTANTS LTD.
224 – 998 HARBOURSIDE DRIVE
NORTH VANCOUVER BC V7P 3T2
PHONE: 604 803-7146

MEMORANDUM

DATE:	August 18, 2022
TO:	Travis Desormeaux, Permitting and Environmental Responsibility Manager, BW Gold Ltd.
FROM:	Ryan Durand, MSc., R.P.Bio., Danielle Mai, B.Sc., R.P.Bio.
SUBJECT:	Blackwater Gold Project Listed Wetlands

INTRODUCTION

BW Gold ltd. has been issued a federal Decision Statement (DS) in 2019 by the Canadian Environmental Assessment Agency (CEAA) (now the Impact Assessment Agency of Canada - IAAC). BW Gold ltd. has also been issued an Environmental Assessment Certificate (EAC) (#M19-01) by the BC Environmental Assessment office (BC EAO) in 2019. Both the DS and EAC have requirements related to wetlands mapping and, management and offsetting. Specifically, the DS includes Condition 5.5.1 which requires the following:

> *conduct pre-construction surveys within the mine site to confirm the absence of red or blue-listed wetlands. The Proponent shall provide the results of the survey to the Agency and to Indigenous groups prior to the start of construction. If the results of the survey demonstrate the presence of red or blue-listed wetlands within the mine site, the Proponent shall develop, prior to construction, and implement additional mitigation measures;*

This memo provides the results of the pre-construction Mine Site red- and blue-listed wetland surveys as required by Condition 5.5.1, conducted by EcoLogic in July 2022.

METHODS

Wetlands were assessed using the standard methodology from the Field Manual for Describing Terrestrial Ecosystems (BC MOF and MOE 2010) and classified according to the Wetlands of British Columbia (Mackenzie and Moran, 2004). Additional data collected included water quality, ecosystem function assessments, and a condition assessment following the Protocol for Evaluating the Health of Wetlands (Fletcher et al, 2021).

OBSERVATIONS

Twenty-four wetland site associations across four BEC zones were observed within the Mine Site during the surveys (Table 1). No red-listed wetland site associations were observed within the Mine Site. However, several blue-listed wetland site associations were observed (Table 1, Figure 1). None of these blue-listed site associations are associated with the wetland adjacent the plant site clearing area put forward in the March 2022 submission of the interim Wetlands Management and Offsetting Plan (WMOP - EAC Condition 24) to EAO. Consequently, this survey report does not include proposed additional mitigation measures. The planned WMOP update in Q4 2022 will include any additional mitigations measures as required and at the discretion of the WMOP-qualified professional; a revised version of this memo will also be updated to include any additional mitigation.

REFERENCES

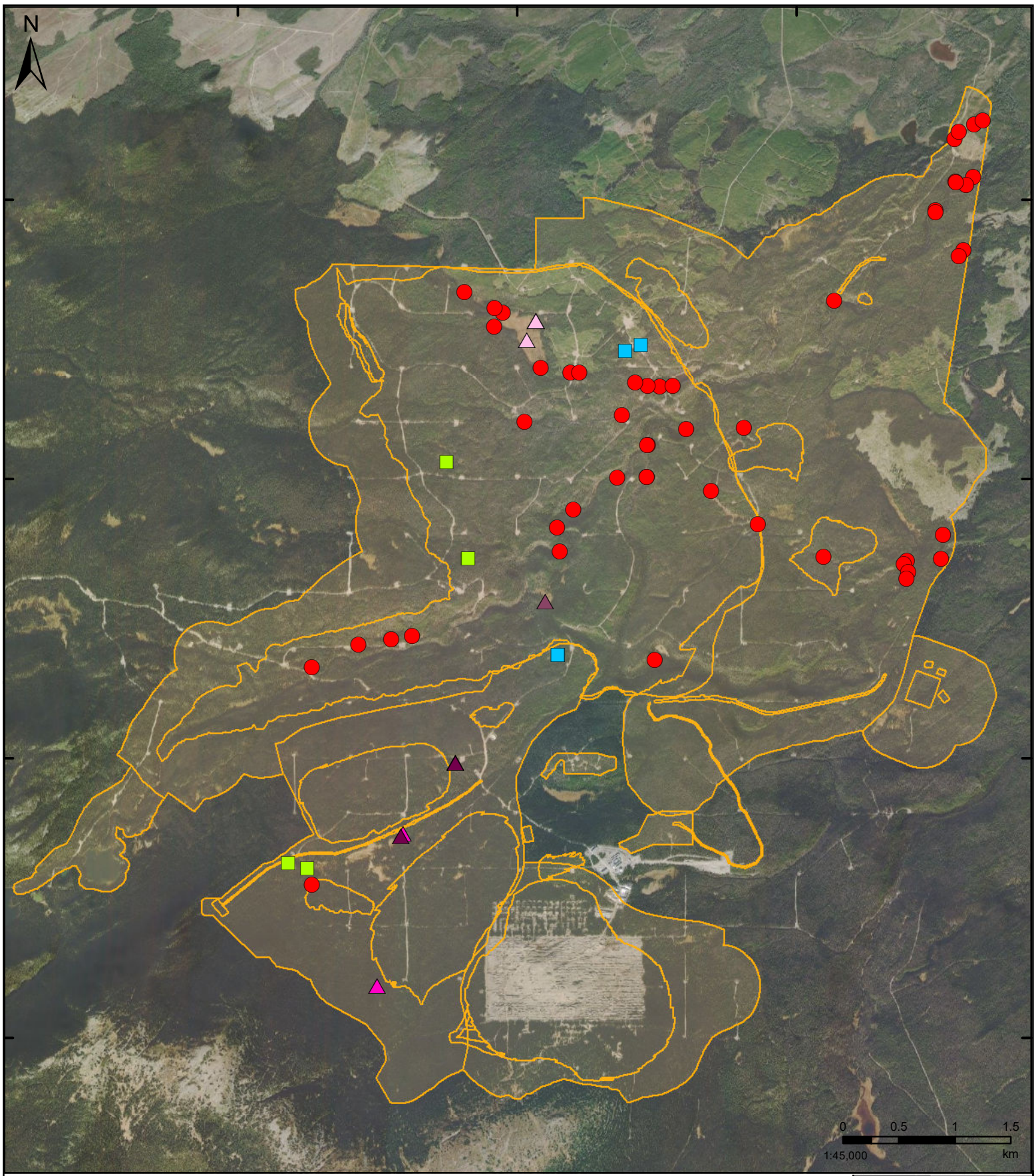
BC Ministry of Forests and Range and BC Ministry of Environment. 2010. Field manual for describing terrestrial ecosystems, 2nd ed. Victoria, BC. Land Manage. Handb. No. 25.

Fletcher, N.F., Tripp, D.B., Hansen, P.L., Nordin, L.J., Porter, M., and Morgan, D. 2021. Protocol for the Wetland Health Management Routine Effectiveness Evaluation. Forest and Range Evaluation Program, B.C. Ministry of Forests, Lands, Natural Resources Operations and Rural Development, Victoria, B.C.

MacKenzie, W.H. and J.R. Moran. 2004. Wetlands of British Columbia: a guide to identification. Res. Br., B.C. Min. For., Victoria, B.C. Land Manage. Handb. No. 52.

TABLE 1 WETLAND SITE ASSOCIATIONS BY BEC ZONE FOUND WITHIN THE MINE SITE.

BEC Zone	Wetland site associations	Red/Blue Status
ESSFmv1	Sc03	None
	Wb05	None
	Wb08	None
	Wb10	Blue
	Wb13	Blue
	Wf01	None
	Wf02	None
	Wf03	None
	Wf04	None
	Wf11	Blue
	Wf13	Blue
	Wm00	None
	Wm01	None
	Ws07	Blue
	Ws08	None
	Ww	None
ESSFmvp	PD	None
SBSdk	Wf01	None
	Ws04	None
SBSmc3	Fl05	Blue
	Wb05	None
	Wb08	None
	Wf00	None
	Wf01	None
	Wf02	None
	Wf07	None
	Wf08	Blue
	Wm01	None
	Ws00	None
	Ws04	None
	Ws07	Blue



Blackwater Project

Listed Wetlands within the Mine Site

Figure 1

Date: 8/18/2022

Map Number: BLW-008

Coordinate System: NAD 1983 UTM Zone 10N

Projection: Transverse Mercator

Datum: North American 1983

ECOLOGIC environmental consulting

Mine Footprint

Listed Wetland

- Wb10
- Wb13
- Wf08
- Wf11
- Wf13
- Ws07

APPENDIX C. BLACKWATER GOLD PROJECT 2022 WETLAND HEALTH ASSESSMENT DATA

Plot Number	Latitude	Longitude	Elevation	Accuracy	UTM zone	UTM easting	UTM northing	Number of 'No' Answers:	Conclusion on Function Condition
WT-22-673	53.18	-124.86	1483.46	4.02	10	375984	5894268	0	Properly Functioning
WT-22-543	53.18	-124.86	1483.17	3.68	10	375935	5894236	0	Properly Functioning
WT-22-629	53.19	-124.88	1417.97	4.17	10	374442	5894957	0	Properly Functioning
WT-22-627	53.19	-124.88	1412.67	5.98	10	374310	5894707	0	Properly Functioning
WT-22-633	53.19	-124.88	1418.56	3.63	10	374278	5894851	0	Properly Functioning
WT-22-569	53.20	-124.91	1365.62	4.72	10	372421	5896103	0	Properly Functioning
WT-22-545	53.18	-124.89	1431.39	4.73	10	373679	5894216	0	Properly Functioning
WT-22-623	53.18	-124.88	1452.54	2.78	10	374490	5893956	0	Properly Functioning
WT-22-624	53.18	-124.88	1453.93	3.07	10	374547	5894013	3	Functioning At Risk
WT-22-455	53.18	-124.88	1453.09	3.59	10	374503	5893986	3	Functioning At Risk
WT-22-621B	53.18	-124.88	1438.07	4.04	10	374126	5894063	0	Properly Functioning
WT-22-619	53.18	-124.88	1433.02	3.05	10	374180	5894057	0	Properly Functioning
WT-22-620	53.18	-124.88	1422.13	3.09	10	374071	5894438	0	Properly Functioning
WT-22-348	53.18	-124.89	1424.23	3.35	10	373973	5894325	0	Properly Functioning
WT-22-345	53.18	-124.87	1492.66	4.74	10	375352	5893851	0	Properly Functioning
WT-22-594	53.18	-124.86	1494.64	4.74	10	375713	5893717	2	Properly Functioning
WT-22-367	53.18	-124.85	1459.77	4.74	10	376069	5893915	1	Properly Functioning
WT-22-590	53.18	-124.85	1462.15	4.73	10	376473	5893997	4	Functioning At Risk
WT-22-627A	53.24	-124.81	1142.63	4.78	10	378917	5900152	0	Properly Functioning
WT-22-194	53.23	-124.82	1150.17	4.29	10	378734	5899891	0	Properly Functioning
WT-22-220	53.23	-124.83	1165.93	3.69	10	377917	5899097	0	Properly Functioning
WT-22-398	53.21	-124.83	1265.98	3.42	10	377450	5896915	0	Properly Functioning
WT-22-424A	53.21	-124.83	1258.63	3.77	10	377918	5896706	1	Properly Functioning
WT-22-504	53.19	-124.91	1314.41	4.75	10	372506	5895481	1	Properly Functioning
WT-22-465	53.22	-124.85	1221.40	3.61	10	376166	5897806	0	Properly Functioning
WT-22-417	53.21	-124.86	1219.31	3.84	10	376060	5897736	0	Properly Functioning
WT-22-632	53.20	-124.87	1268.17	4.20	10	375381	5896649	0	Properly Functioning
WT-22-636	53.20	-124.87	1266.59	3.76	10	375408	5896577	0	Properly Functioning
WT-22-638	53.20	-124.87	1265.93	3.64	10	375316	5896495	0	Properly Functioning
WT-22-405	53.20	-124.87	1266.03	3.02	10	375245	5896401	0	Properly Functioning

Plot Number	Latitude	Longitude	Elevation	Accuracy	UTM zone	UTM easting	UTM northing	Number of 'No' Answers:	Conclusion on Function Condition
WT-22-687	53.20	-124.87	1278.26	3.61	10	375086	5896229	0	Properly Functioning
WT-22-373	53.21	-124.88	1324.49	3.06	10	374558	5896787	0	Properly Functioning
WT-22-497	53.20	-124.87	1347.20	3.49	10	375361	5895926	1	Properly Functioning
WT-22-480	53.22	-124.87	1257.08	3.94	10	375164	5898918	0	Properly Functioning
WT-22-481	53.22	-124.87	1255.23	4.63	10	375019	5898908	0	Properly Functioning
WT-22-332	53.22	-124.87	1252.80	3.56	10	375084	5898743	0	Properly Functioning
WT-22-015	53.32	-124.75	933.78	4.77	10	383413	5909122	1	Properly Functioning
WT-22-467	53.20	-124.82	1275.31	4.73	10	378256	5895570	0	Properly Functioning
WT-22-209	53.20	-124.82	1264.26	4.74	10	378393	5895756	0	Properly Functioning
WT-22-201	53.19	-124.82	1271.69	4.70	10	378541	5895500	0	Properly Functioning
WT-22-570	53.20	-124.91	1364.52	4.74	10	372248	5896114	1	Properly Functioning
WT-22-003	53.32	-124.76	928.10	5.00	10	382726	5908802	2	Properly Functioning
WT-22-236	53.32	-124.76	937.00	5.00	10	382896	5908877	0	Properly Functioning
WT-22-011	53.32	-124.75	933.08	4.74	10	383152	5909043	0	Properly Functioning
WT-22-652	53.20	-124.89	1292.69	4.72	10	374076	5896109	0	Properly Functioning
WT-22-656	53.20	-124.88	1304.87	4.74	10	374195	5895905	0	Properly Functioning
WT-22-353b	53.20	-124.89	1304.57	4.74	10	373523	5895960	5	Functioning At High Risk
WT-22-390a	53.18	-124.90	1447.71	3.08	10	372950	5894070	0	Properly Functioning
WT-22-618a	53.18	-124.90	1454.63	3.79	10	373157	5893871	0	Properly Functioning
WT-22-635	53.19	-124.88	1404.43	3.49	10	374580	5894670	0	Properly Functioning
WT-22-391	53.17	-124.89	1534.96	3.67	10	373743	5892960	0	Properly Functioning
WT-22-407	53.20	-124.89	1328.95	4.74	10	373906	5895691	0	Properly Functioning
WT-22-517	53.22	-124.87	1265.79	4.74	10	375415	5898603	5	Functioning At High Risk
WT-22-523	53.22	-124.86	1259.68	4.74	10	375940	5898808	6	Functioning At High Risk
WT-22-518	53.22	-124.86	1249.45	4.73	10	375958	5898643	0	Properly Functioning
WT-22-519	53.22	-124.86	1249.69	4.74	10	376075	5898665	4	Functioning At Risk
WT-22-436	53.22	-124.85	1240.31	4.73	10	376374	5898648	0	Properly Functioning
WT-22-538c	53.22	-124.85	1230.27	4.74	10	376386	5898336	0	Properly Functioning
WT-22-443	53.21	-124.88	1312.10	5.00	10	374366	5897656	0	Properly Functioning
WT-22-559	53.21	-124.88	1317.00	5.00	10	374390	5897770	0	Properly Functioning
WT-22-431	53.22	-124.86	1233.70	5.00	10	375932	5898071	0	Properly Functioning
WT-22-671	53.22	-124.88	1288.96	4.77	10	374792	5898458	0	Properly Functioning
WT-22-670	53.22	-124.88	1298.92	4.74	10	374636	5898225	0	Properly Functioning
WT-22-510a	53.23	-124.88	1268.05	4.72	10	374792	5899025	2	Properly Functioning

Plot Number	Latitude	Longitude	Elevation	Accuracy	UTM zone	UTM easting	UTM northing	Number of 'No' Answers:	Conclusion on Function Condition
WT-22-204	53.24	-124.81	1136.64	4.77	10	379143	5900618	0	Properly Functioning
WT-22-191	53.25	-124.81	1111.60	4.76	10	379070	5901589	8	Not Properly Functioning
WT-22-190	53.25	-124.81	1115.39	4.77	10	378958	5901820	7	Not Properly Functioning
WT-22-423	53.22	-124.84	1235.70	5.00	10	377116	5897848	0	Properly Functioning
WT-22-660	53.22	-124.84	1230.20	5.00	10	377175	5897822	0	Properly Functioning
WT-22-422	53.22	-124.84	1227.30	5.00	10	376919	5897774	1	Properly Functioning
WT-22-429	53.22	-124.84	1230.60	5.00	10	376945	5898065	0	Properly Functioning
WT-22-333	53.21	-124.85	1254.40	5.00	10	376778	5897289	0	Properly Functioning
WT-22-661	53.21	-124.85	1275.30	5.00	10	376759	5896947	2	Properly Functioning
WT-22-669	53.20	-124.85	1314.00	5.00	10	376432	5896379	2	Properly Functioning
WT-22-399	53.20	-124.85	1303.80	5.00	10	376314	5896432	4	Functioning At Risk
WT-22-202	53.21	-124.81	1238.48	4.73	10	378791	5896784	0	Properly Functioning
WT-22-215	53.21	-124.82	1240.68	4.74	10	378590	5897039	0	Properly Functioning
WT-22-195	53.21	-124.82	1242.57	4.74	10	378531	5897026	0	Properly Functioning
WT-22-449	53.20	-124.85	1340.83	4.77	10	376616	5895586	0	Properly Functioning
WT-22-023	53.34	-124.65	1096.93	4.74	10	390206	5911890	0	Properly Functioning
WT-22-027	53.36	-124.65	1090.08	4.76	10	389894	5913275	3	Functioning At Risk
WT-22-036	53.43	-124.56	1115.40	4.74	10	396266	5921346	8	Not Properly Functioning
WT-22-042	53.44	-124.53	1096.04	4.74	10	398240	5922538	6	Functioning At High Risk
WT-22-069	53.60	-124.72	949.72	4.77	10	386370	5939944	7	Not Properly Functioning
WT-22-071	53.59	-124.71	940.05	4.76	10	386666	5939754	0	Properly Functioning
WT-22-268	53.63	-124.78	884.22	4.73	10	382179	5944367	6	Functioning At High Risk
WT-22-055	53.54	-124.58	979.50	4.73	10	395046	5933713	2	Properly Functioning
WT-22-101	53.72	-124.84	842.48	4.76	10	378582	5953805	8	Not Properly Functioning
WT-22-099	53.72	-124.84	865.44	4.75	10	378738	5953400	4	Functioning At Risk
WT-22-284	53.76	-124.85	824.42	4.74	10	378014	5958894	0	Properly Functioning
WT-22-285	53.77	-124.85	813.83	4.73	10	377925	5959454	0	Properly Functioning
WT-22-161	53.84	-124.84	909.00	4.74	10	378600	5966986	3	Functioning At Risk
WT-22-148	53.91	-124.81	1177.40	4.76	10	380933	5974783	6	Functioning At High Risk
WT-22-163	53.97	-124.86	1149.70	4.73	10	377877	5981660	6	Functioning At High Risk
WT-22-311	54.00	-124.92	938.39	4.73	10	374100	5985527	8	Not Properly Functioning
WT-22-170	53.57	-124.61	1025.71	4.71	10	393513	5936335	6	Functioning At High Risk

Plot Number	Question 1: Vegetative cover is sufficient to perform various ecological function?	Question 2: Is the presence of Invasive and/or Noxious Species minimal to non-existent in the entire polygon?	Question 3: Have the number of disturbance-increaser species been limited to a satisfactory level?	Question 4. Is the vegetation of the entire polygon generally characteristic of what the healthy unmanaged wetland and riparian plant communities are normally?	Question 5. Has sufficient vegetation been retained to minimize windthrow, maintain adequate screening, visual cover and an LWD supply?	Question 6. Is heavy browse and grazing absent in assessment polygon?	Question 7. Has bare and compacted ground been minimized in the entire polygon?
WT-22-673	yes	yes	yes	yes	yes	yes	yes
WT-22-543	yes	yes	yes	yes	yes	yes	yes
WT-22-629	yes	yes	yes	yes	yes	yes	yes
WT-22-627	yes	yes	yes	yes	yes	yes	yes
WT-22-633	yes	yes	yes	yes	yes	yes	yes
WT-22-569	yes	yes	yes	yes	yes	yes	yes
WT-22-545	yes	yes	yes	yes	yes	yes	yes
WT-22-623	yes	yes	yes	yes	yes	yes	yes
WT-22-624	yes	yes	yes	yes	yes	yes	yes
WT-22-455	yes	yes	yes	yes	yes	yes	yes
WT-22-621B	yes	yes	yes	yes	yes	yes	yes
WT-22-619	yes	yes	yes	yes	yes	yes	yes
WT-22-620	yes	yes	yes	yes	yes	yes	yes
WT-22-348	yes	yes	yes	yes	yes	yes	yes
WT-22-345	yes	yes	yes	yes	yes	yes	yes
WT-22-594	yes	yes	yes	yes	no	yes	yes
WT-22-367	yes	yes	yes	yes	yes	yes	yes
WT-22-590	yes	yes	yes	yes	no	yes	yes
WT-22-627A	yes	yes	yes	yes	yes	yes	yes
WT-22-194	yes	yes	yes	yes	yes	yes	yes
WT-22-220	yes	yes	yes	yes	yes	yes	yes
WT-22-398	yes	yes	yes	yes	yes	yes	yes
WT-22-424A	yes	yes	yes	yes	yes	yes	yes
WT-22-504	yes	yes	yes	yes	yes	yes	yes
WT-22-465	yes	yes	yes	yes	yes	yes	yes
WT-22-417	yes	yes	yes	yes	yes	yes	yes

Plot Number	Question 1: Vegetative cover is sufficient to perform various ecological function?	Question 2: Is the presence of Invasive and/or Noxious Species minimal to non-existent in the entire polygon?	Question 3: Have the number of disturbance-increaser species been limited to a satisfactory level?	Question 4. Is the vegetation of the entire polygon generally characteristic of what the healthy unmanaged wetland and riparian plant communities are normally?	Question 5. Has sufficient vegetation been retained to minimize windthrow, maintain adequate screening, visual cover and an LWD supply?	Question 6. Is heavy browse and grazing absent in assessment polygon?	Question 7. Has bare and compacted ground been minimized in the entire polygon?
WT-22-632	yes	yes	yes	yes	yes	yes	yes
WT-22-636	yes	yes	yes	yes	yes	yes	yes
WT-22-638	yes	yes	yes	yes	yes	yes	yes
WT-22-405	yes	yes	yes	yes	yes	yes	yes
WT-22-687	yes	yes	yes	yes	yes	yes	yes
WT-22-373	yes	yes	yes	yes	yes	yes	yes
WT-22-497	yes	yes	yes	yes	yes	yes	yes
WT-22-480	yes	yes	yes	yes	yes	yes	yes
WT-22-481	yes	yes	yes	yes	yes	yes	yes
WT-22-332	yes	yes	yes	yes	yes	yes	yes
WT-22-015	yes	yes	yes	yes	yes	yes	yes
WT-22-467	yes	yes	yes	yes	yes	yes	yes
WT-22-209	yes	yes	yes	yes	yes	yes	yes
WT-22-201	yes	yes	yes	yes	yes	yes	yes
WT-22-570	yes	yes	yes	yes	no	yes	yes
WT-22-003	yes	yes	yes	yes	yes	yes	yes
WT-22-236	yes	yes	yes	yes	yes	yes	yes
WT-22-011	yes	yes	yes	yes	yes	yes	yes
WT-22-652	yes	yes	yes	yes	yes	yes	yes
WT-22-656	yes	yes	yes	yes	yes	yes	yes
WT-22-353b	no	yes	yes	yes	yes	yes	no
WT-22-390a	yes	yes	yes	yes	yes	yes	yes
WT-22-618a	yes	yes	yes	yes	yes	yes	yes
WT-22-635	yes	yes	yes	yes	yes	yes	yes
WT-22-391	yes	yes	yes	yes	yes	yes	yes
WT-22-407	yes	yes	yes	yes	yes	yes	yes

Plot Number	Question 1: Vegetative cover is sufficient to perform various ecological function?	Question 2: Is the presence of Invasive and/or Noxious Species minimal to non-existent in the entire polygon?	Question 3: Have the number of disturbance-increaser species been limited to a satisfactory level?	Question 4. Is the vegetation of the entire polygon generally characteristic of what the healthy unmanaged wetland and riparian plant communities are normally?	Question 5. Has sufficient vegetation been retained to minimize windthrow, maintain adequate screening, visual cover and an LWD supply?	Question 6. Is heavy browse and grazing absent in assessment polygon?	Question 7. Has bare and compacted ground been minimized in the entire polygon?
WT-22-517	yes	yes	yes	no	no	yes	yes
WT-22-523	no	yes	yes	no	no	yes	no
WT-22-518	yes	yes	yes	yes	yes	yes	yes
WT-22-519	yes	yes	yes	no	no	yes	yes
WT-22-436	yes	yes	yes	yes	yes	yes	yes
WT-22-538c	yes	yes	yes	yes	yes	yes	yes
WT-22-443	yes	yes	yes	yes	yes	yes	yes
WT-22-559	yes	yes	yes	yes	yes	yes	yes
WT-22-431	yes	yes	yes	yes	yes	yes	yes
WT-22-671	yes	yes	yes	yes	yes	yes	yes
WT-22-670	yes	yes	yes	yes	yes	yes	yes
WT-22-510a	yes	yes	yes	yes	yes	yes	yes
WT-22-204	yes	yes	yes	yes	yes	yes	yes
WT-22-191	no	yes	yes	no	no	yes	yes
WT-22-190	no	yes	yes	no	no	yes	yes
WT-22-423	yes	yes	yes	yes	yes	yes	yes
WT-22-660	yes	yes	yes	yes	yes	yes	yes
WT-22-422	yes	yes	yes	yes	yes	yes	yes
WT-22-429	yes	yes	yes	yes	yes	yes	yes
WT-22-333	yes	yes	yes	yes	yes	yes	yes
WT-22-661	yes	yes	yes	yes	yes	yes	yes
WT-22-669	yes	yes	yes	yes	yes	yes	yes
WT-22-399	yes	yes	yes	yes	yes	yes	yes
WT-22-202	yes	yes	yes	yes	yes	yes	yes
WT-22-215	yes	yes	yes	yes	yes	yes	yes
WT-22-195	yes	yes	yes	yes	yes	yes	yes
WT-22-449	yes	yes	yes	yes	yes	yes	yes

Plot Number	Question 1: Vegetative cover is sufficient to perform various ecological function?	Question 2: Is the presence of Invasive and/or Noxious Species minimal to non-existent in the entire polygon?	Question 3: Have the number of disturbance-increaser species been limited to a satisfactory level?	Question 4. Is the vegetation of the entire polygon generally characteristic of what the healthy unmanaged wetland and riparian plant communities are normally?	Question 5. Has sufficient vegetation been retained to minimize windthrow, maintain adequate screening, visual cover and an LWD supply?	Question 6. Is heavy browse and grazing absent in assessment polygon?	Question 7. Has bare and compacted ground been minimized in the entire polygon?
WT-22-023	yes	yes	yes	yes	yes	yes	yes
WT-22-027	yes	yes	yes	no	no	yes	yes
WT-22-036	no	yes	yes	no	no	yes	yes
WT-22-042	no	yes	yes	no	no	yes	yes
WT-22-069	no	yes	yes	no	no	yes	no
WT-22-071	yes	yes	yes	yes	yes	yes	yes
WT-22-268	no	yes	yes	no	no	yes	yes
WT-22-055	yes	yes	yes	yes	yes	yes	yes
WT-22-101	no	yes	yes	no	no	yes	yes
WT-22-099	no	yes	yes	no	no	yes	yes
WT-22-284	yes	yes	yes	yes	yes	yes	yes
WT-22-285	yes	yes	yes	yes	yes	yes	yes
WT-22-161	yes	yes	yes	no	no	yes	yes
WT-22-148	no	yes	yes	no	no	yes	yes
WT-22-163	yes	no	yes	no	no	yes	yes
WT-22-311	yes	yes	yes	no	no	yes	yes
WT-22-170	yes	yes	yes	no	no	no	yes

Plot Number	Question 8. Is less than 15% of the entire polygon physically altered with noticeable impacts to vegetative communities and hydrologic function?	Question 9. Are wetland woody debris processes intact 10 m upland of the wetland?	Question 10. Has vegetation around the wetland been adequately protected from windthrow?	Question 11. Is vegetation in the wetland and its riparian area free of any impacts due to changes in the hydrologic regime?	Question 12. Is there an absence of significant threats to water levels in the wetland?	Question 13. Does the water quality of the wetland appear to be within reasonable range of natural variation?	Question 14: Is the riparian and upland habitat beside the wetland of adequate size and quality to mitigate impacts on critical activities (movements, feeding, breeding) by the area's desired wildlife?	Question 15. Are surface and subsurface flows to the wetland intact?
WT-22-673	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-543	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-629	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-627	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-633	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-569	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-545	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-623	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-624	yes	yes	yes	yes	no	yes	no	no
WT-22-455	yes	yes	yes	no	no	yes	yes	no
WT-22-621B	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-619	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-620	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-348	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-345	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-594	yes	yes	yes	no	yes	yes	yes	yes
WT-22-367	yes	yes	yes	yes	yes	yes	yes	no
WT-22-590	yes	yes	yes	no	yes	yes	no	no
WT-22-627A	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-194	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-220	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-398	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-424A	yes	yes	yes	no	yes	yes	yes	yes
WT-22-504	yes	yes	yes	no	yes	yes	yes	yes

Plot Number	Question 8. Is less than 15% of the entire polygon physically altered with noticeable impacts to vegetative communities and hydrologic function?	Question 9. Are wetland woody debris processes intact 10 m upland of the wetland?	Question 10. Has vegetation around the wetland been adequately protected from windthrow?	Question 11. Is vegetation in the wetland and its riparian area free of any impacts due to changes in the hydrologic regime?	Question 12. Is there an absence of significant threats to water levels in the wetland?	Question 13. Does the water quality of the wetland appear to be within reasonable range of natural variation?	Question 14: Is the riparian and upland habitat beside the wetland of adequate size and quality to mitigate impacts on critical activities (movements, feeding, breeding) by the area's desired wildlife?	Question 15. Are surface and subsurface flows to the wetland intact?
WT-22-465	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-417	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-632	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-636	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-638	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-405	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-687	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-373	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-497	yes	yes	no	yes	yes	yes	yes	yes
WT-22-480	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-481	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-332	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-015	yes	yes	yes	no	yes	yes	yes	yes
WT-22-467	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-209	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-201	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-570	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-003	yes	yes	yes	yes	no	yes	no	yes
WT-22-236	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-011	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-652	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-656	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-353b	no	yes	yes	no	yes	yes	no	yes
WT-22-390a	yes	yes	yes	yes	yes	yes	yes	yes

Plot Number	Question 8. Is less than 15% of the entire polygon physically altered with noticeable impacts to vegetative communities and hydrologic function?	Question 9. Are wetland woody debris processes intact 10 m upland of the wetland?	Question 10. Has vegetation around the wetland been adequately protected from windthrow?	Question 11. Is vegetation in the wetland and its riparian area free of any impacts due to changes in the hydrologic regime?	Question 12. Is there an absence of significant threats to water levels in the wetland?	Question 13. Does the water quality of the wetland appear to be within reasonable range of natural variation?	Question 14: Is the riparian and upland habitat beside the wetland of adequate size and quality to mitigate impacts on critical activities (movements, feeding, breeding) by the area's desired wildlife?	Question 15. Are surface and subsurface flows to the wetland intact?
WT-22-618a	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-635	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-391	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-407	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-517	yes	no	no	yes	yes	yes	no	yes
WT-22-523	yes	yes	yes	no	yes	yes	no	yes
WT-22-518	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-519	yes	yes	no	yes	yes	yes	no	yes
WT-22-436	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-538c	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-443	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-559	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-431	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-671	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-670	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-510a	yes	yes	yes	no	yes	yes	yes	no
WT-22-204	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-191	no	no	no	no	yes	yes	no	yes
WT-22-190	no	no	no	yes	yes	yes	no	yes
WT-22-423	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-660	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-422	no	yes	yes	yes	yes	yes	yes	yes
WT-22-429	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-333	yes	yes	yes	yes	yes	yes	yes	yes

Plot Number	Question 8. Is less than 15% of the entire polygon physically altered with noticeable impacts to vegetative communities and hydrologic function?	Question 9. Are wetland woody debris processes intact 10 m upland of the wetland?	Question 10. Has vegetation around the wetland been adequately protected from windthrow?	Question 11. Is vegetation in the wetland and its riparian area free of any impacts due to changes in the hydrologic regime?	Question 12. Is there an absence of significant threats to water levels in the wetland?	Question 13. Does the water quality of the wetland appear to be within reasonable range of natural variation?	Question 14: Is the riparian and upland habitat beside the wetland of adequate size and quality to mitigate impacts on critical activities (movements, feeding, breeding) by the area's desired wildlife?	Question 15. Are surface and subsurface flows to the wetland intact?
WT-22-661	no	yes	yes	yes	yes	yes	no	yes
WT-22-669	no	yes	yes	yes	yes	yes	no	yes
WT-22-399	no	yes	no	no	no	yes	yes	yes
WT-22-202	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-215	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-195	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-449	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-023	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-027	yes	yes	yes	yes	yes	yes	no	yes
WT-22-036	no	no	no	no	yes	yes	no	yes
WT-22-042	no	yes	no	yes	yes	yes	no	yes
WT-22-069	no	yes	yes	no	no	yes	yes	yes
WT-22-071	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-268	no	no	yes	yes	yes	yes	no	yes
WT-22-055	yes	yes	yes	no	no	yes	yes	yes
WT-22-101	no	no	no	no	yes	yes	no	yes
WT-22-099	yes	yes	no	yes	yes	yes	yes	yes
WT-22-284	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-285	yes	yes	yes	yes	yes	yes	yes	yes
WT-22-161	yes	yes	yes	yes	yes	yes	no	yes
WT-22-148	yes	no	no	yes	yes	yes	no	yes
WT-22-163	yes	yes	no	no	yes	yes	no	yes
WT-22-311	no	no	no	no	yes	yes	no	no
WT-22-170	yes	yes	yes	no	yes	yes	no	no

APPENDIX D. BLACKWATER GOLD PROJECT 2022 WETLAND FIELD INSPECTION DATA

Plot ID	Forest region	BGC zone	BGC label	Wetland ID	Elevation	UTM easting	UTM northing	Site Association	Structural stage
Lake 15/16	RNI.DVA	ESSF	ESSFmv1	Lake 15/16	1352	371074	5894117	Wb08	5
MC01	RNI.DVA	SBS	SBSmc3	MC01	1083	362274	5886677	Wm01	2b
MC02	RNI.DVA	SBS	SBSmc3	MC02	1081	362314	5886549	Wf02	3a
MC03	RNI.DVA	SBS	SBSmc3	MC03	1081	362164	5886516	Ws07	6
MC05	RNI.DVA	SBS	SBSmc3	MC05	1092	362005	5886667	Fl05	3b
MC06	RNI.DVA	SBS	SBSmc3	MC06	1086	362007	5886519	Wf02	3a
MC07	RNI.DVA	SBS	SBSmc3	MC07	1093	361874	5886496	Wb08	3d
MC08	RNI.DVA	SBS	SBSmc3	MC08	1084	362101	5886388	Ws07	6
MC11	RNI.DVA	SBS	SBSmc3	MC11	1086	362633	5886694	Wf02	3a
MC12	RNI.DVA	SBS	SBSmc3	MC12	1085	362307	5886720	Fl05	3b
MC14	RNI.DVA	SBS	SBSmc3	MC14	1081	362432	5886882	Ws04	3b
MC16	RNI.DVA	SBS	SBSmc3	MC16	1087	362486	5887030	Wb05	3d
MC20	RNI.DVA	SBS	SBSmc3	MC20	1082	360641	5886290	Wb05	3d
MC21	RNI.DVA	SBS	SBSmc3	MC21	1085	361447	5886753	Wb08	3d
MC22	RNI.DVA	SBS	SBSmc3	MC22	1084	361413	5886778	Wf02	3a
MC23	RNI.DVA	SBS	SBSmc3	MC23	1083	361359	5886687	Wf	3a
MC24	RNI.DVA	SBS	SBSmc3	MC24	1082	361431	5886633	Wm01	2b
MC26	RNI.DVA	SBS	SBSmc3	MC26	1083	359369	5886414	Wf07	2b
MC27	RNI.DVA	SBS	SBSmc3	MC27	1082	359533	5886425	Ws	3d
MC28	RNI.DVA	SBS	SBSmc3	MC28	1081	359788	5886374	Wf07	3a
MC30	RNI.DVA	SBS	SBSmc3	MC30	1081	359856	5886559	Ws	3b
MC31	RNI.DVA	SBS	SBSmc3	MC31	1079	360873	5887015	Wb05	3d
MC33	RNI.DVA	SBS	SBSmc3	MC33	1081	360816	5886868	Wf	3a
MC34	RNI.DVA	SBS	SBSmc3	MC34	1085	360887	5887042	Wb08	3d
WT-22-003	RNI.DVA	SBS	SBSdk	WT-22-003	928	382723	5908795	Ws04	
WT-22-011	RNI.DVA	SBS	SBSdk	WT-22-011	938	383152	5909043	Ws04	2b
WT-22-015	RNI.DVA	SBS	SBSdk	WT-22-015	932	383412	5909119	Wf01	2b
WT-22-023	RNI.DVA	SBS	SBSmc3	WT-22-023	1095	390211	5911892	Wb	2b
WT-22-027	RNI.DVA	SBS	SBSmc3	WT-22-027	1093	389897	5913274	Wf01	2b
WT-22-046	RNI.DVA	SBS	SBSmc2	WT-22-046	994	397899	5927085	Fl05	3b
WT-22-055	RNI.DVA	SBS	SBSdk	WT-22-055	979	395049	5933715	Wf02	2b

Plot ID	Forest region	BGC zone	BGC label	Wetland ID	Elevation	UTM easting	UTM northing	Site Association	Structural stage
WT-22-069	RNI.DVA	SBS	SBSdk	WT-22-069	946	386371	5939948	Ws	5
WT-22-071	RNI.DVA	SBS	SBSdk	WT-22-071	938	386665	5939755	Wb01	3c
WT-22-101	RNI.DVA	SBS	SBSdk	WT-22-101	841	378584	5953798	Ws07	5
WT-22-148	RNI.DVA	SBS	SBSmc2	WT-22-148	1179	380940	5974784	Ws08	6
WT-22-163	RNI.DVA	SBS	SBSmc2	WT-22-163	1153	377883	5981663	Ws04	3b
WT-22-191	RNI.DVA	SBS	SBSmc3	WT-22-191	1112	379069	5901589	Wb08	5
WT-22-194	RNI.DVA	SBS	SBSmc3	WT-22-194	1115	378739	5899902	Ws07	6
WT-22-202	RNI.DVA	SBS	SBSmc3	WT-22-202	1242	378789	5896786	Ws07	6
WT-22-204	RNI.DVA	SBS	SBSmc3	WT-22-204	1138	379144	5900620	Wb08	3d
WT-22-209	RNI.DVA	ESSF	ESSFmv1	WT-22-209	1264	378391	5895754	Wb08	3d
WT-22-220	RNI.DVA	SBS	SBSmc3	WT-22-220	1164	377917	5899094	Ws04	3b
WT-22-227A	RNI.DVA	SBS	SBSmc3	WT-22-227	1138	378921	5900161	Ws07	6
WT-22-236	RNI.DVA	SBS	SBSdk	WT-22-236	935	382898	5908882	Ws07	
WT-22-311	RNI.DVA	SBS	SBSdw3	WT-22-311	938	374105	5985526	Ws07	3b
WT-22-332	RNI.DVA	SBS	SBSmc3	WT-22-332	1254	375086	5898748	Wf07	6
WT-22-333	RNI.DVA	SBS	SBSmc3	WT-22-333	1253	376774	5897292	Wm	
WT-22-345	RNI.DVA	ESSF	ESSFmv1	WT-22-345	1490	375350	5893851	Wf04	3a
WT-22-348	RNI.DVA	ESSF	ESSFmv1	WT-22-348	1432	373976	5894323	Wf11	2b
WT-22-355	RNI.DVA	ESSF	ESSFmv1	WT-22-355a	1461	376472	5893994	Ws08	6
WT-22-367	RNI.DVA	ESSF	ESSFmv1	WT-22-367a	1461	376071	5893917	Wf04	3b
WT-22-373	RNI.DVA	ESSF	ESSFmv1	WT-22-373	1323	374557	5896790	Wb10	3d
WT-22-390a	RNI.DVA	ESSF	ESSFmv1	WT-22-390a	1450	372948	5894064	Wb10	3d
WT-22-391	RNI.DVA	ESSF	ESSFmv1	WT-22-391	1536	373744	5892961	Wf11	2b
WT-22-398	RNI.DVA	ESSF	ESSFmv1	WT-22-398	1269	377450	5896916	Wb05	
WT-22-399	RNI.DVA	ESSF	ESSFmv1	WT-22-399	1304	376315	5896432	Wf06	2a
WT-22-403	RNI.DVA	ESSF	ESSFmv1	WT-22-403	1314	372790	5895518	Ws08	6
WT-22-405	RNI.DVA	ESSF	ESSFmv1	WT-22-405	1269	375251	5896405	Wf13	2b
WT-22-417	RNI.DVA	SBS	SBSmc3	WT-22-417	1214	376055	5897739	Ws04	3b
WT-22-422	RNI.DVA	SBS	SBSmc3	WT-22-422	1228	376920	5897776	Wm01	2b
WT-22-423	RNI.DVA	SBS	SBSmc3	WT-22-423	1236	377115	5897845	Wf01	2b
WT-22-424A	RNI.DVA	ESSF	ESSFmv1	WT-22-424	1254	377919	5896707	Wf04	3a
WT-22-429	RNI.DVA	SBS	SBSmc3	WT-22-429	1232	376937	5898051	Wf06	2b
WT-22-431	RNI.DVA	SBS	SBSmc3	WT-22-431	1232	375934	5898072	Ws07	6
WT-22-436	RNI.DVA	SBS	SBSmc3	WT-22-436	1238	376378	5898649	Wm01	2b

Plot ID	Forest region	BGC zone	BGC label	Wetland ID	Elevation	UTM easting	UTM northing	Site Association	Structural stage
WT-22-443	RNI.DVA	ESSF	ESSFmv1	WT-22-443	1312	374365	5897656	Wb10	3d
WT-22-449	RNI.DVA	ESSF	ESSFmv1	WT-22-449	1343	376619	5895588	Ww	
WT-22-453	RNI.DVA	ESSF	ESSFmv1	WT-22-453	1477	375937	5894246	Ws08	6
WT-22-455	RNI.DVA	ESSF	ESSFmv1	WT-22-455	1454	374511	5893986	Ws08	6
WT-22-465	RNI.DVA	SBS	SBSmc3	WT-22-465	1215	376167	5897803	Ws07	6
WT-22-467	RNI.DVA	ESSF	ESSFmv1	WT-22-467	1282	378258	5895568	Ws08	6
WT-22-479	RNI.DVA	ESSF	ESSFmv1	WT-22-479	1514	373813	5893130	Ws08	6
WT-22-480	RNI.DVA	SBS	SBSmc3	WT-22-480	1256	375167	5898917	Wf08	2b
WT-22-481	RNI.DVA	SBS	SBSmc3	WT-22-481	1255	375022	5898913	Wf02	3a
WT-22-497	RNI.DVA	ESSF	ESSFmv1	WT-22-497	1343	375362	5895927	Wb13	2b
WT-22-504	RNI.DVA	ESSF	ESSFmv1	WT-22-504	1313	372508	5895480	Wb05	3c
WT-22-510a	RNI.DVA	ESSF	ESSFmv1	WT-22-510a	1265	374796	5899031	Ws07	6
WT-22-518	RNI.DVA	SBS	SBSmc3	WT-22-518	1251	375962	5898644	Wb13	2b
WT-22-519	RNI.DVA	SBS	SBSmc3	WT-22-519	1250	376072	5898661	Wf	2b
WT-22-535	RNI.DVA	SBS	SBSmc3	WT-22-535	1252	376968	5897159	Wf04	3a
WT-22-559	RNI.DVA	ESSF	ESSFmv1	WT-22-559	1314	374387	5897774	Wb08	6
WT-22-569	RNI.DVA	ESSF	ESSFmv1	WT-22-569	1371	372421	5896103	Ws08	5
WT-22-570	RNI.DVA	ESSF	ESSFmv1	WT-22-570	1366	372247	5896115	Wf02	3a
WT-22-594	RNI.DVA	ESSF	ESSFmv1	WT-22-594	1499	375712	5893717	Ws08	6
WT-22-595	RNI.DVA	ESSF	ESSFmv1	WT-22-595	1429	373678	5894215	Wb05	
WT-22-618a	RNI.DVA	ESSF	ESSFmv1	WT-22-618	1453	373159	5893870	Ws07	6
WT-22-619	RNI.DVA	ESSF	ESSFmv1	WT-22-619	1439	374181	5894064	Wb08	6
WT-22-620	RNI.DVA	ESSF	ESSFmv1	WT-22-620	1422	374073	5894438	Wb05	3d
WT-22-621B	RNI.DVA	ESSF	ESSFmv1	WT-22-621a	1434	374126	5894075	Ws08	6
WT-22-623	RNI.DVA	ESSF	ESSFmv1	WT-22-623	1458	374491	5893955	Wf04	3a
WT-22-624	RNI.DVA	ESSF	ESSFmv1	WT-22-624	1456	374547	5894013	Wb08	6
WT-22-627	RNI.DVA	ESSF	ESSFmv1	WT-22-627	1413	374303	5894704	Wb05	3d
WT-22-629	RNI.DVA	ESSF	ESSFmv1	WT-22-629	1424	374444	5894963	Wf13	2b
WT-22-633	RNI.DVA	ESSF	ESSFmv1	WT-22-633	1412	374280	5894858	Wb08	6
WT-22-635	RNI.DVA	ESSF	ESSFmv1	WT-22-635	1401	374584	5894670	Ws08	6
WT-22-636	RNI.DVA	ESSF	ESSFmv1	WT-22-636	1269	375408	5896583	Wf02	3a
WT-22-638	RNI.DVA	ESSF	ESSFmv1	WT-22-638	1269	375322	5896495	Wb05	6
WT-22-639	RNI.DVA	ESSF	ESSFmv1	WT-22-639	1270	375383	5896650	Wb08	6
WT-22-652	RNI.DVA	ESSF	ESSFmv1	WT-22-652	1294	374075	5896104	Wf04	3a

Plot ID	Forest region	BGC zone	BGC label	Wetland ID	Elevation	UTM easting	UTM northing	Site Association	Structural stage
WT-22-656	RNI.DVA	ESSF	ESSFmv1	WT-22-656	1302	374189	5895905	Ws08	5
WT-22-660	RNI.DVA	SBS	SBSmc3	WT-22-660	1230	377173	5897820	Wb09	3d
WT-22-661	RNI.DVA	ESSF	ESSFmv1	WT-22-661	1283	376760	5896950	Ws04	3a
WT-22-662	RNI.DVA	ESSF	ESSFmv1	WT-22-662	1316	376230	5895877	Ws07	6
WT-22-669	RNI.DVA	ESSF	ESSFmv1	WT-22-669	1315	376434	5896381	Wb05	3d
WT-22-673	RNI.DVA	ESSF	ESSFmv1	WT-22-673	1485	375985	5894266	Wm	2b
WT-22-687	RNI.DVA	ESSF	ESSFmv1	WT-22-687	1275	375089	5896235	Wf03	2b

Plot id	Stand composition	Canopy	Mesoslope	Surface shape	pH	Conductivity	Water colour	HDI	HGM	SMR	SNR
Lake 15/16	C	o	LV	CC	5.8	57.0	GB Clear	Sluggish	Lacustrine	Very Moist	Medium
MC01			LV	ST	6.3	79.0	GB Clear	Mobile	Fluvial	Wet	Medium
MC02			LV	ST	5.9	98.0	BG Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Poor
MC03	C	o	LV	ST	6.2	56.0	GB Clear	Mobile	Fluvial	Very Moist	Rich
MC05			LV	ST	0.0	0.0		Dynamic	Fluvial	Very Moist	Medium
MC06			LV	ST	6.0	87.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Poor
MC07			LV	ST	5.7	56.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Very Moist	Poor
MC08	C	o	LV	ST	6.4	109.0	GB Clear	Mobile	Palustrine _Basin_Hollows	Very Moist	Rich
MC11			LV	ST	5.9	78.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Medium
MC12			LV	ST	0.0	0.0		Dynamic	Fluvial	Very Moist	Medium
MC14			LV	ST	0.0	0.0		Mobile	Fluvial	Wet	Medium
MC16			LV	ST	5.8	67.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Poor
MC20		o	DP	CC	5.9	45.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Poor

Plot id	Stand composition	Canopy	Mesoslope	Surface shape	pH	Conductivity	Water colour	HDI	HGM	SMR	SNR
MC21	C	o	LV	ST	5.8	56.0		Stagnant	Palustrine _Basin_Hollows	Wet	Poor
MC22			LV	ST	5.8	56.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Poor
MC23			LV	ST	6.0	89.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Medium
MC24			LV	ST	6.4	78.0	GB Clear	Mobile	Fluvial	Very Wet	Rich
MC26			LV	ST	6.2	0.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Medium
MC27	C	o	LV	ST	6.4	89.0	GB Clear	Mobile	Fluvial	Wet	Medium
MC28			LV	ST	6.4	97.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Medium
MC30			LV	ST	6.6	96.0	GB Clear	Mobile	Fluvial	Very Moist	Rich
MC31			LV	ST	5.9	67.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Poor
MC33			LV	ST	6.7	123.0	GB Turbid	Sluggish	Palustrine _Basin_Hollows	Very Wet	Medium
MC34		o	LV	ST	5.9	56.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Very Moist	Medium
WT-22-003					8.4	0.0	GB Clear	Mobile	Fluvial	Wet	Very Rich
WT-22-011			LV	ST	6.9	164.0	BG Clear	Mobile	Fluvial	Wet	Very Rich
WT-22-015			LV	CC	6.3	183.0	GB Clear	Mobile	Fluvial	Very Wet	Rich
WT-22-023			DP	CC	5.4	45.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Very Wet	Medium
WT-22-027			DP	CC	5.7	48.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Very Wet	Medium
WT-22-046			LV	CC	0.0	0.0		Very Dynamic	Fluvial	Very Wet	Rich
WT-22-055			LV	ST	6.8	221.0		Sluggish	Palustrine _Basin_Hollows	Very Moist	Medium
WT-22-069	M	o	GU	CC	6.6	176.0	GB Turbid	Mobile	Fluvial	Very Moist	Rich
WT-22-071	C		DP	CC	0.0	0.0		Stagnant	Palustrine _Basin_Hollows	Very Moist	Poor

Plot id	Stand composition	Canopy	Mesoslope	Surface shape	pH	Conductivity	Water colour	HDI	HGM	SMR	SNR
WT-22-101	C	t	GU	CC	6.1	109.0		Mobile	Fluvial	Very Moist	Very Rich
WT-22-148	C	m	GU	CC	0.0	0.0		Dynamic	Palustrine _Basin_Hollows	Moist	Very Rich
WT-22-163			MD	ST	0.0	0.0		Dynamic	Palustrine _Basin_Hollows	Wet	Medium
WT-22-191	C	s	DP	CC	0.0	0.0		Sluggish	Palustrine _Basin_Hollows	Very Moist	Rich
WT-22-194			LW	CC	7.4	37.0		Dynamic	Fluvial	Very Moist	Very Rich
WT-22-202	C	m	LV	ST	0.0	0.0		Mobile	Fluvial	Very Moist	Very Rich
WT-22-204			DP	CC	6.0	112.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Medium
WT-22-209	C	o	LV	ST	0.0	0.0		Sluggish	Palustrine _Basin_Hollows	Very Moist	Medium
WT-22-220			LW	CC	0.0	0.0	GB Clear	Dynamic	Fluvial	Moist	Rich
WT-22-227A			LW	CC	0.0	0.0		Very Dynamic	Fluvial	Very Moist	Very Rich
WT-22-236					0.0	0.0		Sluggish	Fluvial	Very Moist	Medium
WT-22-311			LV	CC	0.0	0.0		Dynamic	Fluvial	Moist	Rich
WT-22-332			LV	ST	6.6	22.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Medium
WT-22-333			LW	CC	0.0	0.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Very Rich
WT-22-345			GU	CC	0.0	0.0		Sluggish	Palustrine _Basin_Hollows	Wet	Medium
WT-22-348			LV	ST	5.4	8.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Rich
WT-22-355	C	m	GU	CC	6.7	145.0	GB Clear	Mobile	Palustrine _Basin_Hollows	Very Moist	Rich
WT-22-367			GU	CC	6.4	92.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Medium
WT-22-373			DP	CC	6.5	26.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Very Rich
WT-22-390a	C	t	DP	CC	0.0	0.0		Stagnant	Palustrine _Basin_Hollows	Wet	Medium

Plot id	Stand composition	Canopy	Mesoslope	Surface shape	pH	Conductivity	Water colour	HDI	HGM	SMR	SNR
WT-22-391			DP	CC	4.8	39.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Medium
WT-22-398			DP	CC	6.4	65.0	Tea	Mobile	Palustrine _Basin_Hollows	Wet	Rich
WT-22-399			DP	CC	5.5	17.0	GB Clear	Sluggish	Palustrine_Ponds_Potholes	Very Wet	Very Rich
WT-22-403	C	m	GU	ST	6.3	179.0	GB Clear	Mobile	Fluvial	Very Moist	Rich
WT-22-405			LV	ST	7.5	111.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Poor
WT-22-417			LV	ST	7.7	36.0	GB Clear	Mobile	Fluvial	Wet	Very Rich
WT-22-422			DP	CC	6.5	53.0	GB Clear	Sluggish	Palustrine_Ponds_Potholes	Very Wet	Very Rich
WT-22-423			DP	CC	691.0	48.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Medium
WT-22-424A			LV	ST	6.2	37.0	GB Clear	Mobile	Lacustrine	Very Wet	Very Rich
WT-22-429			DP	CC	6.9	34.0	GB Clear	Sluggish	Palustrine_Ponds_Potholes	Very Wet	Very Rich
WT-22-431	C	m	LW	ST	7.4	36.0	GB Clear	Mobile	Fluvial	Wet	Very Rich
WT-22-436			DP	CC	7.1	188.0	GB Clear	Mobile	Palustrine_Ponds_Potholes	Very Wet	Rich
WT-22-443	C	o	DP	CC	5.3	53.0	GB Turbid	Stagnant	Palustrine _Basin_Hollows	Very Wet	Medium
WT-22-449			DP	CC	6.6	24.0	GB Turbid	Mobile	Palustrine_Ponds_Potholes	Very Wet	Rich
WT-22-453			LV	CV	6.3	35.0	GB Clear	Mobile	Palustrine _Basin_Hollows	Wet	Rich
WT-22-455			TO	CC	6.9	0.0	GB Clear	Dynamic	Fluvial	Wet	Very Rich
WT-22-465			LW	CC	7.4	25.0	GB Clear	Very Dynamic	Fluvial	Very Moist	Rich
WT-22-467	C	m	MD	CC	6.4	142.0	GB Clear	Mobile	Fluvial	Very Moist	Rich
WT-22-479	C	m	MD	ST	6.8	33.0	GB Clear	Sluggish	Palustrine_Seepage_slopes	Wet	Rich

Plot id	Stand composition	Canopy	Mesoslope	Surface shape	pH	Conductivity	Water colour	HDI	HGM	SMR	SNR
WT-22-480			LV	ST	5.9	26.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Poor
WT-22-481			LV	ST	6.3	26.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Poor
WT-22-497			DP	CC	4.7	16.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Rich
WT-22-504	C	o	GU	ST	5.9	45.0	GB Clear	Sluggish	Fluvial	Very Wet	Poor
WT-22-510a	C	m	LV	ST	0.0	0.0		Mobile	Fluvial	Very Moist	Very Rich
WT-22-518			DP	CC	5.4	56.0	BG Clear	Stagnant	Palustrine_Ponds_Potholes	Very Wet	Medium
WT-22-519			DP	CC	6.2	149.0	BG Clear	Sluggish	Palustrine_Ponds_Potholes	Very Wet	Medium
WT-22-535			LW	ST	4.0	0.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Medium
WT-22-559	C	m	LV	ST	6.1	28.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Medium
WT-22-569	C	o	LV	CC	6.8	123.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Moist	Rich
WT-22-570			DP	CC	0.0	0.0		Sluggish	Palustrine _Basin_Hollows	Wet	Medium
WT-22-594	C	o	LW	ST	7.2	145.0	GB Clear	Mobile	Palustrine_Seepage_slopes	Very Moist	Rich
WT-22-595			DP	CC	5.8	0.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Very Poor
WT-22-618a	C	m	LW	ST	7.6	41.0	GB Turbid	Mobile	Palustrine_Seepage_slopes	Wet	Rich
WT-22-619			LV	ST	659.0	26.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Rich
WT-22-620			DP	CC	5.8	16.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Medium
WT-22-621B			LW	CC	6.3	15.0	GB Clear	Dynamic	Fluvial	Wet	Very Rich
WT-22-623			DP	CC	6.7	31.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Wet	Rich
WT-22-624			LV	CC	6.5	58.0	GB Clear	Mobile	Palustrine_Basin_Hollows	Wet	Poor

Plot id	Stand composition	Canopy	Mesoslope	Surface shape	pH	Conductivity	Water colour	HDI	HGM	SMR	SNR
WT-22-627			DP	CC	5.8	16.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Medium
WT-22-629			DP	CC	4.2	25.0	GB Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Medium
WT-22-633			DP	CC	5.4	16.0	GB Clear	Mobile	Palustrine_Ponds_Potholes	Wet	Medium
WT-22-635	C	m	LW	CC	7.6	19.0	GB Clear	Mobile	Fluvial	Wet	Rich
WT-22-636			DP	CC	0.0	0.0		Stagnant	Palustrine _Basin_Hollows	Wet	Rich
WT-22-638			LV	ST	0.0	0.0		Sluggish	Palustrine _Basin_Hollows	Wet	Medium
WT-22-639			DP	CC	6.5	52.0	Tea	Mobile	Palustrine _Basin_Hollows	Wet	Very Rich
WT-22-652			DP	CC	7.3	124.0	BG Clear	Sluggish	Palustrine _Basin_Hollows	Very Wet	Rich
WT-22-656	C	o	TO	CC	6.9	154.0	GB Turbid	Mobile	Palustrine_Seepage_slopes	Moist	Very Rich
WT-22-660	C	t	LV	ST	6.1	105.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Very Wet	Medium
WT-22-661			LW	CV	5.4	43.0		Mobile	Fluvial	Wet	Very Rich
WT-22-662	C	m	LW	ST	7.3	48.0	GB Clear	Mobile	Fluvial	Moist	Rich
WT-22-669		o	DP	CC	0.0	0.0	GB Clear	Stagnant	Palustrine _Basin_Hollows	Wet	Medium
WT-22-673			DP	CC	5.4	0.0	GB Clear	Mobile	Palustrine _Basin_Hollows	Very Wet	Medium
WT-22-687			LW	ST	0.0	0.0		Sluggish	Palustrine_Seepage_slopes	Wet	Medium

Plot ID	% Organic substrate	% Decayed wood substrate	% Bedrock substrate	% Mineral soil substrate	% Water substrate
Lake 15/16	85	10	0	0	5
MC01	100	0	0	0	0
MC02	100	0	0	0	0
MC03	80	20	0	0	0
MC05	100	0	0	0	0
MC06	90	5	5	0	0

Plot ID	% Organic substrate	% Decayed wood substrate	% Bedrock substrate	% Mineral soil substrate	% Water substrate
MC07	85	10	0	0	5
MC08	85	15	0	0	0
MC11	100	0	0	0	0
MC12	100	0	0	0	0
MC14	100	0	0	0	0
MC16	95	4	0	0	1
MC20	95	5	0	0	0
MC21	95	5	0	0	0
MC22	98	0	0	0	2
MC23	95	0	0	0	5
MC24	95	0	0	0	5
MC26	90	0	0	0	10
MC27	100	0	0	0	0
MC28	85	0	0	0	15
MC30	90	0	0	0	10
MC31	90	5	0	0	5
MC33	80	0	0	0	20
MC34	80	20	0	0	0
WT-22-003	90	10	0	0	0
WT-22-011	90	0	0	0	10
WT-22-015	80	0	0	0	20
WT-22-023	40	0	0	0	60
WT-22-027	50	0	0	0	50
WT-22-046	82	0	3	5	10
WT-22-055	100	0	0	0	0
WT-22-069	35	15	0	0	50
WT-22-071	90	10	0	0	0
WT-22-101	74	25	0	0	1
WT-22-148	65	35	0	0	0
WT-22-163	90	10	0	0	0
WT-22-191	65	35	0	0	0
WT-22-194	65	35	0	0	0
WT-22-202	80	20	0	0	0
WT-22-204	85	10	0	0	5

Plot ID	% Organic substrate	% Decayed wood substrate	% Bedrock substrate	% Mineral soil substrate	% Water substrate
WT-22-209	98	2	0	0	0
WT-22-220	90	0	0	0	10
WT-22-227A	80	20	0	0	0
WT-22-236	95	5	0	0	0
WT-22-311	80	15	0	5	0
WT-22-332	75	0	0	0	25
WT-22-333	99	0	0	0	1
WT-22-345	100	0	0	0	0
WT-22-348	90	0	0	0	10
WT-22-355	70	30	0	0	0
WT-22-367	98	0	0	0	2
WT-22-373	90	0	0	0	10
WT-22-390a	100	0	0	0	0
WT-22-391	85	0	0	0	15
WT-22-398	100	0	0	0	0
WT-22-399	80	0	20	0	0
WT-22-403	75	25	0	0	0
WT-22-405	99	0	0	0	1
WT-22-417	85	5	0	0	10
WT-22-422	60	0	0	0	40
WT-22-423	90	0	0	0	10
WT-22-424A	90	10	0	0	0
WT-22-429	85	0	0	0	15
WT-22-431	80	15	0	0	5
WT-22-436	20	0	0	0	80
WT-22-443	95	0	0	0	5
WT-22-449	15	0	0	0	85
WT-22-453	80	15	0	0	5
WT-22-455	75	15	0	0	10
WT-22-465	95	5	0	0	0
WT-22-467	75	20	0	0	5
WT-22-479	93	5	0	0	2
WT-22-480	85	0	0	0	15
WT-22-481	97	0	0	0	3

Plot ID	% Organic substrate	% Decayed wood substrate	% Bedrock substrate	% Mineral soil substrate	% Water substrate
WT-22-497	20	0	0	0	80
WT-22-504	95	5	0	0	0
WT-22-510a	70	25	0	0	5
WT-22-518	80	0	0	0	20
WT-22-519	30	0	0	0	70
WT-22-535	97	0	0	0	3
WT-22-559	90	7	0	0	3
WT-22-569	75	20	0	0	5
WT-22-570	95	5	0	0	0
WT-22-594	20	15	0	0	5
WT-22-595	99	0	0	0	1
WT-22-618a	85	10	0	0	5
WT-22-619	100	0	0	0	0
WT-22-620	90	5	0	0	5
WT-22-621B	70	20	0	0	10
WT-22-623	99	0	0	0	1
WT-22-624	75	0	0	0	25
WT-22-627	92	5	0	0	3
WT-22-629	15	0	0	0	85
WT-22-633	85	10	0	0	5
WT-22-635	90	5	0	0	5
WT-22-636	100	0	0	0	0
WT-22-638	100	0	0	0	0
WT-22-639	98	0	0	0	2
WT-22-652	100	0	0	0	0
WT-22-656	75	20	0	0	5
WT-22-660	95	0	0	0	5
WT-22-661	100	0	0	0	0
WT-22-662	90	0	0	0	10
WT-22-669	92	3	0	0	5
WT-22-673	25	0	0	0	75
WT-22-687	100	0	0	0	0

Plot ID	Surf texture 1	Surf material 1	Surf expression 1	Surf texture 2	Surf material 2	Surf expression 2	Geo process	Soil order	Great group	Sub group	Drainage
Lake 15/16	u	O	v					Organic	M		v
MC01	z	F	p					Gleysol			p
MC02	h	O	b	z	F			Organic	M		v
MC03	u	O	b					Organic	M		v
MC05	z	F	p					Gleysol			i
MC06	e	O	p					Organic	F		v
MC07	e	O	p					Organic	F		v
MC08	u	O	p					Organic	M		v
MC11	u	O	p					Organic	M		v
MC12	z	F	p					Gleysol			w
MC14	z	F	p					Gleysol			p
MC16	u	O	p					Organic	M		v
MC20	u	O	d					Organic	M		v
MC21	h	O	p					Organic	M		v
MC22	h	O	p					Organic	M		v
MC23	h	O	p					Organic	M		v
MC24	z	F	p					Gleysol			v
MC26	scz	O	x					Organic	M		v
MC27	u	O	x					Organic	M		i
MC28	h	O	b					Organic	M		v
MC30	z	F	p					Gleysol			v
MC31	u	O	b					Organic	M		v
MC33	u	O	b					Organic	M		v
MC34	cz	F	p					Gleysol			v
WT-22-003		F	p					Gleysol	HG		v
WT-22-011	sz	F	p					Gleysol			v
WT-22-015	sz	F	p					Gleysol	G		p
WT-22-023	cz	M	d					Organic	F		v
WT-22-027	z	M	d					Gleysol			v
WT-22-046		F	p		R		E	Regosol	R	CU	p
WT-22-055		O						Organic	F		p
WT-22-069	z	M	d					Gleysol	HG		p

Plot ID	Surf texture 1	Surf material 1	Surf expression 1	Surf texture 2	Surf material 2	Surf expression 2	Geo process	Soil order	Great group	Sub group	Drainage
WT-22-071	e	O	v					Organic	F		v
WT-22-101	z	M	b					Gleysol			p
WT-22-148	z	M	b					Gleysol	HG		p
WT-22-163	s	M	j					Gleysol	G		i
WT-22-191	h	O	x					Organic	H	HY	p
WT-22-194	s	F						Brunisol			w
WT-22-202	z	F	p					Gleysol	HG		p
WT-22-204	u	O	b					Organic	M	HY	v
WT-22-209	u	O	v					Organic	M		v
WT-22-220	s	F					M	Regosol	R		w
WT-22-227A	zs	F					M	Brunisol			i
WT-22-236		F				p		Gleysol	G		w
WT-22-311	gsz	M	b					Gleysol	G		i
WT-22-332		O	b					Organic	F		v
WT-22-333		L						Gleysol	HG		p
WT-22-345	u	O	x		M	b		Gleysol	HG		v
WT-22-348		O	b					Organic	M		v
WT-22-355	z	M	b					Gleysol	HG		p
WT-22-367	h	O	v	cz	M	b		Organic	H		v
WT-22-373		O	b					Organic	H		v
WT-22-390a		O	b					Organic	F		v
WT-22-391		O	b					Organic	F		v
WT-22-398		O	b					Organic	H		v
WT-22-399		O	v					Organic	H		v
WT-22-403	z	F	p					Gleysol	HG		p
WT-22-405		O	b					Organic	F		p
WT-22-417	z	F					M	Gleysol	HG		p
WT-22-422		L						Gleysol	HG		v
WT-22-423		O	v					Organic	M		v
WT-22-424A	c	L						Gleysol			v
WT-22-429		O	v					Organic	H		v

Plot ID	Surf texture 1	Surf material 1	Surf expression 1	Surf texture 2	Surf material 2	Surf expression 2	Geo process	Soil order	Great group	Sub group	Drainage
WT-22-431		F						Gleysol	HG		i
WT-22-436	sz	M	d					Gleysol	HG		v
WT-22-443		O	b					Organic	H		v
WT-22-449	z	M	d					Regosol			v
WT-22-453		M	v					Gleysol	G		p
WT-22-455		F	j				M	Gleysol	G		p
WT-22-465	s	F					M	Brunisol			w
WT-22-467				z	F	p		Gleysol	HG		i
WT-22-479	z	O						Organic	H		i
WT-22-480		O	b					Organic	F		v
WT-22-481		O	b					Organic	F		v
WT-22-497		O	b					Organic	H		v
WT-22-504	u	O	b		F	p		Organic	M		v
WT-22-510a	z	M	b					Gleysol			p
WT-22-518	u	O	x		M	d		Organic	M		v
WT-22-519	h	O	v					Organic	H		v
WT-22-535		O	b		L			Organic	M		p
WT-22-559		M	v					Gleysol	HG		p
WT-22-569	sz	M	b					Gleysol			p
WT-22-570	u	O	v					Organic	M		v
WT-22-594	z	M	j					Gleysol	HG		p
WT-22-595		O	x		R			Organic	F		v
WT-22-618a		O	b					Organic	H		p
WT-22-619		O	v	zc	M	v		Gleysol	HG		v
WT-22-620		O	v		M	v		Organic	H		v
WT-22-621B		M	v					Gleysol	G		p
WT-22-623		O	b					Organic	H		v
WT-22-624	z	F	w					Gleysol	G		v
WT-22-627		M	v					Organic	M		v
WT-22-629	surf_text u	surf_mat_ 1	v					Organic	M		v
WT-22-633	u	O	w					Organic	M		p

Plot ID	Surf texture 1	Surf material 1	Surf expression 1	Surf texture 2	Surf material 2	Surf expression 2	Geo process	Soil order	Great group	Sub group	Drainage
WT-22-635	z	F						Gleysol	HG		i
WT-22-636	h	O	b					Organic	H		p
WT-22-638	u	O	b					Organic	M		p
WT-22-639	z	F	b					Organic	H		v
WT-22-652	e	O	x		M			Organic	M		v
WT-22-656	e	O	b					Gleysol	HG		p
WT-22-660	u	O	b					Organic	M		v
WT-22-661	u	O						Gleysol	HG		p
WT-22-662	z	F						Gleysol	HG		p
WT-22-669	z	F	b					Organic	M		v
WT-22-673	u	O	b					Gleysol	G		v
WT-22-687	u	O	b					Organic	M		p

APPENDIX E. BLACKWATER GOLD PROJECT 2022 SOILS DATA

Plot ID	Horizon	Top Depth	Lower Depth	Texture	Gravel	Cobble	Stone	Total	Von Post	Fabric degree	Fabric kind
Lake 15/16	Om	0	14						4	M - Moderate	MA - Massive
	Om	14	130						5	M - Moderate	MA - Massive
MC01	Ap	0	10	SiL - Silt loam	0	0	0	0			
	Bg	10	96	SiCL - Silt clay loam	0	0	0	0			
MC02	Oh	0	80						5	W - Weak	MA - Massive
	Om	80	120						5	W - Weak	MA - Massive
MC03	Oh	0	26						8	W - Weak	MA - Massive
	Om	26	120						5	W - Weak	MA - Massive
MC05	Ahg	0	12	SiL - Silt loam	0	0	0	0			
	Bg	12	90	SiCL - Silt clay loam	0	0	0	0			
	Cg	90	120	SiCL - Silt clay loam	0	0	0	0			
MC06	Of	0	63						3	W - Weak	MA - Massive
	Om	63	130						5	W - Weak	MA - Massive
MC07	Of	0	130						2	W - Weak	MA - Massive
MC08	Oh	0	18						8	W - Weak	MA - Massive
	Om	18	120						6	W - Weak	MA - Massive
MC11	Om	0	130						4	W - Weak	MA - Massive
MC12	Ah	0	4	SiL - Silt loam	0	0	0	0			
	Ln	2	0								
	Bhg	4	26	SiL - Silt loam	0	0	0	0			
	Bg	26	98	SiCL - Silt clay loam	0	0	0				
MC14	Ah	0	4	SiL - Silt loam	0	0	0	0			
	Ln	3	0								
	Bhg	4	56	SiCL - Silt clay loam	0	0	0	0			
MC16	Om	0	130						5	W - Weak	MA - Massive
MC20	Om	0	130						4	W - Weak	MA - Massive
MC21	Om	0	23						6	W - Weak	MA - Massive
	Om	23	130						4	W - Weak	MA - Massive
MC22	Om	0	31						5	W - Weak	MA - Massive
	Om	31	130						4	W - Weak	MA - Massive
MC23	Om	0	23						6	W - Weak	MA - Massive
	Om	23	130						5	W - Weak	MA - Massive
MC24	Ahg	0	15	SiL - Silt loam	0	0	0	0			

Plot ID	Horizon	Top Depth	Lower Depth	Texture	Gravel	Cobble	Stone	Total	Von Post	Fabric degree	Fabric kind
	Bhg	15	78	SiL - Silt loam	0	0	0	0			
	BCg	78	130	SiCL - Silt clay loam	0	0	0	0			
MC26	Om	0	42						4	W - Weak	MA - Massive
	BCg	42	80	SCL - Sandy clay loam	5	0	0	5			
MC27	Of	0	21						2	W - Weak	MA - Massive
	Om	21	54						5	W - Weak	MA - Massive
	BCg	54	80	SCL - Sandy clay loam	10	0	0	10			
MC28	Om	0	130						4	W - Weak	MA - Massive
MC30	Of	0	7						2	M - Moderate	MA - Massive
	Bhg	7	32	SiL - Silt loam	0	0	0	0			
	BCg	32	80	SCL - Sandy clay loam	10	0	0	10			
MC31	Om	0	130							M - Moderate	MA - Massive
MC33	Om	0	130						6	M - Moderate	MA - Massive
MC34	Oh	0	23						8	W - Weak	MA - Massive
	Bhg	23	42	SCL - Sandy clay loam	10	0	0	10			
WS-22-629	Om	0	20						6	M - Moderate	
	Oh	20	35						8	M - Moderate	
WT-22-190	Om	0	20						4	M - Moderate	MA - Massive
	Oh	20	100						8	M - Moderate	MA - Massive
WT-22-003	Bhg	0	42	Si - Silt	0	0	0	0			
	Hh	4	0							W - Weak	
	L	5	4							W - Weak	
	Bhg	42	100	SiCL - Silt clay loam	0	0	0	0			
	Cg	100	105	SCL - Sandy clay loam	5	0	0	5			
WT-22-011	Om	0	32						7	M - Moderate	MA - Massive
	Bhg	32	60	SL - Sandy loam	10	0	0	10			
WT-22-015	Ahg	0	11	SiL - Silt loam	0	0	0	0			
	Bg	11	46	SL - Sandy loam	5	0	0	5			
WT-22-023	Of	0	12						3	M - Moderate	MA - Massive
	Bg	12	25	SiL - Silt loam	0	0	0	0			
	Cg	25	50	SiCL - Silt clay loam	0	0	0	0			
WT-22-027	Of	0	23						3	M - Moderate	MA - Massive
	Bhg	23	40	SiL - Silt loam	0	0	0	0			
	BCg	40	60	SiCL - Silt clay loam	0	0	0	0			

Plot ID	Horizon	Top Depth	Lower Depth	Texture	Gravel	Cobble	Stone	Total	Von Post	Fabric degree	Fabric kind
WT-22-055	Of	0	110						4	S - Strong	SP - Single Particle
WT-22-069	Oh	0	90						8	W - Weak	MA - Massive
	BCg	90	120	SiL - Silt loam	0	0	0	0			
WT-22-071	Of	0	60						2	M - Moderate	MA - Massive
	Om	60	100						7	M - Moderate	MA - Massive
	Bg	100	120	SiCL - Silt clay loam	0	0	0	0			
WT-22-101	Oh	0	31						9	W - Weak	MA - Massive
	Bh	31	89	SiL - Silt loam	0	0	0	0			
	Bg	89	100	SiCL - Silt clay loam	0	0	0	0			
WT-22-148	Ah	0	20	SiL - Silt loam	0	0	0	0			
	Bh	20	95	SiL - Silt loam	0	0	0	0			
	Bg	95	120	SiCL - Silt clay loam	0	0	0	0			
WT-22-163	Ah	0	5	L - Loam	0	0	0	0			
	Bg	5	20	SL - Sandy loam	0	0	0	0			
	Bg	20	65	LS - Loamy sand	10	0	0	10			
WT-22-191	Om	0	9						5	M - Moderate	MA - Massive
	Oh	9	85						8	M - Moderate	MA - Massive
WT-22-194	Bm	0	31	SL - Sandy loam	0	0	0	0			
	Fa	2	0							W - Weak	
	Ln	8	2							S - Strong	
	C	32	41	S - Sand	0	0	0	0			
WT-22-202	Ah	0	19	SiL - Silt loam	0	0	0	0			
	Bhg	19	35	SiCL - Silt clay loam	0	0	0	0			
	BCg	35	60	SL - Sandy loam	10	0	0	10			
WT-22-204	Of	0	9						3	S - Strong	MA - Massive
	Om	9	43						6	M - Moderate	MA - Massive
	Oh	43	130						9	W - Weak	MA - Massive
WT-22-209	Om	0	70						5	M - Moderate	MA - Massive
	Oh	70	130						7		
WT-22-220	C	0	58	S - Sand	15	0	0	15			
	Fa	2	0							W - Weak	
	L	5	2							W - Weak	
WT-22-227a	Bm	0	24	Si - Silt	0	0	0	0			
	C	25	67	S - Sand	0	0	0	0			

Plot ID	Horizon	Top Depth	Lower Depth	Texture	Gravel	Cobble	Stone	Total	Von Post	Fabric degree	Fabric kind
WT-22-236	Bg	0	36	SL - Sandy loam	65	20	0	85			
	H	1	0							W - Weak	
	Fm	4	1							M - Moderate	
	L	6	4							W - Weak	
WT-22-311	Ah	0	8	SiL - Silt loam	0	0	0	0			
	Bh	8	23	SiL - Silt loam	0	0	0	0			
	BCg	23	50	LS - Loamy sand	10	0	0	10			
WT-22-332	Of	0	60						2	M - Moderate	
	Om	60	76						5	W - Weak	
WT-22-333	Om	0	35						5	M - Moderate	
	Bhg	35	55	SiCL - Silt clay loam	0	0	0	0			
WT-22-345	Om	0	23						4	W - Weak	MA - Massive
	Bhg	23	65	SiL - Silt loam	0	0	0	0			
	Cg	65	100	SCL - Sandy clay loam	10	0	0	10			
WT-22-348	Of	0	10						3	S - Strong	
	Om	10	78						6	M - Moderate	
WT-22-367	Om	0	23						4	M - Moderate	MA - Massive
	Oh	23	57						7	W - Weak	MA - Massive
	Bhg	57	65	SiCL - Silt clay loam	0	0	0	0			
WT-22-373	Of	0	20						2	M - Moderate	
	Oh	20	88						8	W - Weak	
WT-22-390a	Of	0	45						2	M - Moderate	
	Oh	45	110						8	W - Weak	
WT-22-391	Of	0	55						2	S - Strong	
	Om	55	85						5	M - Moderate	
WT-22-398	Of	0	22						3	S - Strong	
	Oh	22	61						8	W - Weak	
WT-22-399	Oh	0	75						10	W - Weak	
WT-22-403	Ahg	0	24	SiL - Silt loam	0	0	0	0			
	Bhg	24	56	SiL - Silt loam	5	0	0	5			
	Cg	56	80	SCL - Sandy clay loam	15	10	5	30			
WT-22-405	Of	0	50						2	M - Moderate	
	Om	50	71						5	W - Weak	
	Of	71	114						2	M - Moderate	

Plot ID	Horizon	Top Depth	Lower Depth	Texture	Gravel	Cobble	Stone	Total	Von Post	Fabric degree	Fabric kind
WT-22-417	Ah	0	9	SiL - Silt loam	0	0	0	0			
	Bg	9	68	SiCL - Silt clay loam	0	0	0	0			
WT-22-422	Om	0	12						4	M - Moderate	
	Bhg	12	66	SiCL - Silt clay loam	0	0	0	0			
WT-22-423	Om	0	10						6	M - Moderate	
	Oh	10	20						6	W - Weak	
WT-22-424a	Bg	0	65	C - Clay	0	0	0	0			
	L	4	0							W - Weak	
	C	65	73	S - Sand	0	0	0	0			
WT-22-429	Oh	0	75							W - Weak	
WT-22-431	Ah	0	15	SL - Sandy loam	0	0	0	0			
	Hh	1	0							M - Moderate	
	L	4	1							M - Moderate	
	Other	15	20							W - Weak	
	Bhg	20	33	Si - Silt	0	0	0	0			
	Bg	33	50	SiCL - Silt clay loam	0	0	0	0			
	Cg	50	60	SC - Sandy clay	0	0	0	0			
WT-22-436	Ahg	0	12	L - Loam	0	0	0	0			
	BCg	12	60	SL - Sandy loam	5	0	0	5			
WT-22-443	Of	0	20						2	S - Strong	
	Oh	20	86						9	W - Weak	
WT-22-453	Bg	0	34	Si - Silt	0	0	0	0			
	Cg	34	38	SiCL - Silt clay loam	10	0	0	10			
WT-22-455	Bg	0	60	SiCL - Silt clay loam	5	0	0	5			
WT-22-465	B	0	8	S - Sand	0	0	0	0			
	H	1	0							W - Weak	
	Fm	4	1							M - Moderate	
	L	6	4							S - Strong	
	B	8	35	SiL - Silt loam	0	0	0	0			
	C	35	49	S - Sand	25	0	0	25			
WT-22-467	Ah	0	9	SiL - Silt loam	0	0	0	0			
	Bhg	9	28	L - Loam	5	0	0	5			
	Cg	28	60	SL - Sandy loam	20	0	0	20			
WT-22-479	Oh	0	25						7	M - Moderate	

Plot ID	Horizon	Top Depth	Lower Depth	Texture	Gravel	Cobble	Stone	Total	Von Post	Fabric degree	Fabric kind
WT-22-480	Of	0	70						3	M - Moderate	
WT-22-481	Of	0	55						2	M - Moderate	
WT-22-497	Om	0	21						5	M - Moderate	
	Oh	21	84						9	M - Moderate	
WT-22-504	Om	0	24						4	M - Moderate	MA - Massive
	Om	24	130						6	W - Weak	MA - Massive
WT-22-510a	Ah	0	7	L - Loam	0	0	0	0			
	Bh	7	52	SiL - Silt loam	0	0	0	0			
	Bg	52	90	SiCL - Silt clay loam	0	0	0	0			
WT-22-518	Of	0	5						3	M - Moderate	MA - Massive
	Om	5	41						7	M - Moderate	MA - Massive
	Bh	41	60	SiCL - Silt clay loam	0	0	0	0			
WT-22-519	Of	0	8						2	S - Strong	MA - Massive
	Oh	8	120						8	W - Weak	MA - Massive
WT-22-535	Of	0	10						2	M - Moderate	
	Oh	10	42						5	W - Weak	
	Cg	42	62	SiCL - Silt clay loam	0	0	0	0			
WT-22-559	Ah	0	4	Si - Silt	0	0	0	0			
	Bhg	4	20	Si - Silt	0	0	0	0			
	Fa	4	0							S - Strong	
	L	5	4							S - Strong	
WT-22-569	Om	0	25						6	W - Weak	MA - Massive
	Bhg	25	67		0	0	0	0			
	C	67	80	SCL - Sandy clay loam	10	0	0	10			
WT-22-570	Of	0	12						3	M - Moderate	MA - Massive
WT-22-572	Om	12	130						6	W - Weak	MA - Massive
WT-22-590	Ahg	0	9	SiL - Silt loam	0	0	0	0			
	Bhg	9	35	SiL - Silt loam	0	0	0	0			
	BCg	35	80	SCL - Sandy clay loam	5	5	0	10			
WT-22-594	Bhg	0	23	SiL - Silt loam	0	0	0	0			
	Bg	23	60	SiL - Silt loam	0	0	0	0			
WT-22-595	Of	0	48						2	S - Strong	
WT-22-618a	Oh	0	35						7	W - Weak	
WT-22-619	Oh	0	32						8	M - Moderate	

Plot ID	Horizon	Top Depth	Lower Depth	Texture	Gravel	Cobble	Stone	Total	Von Post	Fabric degree	Fabric kind
	Bg	32	62	SiCL - Silt clay loam	0	0	0	0			
WT-22-620	Om	0	23						4	M - Moderate	
	Oh	23	65						9	W - Weak	
	Cg	65	84	SiL - Silt loam	0	0	0	0			
WT-22-621	Bg	0	37	Si - Silt	5	0	0	5			
WT-22-623	Om	0	18						5	M - Moderate	
	Oh	18	79						8	W - Weak	
WT-22-624	Of	0	25						2	M - Moderate	
	Bg	25	55	Si - Silt	5	0	0	5			
WT-22-627	Of	0	28						2	M - Moderate	
	Om	28	93						5	M - Moderate	
WT-22-633	Of	0	21						3	M - Moderate	
	Om	21	43						5	M - Moderate	
WT-22-635	Bhg	0	45	SL - Sandy loam	0	0	0	0			
	Hh	1	0							S - Strong	
	L	2	1							S - Strong	
	Cg	45	50	S - Sand	95	0	0	95			
WT-22-636	Oh	0	87							W - Weak	
WT-22-638	Om	0	17							W - Weak	
	Of	17	32							W - Weak	
	Om	32	80							W - Weak	
WT-22-639	Oh	0	65							M - Moderate	
WT-22-652	Of	0	17						2	M - Moderate	MA - Massive
	Om	17	43						6	M - Moderate	MA - Massive
	Of	43	86						8	W - Weak	MA - Massive
	Bhg	86		SL - Sandy loam	5	0	0	5			
WT-22-656	Oh	0	13						8	W - Weak	MA - Massive
	Bhg	13	55	SiL - Silt loam	0	0	0	0			
	Bg	55	87	SiCL - Silt clay loam	0	0	0	0			
WT-22-660	Om	0	60						5	M - Moderate	
	Oh	60	100						8	W - Weak	
WT-22-661	Of	0	21						2	S - Strong	
	Bhg	21	45	SiCL - Silt clay loam	0	0	0	0			
	Bhg	45	74	SCL - Sandy clay loam	25	0	0	25			

Plot ID	Horizon	Top Depth	Lower Depth	Texture	Gravel	Cobble	Stone	Total	Von Post	Fabric degree	Fabric kind
WT-22-662	Om	0	10						4	M - Moderate	
	Oh	10	20						8	W - Weak	
	Bg	20	30	S - Sand	0	0	0	0			
	C	30	35	S - Sand	45	0	0	45			
WT-22-669	Of	0	25						2	M - Moderate	
	Om	25	80						5	W - Weak	
WT-22-673	Bhg	0	55	SiL - Silt loam							
	Cg	55	65	SiCL - Silt clay loam	5	0	0	5			
WT-22-687	Om	0	90						5	M - Moderate	

APPENDIX F. BLACKWATER GOLD PROJECT 2022 VEGETATION SPECIES

Species Name:	Species Common Name	BC Listing	COSEWIC	Vegetation Layer
Abies lasiocarpa	subalpine fir	Yellow	No Status	Tree or Shrub
Achillea borealis	woolly yarrow	Yellow	No Status	Herb
Achillea millefolium	yarrow	Exotic	No Status	Herb
Aconitum delphiniifolium	mountain monkshood	Yellow	No Status	Herb
Actaea rubra	baneberry	Yellow	No Status	Tree or Shrub
Alectoria species	Alectoria species	none	none	Epiphyte
Alnus incana ssp. tenuifolia	mountain alder	Yellow	No Status	Tree or Shrub
Anemonastrum richardsonii	yellow anemone	Yellow	No Status	Herb
Angelica genuflexa	kneeling angelica	Yellow	No Status	Herb
Antennaria species	Antennaria species	none	none	Herb
Anthoxanthum hirtum	hairy sweetgrass	Yellow	No Status	Herb
Arnica angustifolia ssp. angustifolia	narrow-leaf arnica	Yellow	No Status	Herb
Arnica chamissonis	meadow arnica	Yellow	No Status	Herb
Arnica cordifolia	heart-leaved arnica	Yellow	No Status	Herb
Artemisia norvegica ssp. saxatilis	mountain sagewort	Yellow	No Status	Herb
Aster species	Aster species	none	none	Herb
Astragalus americanus	American milk-vetch	Yellow	No Status	Herb
Athyrium filix-femina var. cyclosorum	lady fern	Yellow	No Status	Herb
Aulacomnium species	Aulacomnium species	none	none	Moss or Lichen
Aulacomnium palustre	ribbed bog moss	Yellow	No Status	Moss or Lichen
Barbilophozia species	Barbilophozia species	none	none	Moss or Lichen
Barbilophozia lycopodioides	n/a	Yellow	No Status	Moss or Lichen
Betula glandulosa	dwarf birch	Yellow	No Status	Tree or Shrub
Betula pumila	low birch	Yellow	No Status	Tree or Shrub
Brachythecium species	Brachythecium species	none	none	Moss or Lichen
Bryoria species	Bryoria species	none	none	Epiphyte
Calamagrostis canadensis var. canadensis	bluejoint reedgrass	Yellow	No Status	Herb
Calamagrostis rubescens	pinegrass	Yellow	No Status	Herb

Species Name:	Species Common Name	BC Listing	COSEWIC	Vegetation Layer
Calamagrostis species	Calamagrostis species	none	none	Herb
Calliergon species	Calliergon species	none	none	Moss or Lichen
Canadanthus modestus	great northern aster	Yellow	No Status	Herb
Carex amplifolia	bigleaf sedge	Yellow	No Status	Herb
Carex aquatilis var. aquatilis	water sedge	Yellow	No Status	Herb
Carex canescens ssp. canescens	grey sedge	Yellow	No Status	Herb
Carex canescens ssp. disjuncta	silvery sedge	Unknown	No Status	Herb
Carex chordorrhiza	cordroot sedge	Yellow	No Status	Herb
Carex concinna	low northern sedge	Yellow	No Status	Herb
Carex cusickii	Cusick's sedge	Yellow	No Status	Herb
Carex diandra	lesser-panicled sedge	Yellow	No Status	Herb
Carex disperma	soft-leaved sedge	Yellow	No Status	Herb
Carex gynocrates	yellow bog sedge	Yellow	No Status	Herb
Carex heleonastes	Hudson Bay sedge	Yellow	No Status	Herb
Carex limosa	shore sedge	Yellow	No Status	Herb
Carex livida	pale sedge	Yellow	No Status	Herb
Carex macloviana	Falkland Island sedge	Yellow	No Status	Herb
Carex magellanica ssp. irrigua	poor sedge	Yellow	No Status	Herb
Carex praticola	meadow sedge	Yellow	No Status	Herb
Carex rostrata	swollen beaked sedge	Yellow	No Status	Herb
Carex species	Carex species	none	none	Herb
Carex tenuiflora	sparse-flowered sedge	Yellow	No Status	Herb
Carex utriculata	beaked sedge	Yellow	No Status	Herb
Carex vaginata	sheathed sedge	Yellow	No Status	Herb
Castilleja hispida var. hispida	harsh paintbrush	Yellow	No Status	Herb
Castilleja miniata var. miniata	scarlet paintbrush	Yellow	No Status	Herb
Ceratodon purpureus	fire moss	Yellow	No Status	Moss or Lichen
Chamaenerion angustifolium	fireweed	Yellow	No Status	Herb
Cirsium arvense	Canada thistle	Exotic	No Status	Herb
Cirsium brevistylum	short-styled thistle	Yellow	No Status	Herb
Cladina species	Cladina species	none	none	Moss or Lichen
Cladonia species	Cladonia species	none	none	Moss or Lichen
Comarum palustre	marsh cinquefoil	Yellow	No Status	Herb
Coptidium lapponicum	Lapland buttercup	Yellow	No Status	Herb

Species Name:	Species Common Name	BC Listing	COSEWIC	Vegetation Layer
Cornus canadensis	bunchberry	Yellow	No Status	Herb
Cornus sericea	red-osier dogwood	Yellow	No Status	Tree or Shrub
Cornus unalaschkensis	Alaskan bunchberry	Yellow	No Status	Herb
Dactylorhiza viridis	long-bracted frog orchid	Yellow	No Status	Herb
Delphinium glaucum	tall larkspur	Yellow	No Status	Herb
Dicranum species	Dicranum species	none	none	Moss or Lichen
Drepanocladus species	Drepanocladus species	none	none	Moss or Lichen
Drepanocladus aduncus	Knieff's Hook-moss	Yellow	No Status	Moss or Lichen
Drosera linearis	slender-leaf sundew	Blue	No Status	Herb
Dryopteris expansa	spiny wood fern	Yellow	No Status	Herb
Elymus glaucus ssp. glaucus	blue wildrye	Yellow	No Status	Herb
Elymus trachycaulus ssp. trachycaulus	slender wheatgrass	Yellow	No Status	Herb
Empetrum nigrum	crowberry	Yellow	No Status	Tree or Shrub
Epilobium anagallidifolium	alpine willowherb	Yellow	No Status	Herb
Epilobium ciliatum ssp. ciliatum	purple-leaved willowherb	Yellow	No Status	Herb
Epilobium palustre	swamp willowherb	Yellow	No Status	Herb
Equisetum arvense	common horsetail	Yellow	No Status	Herb
Equisetum fluviatile	swamp horsetail	Yellow	No Status	Herb
Equisetum pratense	meadow horsetail	Yellow	No Status	Herb
Equisetum scirpoides	dwarf scouring-rush	Yellow	No Status	Herb
Equisetum species	Equisetum species	none	none	Herb
Equisetum sylvaticum	wood horsetail	Yellow	No Status	Herb
Equisetum variegatum ssp. variegatum	northern scouring-rush	Yellow	No Status	Herb
Erigeron species	Erigeron species	none	none	Herb
Eriophorum angustifolium ssp. angustifolium	narrow-leaved cotton-grass	Yellow	No Status	Herb
Eriophorum chamissonis var. albidum	Chamisso's cotton-grass	Unknown	No Status	Herb
Eriophorum chamissonis var. chamissonis	Chamisso's cotton-grass	Yellow	No Status	Herb
Eriophorum gracile ssp. gracile	slender cotton-grass	Yellow	No Status	Herb
Eriophorum scheuchzeri	Scheuchzer's cotton-grass	Yellow	No Status	Herb
Eriophorum species	Eriophorum species	none	none	Herb
Eriophorum viridicarinatum	green-keeled cotton-grass	Yellow	No Status	Herb

Species Name:	Species Common Name	BC Listing	COSEWIC	Vegetation Layer
Erythranthe guttata	yellow monkey-flower	Yellow	No Status	Herb
Euphrasia nemorosa	common eyebright	Exotic	No Status	Herb
Eurybia conspicua	showy aster	Yellow	No Status	Herb
Fragaria virginiana ssp. glauca	wild strawberry	Yellow	No Status	Herb
Fragaria virginiana ssp. platypetala	wild strawberry	Yellow	No Status	Herb
Galium boreale	northern bedstraw	Yellow	No Status	Herb
Galium labradoricum	northern bog bedstraw	Yellow	No Status	Herb
Galium trifidum ssp. trifidum	small bedstraw	Yellow	No Status	Herb
Galium triflorum	sweet-scented bedstraw	Yellow	No Status	Herb
Gaultheria hispidula	creeping wintergreen	Yellow	No Status	Herb
Geum macrophyllum var. macrophyllum	large-leaved avens	Yellow	No Status	Herb
Geum macrophyllum var. perincisum	large-leaved avens	Yellow	No Status	Herb
Geum rivale	water avens	Yellow	No Status	Herb
Gymnocarpium dryopteris	oak fern	Yellow	No Status	Herb
Heracleum maximum	cow-parsnip	Yellow	No Status	Herb
Hieracium species	Hieracium species	none	none	Herb
Hylocomium splendens	step moss	Yellow	No Status	Moss or Lichen
Juncus drummondii	Drummond's rush	Yellow	No Status	Herb
Kalmia microphylla var. microphylla	alpine bog laurel	Yellow	No Status	Herb
Kalmia microphylla var. occidentalis	western bog-laurel	Yellow	No Status	Herb
Leptarrhena pyrolifolia	leatherleaf saxifrage	Yellow	No Status	Herb
Leucanthemum vulgare	oxeye daisy	Exotic	No Status	Herb
Linnaea borealis ssp. borealis	twinflower	Unknown	No Status	Herb
Linnaea borealis ssp. longiflora	twinflower	Yellow	No Status	Herb
Linnea borealis ssp. borealis	twinflower	Unknown	No Status	Herb
Lonicera involucrata var. involucrata	black twinberry	Yellow	No Status	Tree or Shrub
Lupinus arcticus ssp. arcticus	arctic lupine	Yellow	No Status	Herb
Luzula parviflora ssp. parviflora	small-flowered wood-rush	Yellow	No Status	Herb
Lycopodium annotinum	stiff club-moss	Yellow	No Status	Moss or Lichen

Species Name:	Species Common Name	BC Listing	COSEWIC	Vegetation Layer
Maianthemum racemosum ssp. amplexicaule	false Solomon's-seal	Yellow	No Status	Herb
Marchantia polymorpha ssp. polymorpha	common liverwort	Unknown	No Status	Moss or Lichen
Meesia triquetra	three-ranked hump-moss	Yellow	No Status	Moss or Lichen
Menyanthes trifoliata	buckbean	Yellow	No Status	Herb
Mitella nuda	common mitrewort	Yellow	No Status	Herb
Mnium species	Mnium species	none	none	Moss or Lichen
Moneses uniflora	single delight	Yellow	No Status	Herb
Neottia borealis	northern twayblade	Yellow	No Status	Herb
Neottia cordata	heart-leaved twayblade	Yellow	No Status	Herb
Nephroma species	Nephroma species	none	none	Moss or Lichen
Orthilia secunda	one-sided wintergreen	Yellow	No Status	Herb
Osmorhiza berteroi	mountain sweet-cicely	Yellow	No Status	Herb
Packera pauciflora	rayless alpine butterweed	Yellow	No Status	Herb
Paludella squarrosa	angled paludella moss	Yellow	No Status	Moss or Lichen
Parnassia fimbriata	fringed grass-of-Parnassus	Yellow	No Status	Herb
Pectiantia pentandra	five-stamened mitrewort	Yellow	No Status	Herb
Peltigera species	Peltigera species	none	none	Moss or Lichen
Peltigera aphthosa	silver-edge pelt	Yellow	No Status	Moss or Lichen
Peltigera canina	felt pelt	Yellow	No Status	Moss or Lichen
Peltigera scabrosa	greater toad pelt	Yellow	No Status	Moss or Lichen
Penstemon procerus var. procerus	small-flowered penstemon	Yellow	No Status	Herb
Persicaria amphibia	water smartweed	Yellow	No Status	Herb
Petasites frigidus var. frigidus	sweet coltsfoot	Yellow	No Status	Herb
Petasites frigidus var. palmatus	sweet coltsfoot	Yellow	No Status	Herb
Petasites frigidus var. sagittatus	arrow-leaved coltsfoot	Yellow	No Status	Herb
Petasites frigidus var. x vitifolius	vine-leaved coltsfoot	No Status	No Status	Herb
Phleum pratense ssp. pratense	common timothy	Exotic	No Status	Herb
Picea species	Picea species	none	none	Tree or Shrub
Picea engelmannii	Engelmann spruce	Yellow	No Status	Tree or Shrub
Picea glauca	white spruce	Yellow	No Status	Tree or Shrub
Picea mariana	black spruce	Yellow	No Status	Tree or Shrub
Picea x albertiana	hybrid white spruce	No Status	No Status	Tree or Shrub

Species Name:	Species Common Name	BC Listing	COSEWIC	Vegetation Layer
Pinus contorta var. contorta	shore pine	Yellow	No Status	Tree or Shrub
Pinus contorta var. latifolia	lodgepole pine	Yellow	No Status	Tree or Shrub
Plagiomnium species	Plagiomnium species	none	none	Moss or Lichen
Plagiomnium cuspidatum	toothed plagiomnium moss	Yellow	No Status	Moss or Lichen
Plagiomnium medium	alpine thyme-moss	Yellow	No Status	Moss or Lichen
Platanthera aquilonis	northern green rein orchid	Yellow	No Status	Herb
Platanthera dilatata var. albiflora	fragrant white rein orchid	Yellow	No Status	Herb
Platanthera dilatata var. dilatata	fragrant white rein orchid	Yellow	No Status	Herb
Platanthera obtusata ssp. obtusata	one-leaved rein orchid	Yellow	No Status	Herb
Pleurozium species	Pleurozium species	none	none	Moss or Lichen
Pleurozium schreberi	red-stemmed feathermoss	Yellow	No Status	Moss or Lichen
Poa palustris	fowl bluegrass	Yellow	No Status	Herb
Poa pratensis ssp. pratensis	Kentucky bluegrass	Exotic	No Status	Herb
Polystichum species	Polystichum species	none	none	Moss or Lichen
Polytrichum species	Polytrichum species	none	none	Moss or Lichen
Polytrichum juniperinum	juniper haircap moss	Yellow	No Status	Moss or Lichen
Populus trichocarpa	black cottonwood	Yellow	No Status	Tree or Shrub
Potamogeton species	Potamogeton species	none	none	Herb
Potamogeton gramineus	grass-leaved pondweed	Yellow	No Status	Herb
Prosartes hookeri	Hooker's fairybells	Yellow	No Status	Herb
Protomicarea limosa	n/a	Unknown	No Status	Moss or Lichen
Ptilium crista-castrensis	knight's plume	Yellow	No Status	Moss or Lichen
Pyrola species	Pyrola species	none	none	Herb
Pyrola asarifolia ssp. asarifolia	pink wintergreen	Yellow	No Status	Herb
Ranunculus species	Ranunculus species	none	none	Herb
Ranunculus acris	meadow buttercup	Exotic	No Status	Herb
Ranunculus nivalis	snow buttercup	Yellow	No Status	Herb
Rhinanthus minor ssp. minor	yellow rattle	Yellow	No Status	Herb
Rhizomnium species	Rhizomnium species	none	none	Moss or Lichen
Rhododendron albiflorum	white-flowered rhododendron	Yellow	No Status	Tree or Shrub
Rhododendron groenlandicum	Labrador-tea	Yellow	No Status	Tree or Shrub
Rhytidiadelphus triquetrus	n/a	Yellow	No Status	Moss or Lichen

Species Name:	Species Common Name	BC Listing	COSEWIC	Vegetation Layer
Ribes hudsonianum var. hudsonianum	northern blackcurrant	Yellow	No Status	Tree or Shrub
Ribes lacustre	black gooseberry	Yellow	No Status	Tree or Shrub
Ribes oxyacanthoides var. oxyacanthoides	northern gooseberry	Yellow	No Status	Tree or Shrub
Ribes triste	red swamp currant	Yellow	No Status	Tree or Shrub
Rorippa palustris ssp. palustris	marsh yellowcress	Yellow	No Status	Herb
Rosa acicularis ssp. sayi	prickly rose	Yellow	No Status	Tree or Shrub
Rosa woodsii spp. woodsii	Wood's rose	Yellow	No Status	Tree or Shrub
Rosa woodsii ssp. woodsii	Wood's rose	Yellow	No Status	Tree or Shrub
Rubus arcticus ssp. acaulis	nagoonberry	Yellow	No Status	Herb
Rubus chamaemorus	cloudberry	Yellow	No Status	Herb
Rubus idaeus ssp. strigosus	red raspberry	Yellow	No Status	Tree or Shrub
Rubus lasiococcus	dwarf bramble	Blue	No Status	Herb
Rubus leucodermis var. leucodermis	black raspberry	Yellow	No Status	Tree or Shrub
Rubus pedatus	five-leaved bramble	Yellow	No Status	Herb
Rubus pubescens	dwarf red raspberry	Yellow	No Status	Herb
Rumex acetosella	sheep sorrel	Exotic	No Status	Herb
Rumex occidentalis	western dock	Yellow	No Status	Herb
Salix species	Salix species	none	none	Tree or Shrub
Salix barclayi	Barclay's willow	Yellow	No Status	Tree or Shrub
Salix bebbiana	Bebb's willow	Yellow	No Status	Tree or Shrub
Salix candida	sage willow	Yellow	No Status	Tree or Shrub
Salix discolor	pussy willow	Yellow	No Status	Tree or Shrub
Salix drummondiana	Drummond's willow	Yellow	No Status	Tree or Shrub
Salix glauca var. acutifolia	grey-leaved willow	Yellow	No Status	Tree or Shrub
Salix glauca var. villosa	grey-leaved willow	Yellow	No Status	Tree or Shrub
Salix maccalliana	MacCalla's willow	Yellow	No Status	Tree or Shrub
Salix myrtillifolia	bilberry willow	Yellow	No Status	Tree or Shrub
Salix pedicellaris	bog willow	Yellow	No Status	Tree or Shrub
Salix planifolia	plane-leaved willow	Yellow	No Status	Tree or Shrub
Salix scouleriana	Scouler's willow	Yellow	No Status	Tree or Shrub
Sambucus racemosa var. leucocarpa	eastern red elderberry	Yellow	No Status	Tree or Shrub

Species Name:	Species Common Name	BC Listing	COSEWIC	Vegetation Layer
Sanguisorba stipulata	Sitka burnet	Yellow	No Status	Herb
Senecio triangularis	arrow-leaved groundsel	Yellow	No Status	Herb
Shepherdia canadensis	soopolallie	Yellow	No Status	Tree or Shrub
Sium suave	hemlock water-parsnip	Yellow	No Status	Herb
Sphagnum species	Sphagnum species	none	none	Moss or Lichen
Sphagnum squarrosum	n/a	Yellow	No Status	Moss or Lichen
Spiraea douglasii var. menziesii	pink spirea	Yellow	No Status	Tree or Shrub
Stellaria longifolia	long-leaved starwort	Yellow	No Status	Herb
Stellaria longipes ssp. longipes	long-stalked starwort	Yellow	No Status	Herb
Streptopus amplexifolius	clasping twistedstalk	Yellow	No Status	Herb
Symphyotrichum species	Symphyotrichum species	none	none	Herb
Symphyotrichum ciliolatum	Lindley's aster	Yellow	No Status	Herb
Symphyotrichum foliaceum var. foliaceum	leafy aster	Yellow	No Status	Herb
Symphyotrichum foliaceum var. parryi	Parry's aster	Yellow	No Status	Herb
Taraxacum officinale	common dandelion	Exotic	No Status	Herb
Thalictrum venulosum	veiny meadowrue	Yellow	No Status	Herb
Tiarella trifoliata var. trifoliata	three-leaved foamflower	Yellow	No Status	Herb
Tiarella trifoliata var. unifoliata	one-leaved foamflower	Yellow	No Status	Herb
Timmia austriaca	n/a	Yellow	No Status	Moss or Lichen
Tomentypnum nitens	n/a	Yellow	No Status	Moss or Lichen
Tortula species	Tortula species	none	none	Moss or Lichen
Trichophorum cespitosum	tufted clubrush	Yellow	No Status	Herb
Trientalis europaea ssp. arctica	northern star flower	Yellow	No Status	Herb
Trifolium hybridum	alsike clover	Exotic	No Status	Herb
Triglochin maritima	seaside arrow-grass	Yellow	No Status	Herb
Trollius albiflorus	globeflower	Yellow	No Status	Herb
Unknown	Unknown	NA	NA	Moss or Lichen
Urtica dioica ssp. dioica	stinging nettle	Exotic	No Status	Herb
Vaccinium caespitosum	dwarf blueberry	Yellow	No Status	Herb
Vaccinium membranaceum	black huckleberry	Yellow	No Status	Herb
Vaccinium oxycoccos	bog cranberry	Yellow	No Status	Herb
Vaccinium parvifolium	red huckleberry	Yellow	No Status	Tree or Shrub
Vaccinium scoparium	grouseberry	Yellow	No Status	Tree or Shrub

Species Name:	Species Common Name	BC Listing	COSEWIC	Vegetation Layer
Vaccinium vitis-idaea ssp. minus	lingonberry	Yellow	No Status	Tree or Shrub
Valeriana dioica var. sylvatica	marsh valerian	Yellow	No Status	Herb
Valeriana sitchensis	Sitka valerian	Yellow	No Status	Herb
Veratrum viride var. eschscholzianum	green false-hellebore	Yellow	No Status	Herb
Veronica beccabunga var. americana	American speedwell	Yellow	No Status	Herb
Veronica nutans	alpine speedwell	Yellow	No Status	Herb
Veronica serpyllifolia var. serpyllifolia	thyme-leaved speedwell	Exotic	No Status	Herb
Viburnum edule	highbush-cranberry	Yellow	No Status	Tree or Shrub
Vicia americana	American vetch	Yellow	No Status	Herb
Viola species	Viola species	none	none	Herb
Viola epipsila var. repens	dwarf marsh violet	Yellow	No Status	Herb
Viola glabella	stream violet	Yellow	No Status	Herb
Viola macloskeyi	small white violet	Yellow	No Status	Herb
Viola palustris	marsh violet	Yellow	No Status	Herb
Viola renifolia	kidney-leaved violet	Yellow	No Status	Herb

APPENDIX G. BLACKWATER GOLD PROJECT 2022 WILDLIFE HABITAT ASSESSMENT DATA

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-453	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-453	mammals	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-453	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-453	mammals	Moose	6	Living	Winter	Moderate	Low	Low	-
WT-22-453	mammals	Moose	6	Living	Spring	Moderate	Low	Low	-
WT-22-453	mammals	Moose	6	Living	Summer	Low	Low	Very low	-
WT-22-453	mammals	Caribou	6	Living	Winter	Moderate	Very low	Very low	-
WT-22-453	mammals	Caribou	6	Living	Spring	Moderate	Very low	Very low	-
WT-22-453	mammals	Caribou	6	Living	Summer	Low	Very low	Very low	-
WT-22-453	mammals	Caribou	6	Living	Fall	Very low	Very low	Very low	-
WT-22-453	mammals	Grizzly Bear	6	Living	Spring	High	Moderate	Very low	-
WT-22-453	mammals	Grizzly Bear	6	Living	Summer	Low	Low	Very low	-
WT-22-453	mammals	Grizzly Bear	6	Living	Fall	Nil	Low	Very low	-
WT-22-453	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-453	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-453	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-629	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-629	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-629	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-629	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-629	mammals	Moose	6	Living	Spring	Very low	Nil	Nil	-
WT-22-629	mammals	Moose	6	Living	Summer	Very low	Nil	Nil	-
WT-22-629	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-629	mammals	Caribou	6	Living	Winter	Very low	Nil	Nil	-
WT-22-629	mammals	Caribou	6	Living	Spring	Low	Nil	Nil	-
WT-22-629	mammals	Caribou	6	Living	Summer	Very low	Nil	Nil	-
WT-22-629	mammals	Caribou	6	Living	Fall	Very low	Nil	Nil	-
WT-22-629	mammals	Grizzly Bear	6	Living	Spring	Very low	Nil	Nil	-
WT-22-629	mammals	Grizzly Bear	6	Living	Summer	Nil	Nil	Nil	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-629	mammals	Grizzly Bear	6	Living	Fall	Nil	Nil	Nil	-
WT-22-629	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-629	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-629	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-627	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-627	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-627	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-627	mammals	Moose	6	Living	Winter	Very low	Nil	Nil	-
WT-22-627	mammals	Moose	6	Living	Spring	Low	Nil	Nil	-
WT-22-627	mammals	Moose	6	Living	Summer	Very low	Nil	Nil	-
WT-22-627	mammals	Moose	6	Living	Fall	Very low	Nil	Nil	-
WT-22-627	mammals	Caribou	6	Living	Winter	Moderate	Nil	Nil	-
WT-22-627	mammals	Caribou	6	Living	Spring	Moderate	Nil	Nil	-
WT-22-627	mammals	Caribou	6	Living	Fall	Low	Nil	Nil	-
WT-22-627	mammals	Grizzly Bear	6	Living	Spring	Low	Nil	Nil	-
WT-22-627	mammals	Grizzly Bear	6	Living	Summer	Low	Nil	Nil	-
WT-22-627	mammals	Grizzly Bear	6	Living	Fall	Very low	Nil	Nil	-
WT-22-627	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-627	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-627	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-633	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-633	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-633	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-633	mammals	Moose	6	Living	Winter	Low	Moderate	Very low	-
WT-22-633	mammals	Moose	6	Living	Spring	Low	Moderate	Very low	-
WT-22-633	mammals	Moose	6	Living	Summer	Very low	Moderate	Very low	-
WT-22-633	mammals	Moose	6	Living	Fall	Very low	Moderate	Very low	-
WT-22-633	mammals	Caribou	6	Living	Winter	High	Low	Very low	-
WT-22-633	mammals	Caribou	6	Living	Spring	Low	Low	Very low	-
WT-22-633	mammals	Caribou	6	Living	Summer	Very low	Low	Very low	-
WT-22-633	mammals	Caribou	6	Living	Fall	Very low	Low	Very low	-
WT-22-633	mammals	Grizzly Bear	6	Living	Spring	Low	Low	Very low	-
WT-22-633	mammals	Grizzly Bear	6	Living	Summer	Low	Low	Very low	-
WT-22-633	mammals	Grizzly Bear	6	Living	Fall	Low	Low	Very low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-633	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-633	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-633	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
MC27	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
MC27	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
MC27	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Very high
MC27	mammals	Moose	6	Living	Winter	Moderate	Low	Low	Low
MC27	mammals	Moose	6	Living	Spring	Moderate	Moderate	Moderate	Moderate
MC27	mammals	Moose	6	Living	Summer	Moderate	Moderate	Low	Moderate
MC27	mammals	Moose	6	Living	Fall	Moderate	Moderate	Low	Moderate
MC27	mammals	Moose	6	Living	Fall	Low	Moderate	Moderate	Moderate
MC27	mammals	Grizzly Bear	6	Living	Spring	Moderate	Moderate	Moderate	Moderate
MC27	mammals	Grizzly Bear	6	Living	Summer	Low	Moderate	Moderate	Low
MC27	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Moderate	Low
MC27	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
MC27	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
MC27	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
MC27	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-569	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-569	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-569	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-569	mammals	Moose	6	Living	Winter	Low	Moderate	Low	Low
WT-22-569	mammals	Moose	6	Living	Spring	Moderate	Moderate	Low	Moderate
WT-22-569	mammals	Moose	6	Living	Summer	High	Moderate	Moderate	Moderate
WT-22-569	mammals	Moose	6	Living	Fall	Moderate	Moderate	Low	Moderate
WT-22-569	mammals	Caribou	6	Living	Winter	High	Moderate	Low	Moderate
WT-22-569	mammals	Caribou	6	Living	Spring	Moderate	Low	Moderate	Moderate
WT-22-569	mammals	Caribou	6	Living	Summer	High	Moderate	Moderate	Moderate
WT-22-569	mammals	Caribou	6	Living	Fall	Moderate	Moderate	Moderate	Moderate
WT-22-569	mammals	Grizzly Bear	6	Living	Spring	Low	Moderate	Moderate	Low
WT-22-569	mammals	Grizzly Bear	6	Living	Summer	Moderate	Moderate	Moderate	Moderate
WT-22-569	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Moderate	Low
WT-22-569	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-569	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-569	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-569	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-623	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-623	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-623	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-623	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-623	mammals	Moose	6	Living	Winter	Moderate	Low	Nil	-
WT-22-623	mammals	Moose	6	Living	Spring	Very high	Low	Nil	-
WT-22-623	mammals	Moose	6	Living	Summer	Moderate	Low	Nil	-
WT-22-623	mammals	Moose	6	Living	Fall	High	Low	Nil	-
WT-22-623	mammals	Caribou	6	Living	Winter	Moderate	Low	Nil	-
WT-22-623	mammals	Caribou	6	Living	Spring	Moderate	Low	Nil	-
WT-22-623	mammals	Caribou	6	Living	Summer	Moderate	Low	Nil	-
WT-22-623	mammals	Caribou	6	Living	Fall	Low	Low	Nil	-
WT-22-623	mammals	Grizzly Bear	6	Living	Spring	Moderate	Low	Nil	-
WT-22-623	mammals	Grizzly Bear	6	Living	Summer	Very low	Low	Nil	-
WT-22-623	mammals	Grizzly Bear	6	Living	Fall	Nil	Low	Nil	-
WT-22-623	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-623	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-623	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-624	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-624	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-624	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-624	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-624	mammals	Moose	6	Living	Winter	Moderate	Moderate	Very low	-
WT-22-624	mammals	Moose	6	Living	Spring	High	Moderate	Very low	-
WT-22-624	mammals	Moose	6	Living	Summer	Moderate	Moderate	Very low	-
WT-22-624	mammals	Moose	6	Living	Fall	High	Moderate	Very low	-
WT-22-624	mammals	Caribou	6	Living	Winter	High	Low	Very low	-
WT-22-624	mammals	Caribou	6	Living	Spring	High	Low	Very low	-
WT-22-624	mammals	Caribou	6	Living	Summer	Moderate	Low	Very low	-
WT-22-624	mammals	Caribou	6	Living	Fall	Moderate	Low	Very low	-
WT-22-624	mammals	Grizzly Bear	6	Living	Spring	High	Moderate	Very low	-
WT-22-624	mammals	Grizzly Bear	6	Living	Summer	Low	Moderate	Very low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-624	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Very low	-
WT-22-624	mammals	Muskrat	2	Living	Growing	-	-	-	Suitable
WT-22-624	mammals	Muskrat	2	Living	Winter	-	-	-	Suitable
WT-22-624	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-455	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-455	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-455	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-455	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-455	mammals	Moose	6	Living	Winter	Moderate	High	Moderate	-
WT-22-455	mammals	Moose	6	Living	Spring	High	High	Moderate	-
WT-22-455	mammals	Moose	6	Living	Summer	Moderate	High	Moderate	-
WT-22-455	mammals	Moose	6	Living	Fall	Moderate	High	Moderate	-
WT-22-455	mammals	Caribou	6	Living	Winter	Low	Low	Moderate	-
WT-22-455	mammals	Caribou	6	Living	Spring	Moderate	Low	Moderate	-
WT-22-455	mammals	Caribou	6	Living	Summer	Moderate	Low	Moderate	-
WT-22-455	mammals	Caribou	6	Living	Fall	Moderate	Low	Moderate	-
WT-22-455	mammals	Grizzly Bear	6	Living	Spring	Moderate	High	Moderate	-
WT-22-455	mammals	Grizzly Bear	6	Living	Summer	High	High	Moderate	-
WT-22-455	mammals	Grizzly Bear	6	Living	Fall	Low	High	Moderate	-
WT-22-455	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-455	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-455	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-621	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-621	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-621	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-621	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-621	mammals	Moose	6	Living	Winter	Very low	High	Low	-
WT-22-621	mammals	Moose	6	Living	Spring	Moderate	High	Low	-
WT-22-621	mammals	Moose	6	Living	Summer	Moderate	High	Moderate	-
WT-22-621	mammals	Moose	6	Living	Fall	Very low	High	Low	-
WT-22-621	mammals	Caribou	6	Living	Winter	Very low	Very low	Very low	-
WT-22-621	mammals	Caribou	6	Living	Spring	Low	Very low	Very low	-
WT-22-621	mammals	Caribou	6	Living	Summer	High	Very low	Very low	-
WT-22-621	mammals	Caribou	6	Living	Fall	Moderate	Very low	Very low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-621	mammals	Grizzly Bear	6	Living	Spring	Moderate	High	Moderate	-
WT-22-621	mammals	Grizzly Bear	6	Living	Summer	Moderate	High	Moderate	-
WT-22-621	mammals	Grizzly Bear	6	Living	Fall	Low	High	Moderate	-
WT-22-621	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-621	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-621	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-619	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-619	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-619	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-619	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-619	mammals	Moose	6	Living	Winter	Moderate	High	Very low	-
WT-22-619	mammals	Moose	6	Living	Spring	High	High	Very low	-
WT-22-619	mammals	Moose	6	Living	Summer	High	High	Moderate	-
WT-22-619	mammals	Moose	6	Living	Fall	High	High	Very low	-
WT-22-619	mammals	Caribou	6	Living	Winter	High	Low	Very low	-
WT-22-619	mammals	Caribou	6	Living	Spring	Moderate	Low	Very low	-
WT-22-619	mammals	Caribou	6	Living	Summer	Moderate	Low	Very low	-
WT-22-619	mammals	Caribou	6	Living	Fall	Moderate	Low	Very low	-
WT-22-619	mammals	Grizzly Bear	6	Living	Spring	Moderate	High	Moderate	-
WT-22-619	mammals	Grizzly Bear	6	Living	Summer	High	High	Moderate	-
WT-22-619	mammals	Grizzly Bear	6	Living	Fall	Low	High	Moderate	-
WT-22-619	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-619	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-619	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-620	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-620	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-620	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-620	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-620	mammals	Moose	6	Living	Winter	Low	Moderate	Very low	-
WT-22-620	mammals	Moose	6	Living	Spring	Moderate	Moderate	Very low	-
WT-22-620	mammals	Moose	6	Living	Summer	Moderate	Moderate	Very low	-
WT-22-620	mammals	Moose	6	Living	Fall	Moderate	Moderate	Very low	-
WT-22-620	mammals	Caribou	6	Living	Winter	High	Low	Very low	-
WT-22-620	mammals	Caribou	6	Living	Spring	Moderate	Low	Very low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-620	mammals	Caribou	6	Living	Summer	Moderate	Moderate	Very low	-
WT-22-620	mammals	Caribou	6	Living	Fall	Moderate	Low	Very low	-
WT-22-620	mammals	Grizzly Bear	6	Living	Spring	Low	Moderate	Very low	-
WT-22-620	mammals	Grizzly Bear	6	Living	Summer	Moderate	Moderate	Very low	-
WT-22-620	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Very low	-
WT-22-620	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-620	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-620	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-348	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-348	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-348	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-348	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-348		Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-348	mammals	Moose	6	Living	Spring	Very low	Nil	Nil	-
WT-22-348	mammals	Moose	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-348	mammals	Moose	6	Living	Fall	Very low	Nil	Nil	-
WT-22-348	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	-
WT-22-348	mammals	Caribou	6	Living	Spring	Very low	Nil	Nil	-
WT-22-348	mammals	Caribou	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-348	mammals	Caribou	6	Living	Fall	Nil	Nil	Nil	-
WT-22-348	mammals	Grizzly Bear	6	Living	Spring	Moderate	Nil	Nil	-
WT-22-348	mammals	Grizzly Bear	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-348	mammals	Grizzly Bear	6	Living	Fall	Very low	Nil	Nil	-
WT-22-348	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-348	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-348	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-595	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-595	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-595	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-595	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-595	mammals	Moose	6	Living	Winter	Low	Low	Very low	-
WT-22-595	mammals	Moose	6	Living	Spring	High	Low	Very low	-
WT-22-595	mammals	Moose	6	Living	Summer	High	Low	Nil	-
WT-22-595	mammals	Moose	6	Living	Fall	Moderate	Low	Very low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-595	mammals	Caribou	6	Living	Winter	Moderate	Very low	Nil	-
WT-22-595	mammals	Caribou	6	Living	Spring	Moderate	Very low	Nil	-
WT-22-595	mammals	Caribou	6	Living	Summer	High	Very low	Very low	-
WT-22-595	mammals	Caribou	6	Living	Fall	High	Very low	Very low	-
WT-22-595	mammals	Grizzly Bear	6	Living	Spring	Low	Very low	Nil	-
WT-22-595	mammals	Grizzly Bear	6	Living	Summer	Moderate	Very low	Nil	-
WT-22-595	mammals	Grizzly Bear	6	Living	Fall	Low	Very low	Nil	-
WT-22-595	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-595	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-595	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-345	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-345	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-345	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-345	mammals	Moose	6	Living	Winter	Low	Low	Low	-
WT-22-345	mammals	Moose	6	Living	Spring	Low	Low	Low	-
WT-22-345	mammals	Moose	6	Living	Summer	Moderate	Low	Moderate	-
WT-22-345	mammals	Moose	6	Living	Fall	Moderate	Low	Moderate	-
WT-22-345	mammals	Caribou	6	Living	Winter	Moderate	Low	Low	-
WT-22-345	mammals	Caribou	6	Living	Summer	High	Low	Moderate	-
WT-22-345	mammals	Caribou	6	Living	Fall	Moderate	Low	Low	-
WT-22-345	mammals	Grizzly Bear	6	Living	Spring	Moderate	Moderate	Low	-
WT-22-345	mammals	Grizzly Bear	6	Living	Summer	Moderate	Moderate	Low	-
WT-22-345	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Low	-
WT-22-345	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-345	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-345	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-345	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-227a	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-227a	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-227a	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-227a	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-227a	mammals	Moose	6	Living	Winter	Moderate	Very high	High	-
WT-22-227a	mammals	Moose	6	Living	Spring	Very high	Very high	High	-
WT-22-227a	mammals	Moose	6	Living	Summer	Very high	Very high	High	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-227a	mammals	Moose	6	Living	Fall	High	Very high	High	-
WT-22-227a	mammals	Caribou	6	Living	Winter	Nil	High	Moderate	-
WT-22-227a	mammals	Caribou	6	Living	Spring	High	High	Moderate	-
WT-22-227a	mammals	Caribou	6	Living	Summer	Very high	High	Moderate	-
WT-22-227a	mammals	Caribou	6	Living	Fall	Very high	High	Moderate	-
WT-22-227a	mammals	Grizzly Bear	6	Living	Spring	High	Very high	Moderate	-
WT-22-227a	mammals	Grizzly Bear	6	Living	Summer	Very high	Very high	Moderate	-
WT-22-227a	mammals	Grizzly Bear	6	Living	Fall	Moderate	Very high	Moderate	-
WT-22-227a	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-227a	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-227a	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-194	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-194	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-194	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-194	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-194	mammals	Moose	6	Living	Winter	Moderate	High	Moderate	-
WT-22-194	mammals	Moose	6	Living	Spring	High	High	Moderate	-
WT-22-194	mammals	Moose	6	Living	Summer	Very high	High	Moderate	-
WT-22-194	mammals	Moose	6	Living	Fall	Moderate	High	Moderate	-
WT-22-194	mammals	Caribou	6	Living	Winter	Nil	Low	Low	-
WT-22-194	mammals	Caribou	6	Living	Spring	Moderate	Moderate	Low	-
WT-22-194	mammals	Caribou	6	Living	Summer	High	Moderate	Low	-
WT-22-194	mammals	Caribou	6	Living	Fall	Moderate	Moderate	Low	-
WT-22-194	mammals	Grizzly Bear	6	Living	Spring	Moderate	High	High	-
WT-22-194	mammals	Grizzly Bear	6	Living	Summer	Very high	High	High	-
WT-22-194	mammals	Grizzly Bear	6	Living	Fall	Moderate	Very high	High	-
WT-22-194	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-194	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-194	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-220	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-220	amphibians	Western Toad	2	Hibernating	Growing	-	-	-	Not suitable
WT-22-220	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-220	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-220	mammals	Moose	6	Living	Winter	Very high	Very high	Very low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-220	mammals	Moose	6	Living	Spring	Very high	Very high	Very low	-
WT-22-220	mammals	Moose	6	Living	Summer	Very high	Very high	Moderate	-
WT-22-220	mammals	Moose	6	Living	Fall	Very high	Very high	Low	-
WT-22-220	mammals	Caribou	6	Living	Winter	Nil	Low	Very low	-
WT-22-220	mammals	Caribou	6	Living	Spring	Very high	High	Very low	-
WT-22-220	mammals	Caribou	6	Living	Summer	Very high	High	Low	-
WT-22-220	mammals	Caribou	6	Living	Fall	High	Moderate	Very low	-
WT-22-220	mammals	Grizzly Bear	6	Living	Spring	Very high	Very high	High	-
WT-22-220	mammals	Grizzly Bear	6	Living	Summer	Very high	Very high	High	-
WT-22-220	mammals	Grizzly Bear	6	Living	Fall	Moderate	High	High	-
WT-22-220	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-220	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-220	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-398	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-398	amphibians	Western Toad	2	Reproducing-Eggs	Winter	-	-	-	Not suitable
WT-22-398	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-398	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-398	mammals	Moose	6	Living	Winter	Low	Low	Very low	-
WT-22-398	mammals	Moose	6	Living	Spring	High	Moderate	Very low	-
WT-22-398	mammals	Moose	6	Living	Summer	High	High	Low	-
WT-22-398	mammals	Moose	6	Living	Fall	Low	Moderate	Very low	-
WT-22-398	mammals	Caribou	6	Living	Winter	Very low	Very low	Very low	-
WT-22-398	mammals	Caribou	6	Living	Spring	High	Moderate	Low	-
WT-22-398	mammals	Caribou	6	Living	Summer	High	High	Low	-
WT-22-398	mammals	Caribou	6	Living	Fall	Moderate	Moderate	Very low	-
WT-22-398	mammals	Grizzly Bear	6	Living	Spring	High	Moderate	Low	-
WT-22-398	mammals	Grizzly Bear	6	Living	Summer	High	High	Moderate	-
WT-22-398	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Low	-
WT-22-398	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-398	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-398	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	High
WT-22-424a	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-424a	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-424a	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-424a	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-424a	mammals	Moose	6	Living	Winter	Moderate	Moderate	Nil	-
WT-22-424a	mammals	Moose	6	Living	Spring	Very high	Moderate	Very low	-
WT-22-424a	mammals	Moose	6	Living	Summer	Very high	Moderate	Very low	-
WT-22-424a	mammals	Moose	6	Living	Fall	High	Moderate	Very low	-
WT-22-424a	mammals	Caribou	6	Living	Winter	Very low	Low	Very low	-
WT-22-424a	mammals	Caribou	6	Living	Spring	High	Low	Very low	-
WT-22-424a	mammals	Caribou	6	Living	Summer	High	Low	Very low	-
WT-22-424a	mammals	Caribou	6	Living	Fall	Moderate	Very low	Very low	-
WT-22-424a	mammals	Grizzly Bear	6	Living	Spring	Moderate	Low	Very low	-
WT-22-424a	mammals	Grizzly Bear	6	Living	Summer	Moderate	Low	Very low	-
WT-22-424a	mammals	Grizzly Bear	6	Living	Fall	Low	Low	Very low	-
WT-22-424a	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-424a	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-424a	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-465	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-465	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-465	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-465	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-465	mammals	Moose	6	Living	Winter	High	High	Moderate	-
WT-22-465	mammals	Moose	6	Living	Spring	Very high	High	Moderate	-
WT-22-465	mammals	Moose	6	Living	Summer	Very high	High	Moderate	-
WT-22-465	mammals	Moose	6	Living	Fall	High	High	Moderate	-
WT-22-465	mammals	Caribou	6	Living	Winter	Nil	High	Moderate	-
WT-22-465	mammals	Caribou	6	Living	Spring	High	High	Moderate	-
WT-22-465	mammals	Caribou	6	Living	Summer	High	High	Moderate	-
WT-22-465	mammals	Caribou	6	Living	Fall	High	High	Moderate	-
WT-22-465	mammals	Grizzly Bear	6	Living	Spring	Very high	Very high	High	-
WT-22-465	mammals	Grizzly Bear	6	Living	Summer	High	Very high	High	-
WT-22-465	mammals	Grizzly Bear	6	Living	Fall	Moderate	Very high	High	-
WT-22-465	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-465	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-465	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-417	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-417	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-417	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-417	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-417	mammals	Moose	6	Living	Winter	Moderate	Moderate	Nil	-
WT-22-417	mammals	Moose		Living	Spring	Very high	Moderate	Nil	-
WT-22-417	mammals	Moose	6	Living	Summer	Very high	Moderate	Nil	-
WT-22-417	mammals	Moose		Living	Fall	Very high	Moderate	Nil	-
WT-22-417	mammals	Caribou	6	Living	Winter	Very low	Moderate	Nil	-
WT-22-417	mammals	Caribou	6	Living	Spring	High	Moderate	Nil	-
WT-22-417	mammals	Caribou	6	Living	Summer	High	Moderate	Nil	-
WT-22-417	mammals	Caribou	6	Living	Fall	High	Moderate	Nil	-
WT-22-417	mammals	Grizzly Bear	6	Living	Spring	High	High	Moderate	-
WT-22-417	mammals	Grizzly Bear	6	Living	Summer	High	High	High	-
WT-22-417	mammals	Grizzly Bear	6	Living	Fall	Moderate	High	Moderate	-
WT-22-417	mammals	Muskrat	2	Living	Growing	-	-	-	Suitable
WT-22-417	mammals	Muskrat	2	Living	Winter	-	-	-	Suitable
WT-22-417	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-639	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-639	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-639	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-639	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-639	mammals	Moose	6	Living	Winter	Moderate	Very high	Moderate	-
WT-22-639	mammals	Moose	6	Living	Spring	Very high	Very high	Moderate	-
WT-22-639	mammals	Moose	6	Living	Summer	High	Very high	High	-
WT-22-639	mammals	Moose	6	Living	Fall	Very high	Very high	Moderate	-
WT-22-639	mammals	Caribou	6	Living	Winter	Very low	Moderate	Low	-
WT-22-639	mammals	Caribou	6	Living	Spring	Very high	Moderate	Low	-
WT-22-639	mammals	Caribou	6	Living	Summer	Very high	Moderate	Low	-
WT-22-639	mammals	Caribou	6	Living	Fall	High	Moderate	Low	-
WT-22-639	mammals	Grizzly Bear	6	Living	Spring	Very high	High	High	-
WT-22-639	mammals	Grizzly Bear	6	Living	Summer	Very high	High	High	-
WT-22-639	mammals	Grizzly Bear	6	Living	Fall	Moderate	High	High	-
WT-22-639	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-639	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-639	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-636	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-636	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-636	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-636	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-636	mammals	Moose	6	Living	Winter	Low	Very low	Nil	-
WT-22-636	mammals	Moose	6	Living	Spring	High	Low	Nil	-
WT-22-636	mammals	Moose	6	Living	Summer	High	Low	Nil	-
WT-22-636	mammals	Moose	6	Living	Fall	High	Low	Nil	-
WT-22-636	mammals	Caribou	6	Living	Winter	Nil	Very low	Nil	-
WT-22-636	mammals	Caribou	6	Living	Spring	Moderate	Very low	Nil	-
WT-22-636	mammals	Caribou	6	Living	Summer	High	Very low	Nil	-
WT-22-636	mammals	Caribou	6	Living	Fall	Moderate	Very low	Nil	-
WT-22-636	mammals	Grizzly Bear	6	Living	Spring	Low	Low	Nil	-
WT-22-636	mammals	Grizzly Bear	6	Living	Summer	Moderate	Low	Nil	-
WT-22-636	mammals	Grizzly Bear	6	Living	Fall	Moderate	Low	Nil	-
WT-22-636	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-636	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-636	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-638	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-638	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-638	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-638	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-638	mammals	Moose	6	Living	Winter	Very low	Moderate	Very low	-
WT-22-638	mammals	Moose	6	Living	Spring	Moderate	Moderate	Very low	-
WT-22-638	mammals	Moose	6	Living	Summer	Moderate	Moderate	Very low	-
WT-22-638	mammals	Moose	6	Living	Fall	Moderate	Moderate	Very low	-
WT-22-638	mammals	Caribou	6	Living	Winter	High	Moderate	Very low	Very high
WT-22-638	mammals	Caribou	6	Living	Spring	Moderate	Moderate	Very low	-
WT-22-638	mammals	Caribou	6	Living	Summer	Moderate	Moderate	Very low	-
WT-22-638	mammals	Caribou	6	Living	Fall	Moderate	Moderate	Very low	-
WT-22-638	mammals	Grizzly Bear	6	Living	Spring	Low	High	Very low	-
WT-22-638	mammals	Grizzly Bear	6	Living	Summer	Moderate	High	Very low	-
WT-22-638	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Very low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-638	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-638	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-638	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-405	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-405	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-405	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-405	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-405	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-405	mammals	Moose	6	Living	Spring	Very low	Nil	Nil	-
WT-22-405	mammals	Moose	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-405	mammals	Moose	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-405	mammals	Caribou	6	Living	Winter	Nil	Very low	Nil	-
WT-22-405	mammals	Caribou	6	Living	Spring	Very low	Very low	Nil	-
WT-22-405	mammals	Caribou	6	Living	Summer	High	Very low	Nil	-
WT-22-405	mammals	Caribou	6	Living	Fall	Moderate	Very low	Nil	-
WT-22-405	mammals	Grizzly Bear	6	Living	Spring	Low	Nil	Nil	-
WT-22-405	mammals	Grizzly Bear	6	Living	Summer	High	Nil	Nil	-
WT-22-405	mammals	Grizzly Bear	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-405	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-405	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-405	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
Wt-22-687	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
Wt-22-687	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
Wt-22-687	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
Wt-22-687	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
Wt-22-687	mammals	Moose	6	Living	Winter	Low	Low	Nil	-
Wt-22-687	mammals	Moose	6	Living	Spring	Moderate	Low	Nil	-
Wt-22-687	mammals	Moose	6	Living	Summer	Moderate	Low	Nil	-
Wt-22-687	mammals	Moose	6	Living	Fall	Moderate	Low	Nil	-
Wt-22-687	mammals	Caribou	6	Living	Winter	Nil	Very low	Nil	-
Wt-22-687	mammals	Caribou	6	Living	Spring	Low	Very low	Nil	-
Wt-22-687	mammals	Caribou	6	Living	Summer	High	Very low	Nil	-
Wt-22-687	mammals	Caribou	6	Living	Fall	Moderate	Very low	Nil	-
Wt-22-687	mammals	Grizzly Bear	6	Living	Spring	Low	Very low	Nil	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
Wt-22-687	mammals	Grizzly Bear	6	Living	Summer	Moderate	Very low	Nil	-
Wt-22-687	mammals	Grizzly Bear	6	Living	Fall	Moderate	Very low	Nil	-
Wt-22-687	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
Wt-22-687	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
Wt-22-687	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-504	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-504	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-504	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-504	mammals	Moose	6	Living	Winter	Nil	Low	Very low	Very low
WT-22-504	mammals	Moose	6	Living	Spring	Low	Low	Low	Low
WT-22-504	mammals	Moose	6	Living	Summer	Moderate	Low	Low	Low
WT-22-504	mammals	Moose	6	Living	Fall	Moderate	Low	Low	Moderate
WT-22-504	mammals	Caribou	6	Living	Winter	Very low	Low	Very low	Very low
WT-22-504	mammals	Caribou	6	Living	Spring	Low	Low	Low	Low
WT-22-504	mammals	Caribou	6	Living	Summer	High	Low	Low	Moderate
WT-22-504	mammals	Caribou	6	Living	Fall	Moderate	Low	Low	Moderate
WT-22-504	mammals	Grizzly Bear	6	Living	Spring	Low	Moderate	Low	Low
WT-22-504	mammals	Grizzly Bear	6	Living	Summer	Moderate	Moderate	Low	Moderate
WT-22-504	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Low	Low
WT-22-504	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-504	mammals	Muskrat	2	Living	Winter	-	-	-	Suitable
WT-22-504	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-504	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Low
WT-22-373	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-373	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-373	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-373	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-373	mammals	Moose	6	Living	Winter	Very low	Very low	Nil	-
WT-22-373	mammals	Moose	6	Living	Spring	Moderate	Very low	Nil	-
WT-22-373	mammals	Moose	6	Living	Summer	High	Very low	Nil	-
WT-22-373	mammals	Moose	6	Living	Fall	Moderate	Very low	Nil	-
WT-22-373	mammals	Caribou	6	Living	Winter	High	Very low	Nil	-
WT-22-373	mammals	Caribou	6	Living	Spring	Moderate	Very low	Nil	-
WT-22-373	mammals	Caribou	6	Living	Summer	High	Very low	Nil	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-373	mammals	Caribou	6	Living	Fall	Moderate	Very low	Nil	-
WT-22-373	mammals	Grizzly Bear	6	Living	Spring	Moderate	Low	Nil	-
WT-22-373	mammals	Grizzly Bear	6	Living	Summer	High	Low	Nil	-
WT-22-373	mammals	Grizzly Bear	6	Living	Fall	Moderate	Low	Nil	-
WT-22-373	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-373	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-373	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-497	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-497	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-497	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-497	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-497	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-497	mammals	Moose	6	Living	Spring	Nil	Nil	Nil	-
WT-22-497	mammals	Moose	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-497	mammals	Moose	6	Living	Fall	Very low	Nil	Nil	-
WT-22-497	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	-
WT-22-497	mammals	Caribou	6	Living	Spring	Very low	Nil	Nil	-
WT-22-497	mammals	Caribou	6	Living	Summer	Low	Nil	Nil	-
WT-22-497	mammals	Caribou	6	Living	Fall	Nil	Nil	Nil	-
WT-22-497	mammals	Grizzly Bear	6	Living	Spring	Nil	Nil	Nil	-
WT-22-497	mammals	Grizzly Bear	6	Living	Summer	Low	Nil	Nil	-
WT-22-497	mammals	Grizzly Bear	6	Living	Fall	Very low	Nil	Nil	-
WT-22-497	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-497	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-497	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-480	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-480	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-480	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-480	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-480	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-480	mammals	Moose	6	Living	Spring	High	Nil	Nil	-
WT-22-480	mammals	Moose	6	Living	Summer	High	Nil	Nil	-
WT-22-480	mammals	Moose	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-480	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-480	mammals	Caribou	6	Living	Spring	High	Nil	Nil	-
WT-22-480	mammals	Caribou	6	Living	Summer	High	Nil	Nil	-
WT-22-480	mammals	Caribou	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-480	mammals	Grizzly Bear	6	Living	Spring	High	Nil	Nil	-
WT-22-480	mammals	Grizzly Bear	6	Living	Summer	High	Nil	Nil	-
WT-22-480	mammals	Grizzly Bear	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-480	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-480	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-480	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-481	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-481	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-481	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-481	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-481	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-481	mammals	Moose	6	Living	Spring	High	Nil	Nil	-
WT-22-481	mammals	Moose	6	Living	Summer	High	Nil	Nil	-
WT-22-481	mammals	Moose	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-481	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	-
WT-22-481	mammals	Caribou	6	Living	Spring	High	Nil	Nil	-
WT-22-481	mammals	Caribou	6	Living	Summer	High	Nil	Nil	-
WT-22-481	mammals	Caribou	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-481	mammals	Grizzly Bear	6	Living	Spring	High	Nil	Nil	-
WT-22-481	mammals	Grizzly Bear	6	Living	Summer	High	Nil	Nil	-
WT-22-481	mammals	Grizzly Bear	6	Living	Fall	Low	Nil	Nil	-
WT-22-481	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-481	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-481	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-232	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-232	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-232	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-232	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-232	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-232	mammals	Moose	6	Living	Spring	Moderate	Nil	Nil	-
WT-22-232	mammals	Moose	6	Living	Summer	Moderate	Nil	Nil	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-232	mammals	Moose	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-232	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	-
WT-22-232	mammals	Caribou	6	Living	Spring	Moderate	Nil	Nil	-
WT-22-232	mammals	Caribou	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-232	mammals	Caribou	6	Living	Fall	Low	Nil	Nil	-
WT-22-232	mammals	Grizzly Bear	6	Living	Spring	Moderate	Nil	Nil	-
WT-22-232	mammals	Grizzly Bear	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-232	mammals	Grizzly Bear	6	Living	Fall	Low	Nil	Nil	-
WT-22-232	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-232	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-232	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-015	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-015	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-015	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-015	mammals	Moose	6	Living	Winter	High	High	High	-
WT-22-015	mammals	Moose	6	Living	Spring	High	High	High	-
WT-22-015	mammals	Moose	6	Living	Summer	Very high	High	High	High
WT-22-015	mammals	Moose	6	Living	Fall	High	High	High	High
WT-22-015	mammals	Caribou	6	Living	Winter	Very low	Nil	Nil	Nil
WT-22-015	mammals	Caribou	6	Living	Spring	Moderate	Nil	Nil	Moderate
WT-22-015	mammals	Caribou	6	Living	Summer	High	Nil	Nil	High
WT-22-015	mammals	Caribou	6	Living	Fall	Moderate	Nil	Nil	Moderate
WT-22-015	mammals	Grizzly Bear	6	Living	Spring	Moderate	-	-	Moderate
WT-22-015	mammals	Grizzly Bear	6	Living	Summer	Moderate	-	-	Moderate
WT-22-015	mammals	Grizzly Bear	6	Living	Fall	Low	-	-	Low
WT-22-015	mammals	Muskrat	2	Living	Growing	-	-	-	Moderate
WT-22-015	mammals	Muskrat	2	Living	Winter	-	-	-	Moderate
WT-22-015	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-015	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Suitable
WT-22-467	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-467	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-467	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-467	mammals	Moose	6	Living	Winter	Low	Moderate	High	Low
WT-22-467	mammals	Moose	6	Living	Spring	Very low	High	High	Low

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-467	mammals	Moose	6	Living	Summer	Low	Moderate	High	Low
WT-22-467	mammals	Moose	6	Living	Fall	Low	Moderate	High	Low
WT-22-467	mammals	Caribou	6	Living	Winter	Very low	Moderate	High	Low
WT-22-467	mammals	Caribou	6	Living	Spring	Very low	Moderate	High	Low
WT-22-467	mammals	Caribou	6	Living	Summer	Moderate	Moderate	High	Moderate
WT-22-467	mammals	Caribou	6	Living	Fall	Low	Moderate	High	Low
WT-22-467	mammals	Grizzly Bear	6	Living	Spring	Low	High	High	Low
WT-22-467	mammals	Grizzly Bear	6	Living	Summer	Low	High	High	Low
WT-22-467	mammals	Grizzly Bear	6	Living	Fall	Low	High	High	Low
WT-22-467	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-467	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-467	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-467	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-656	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-656	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-656	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-656	mammals	Moose	6	Living	Winter	Moderate	Moderate	High	-
WT-22-656	mammals	Moose	6	Living	Spring	Moderate	High	High	-
WT-22-656	mammals	Moose	6	Living	Summer	High	Moderate	High	-
WT-22-656	mammals	Moose	6	Living	Fall	Low	Moderate	High	-
WT-22-656	mammals	Caribou	6	Living	Winter	High	High	Moderate	-
WT-22-656	mammals	Caribou	6	Living	Spring	Moderate	High	High	-
WT-22-656	mammals	Caribou	6	Living	Summer	Moderate	High	High	-
WT-22-656	mammals	Caribou	6	Living	Fall	Low	High	High	-
WT-22-656	mammals	Grizzly Bear	6	Living	Spring	High	High	Moderate	-
WT-22-656	mammals	Grizzly Bear	6	Living	Summer	Low	High	Moderate	-
WT-22-656	mammals	Grizzly Bear	6	Living	Fall	Low	High	Moderate	-
WT-22-656	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-656	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-656	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-656	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-518	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-518	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-518	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-518	mammals	Moose	6	Living	Winter	Very low	Low	Low	-
WT-22-518	mammals	Moose	6	Living	Spring	Low	Low	Low	-
WT-22-518	mammals	Moose	6	Living	Summer	Moderate	Low	Low	-
WT-22-518	mammals	Moose	6	Living	Fall	Low	Low	Low	-
WT-22-518	mammals	Caribou	6	Living	Winter	Nil	Low	Low	-
WT-22-518	mammals	Caribou	6	Living	Spring	Low	Moderate	Low	-
WT-22-518	mammals	Caribou	6	Living	Summer	Moderate	Moderate	Low	-
WT-22-518	mammals	Caribou	6	Living	Fall	Moderate	Moderate	Low	-
WT-22-518	mammals	Grizzly Bear	6	Living	Spring	Low	Low	Low	-
WT-22-518	mammals	Grizzly Bear	6	Living	Summer	Moderate	Low	Low	-
WT-22-518	mammals	Grizzly Bear	6	Living	Fall	Very low	Low	Low	-
WT-22-518	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-518	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-518	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-518	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-436	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-436	amphibians	Western Toad	2	Living	Winter	-	-	-	Not suitable
WT-22-436	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-436	mammals	Moose	6	Living	Winter	Very low	Low	Low	-
WT-22-436	mammals	Moose	6	Living	Spring	Moderate	Low	Low	-
WT-22-436	mammals	Moose	6	Living	Summer	High	Low	Low	-
WT-22-436	mammals	Moose	6	Living	Fall	Low	Low	Low	-
WT-22-436	mammals	Caribou	6	Living	Winter	Nil	Low	Low	-
WT-22-436	mammals	Caribou	6	Living	Spring	Low	Low	Low	-
WT-22-436	mammals	Caribou	6	Living	Summer	Moderate	Low	Low	-
WT-22-436	mammals	Caribou	6	Living	Fall	Low	Low	Low	-
WT-22-436	mammals	Grizzly Bear	6	Living	Spring	Low	Low	Low	-
WT-22-436	mammals	Grizzly Bear	6	Living	Summer	Moderate	Low	Low	-
WT-22-436	mammals	Grizzly Bear	6	Living	Fall	Low	Low	Low	-
WT-22-436	mammals	Muskrat	2	Living	Growing	-	-	-	Suitable
WT-22-436	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-436	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-436	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-510a	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-510a	amphibians	Western Toad	2	Living	Winter	-	-	-	Suitable
WT-22-510a	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-510a	mammals	Moose	6	Living	Winter	High	High	High	-
WT-22-510a	mammals	Moose	6	Living	Spring	Moderate	High	High	-
WT-22-510a	mammals	Moose	6	Living	Summer	High	High	High	-
WT-22-510a	mammals	Moose	6	Living	Fall	Moderate	High	High	-
WT-22-510a	mammals	Caribou	6	Living	Winter	Low	Moderate	High	-
WT-22-510a	mammals	Caribou	6	Living	Spring	Moderate	Moderate	High	-
WT-22-510a	mammals	Caribou	6	Living	Summer	High	Moderate	High	-
WT-22-510a	mammals	Caribou	6	Living	Fall	Low	Moderate	High	-
WT-22-510a	mammals	Grizzly Bear	6	Living	Spring	Moderate	High	High	-
WT-22-510a	mammals	Grizzly Bear	6	Living	Summer	Moderate	High	High	-
WT-22-510a	mammals	Grizzly Bear	6	Living	Fall	Low	High	High	-
WT-22-510a	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-510a	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-510a	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-510a	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-204	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-204	amphibians	Western Toad	2	Living	Winter	-	-	-	Suitable
WT-22-204	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-204	mammals	Moose	6	Living	Winter	Low	Moderate	Low	-
WT-22-204	mammals	Moose	6	Living	Spring	Low	Moderate	Low	-
WT-22-204	mammals	Moose	6	Living	Summer	Moderate	Moderate	Low	-
WT-22-204	mammals	Moose	6	Living	Fall	Low	Moderate	Low	-
WT-22-204	mammals	Caribou	6	Living	Winter	Moderate	Low	Very low	-
WT-22-204	mammals	Caribou	6	Living	Spring	Low	Low	Low	-
WT-22-204	mammals	Caribou	6	Living	Fall	Low	Low	Low	-
WT-22-204	mammals	Grizzly Bear	6	Living	Spring	Low	Moderate	Moderate	-
WT-22-204	mammals	Grizzly Bear	6	Living	Summer	Low	Moderate	Low	-
WT-22-204	mammals	Grizzly Bear	6	Living	Fall	Very low	Moderate	Moderate	-
WT-22-204	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-204	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-204	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-204	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-071	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-071	amphibians	Western Toad	2	Living	Winter	-	-	-	Not suitable
WT-22-071	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Very low
WT-22-071	mammals	Moose	6	Living	Winter	Nil	High	Low	-
WT-22-071	mammals	Moose	6	Living	Spring	Nil	High	Low	-
WT-22-071	mammals	Moose	6	Living	Summer	Very low	High	Low	-
WT-22-071	mammals	Caribou	6	Living	Winter	High	Moderate	Low	-
WT-22-071	mammals	Caribou	6	Living	Spring	Moderate	High	Low	-
WT-22-071	mammals	Caribou	6	Living	Summer	Low	High	Low	-
WT-22-071	mammals	Caribou	6	Living	Fall	Very low	High	Low	-
WT-22-071	mammals	Grizzly Bear	6	Living	Spring	Very low	High	Low	-
WT-22-071	mammals	Grizzly Bear	6	Living	Summer	Very low	High	Low	-
WT-22-071	mammals	Grizzly Bear	6	Living	Fall	Very low	High	Low	-
WT-22-071	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-071	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-071	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Low
WT-22-071	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-071	mammals	Moose	6	Living	Fall	Very low	High	Low	0
WT-22-163	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-163	amphibians	Western Toad	2	Living	Winter	-	-	-	Not suitable
WT-22-163	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-163	mammals	Moose	6	Living	Winter	High	Low	Low	-
WT-22-163	mammals	Moose	6	Living	Spring	Moderate	Low	Low	-
WT-22-163	mammals	Moose	6	Living	Summer	High	Low	Low	-
WT-22-163	mammals	Moose	6	Living	Fall	Moderate	Low	Low	-
WT-22-163	mammals	Caribou	6	Living	Winter	Nil	Low	Very low	-
WT-22-163	mammals	Caribou	6	Living	Spring	Low	Low	Low	-
WT-22-163	mammals	Caribou	6	Living	Summer	Moderate	Low	Low	-
WT-22-163	mammals	Caribou	6	Living	Fall	Low	Low	Low	-
WT-22-163	mammals	Grizzly Bear	6	Living	Spring	Low	Low	Low	-
WT-22-163	mammals	Grizzly Bear	6	Living	Summer	Low	Low	Low	-
WT-22-163	mammals	Grizzly Bear	6	Living	Fall	Low	Low	Low	-
WT-22-163	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-163	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-163	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very low
WT-22-163	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-003	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-003	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-003	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-003	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-003	mammals	Moose	6	Living	Winter	Very high	Moderate	Nil	-
WT-22-003	mammals	Moose	6	Living	Spring	Very high	High	Very low	-
WT-22-003	mammals	Moose	6	Living	Summer	High	High	Very low	-
WT-22-003	mammals	Moose	6	Living	Fall	Moderate	Moderate	Very low	-
WT-22-003	mammals	Caribou	6	Living	Winter	Nil	Low	Nil	-
WT-22-003	mammals	Caribou	6	Living	Spring	High	High	Low	-
WT-22-003	mammals	Caribou	6	Living	Summer	Moderate	High	Very low	-
WT-22-003	mammals	Caribou	6	Living	Fall	Low	Moderate	Very low	-
WT-22-003	mammals	Grizzly Bear	6	Living	Spring	High	High	Low	-
WT-22-003	mammals	Grizzly Bear	6	Living	Summer	Moderate	High	Low	-
WT-22-003	mammals	Grizzly Bear	6	Living	Fall	Very low	High	Low	-
WT-22-003	mammals	Muskrat	2	Living	Growing	-	-	-	Suitable
WT-22-003	mammals	Muskrat	2	Living	Winter	-	-	-	Suitable
WT-22-003	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-236	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-236	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-236	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-236	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-236	mammals	Moose	6	Living	Winter	Moderate	Moderate	Moderate	-
WT-22-236	mammals	Moose	6	Living	Spring	High	High	Moderate	-
WT-22-236	mammals	Moose	6	Living	Summer	High	High	Moderate	-
WT-22-236	mammals	Moose	6	Living	Fall	Moderate	Moderate	Moderate	-
WT-22-236	mammals	Caribou	6	Living	Winter	Very low	High	Moderate	-
WT-22-236	mammals	Moose	6	Living	Spring	High	High	Moderate	-
WT-22-236	mammals	Moose	6	Living	Summer	Moderate	High	Moderate	-
WT-22-236	mammals	Moose	6	Living	Fall	Low	Moderate	Low	-
WT-22-236	mammals	Grizzly Bear	6	Living	Spring	Moderate	High	Moderate	-
WT-22-236	mammals	Grizzly Bear	6	Living	Summer	Low	High	Moderate	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-236	mammals	Grizzly Bear	6	Living	Fall	Very low	High	Moderate	-
WT-22-236	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-236	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-236	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-390a	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-390a	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-390a	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-390a	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-390a	mammals	Moose	6	Living	Winter	Very low	High	Very low	-
WT-22-390a	mammals	Moose	6	Living	Spring	Very low	High	Very low	-
WT-22-390a	mammals	Moose	6	Living	Summer	Very low	High	Very low	-
WT-22-390a	mammals	Moose	6	Living	Fall	Very low	High	Very low	-
WT-22-390a	mammals	Caribou	6	Living	Winter	High	High	Very low	-
WT-22-390a	mammals	Caribou	6	Living	Spring	Low	High	Very low	-
WT-22-390a	mammals	Caribou	6	Living	Summer	Low	High	Very low	-
WT-22-390a	mammals	Caribou	6	Living	Fall	Low	High	Very low	-
WT-22-390a	mammals	Grizzly Bear	6	Living	Spring	Low	High	Very low	-
WT-22-390a	mammals	Grizzly Bear	6	Living	Summer	Moderate	High	Very low	-
WT-22-390a	mammals	Grizzly Bear	6	Living	Fall	Moderate	High	Very low	-
WT-22-390a	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-390a	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-390a	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-618a	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-618a	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-618a	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-618a	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-618a	mammals	Moose	6	Living	Winter	Low	High	Low	-
WT-22-618a	mammals	Moose	6	Living	Spring	Moderate	High	Low	-
WT-22-618a	mammals	Moose	6	Living	Summer	High	High	Low	-
WT-22-618a	mammals	Moose	6	Living	Fall	High	High	Low	-
WT-22-618a	mammals	Caribou	6	Living	Winter	Low	High	Low	-
WT-22-618a	mammals	Caribou	6	Living	Spring	Moderate	High	Low	-
WT-22-618a	mammals	Caribou	6	Living	Summer	High	High	Low	-
WT-22-618a	mammals	Caribou	6	Living	Fall	Moderate	High	Low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-618a	mammals	Grizzly Bear	6	Living	Spring	Low	High	Moderate	-
WT-22-618a	mammals	Grizzly Bear	6	Living	Summer	High	High	Moderate	-
WT-22-618a	mammals	Grizzly Bear	6	Living	Fall	Moderate	High	Moderate	-
WT-22-618a	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-618a	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-618a	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-635	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-635	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-635	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-635	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-635	mammals	Moose	6	Living	Winter	Low	High	Moderate	-
WT-22-635	mammals	Moose	6	Living	Spring	Moderate	High	Moderate	-
WT-22-635	mammals	Moose	6	Living	Summer	High	Very high	Moderate	-
WT-22-635	mammals	Moose	6	Living	Fall	High	Very high	Moderate	-
WT-22-635	mammals	Caribou	6	Living	Winter	Moderate	High	Moderate	-
WT-22-635	mammals	Caribou	6	Living	Spring	Very high	Very high	Moderate	-
WT-22-635	mammals	Caribou	6	Living	Summer	Very high	High	Moderate	-
WT-22-635	mammals	Caribou	6	Living	Fall	High	High	Moderate	-
WT-22-635	mammals	Grizzly Bear	6	Living	Spring	Low	Moderate	Moderate	-
WT-22-635	mammals	Grizzly Bear	6	Living	Summer	Very high	Very high	Moderate	-
WT-22-635	mammals	Grizzly Bear	6	Living	Fall	Moderate	Very high	Moderate	-
WT-22-635	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-635	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-635	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-391	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-391	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-391	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Very high
WT-22-391	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-391	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-391	mammals	Moose	6	Living	Spring	Very low	Nil	Nil	-
WT-22-391	mammals	Moose	6	Living	Summer	Low	Nil	Nil	-
WT-22-391	mammals	Moose	6	Living	Fall	Low	Nil	Nil	-
WT-22-391	mammals	Caribou	6	Living	Winter	Very low	Nil	Nil	-
WT-22-391	mammals	Caribou	6	Living	Spring	Low	Nil	Nil	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-391	mammals	Caribou	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-391	mammals	Caribou	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-391	mammals	Grizzly Bear	6	Living	Spring	Very low	Nil	Nil	-
WT-22-391	mammals	Grizzly Bear	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-391	mammals	Grizzly Bear	6	Living	Fall	Low	Nil	Nil	-
WT-22-391	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-391	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-391	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-479	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-479	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-479	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-479	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-479	mammals	Moose	6	Living	Winter	Low	High	Low	-
WT-22-479	mammals	Moose	6	Living	Spring	Low	High	Low	-
WT-22-479	mammals	Moose	6	Living	Summer	Moderate	High	Moderate	-
WT-22-479	mammals	Moose	6	Living	Fall	Low	High	Moderate	-
WT-22-479	mammals	Caribou	6	Living	Winter	Moderate	High	Low	-
WT-22-479	mammals	Caribou	6	Living	Spring	Low	High	Low	-
WT-22-479	mammals	Caribou	6	Living	Summer	Moderate	High	Moderate	-
WT-22-479	mammals	Caribou	6	Living	Fall	Low	High	Moderate	-
WT-22-479	mammals	Grizzly Bear	6	Living	Spring	Low	High	Low	-
WT-22-479	mammals	Grizzly Bear	6	Living	Summer	High	High	Moderate	-
WT-22-479	mammals	Grizzly Bear	6	Living	Fall	Low	High	Low	-
WT-22-479	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-479	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-479	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-443	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-443	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-443	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-443	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-443	mammals	Moose	6	Living	Winter	Very low	Low	Very low	-
WT-22-443	mammals	Moose	6	Living	Spring	Low	Low	Very low	-
WT-22-443	mammals	Moose	6	Living	Summer	High	Low	Very low	-
WT-22-443	mammals	Moose	6	Living	Fall	Moderate	Low	Very low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-443	mammals	Caribou	6	Living	Winter	High	Low	Very low	-
WT-22-443	mammals	Caribou	6	Living	Spring	Low	Low	Very low	-
WT-22-443	mammals	Caribou	6	Living	Summer	High	Low	Very low	-
WT-22-443	mammals	Caribou	6	Living	Fall	Moderate	Low	Very low	-
WT-22-443	mammals	Grizzly Bear	6	Living	Spring	Low	Low	Very low	-
WT-22-443	mammals	Grizzly Bear	6	Living	Summer	Moderate	Low	Very low	-
WT-22-443	mammals	Grizzly Bear	6	Living	Fall	Low	Low	Very low	-
WT-22-443	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-443	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-443	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-431	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-431	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-431	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-431	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-431	mammals	Moose	6	Living	Winter	Moderate	High	Low	-
WT-22-431	mammals	Moose	6	Living	Spring	High	Very high	Low	-
WT-22-431	mammals	Moose	6	Living	Summer	High	Very high	Low	-
WT-22-431	mammals	Moose	6	Living	Fall	High	High	Low	-
WT-22-431	mammals	Caribou	6	Living	Winter	Nil	Moderate	Very low	-
WT-22-431	mammals	Caribou	6	Living	Spring	High	High	Very low	-
WT-22-431	mammals	Caribou	6	Living	Summer	High	High	Very low	-
WT-22-431	mammals	Caribou	6	Living	Fall	Moderate	High	Very low	-
WT-22-431	mammals	Grizzly Bear	6	Living	Spring	High	Very high	Very low	-
WT-22-431	mammals	Grizzly Bear	6	Living	Summer	High	Very high	Very low	-
WT-22-431	mammals	Grizzly Bear	6	Living	Fall	Low	Very high	Very low	-
WT-22-431	mammals	Muskrat	2	Living	Growing	-	-	-	Suitable
WT-22-431	mammals	Muskrat	2	Living	Winter	-	-	-	Suitable
WT-22-431	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-429	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-429	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-429	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-429	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-429	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-429	mammals	Moose	6	Living	Spring	Very low	Nil	Nil	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-429	mammals	Moose	6	Living	Summer	Very high	Nil	Nil	-
WT-22-429	mammals	Moose	6	Living	Fall	High	Nil	Nil	-
WT-22-429	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	-
WT-22-429	mammals	Caribou	6	Living	Spring	Very low	Nil	Nil	-
WT-22-429	mammals	Caribou	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-429	mammals	Caribou	6	Living	Fall	Low	Nil	Nil	-
WT-22-429	mammals	Grizzly Bear	6	Living	Spring	Very low	Nil	Nil	-
WT-22-429	mammals	Grizzly Bear	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-429	mammals	Grizzly Bear	6	Living	Fall	Very low	Nil	Nil	-
WT-22-429	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-429	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-429	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-535	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-535	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-535	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-535	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-535	mammals	Moose	6	Living	Winter	Low	Low	Nil	-
WT-22-535	mammals	Moose	6	Living	Spring	Moderate	Moderate	Nil	-
WT-22-535	mammals	Moose	6	Living	Summer	High	Moderate	Nil	-
WT-22-535	mammals	Moose	6	Living	Fall	Moderate	Moderate	Nil	-
WT-22-535	mammals	Caribou	6	Living	Winter	Very low	Low	Nil	-
WT-22-535	mammals	Caribou	6	Living	Spring	Low	Moderate	Nil	-
WT-22-535	mammals	Caribou	6	Living	Summer	High	Moderate	Nil	-
WT-22-535	mammals	Caribou	6	Living	Fall	Moderate	Moderate	Nil	-
WT-22-535	mammals	Grizzly Bear	6	Living	Spring	Moderate	Moderate	Very low	-
WT-22-535	mammals	Grizzly Bear	6	Living	Summer	High	High	Very low	-
WT-22-535	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Very low	-
WT-22-535	mammals	Muskrat	2	Living	Growing	-	-	-	Suitable
WT-22-535	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-535	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-423	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-423	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-423	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Very high
WT-22-423	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-423	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-423	mammals	Moose	6	Living	Spring	Very low	Nil	Nil	-
WT-22-423	mammals	Moose	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-423	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	-
WT-22-423	mammals	Caribou	6	Living	Spring	Very low	Nil	Nil	-
WT-22-423	mammals	Caribou	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-423	mammals	Caribou	6	Living	Fall	Low	Nil	Nil	-
WT-22-423	mammals	Moose	6	Living	Fall	Low	Nil	Nil	-
WT-22-423	mammals	Grizzly Bear	6	Living	Spring	Very low	Nil	Nil	-
WT-22-423	mammals	Grizzly Bear	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-423	mammals	Grizzly Bear	6	Living	Fall	Very low	Nil	Nil	-
WT-22-423	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-423	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-423	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-660	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-660	amphibians	Western Toad	2	Reproducing-Eggs	Winter	-	-	-	Suitable
WT-22-660	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-660	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-660	mammals	Moose	6	Living	Winter	Very low	Moderate	Very low	-
WT-22-660	mammals	Moose	6	Living	Spring	Moderate	Moderate	Very low	-
WT-22-660	mammals	Moose	6	Living	Summer	High	Moderate	Very low	-
WT-22-660	mammals	Caribou	6	Living	Winter	High	Moderate	Very low	-
WT-22-660	mammals	Caribou	6	Living	Spring	Low	Moderate	Very low	-
WT-22-660	mammals	Caribou	6	Living	Summer	High	Moderate	Very low	-
WT-22-660	mammals	Caribou	6	Living	Fall	Low	Moderate	Very low	-
WT-22-660	mammals	Grizzly Bear	6	Living	Spring	High	Moderate	Very low	-
WT-22-660	mammals	Grizzly Bear	6	Living	Summer	High	Moderate	Very low	-
WT-22-660	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Very low	-
WT-22-660	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-660	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-660	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-660	mammals	Moose	6	Living	Fall	Moderate	Moderate	Very low	
WT-22-422	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-422	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-422	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Very high
WT-22-422	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	High
WT-22-422	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-422	mammals	Moose	6	Living	Spring	Moderate	Nil	Nil	-
WT-22-422	mammals	Moose	6	Living	Summer	High	Nil	Nil	-
WT-22-422	mammals	Moose	6	Living	Fall	Moderate	Nil	Nil	-
WT-22-422	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	-
WT-22-422	mammals	Caribou	6	Living	Spring	Low	Nil	Nil	-
WT-22-422	mammals	Caribou	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-422	mammals	Caribou	6	Living	Fall	Low	Nil	Nil	-
WT-22-422	mammals	Grizzly Bear	6	Living	Spring	Low	Nil	Nil	-
WT-22-422	mammals	Grizzly Bear	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-422	mammals	Grizzly Bear	6	Living	Fall	Low	Nil	Nil	-
WT-22-422	mammals	Muskrat	2	Living	Growing	-	-	-	Suitable
WT-22-422	mammals	Muskrat	2	Living	Winter	-	-	-	Suitable
WT-22-422	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-333	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-333	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-333	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-333	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-333	mammals	Moose	6	Living	Winter	Low	Low	Nil	-
WT-22-333	mammals	Moose	6	Living	Spring	Low	Low	Nil	-
WT-22-333	mammals	Moose	6	Living	Summer	Moderate	High	Very low	-
WT-22-333	mammals	Moose	6	Living	Fall	Low	Low	Nil	-
WT-22-333	mammals	Caribou	6	Living	Winter	Nil	Very low	Nil	-
WT-22-333	mammals	Caribou	6	Living	Spring	Low	Low	Nil	-
WT-22-333	mammals	Caribou	6	Living	Summer	Moderate	High	Low	-
WT-22-333	mammals	Caribou	6	Living	Fall	Low	Low	Nil	-
WT-22-333	mammals	Grizzly Bear	6	Living	Spring	Low	Low	Nil	-
WT-22-333	mammals	Grizzly Bear	6	Living	Summer	Moderate	High	Low	-
WT-22-333	mammals	Grizzly Bear	6	Living	Fall	Low	Low	Nil	-
WT-22-333	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-333	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-333	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-661	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-661	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-661	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-661	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-661	mammals	Moose	6	Living	Winter	Very low	Very low	Nil	-
WT-22-661	mammals	Moose	6	Living	Spring	Low	Very low	Nil	-
WT-22-661	mammals	Moose	6	Living	Summer	Very high	Moderate	Very low	-
WT-22-661	mammals	Moose	6	Living	Fall	High	Moderate	Very low	-
WT-22-661	mammals	Caribou	6	Living	Winter	Very low	Very low	Nil	-
WT-22-661	mammals	Caribou	6	Living	Spring	Low	Very low	Nil	-
WT-22-661	mammals	Caribou	6	Living	Summer	Moderate	Moderate	Nil	-
WT-22-661	mammals	Caribou	6	Living	Fall	Low	Moderate	Nil	-
WT-22-661	mammals	Grizzly Bear	6	Living	Spring	Very low	Very low	Nil	-
WT-22-661	mammals	Grizzly Bear	6	Living	Summer	High	High	Low	-
WT-22-661	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-661	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-661	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-399	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-399	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-399	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Very high
WT-22-399	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Nil
WT-22-399	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	-
WT-22-399	mammals	Moose	6	Living	Spring	Very low	Nil	Nil	-
WT-22-399	mammals	Moose	6	Living	Summer	Very high	Nil	Nil	-
WT-22-399	mammals	Moose	6	Living	Fall	High	Nil	Nil	-
WT-22-399	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	-
WT-22-399	mammals	Caribou	6	Living	Spring	Very low	Nil	Nil	-
WT-22-399	mammals	Caribou	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-399	mammals	Caribou	6	Living	Fall	Very low	Nil	Nil	-
WT-22-399	mammals	Grizzly Bear	6	Living	Spring	Very low	Nil	Nil	-
WT-22-399	mammals	Grizzly Bear	6	Living	Summer	Moderate	Nil	Nil	-
WT-22-399	mammals	Grizzly Bear	6	Living	Fall	Very low	Nil	Nil	-
WT-22-399	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-399	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-399	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very high
WT-22-662	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-662	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-662	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-662	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-662	mammals	Moose	6	Living	Winter	Very low	Moderate	Very low	-
WT-22-662	mammals	Moose	6	Living	Spring	Low	Moderate	Low	-
WT-22-662	mammals	Moose	6	Living	Summer	Very high	Moderate	Low	-
WT-22-662	mammals	Moose	6	Living	Fall	High	Moderate	Low	-
WT-22-662	mammals	Caribou	6	Living	Winter	Moderate	Low	Low	-
WT-22-662	mammals	Caribou	6	Living	Spring	Low	Moderate	Low	-
WT-22-662	mammals	Caribou	6	Living	Summer	High	Moderate	Moderate	-
WT-22-662	mammals	Caribou	6	Living	Fall	Low	Moderate	Low	-
WT-22-662	mammals	Grizzly Bear	6	Living	Spring	Low	Low	Low	-
WT-22-662	mammals	Grizzly Bear	6	Living	Summer	High	Moderate	Moderate	-
WT-22-662	mammals	Grizzly Bear	6	Living	Fall	Moderate	Moderate	Moderate	-
WT-22-662	mammals	Muskrat	2	Living	Growing	-	-	-	Suitable
WT-22-662	mammals	Muskrat	2	Living	Winter	-	-	-	Suitable
WT-22-662	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-027	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-027	amphibians	Western Toad	2	Living	Winter	-	-	-	Not suitable
WT-22-027	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-027	mammals	Moose	6	Living	Winter	Very low	Low	Very low	-
WT-22-027	mammals	Moose	6	Living	Spring	Low	Low	Low	-
WT-22-027	mammals	Moose	6	Living	Summer	High	Low	Low	-
WT-22-027	mammals	Moose	6	Living	Fall	Low	Low	Low	-
WT-22-027	mammals	Caribou	6	Living	Winter	Nil	Low	Very low	Low
WT-22-027	mammals	Caribou	6	Living	Spring	Low	Low	Very low	Low
WT-22-027	mammals	Caribou	6	Living	Summer	High	Low	Low	Moderate
WT-22-027	mammals	Caribou	6	Living	Fall	Low	Low	Low	Low
WT-22-027	mammals	Grizzly Bear	6	Living	Spring	Low	Low	Low	-
WT-22-027	mammals	Grizzly Bear	6	Living	Summer	Moderate	Low	Low	-
WT-22-027	mammals	Grizzly Bear	6	Living	Fall	Low	Low	Low	-
WT-22-027	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-027	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-027	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-027	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-202	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-202	amphibians	Western Toad	2	Living	Winter	-	-	-	Suitable
WT-22-202	mammals	Moose	6	Living	Winter	Moderate	High	Low	High
WT-22-202	mammals	Moose	6	Living	Spring	High	High	High	High
WT-22-202	mammals	Moose	6	Living	Summer	High	High	High	High
WT-22-202	mammals	Moose	6	Living	Fall	High	High	High	High
WT-22-202	mammals	Caribou	6	Living	Winter	Low	Moderate	Low	Low
WT-22-202	mammals	Caribou	6	Living	Spring	Moderate	Moderate	Moderate	Very low
WT-22-202	mammals	Caribou	6	Living	Summer	Moderate	Moderate	High	Moderate
WT-22-202	mammals	Caribou	6	Living	Fall	Low	Moderate	High	Moderate
WT-22-202	mammals	Grizzly Bear	6	Living	Spring	High	High	Moderate	Moderate
WT-22-202	mammals	Grizzly Bear	6	Living	Summer	Moderate	High	High	Moderate
WT-22-202	mammals	Grizzly Bear	6	Living	Fall	Low	High	Moderate	Moderate
WT-22-202	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-202	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-202	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-202	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-202	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-449	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-449	amphibians	Western Toad	2	Living	Winter	-	-	-	Not suitable
WT-22-449	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	Nil
WT-22-449	mammals	Moose	6	Living	Spring	Very low	Nil	Nil	Very low
WT-22-449	mammals	Moose	6	Living	Summer	Very low	Nil	Nil	Very low
WT-22-449	mammals	Moose	6	Living	Fall	Very low	Nil	Nil	Very low
WT-22-449	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	Nil
WT-22-449	mammals	Caribou	6	Living	Spring	Very low	Nil	Nil	Nil
WT-22-449	mammals	Caribou	6	Living	Summer	Very low	Nil	Nil	Nil
WT-22-449	mammals	Caribou	6	Living	Fall	Nil	Nil	Nil	Nil
WT-22-449	mammals	Grizzly Bear	6	Living	Spring	Nil	Nil	Nil	Nil
WT-22-449	mammals	Grizzly Bear	6	Living	Summer	Nil	Nil	Nil	Nil
WT-22-449	mammals	Grizzly Bear	6	Living	Fall	Nil	Nil	Nil	Nil

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-449	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-449	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-449	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Suitable
WT-22-449	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Suitable
WT-22-449	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Suitable
WT-22-023	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-023	amphibians	Western Toad	2	Living	Winter	-	-	-	Not suitable
WT-22-023	mammals	Moose	6	Living	Winter	Very low	Low	Very low	Low
WT-22-023	mammals	Moose	6	Living	Spring	High	Low	Very low	Moderate
WT-22-023	mammals	Moose	6	Living	Summer	High	Low	Very low	Moderate
WT-22-023	mammals	Moose	6	Living	Fall	High	Low	Very low	Moderate
WT-22-023	mammals	Caribou	6	Living	Winter	Very low	Low	Very low	Low
WT-22-023	mammals	Caribou	6	Living	Spring	Low	Low	Very low	Low
WT-22-023	mammals	Caribou	6	Living	Summer	Low	Low	Very low	Low
WT-22-023	mammals	Caribou	6	Living	Summer	Low	Low	Very low	Low
WT-22-023	mammals	Caribou	6	Living	Fall	Low	Low	Very low	Low
WT-22-023	mammals	Grizzly Bear	6	Living	Spring	High	Very low	Nil	Moderate
WT-22-023	mammals	Grizzly Bear	6	Living	Summer	High	Very low	Nil	Moderate
WT-22-023	mammals	Grizzly Bear	6	Living	Fall	Very low	Low	Nil	Low
WT-22-023	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Suitable
WT-22-023	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-023	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Suitable
WT-22-069	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-069	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Suitable
WT-22-069	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	High
WT-22-069	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-069	mammals	Moose	6	Living	Winter	Moderate	Moderate	Low	-
WT-22-069	mammals	Moose	6	Living	Spring	Moderate	Moderate	Low	-
WT-22-069	mammals	Moose	6	Living	Summer	High	High	Moderate	-
WT-22-069	mammals	Moose	6	Living	Fall	Moderate	High	Moderate	-
WT-22-069	mammals	Caribou	6	Living	Winter	Very low	Low	Low	-
WT-22-069	mammals	Caribou	6	Living	Spring	Moderate	Low	Low	-
WT-22-069	mammals	Caribou	6	Living	Summer	High	High	Moderate	-
WT-22-069	mammals	Caribou	6	Living	Fall	Moderate	Moderate	Low	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-069	mammals	Grizzly Bear	6	Living	Spring	Moderate	Moderate	Moderate	-
WT-22-069	mammals	Grizzly Bear	6	Living	Summer	High	High	High	-
WT-22-069	mammals	Grizzly Bear	6	Living	Fall	Low	High	Moderate	-
WT-22-069	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-069	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-069	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	High
WT-22-046	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Suitable
WT-22-046	amphibians	Western Toad	2	Living	Winter	-	-	-	Not suitable
WT-22-046	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Suitable
WT-22-046	mammals	Moose	6	Living	Winter	Very high	High	Nil	Moderate
WT-22-046	mammals	Moose	6	Living	Spring	Very high	High	Nil	High
WT-22-046	mammals	Moose	6	Living	Summer	Very high	High	Nil	High
WT-22-046	mammals	Moose	6	Living	Fall	Very high	High	Nil	High
WT-22-046	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	Nil
WT-22-046	mammals	Caribou	6	Living	Spring	Nil	Nil	Nil	Nil
WT-22-046	mammals	Caribou	6	Living	Summer	Nil	Nil	Nil	Nil
WT-22-046	mammals	Caribou	6	Living	Fall	Nil	Nil	Nil	Nil
WT-22-046	mammals	Grizzly Bear	6	Living	Spring	High	High	High	High
WT-22-046	mammals	Grizzly Bear	6	Living	Summer	High	High	High	High
WT-22-046	mammals	Grizzly Bear	6	Living	Fall	Low	High	High	High
WT-22-046	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-046	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-046	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Suitable
WT-22-046	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Suitable
WT-22-101	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-101	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-101	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-101	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-101	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-101	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-101	mammals	Moose	6	Living	Winter	Nil	Moderate	Moderate	-
WT-22-101	mammals	Moose	6	Living	Spring	Very low	Low	Moderate	-
WT-22-101	mammals	Moose	6	Living	Summer	Moderate	High	High	-
WT-22-101	mammals	Moose	6	Living	Fall	Moderate	Moderate	Moderate	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-101	mammals	Caribou	6	Living	Winter	Nil	Moderate	Moderate	-
WT-22-101	mammals	Caribou	6	Living	Spring	Low	Moderate	Moderate	-
WT-22-101	mammals	Caribou	6	Living	Summer	Moderate	Moderate	Moderate	-
WT-22-101	mammals	Caribou	6	Living	Fall	Low	Moderate	Moderate	-
WT-22-101	mammals	Grizzly Bear	6	Living	Spring	Low	Moderate	Moderate	-
WT-22-101	mammals	Grizzly Bear	6	Living	Summer	Moderate	High	Moderate	-
WT-22-101	mammals	Grizzly Bear	6	Living	Fall	Low	Moderate	Moderate	-
WT-22-101	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-055	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-055	amphibians	Western Toad	2	Living	Winter	-	-	-	Not suitable
WT-22-055	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-055	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-055	mammals	Moose	6	Living	Winter	Nil	Nil	Nil	Nil
WT-22-055	mammals	Moose	6	Living	Spring	High	Nil	Nil	Moderate
WT-22-055	mammals	Moose	6	Living	Summer	Moderate	Nil	Nil	Moderate
WT-22-055	mammals	Moose	6	Living	Fall	Moderate	Nil	Nil	Low
WT-22-055	mammals	Caribou	6	Living	Winter	Nil	Nil	Nil	Nil
WT-22-055	mammals	Caribou	6	Living	Spring	Nil	Nil	Nil	Nil
WT-22-055	mammals	Caribou	6	Living	Summer	Nil	Nil	Nil	Nil
WT-22-055	mammals	Caribou	6	Living	Fall	Nil	Nil	Nil	Nil
WT-22-055	mammals	Grizzly Bear	6	Living	Spring	High	Nil	Nil	Moderate
WT-22-055	mammals	Grizzly Bear	6	Living	Summer	Moderate	Nil	Nil	Low
WT-22-055	mammals	Grizzly Bear	6	Living	Fall	Very low	Nil	Nil	Very low
WT-22-055	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-055	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-055	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Very low
WT-22-148	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-148	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-148	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Moderate
WT-22-148	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-148	mammals	Moose	6	Living	Winter	Low	Moderate	Moderate	-
WT-22-148	mammals	Moose	6	Living	Spring	Moderate	Moderate	Moderate	-
WT-22-148	mammals	Moose	6	Living	Summer	High	Very high	High	-
WT-22-148	mammals	Moose	6	Living	Fall	Moderate	High	High	-

Plot ID	Species Category	Species Common Name	Rating Scheme	Life Requisite	Season	Food	Security Cover	Thermal Cover	Rating
WT-22-148	mammals	Caribou	6	Living	Winter	Very low	Moderate	Moderate	-
WT-22-148	mammals	Caribou	6	Living	Spring	Low	Moderate	Moderate	-
WT-22-148	mammals	Caribou	6	Living	Summer	High	Very high	High	-
WT-22-148	mammals	Caribou	6	Living	Fall	Low	High	High	-
WT-22-148	mammals	Grizzly Bear	6	Living	Spring	Low	Moderate	Moderate	-
WT-22-148	mammals	Grizzly Bear	6	Living	Summer	High	Very high	Very high	-
WT-22-148	mammals	Grizzly Bear	6	Living	Fall	Low	High	High	-
WT-22-148	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-148	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-148	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Moderate
WT-22-311	amphibians	Western Toad	2	Reproducing-Eggs	Growing	-	-	-	Not suitable
WT-22-311	amphibians	Western Toad	2	Hibernating	Winter	-	-	-	Not suitable
WT-22-311	birds	Olive-Sided Flycatcher	4	Living	Growing	-	-	-	Low
WT-22-311	birds	Ring-Necked Duck	4	Living	Growing	-	-	-	Not suitable
WT-22-311	mammals	Moose	6	Living	Winter	Low	Moderate	Low	-
WT-22-311	mammals	Moose	6	Living	Spring	Moderate	Moderate	Low	-
WT-22-311	mammals	Moose	6	Living	Summer	High	High	Moderate	-
WT-22-311	mammals	Moose	6	Living	Fall	Moderate	High	Moderate	-
WT-22-311	mammals	Caribou	6	Living	Winter	Nil	Moderate	Low	-
WT-22-311	mammals	Caribou	6	Living	Spring	Low	Moderate	Low	-
WT-22-311	mammals	Caribou	6	Living	Summer	High	High	Moderate	-
WT-22-311	mammals	Caribou	6	Living	Fall	Moderate	High	Moderate	-
WT-22-311	mammals	Grizzly Bear	6	Living	Spring	Low	Moderate	Low	-
WT-22-311	mammals	Grizzly Bear	6	Living	Fall	High	High	High	-
WT-22-311	mammals	Grizzly Bear	6	Living	Fall	High	High	High	-
WT-22-311	mammals	Muskrat	2	Living	Growing	-	-	-	Not suitable
WT-22-311	mammals	Muskrat	2	Living	Winter	-	-	-	Not suitable
WT-22-311	mammals	Little Brown Myotis	4	Living	Growing	-	-	-	Low

APPENDIX H. BLACKWATER GOLD PROJECT 2022 COARSE WOODY DEBRIS AND TREE ATTRIBUTES DATA

Plot ID	Tree Species	Common Name	Tree Species Code	Class	Diameter (cm)	Length (m)	Height of Lowest End	Tilt Angle	Angle of Ground
WT-22-453	*Abies amabilis*	amabilis fir	ABIEAMA	1_hard	21	7			
WT-22-453	*Abies lasiocarpa*	subalpine fir	ABIELAS	1_hard	15	8			
WT-22-453	*Abies lasiocarpa*	subalpine fir	ABIELAS	1_hard	36	14			
WT-22-629	*Pinus contorta var. latifolia*	lodgepole pine	PINUCON2	2_sap_rot	26	6			
WT-22-633	*Pinus contorta*	lodgepole pine	PINUCON	1_hard	28	12			
WT-22-633	*Pinus contorta*	lodgepole pine	PINUCON	2_sap_rot	22	7			
WT-22-633	*Pinus contorta*	lodgepole pine	PINUCON	1_hard	22	10			
WT-22-455	*Picea engelmannii*	Engelmann spruce	PICEENG	4_extensive_decay	56	14			
WT-22-455	*Picea engelmannii*	Engelmann spruce	PICEENG	1_hard	28	15			
WT-22-455	*Picea engelmannii*	Engelmann spruce	PICEENG	1_hard	41	12			
WT-22-621	*Picea engelmannii*	Engelmann spruce	PICEENG	4_extensive_decay	43	14			
WT-22-621	*Abies lasiocarpa*	subalpine fir	ABIELAS	1_hard	13	13			
WT-22-621	*Abies lasiocarpa*	subalpine fir	ABIELAS	1_hard	16	12			
WT-22-621	*Abies lasiocarpa*	subalpine fir	ABIELAS	3_advanced_decay	21	8			
WT-22-620	*Picea mariana*	black spruce	PICEMAR	2_sap_rot	21	9			
WT-22-227a	*Picea glauca*	white spruce	PICEGLA	1_hard	56	23			
WT-22-227a	*Picea glauca*	white spruce	PICEGLA	1_hard	52	25			

Plot ID	Tree Species	Common Name	Tree Species Code	Class	Diameter (cm)	Length (m)	Height of Lowest End	Tilt Angle	Angle of Ground
WT-22-227a	*Pinus contorta*	lodgepole pine	PINUCON	2_sap_rot	23	23			
WT-22-227a	*Picea glauca*	white spruce	PICEGLA	1_hard	56	24			
WT-22-227a	*Picea glauca*	white spruce	PICEGLA	2_sap_rot	37	17			
WT-22-194	*Picea glauca*	white spruce	PICEGLA	3_advanced_decay	59	12			
WT-22-194	*Abies lasiocarpa*	subalpine fir	ABIELAS	2_sap_rot	16	11			
WT-22-194	*Picea glauca*	white spruce	PICEGLA	1_hard	54	16			
WT-22-194	*Picea glauca*	white spruce	PICEGLA	1_hard	61	29			
WT-22-194	*Picea glauca*	white spruce	PICEGLA	1_hard	56	28			
WT-22-194	*Picea glauca*	white spruce	PICEGLA	1_hard	45	27			
WT-22-194	*Abies lasiocarpa*	subalpine fir	ABIELAS	3_advanced_decay	14	6			
WT-22-220	*Salix sitchensis*	Sitka willow	SALISIT	3_advanced_decay	5	4			
WT-22-220	*Salix sitchensis*	Sitka willow	SALISIT	3_advanced_decay	7	5			
WT-22-465	*Pinus contorta*	lodgepole pine	PINUCON	1_hard	42	24			
WT-22-465	*Picea glauca*	white spruce	PICEGLA	1_hard	41	12			
WT-22-510a	*Picea glauca*	white spruce	PICEGLA	4_extensive_decay	30	5	0	0	0
WT-22-510a	*Picea glauca*	white spruce	PICEGLA	1_hard	18	15	0	20	0
WT-22-510a	*Picea glauca*	white spruce	PICEGLA	2_sap_rot	10	12	10	5	0
WT-22-204	*Picea glauca*	white spruce	PICEGLA	3_advanced_decay	20	10	0	0	0
WT-22-204	*Picea glauca*	white spruce	PICEGLA	4_extensive_decay	15	5	0	0	0
WT-22-618a	*Abies lasiocarpa*	subalpine fir	ABIELAS	2_sap_rot	16	16			
WT-22-618a	*Abies lasiocarpa*	subalpine fir	ABIELAS	2_sap_rot	24	10			
WT-22-479	*Abies lasiocarpa*	subalpine fir	ABIELAS	2_sap_rot	22	14			

Plot ID	Tree Species	Common Name	Tree Species Code	Class	Diameter (cm)	Length (m)	Height of Lowest End	Tilt Angle	Angle of Ground
WT-22-479	*Abies lasiocarpa*	subalpine fir	ABIELAS	4_extensive_decay	23	6			
WT-22-479	*Abies lasiocarpa*	subalpine fir	ABIELAS	2_sap_rot	14	10			
WT-22-479	*Abies lasiocarpa*	subalpine fir	ABIELAS	2_sap_rot	11	8			
WT-22-202	*Picea glauca*	white spruce	PICEGLA	1_hard	35	30	20	5	0
WT-22-202	*Picea engelmannii*	Engelmann spruce	PICEENG	3_advanced_decay	25	10	0	18	0
WT-22-202	*Picea glauca*	white spruce	PICEGLA	2_sap_rot	45	20	50	3	0
WT-22-101	*Abies lasiocarpa*	subalpine fir	ABIELAS	2_sap_rot	6	6	0	5	0
WT-22-101	*Picea engelmannii*	Engelmann spruce	PICEENG	1_hard	13	10	0	0	0
WT-22-101	*Picea engelmannii*	Engelmann spruce	PICEENG	2_sap_rot	15	8	0	0	0
WT-22-148	*Picea engelmannii*	Engelmann spruce	PICEENG	3_advanced_decay	25	12	0	0	0
WT-22-148	*Picea engelmannii*	Engelmann spruce	PICEENG	1_hard	20	20	0	5	0
WT-22-148	*Picea engelmannii*	Engelmann spruce	PICEENG	2_sap_rot	10	8	0	0	0
WT-22-403	*Picea engelmannii*	Engelmann spruce	PICEENG	1_hard	31	16	15	10	0
WT-22-403	*Picea engelmannii*	Engelmann spruce	PICEENG	3_advanced_decay	23	12	0	0	0
WT-22-403	*Abies lasiocarpa*	subalpine fir	ABIELAS	2_sap_rot	26	16	5	10	0
WT-22-311	*Picea engelmannii*	Engelmann spruce	PICEENG	2_sap_rot	8	20	20	3	0
WT-22-311	*Pinus contorta*	lodgepole pine	PINUCON	1_hard	12	12	0	0	0

Plot ID	Tree Species	Tree Species Common Name	Tree Species Code	DBH (cm)	Estimated Height (m)	Remnant Bark %
WT-22-453	*Abies lasiocarpa*	subalpine fir	ABIELAS	23	14	100
WT-22-627	*Picea mariana*	black spruce	PICEMAR	10	4	100

Plot ID	Tree Species	Tree Species Common Name	Tree Species Code	DBH (cm)	Estimated Height (m)	Remnant Bark %
WT-22-627	*Pinus contorta*	lodgepole pine	PINUCON	15	6	100
WT-22-633	*Picea mariana*	black spruce	PICEMAR	15	10	100
WT-22-633	*Pinus contorta*	lodgepole pine	PINUCON	6	4	100
WT-22-623	*Picea mariana*	black spruce	PICEMAR	6	3	100
WT-22-623	*Picea mariana*	black spruce	PICEMAR	5	4	100
WT-22-624	*Picea mariana*	black spruce	PICEMAR	10	6	100
WT-22-624	*Picea mariana*	black spruce	PICEMAR	13	5	50
WT-22-455	*Abies lasiocarpa*	subalpine fir	ABIELAS	26	13	100
WT-22-455	*Picea engelmannii*	Engelmann spruce	PICEENG	32	13	50
WT-22-455	*Picea engelmannii*	Engelmann spruce	PICEENG	35	15	100
WT-22-621	*Picea engelmannii*	Engelmann spruce	PICEENG	41	18	100
WT-22-621	*Abies lasiocarpa*	subalpine fir	ABIELAS	27	17	100
WT-22-621	*Abies lasiocarpa*	subalpine fir	ABIELAS	19	14	60
WT-22-621	*Picea engelmannii*	Engelmann spruce	PICEENG	43	17	70
WT-22-619	*Picea mariana*	black spruce	PICEMAR	16	7	100
WT-22-619	*Picea mariana*	black spruce	PICEMAR	23	9	100
WT-22-619	*Picea mariana*	black spruce	PICEMAR	7	3	90
WT-22-619	*Picea mariana*	black spruce	PICEMAR	12	4	75
WT-22-620	*Picea mariana*	black spruce	PICEMAR	11	6	100
WT-22-620	*Pinus contorta*	lodgepole pine	PINUCON	8	4	100
WT-22-620	*Picea mariana*	black spruce	PICEMAR	7	3	100
WT-22-620	*Picea mariana*	black spruce	PICEMAR	16	6	100
WT-22-595	*Pinus contorta*	lodgepole pine	PINUCON	6	2	100
WT-22-595	*Pinus contorta*	lodgepole pine	PINUCON	8	3	100
WT-22-595	*Pinus contorta*	lodgepole pine	PINUCON	25	7	35
WT-22-595	*Picea mariana*	black spruce	PICEMAR	8	4	100
WT-22-227a	*Picea glauca*	white spruce	PICEGLA	54	24	100
WT-22-227a	*Picea glauca*	white spruce	PICEGLA	51	23	100
WT-22-227a	*Picea glauca*	white spruce	PICEGLA	57	22	99
WT-22-227a	*Picea glauca*	white spruce	PICEGLA	62	27	60
WT-22-194	*Picea glauca*	white spruce	PICEGLA	65	31	100
WT-22-194	*Picea glauca*	white spruce	PICEGLA	67	32	100
WT-22-194	*Picea glauca*	white spruce	PICEGLA	76	24	80
WT-22-194	*Abies lasiocarpa*	subalpine fir	ABIELAS	43	22	100

Plot ID	Tree Species	Tree Species Common Name	Tree Species Code	DBH (cm)	Estimated Height (m)	Remnant Bark %
WT-22-194	*Picea glauca*	white spruce	PICEGLA	61	26	55
WT-22-398	*Picea mariana*	black spruce	PICEMAR	9	5	100
WT-22-398	*Pinus contorta*	lodgepole pine	PINUCON	15	6	100
WT-22-398	*Pinus contorta*	lodgepole pine	PINUCON	9	3	100
WT-22-424a	*Pinus contorta*	lodgepole pine	PINUCON	19	8	95
WT-22-424a	*Picea glauca*	white spruce	PICEGLA	22	7	100
WT-22-424a	*Picea glauca*	white spruce	PICEGLA	6	3	50
WT-22-465	*Abies lasiocarpa*	subalpine fir	ABIELAS	71	29	100
WT-22-465	*Picea glauca*	white spruce	PICEGLA	54	28	100
WT-22-465	*Picea glauca*	white spruce	PICEGLA	46	23	100
WT-22-465	*Pinus contorta*	lodgepole pine	PINUCON	24	25	100
WT-22-465	*Picea glauca*	white spruce	PICEGLA	78	23	50
WT-22-639	*Picea glauca*	white spruce	PICEGLA	66	26	100
WT-22-639	*Picea glauca*	white spruce	PICEGLA	23	15	100
WT-22-639	*Picea glauca*	white spruce	PICEGLA	69	25	100
WT-22-639	*Picea glauca*	white spruce	PICEGLA	39	19	100
WT-22-639	*Pinus contorta*	lodgepole pine	PINUCON	16	12	100
WT-22-638	*Picea mariana*	black spruce	PICEMAR	10	8	100
WT-22-638	*Picea mariana*	black spruce	PICEMAR	9	5	100
WT-22-638	*Picea mariana*	black spruce	PICEMAR	6	4	100
WT-22-638	*Picea mariana*	black spruce	PICEMAR	12	4	100
WT-22-638	*Picea mariana*	black spruce	PICEMAR	6	7	100
WT-22-638	*Picea mariana*	black spruce	PICEMAR	15	9	100
WT-22-373	*Pinus contorta*	lodgepole pine	PINUCON	5	2	100
WT-22-373	*Picea mariana*	black spruce	PICEMAR	5	2	100
WT-22-373	*Picea mariana*	black spruce	PICEMAR	3	1	100
WT-22-373	*Picea mariana*	black spruce	PICEMAR	4	2	100
WT-22-373	*Picea mariana*	black spruce	PICEMAR	8	3	100
WT-22-373	*Picea mariana*	black spruce	PICEMAR	6	3	100
WT-22-373	*Picea mariana*	black spruce	PICEMAR	4	2	100
WT-22-656	*Abies lasiocarpa*	subalpine fir	ABIELAS	20	18	100
WT-22-656	*Picea glauca*	white spruce	PICEGLA	28	18	90
WT-22-656	*Pinus contorta*	lodgepole pine	PINUCON	20	15	95
WT-22-510a	*Picea glauca*	white spruce	PICEGLA	30	20	95

Plot ID	Tree Species	Tree Species Common Name	Tree Species Code	DBH (cm)	Estimated Height (m)	Remnant Bark %
WT-22-510a	*Picea glauca*	white spruce	PICEGLA	30	20	50
WT-22-510a	*Picea glauca*	white spruce	PICEGLA	20	15	100
WT-22-204	*Picea mariana*	black spruce	PICEMAR	10	5	100
WT-22-204	*Picea glauca*	white spruce	PICEGLA	15	12	100
WT-22-071	*Picea mariana*	black spruce	PICEMAR	7	6	100
WT-22-236	*Picea glauca*	white spruce	PICEGLA	26	15	100
WT-22-236	*Pinus contorta*	lodgepole pine	PINUCON	30	20	100
WT-22-236	*Picea mariana*	black spruce	PICEMAR	15	12	100
WT-22-390a	*Picea mariana*	black spruce	PICEMAR	24	11	100
WT-22-390a	*Pinus contorta*	lodgepole pine	PINUCON	11	6	100
WT-22-390a	*Picea mariana*	black spruce	PICEMAR	6	3	100
WT-22-390a	*Pinus contorta*	lodgepole pine	PINUCON	9	5	100
WT-22-390a	*Picea mariana*	black spruce	PICEMAR	4	3	95
WT-22-618a	*Abies lasiocarpa*	subalpine fir	ABIELAS	23	16	100
WT-22-618a	*Abies lasiocarpa*	subalpine fir	ABIELAS	47	24	100
WT-22-618a	*Picea engelmannii*	Engelmann spruce	PICEENG	37	13	85
WT-22-618a	*Abies lasiocarpa*	subalpine fir	ABIELAS	6	5	100
WT-22-635	*Picea engelmannii*	Engelmann spruce	PICEENG	39	18	100
WT-22-635	*Picea engelmannii*	Engelmann spruce	PICEENG	31	17	95
WT-22-635	*Abies lasiocarpa*	subalpine fir	ABIELAS	42	19	100
WT-22-635	*Picea engelmannii*	Engelmann spruce	PICEENG	32	15	85
WT-22-479	*Picea engelmannii*	Engelmann spruce	PICEENG	24	17	100
WT-22-479	*Abies lasiocarpa*	subalpine fir	ABIELAS	29	18	100
WT-22-479	*Abies lasiocarpa*	subalpine fir	ABIELAS	26	14	90
WT-22-443	*Pinus contorta*	lodgepole pine	PINUCON	6	2	100
WT-22-443	*Picea mariana*	black spruce	PICEMAR	8	4	100
WT-22-443	*Picea mariana*	black spruce	PICEMAR	5	3	95
WT-22-443	*Picea mariana*	black spruce	PICEMAR	3	2	99
WT-22-443	*Pinus contorta*	lodgepole pine	PINUCON	9	4	100
WT-22-431	*Picea glauca*	white spruce	PICEGLA	42	20	100
WT-22-431	*Pinus contorta*	lodgepole pine	PINUCON	29	16	50
WT-22-431	*Pinus contorta*	lodgepole pine	PINUCON	23	14	100
WT-22-660	*Picea mariana*	black spruce	PICEMAR	7	5	100
WT-22-660	*Picea mariana*	black spruce	PICEMAR	5	5	100

Plot ID	Tree Species	Tree Species Common Name	Tree Species Code	DBH (cm)	Estimated Height (m)	Remnant Bark %
WT-22-660	*Picea mariana*	black spruce	PICEMAR	32	12	95
WT-22-660	*Picea mariana*	black spruce	PICEMAR	15	10	96
WT-22-662	*Picea engelmannii*	Engelmann spruce	PICEENG	30	12	100
WT-22-662	*Picea engelmannii*	Engelmann spruce	PICEENG	22	14	80
WT-22-662	*Pinus contorta*	lodgepole pine	PINUCON2	20	12	100
WT-22-202	*Picea glauca*	white spruce	PICEGLA	45	30	100
WT-22-202	*Picea glauca*	white spruce	PICEGLA	20	18	100
WT-22-101	*Picea engelmannii*	Engelmann spruce	PICEENG	20	18	100
WT-22-101	*Picea engelmannii*	Engelmann spruce	PICEENG	8	12	100
WT-22-148	*Picea engelmannii*	Engelmann spruce	PICEENG	40	22	100
WT-22-148	*Picea engelmannii*	Engelmann spruce	PICEENG	25	15	100
WT-22-148	*Picea engelmannii*	Engelmann spruce	PICEENG	15	10	100
WT-22-148	*Abies lasiocarpa*	subalpine fir	ABIELAS	23	14	100
WT-22-148	*Abies lasiocarpa*	subalpine fir	ABIELAS	9	8	100
WT-22-311	*Populus trichocarpa*	black cottonwood	POPUTRI	6	6	100
WT-22-311	*Picea engelmannii*	Engelmann spruce	PICEENG	6	5	100
WT-22-311	*Pinus contorta*	lodgepole pine	PINUCON	7	8	100
WT-22-403	*Picea engelmannii*	Engelmann spruce	PICEENG	34	15	95
WT-22-403	*Picea engelmannii*	Engelmann spruce	PICEENG	18	10	100
WT-22-403	*Abies lasiocarpa*	subalpine fir	ABIELAS	22	12	100

Plot ID	Canopy Closure	Crown Class	Appearance	Crown	Bark Condition	Wood Condition	Arboreal Lichen Series	Arboreal Lichen Class	Wildlife Use
WT-22-453	5	dominant	1	1	1	1	A_living_branches	2	
WT-22-627	0	dominant	1	1	1	1	A_living_branches	4	
WT-22-627	0	codominant	1	1	1	1	A_living_branches	3	
WT-22-633	0	dominant	1	1	1	1	A_living_branches	4	
WT-22-633	0	codominant	1	1	1	1	A_living_branches	3	
WT-22-623	0	dominant	1	2	1	1	B_mix_living_dead	4	
WT-22-623	0	dominant	1	2	1	1	B_mix_living_dead	4	
WT-22-624	0	dominant	1	1	1	1	B_mix_living_dead	3	
WT-22-624	0	dominant	4	3	4	4	C_dead_branches	4	
WT-22-455	25	dominant	2	2	1	2	A_living_branches	1	
WT-22-455	25	codominant	4	4	4	5	C_dead_branches	2	

Plot ID	Canopy Closure	Crown Class	Appearance	Crown	Bark Condition	Wood Condition	Arboreal Lichen Series	Arboreal Lichen Class	Wildlife Use
WT-22-455	25	dominant	1	1	1	1	A_living_branches	2	
WT-22-621	25	dominant	1	1	1	1	A_living_branches	1	
WT-22-621	25	dominant	1	1	1	1	A_living_branches	1	
WT-22-621	25	codominant	5	4	4	5	C_dead_branches	1	
WT-22-621	25	dominant	3	3	4	4	C_dead_branches	1	
WT-22-619	0	dominant	1	1	1	1	A_living_branches	4	
WT-22-619	0	dominant	1	2	1	2	A_living_branches	3	
WT-22-619	0	intermediate	2	2	2	2	B_mix_living_dead	4	
WT-22-619	0	dominant	4	3	3	4	C_dead_branches	5	
WT-22-620	0	dominant	1	1	1	1	A_living_branches	4	
WT-22-620	0	codominant	1	1	1	1	A_living_branches	2	
WT-22-620	0	intermediate	1	1	1	1	B_mix_living_dead	4	
WT-22-620	0	dominant	4	3	3	4	C_dead_branches	3	
WT-22-595	0	intermediate	1	1	1	1	A_living_branches	1	
WT-22-595	0	intermediate	1	1	1	1	A_living_branches	1	
WT-22-595	0	dominant	4	4	5	5	C_dead_branches	3	
WT-22-595	0	dominant	1	1	1	1	B_mix_living_dead	4	
WT-22-227a	45	dominant	1	1	1	1	A_living_branches	1	squirrel_cache
WT-22-227a	45	dominant	1	1	1	1	A_living_branches	1	
WT-22-227a	45	dominant	2	2	2	2	B_mix_living_dead	1	
WT-22-227a	45	dominant	5	4	4	4	C_dead_branches	1	feeding
WT-22-194	40	dominant	1	1	1	1	C_dead_branches	1	
WT-22-194	40	dominant	1	1	5	1	C_dead_branches	1	
WT-22-194	40	dominant	5	4	3	3	C_dead_branches	1	
WT-22-194	40	suppressed	2	2	2	2	C_dead_branches	1	
WT-22-194	40	dominant	5	4	4	4	C_dead_branches	1	perching_roosting
WT-22-398	0	codominant	1	1	1	1	B_mix_living_dead	4	

Plot ID	Canopy Closure	Crown Class	Appearance	Crown	Bark Condition	Wood Condition	Arboreal Lichen Series	Arboreal Lichen Class	Wildlife Use
WT-22-398	0	dominant	1	1	1	1	B_mix_living_dead	1	
WT-22-398	0	intermediate	1	1	1	1	C_dead_branches	1	
WT-22-424a	0	intermediate	2	2	2	2	B_mix_living_dead	1	
WT-22-424a	0	intermediate	1	1	1	1	B_mix_living_dead	1	
WT-22-424a	0	intermediate	6	5	5	5	C_dead_branches	2	
WT-22-465	40	dominant	1	1	1	1	C_dead_branches	1	squirrel_cache
WT-22-465	40	dominant	1	1	1	1	C_dead_branches	1	squirrel_cache
WT-22-465	40	codominant	1	1	1	1	C_dead_branches	1	
WT-22-465	40	codominant	1	1	1	1	C_dead_branches	1	
WT-22-465	40	dominant	4	3	4	4	C_dead_branches	1	
WT-22-639	20	dominant	1	1	1	1	B_mix_living_dead	1	squirrel_cache
WT-22-639	20	intermediate	1	1	1	1	A_living_branches	2	
WT-22-639	20	dominant	1	1	1	1	B_mix_living_dead	1	squirrel_cache
WT-22-639	20	intermediate	2	1	1	2	A_living_branches	1	squirrel_cache
WT-22-639	20	intermediate	1	2	1	2	C_dead_branches	2	
WT-22-638	0	dominant	1	1	1	1	B_mix_living_dead	4	
WT-22-638	0	codominant	1	1	1	1	B_mix_living_dead	4	
WT-22-638	0	intermediate	1	1	1	1	B_mix_living_dead	5	
WT-22-638	0	intermediate	1	2	1	2	B_mix_living_dead	5	
WT-22-638	0	dominant	1	1	1	1	A_living_branches	3	
WT-22-638	0	dominant	1	1	1	1	B_mix_living_dead	5	
WT-22-373	0	dominant	1	1	1	1	A_living_branches	3	
WT-22-373	0	dominant	1	1	1	1	B_mix_living_dead	4	
WT-22-373	0	dominant	1	1	1	1	B_mix_living_dead	4	
WT-22-373	0	dominant	4	3	3	4	C_dead_branches	5	
WT-22-373	0	codominant	1	1	1	1	A_living_branches	3	
WT-22-373	0	codominant	2	2	1	2	B_mix_living_dead	4	

Plot ID	Canopy Closure	Crown Class	Appearance	Crown	Bark Condition	Wood Condition	Arboreal Lichen Series	Arboreal Lichen Class	Wildlife Use
WT-22-373	0	codominant	7	1	1		A_living_branches	4	
WT-22-656	5	codominant	1	2	1	1	B_mix_living_dead	3	
WT-22-656	20	codominant	2	2	2	2	C_dead_branches	3	
WT-22-656	3	codominant	1	1	1	1	B_mix_living_dead	2	
WT-22-510a	15	codominant	1	2	2	1	A_living_branches	2	
WT-22-510a	3	codominant	4	3	4	4	C_dead_branches	1	
WT-22-510a	15	intermediate	1	1	1	1	A_living_branches	3	
WT-22-204	3	codominant	1	1	1	1	B_mix_living_dead	3	
WT-22-204	10	dominant	1	1	1	1	B_mix_living_dead	3	
WT-22-071	10	dominant	1	1	1	1	B_mix_living_dead	4	
WT-22-236	35	dominant	1	2	2	2	C_dead_branches	4	
WT-22-236	35	intermediate	1	1	1	2	C_dead_branches	1	
WT-22-236	35	codominant	1	1	1	1	B_mix_living_dead	1	
WT-22-390a	2	dominant	1	2	1	2	B_mix_living_dead	4	
WT-22-390a	2	dominant	1	1	1	1	B_mix_living_dead	3	
WT-22-390a	2	intermediate	1	1	1	1	B_mix_living_dead	5	
WT-22-390a	2	intermediate	1	1	1	1	B_mix_living_dead	2	
WT-22-390a	2	dominant	3	3	2	3	C_dead_branches	5	
WT-22-618a	19	dominant	1	1	1	1	B_mix_living_dead	3	
WT-22-618a	19	dominant	1	1	1	1	B_mix_living_dead	3	
WT-22-618a	30	dominant	4	3	3	3	B_mix_living_dead	2	
WT-22-618a	0	intermediate	1	1	1	1	A_living_branches	1	
WT-22-635	25	dominant	1	1	1	1	B_mix_living_dead	2	
WT-22-635	25	dominant	3	3	2	3	C_dead_branches	2	

Plot ID	Canopy Closure	Crown Class	Appearance	Crown	Bark Condition	Wood Condition	Arboreal Lichen Series	Arboreal Lichen Class	Wildlife Use
WT-22-635	25	dominant	1	1	1	1	B_mix_living_dead	3	
WT-22-635	35	codominant	3	3	3	4	C_dead_branches	4	
WT-22-479	25	dominant	1	1	1	1	C_dead_branches	3	
WT-22-479	25	dominant	1	1	1	1	C_dead_branches	2	
WT-22-479	25	codominant	4	3	3	3	C_dead_branches	3	
WT-22-443	0	codominant	1	1	1	1	B_mix_living_dead	2	
WT-22-443	0	dominant	1	1	1	6	B_mix_living_dead	5	
WT-22-443	0	dominant	4	3	3	4	C_dead_branches	2	
WT-22-443	0	codominant	4	3	2	4	C_dead_branches	4	
WT-22-443	0	dominant	2	2	2	2	B_mix_living_dead	3	
WT-22-431	35	dominant	1	1	1	1	B_mix_living_dead	1	
WT-22-431	25	dominant	4	4	5	4	C_dead_branches	1	
WT-22-431	25	codominant	1	1	1	1	A_living_branches	1	
WT-22-660	0	dominant	1	1	1	1	B_mix_living_dead	4	
WT-22-660	2	dominant	1	1	1	1	B_mix_living_dead	4	
WT-22-660	30	dominant	4	3	3	3	C_dead_branches	3	
WT-22-660	30	dominant	4	3	2	3	C_dead_branches	3	
WT-22-662	25	dominant	1	1	1	1	B_mix_living_dead	3	
WT-22-662	30	dominant	4	2	3	4	C_dead_branches	2	
WT-22-662	30	codominant	1	1	1	1	A_living_branches	2	
WT-22-202	30	dominant	1	2	1	1	B_mix_living_dead	1	
WT-22-202	30	intermediate	1	2	1	1	B_mix_living_dead	1	
WT-22-101	10	dominant	1	1	1	2	A_living_branches	2	
WT-22-101	15	intermediate	1	1	1	1	C_dead_branches	3	
WT-22-148	30	dominant	1	1	1	1	A_living_branches	1	
WT-22-148	25	codominant	1	1	1	1	A_living_branches	1	
WT-22-148	20	intermediate	1	2	1	1	A_living_branches	1	
WT-22-148	20	codominant	1	1	1	4	A_living_branches	1	
WT-22-148	0	intermediate	1	1	1	1	A_living_branches	1	
WT-22-311	0	codominant	1	1	1	1	A_living_branches	1	
WT-22-311	0	codominant	1	1	1	1	A_living_branches	1	

Plot ID	Canopy Closure	Crown Class	Appearance	Crown	Bark Condition	Wood Condition	Arboreal Lichen Series	Arboreal Lichen Class	Wildlife Use
WT-22-311	0	codominant	1	1	1	1	A_living_branches	1	
WT-22-403	40	dominant	1	1	2	1	B_mix_living_dead	3	
WT-22-403	15	intermediate	1	1	1	1	A_living_branches	1	
WT-22-403	10	codominant	1	1	1	1	A_living_branches	1	

APPENDIX I. SHALLOW GROUNDWATER WELLS

74 Berkeley Street, Toronto, ON M5A 2W7
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Memorandum

Date: June 13, 2022

Project #: 2006504

To: Travis Desormeaux

From: Nolan Boyes, M.Sc., P.Geo.

Cc: Jason Cole, M.Sc., P.Geo. and Josh Jodoin

Re: **Field Summary for Shallow Groundwater Well Installations within the Mathews Creek Wetland Complex**

1. Introduction

Palmer is pleased to present this Technical Memorandum summarizing the completion of the shallow groundwater well (herein referred to as mini-piezometers (MP)) installation program for the Mathews Creek Wetland Complex. This program was completed to support ERM's efforts to characterize the baseline groundwater conditions at Mathews Creek for the Blackwater Project. This program was designed to integrate ERM's outlined scope of work with site specific conditions observed within the wetland complex. ERM's scope of work is outlined below:

> *Three groups of shallow groundwater wells should be installed (one in the east, one in the west, and one in the center). The wells will consist of 152 cm long, 2.5cm diameter, slotted PVC pipe with a drive point, and will be installed approximately 1m into the ground using a hand auger and a sledgehammer. Three wells should be installed in a lateral cross-section of the wetland perpendicular to the assumed direction of flow (following Mathews Creek). Four to five wells should be installed parallel to the assumed direction of flow to create a longitudinal cross-section.*
>
> *Static and continuous monitoring should be conducted at each group of wells. Static monitoring is the manual measurement of the depth of water below the monitoring well standpipes this should be recorded monthly from May to October 2022. Continuous monitoring will use automated pressure transducers and level loggers collecting data in 4 wells at each group. Water levels will be recorded at 15 minutes intervals over 12 months.*

Palmer expanded upon the above scope of work to include the installation a 5 cm diameter, slotted PVC stilling wells at each MP location to obtain true wetland surface water levels in addition to the shallow piezometric head levels obtained by the shallow groundwater well (MPs). This additional water level data will provide valuable insights into the duration and depth of inundation of the wetlands and allow for quantification of the vertical hydraulic gradient at each MP location to assess both horizontal and vertical movement of shallow groundwater in the valley. This will provide an overall benefit for further wetland

offsetting design as the groundwater recharge/ discharge function of the valleylands can be characterized.

2. Summary of Field Program

Reconnaissance of wetland communities within the Mathews Creek valley was completed by staff from Ecologic and Palmer on May 11th and May 12th, 2022, to identify wetland areas such that the location of the MPs could be finalized. Specific MP installation locations were selected based upon wetland community type, hydrological conditions, access for monitoring, and the direction of expected groundwater flow to provide an overall characterization of the existing conditions within the Mathews Creek Wetland Complex.

The MPs were installed between May 13th and May 16th, 2022, by staff from Palmer and Avison. The location of each MP installation is provided in **Figure 1**, and installation details are provided in **Table 1**.

Each installation location included a 3.2 m steel pipe with a drive point installed approximately 1.5 m into the ground, as well as a 1.6 m slotted PVC pipe installed approximately 0.8 m into the ground. The intention of this installation method is to collect information on the shallow groundwater levels and the surface water levels throughout the wetland complex.

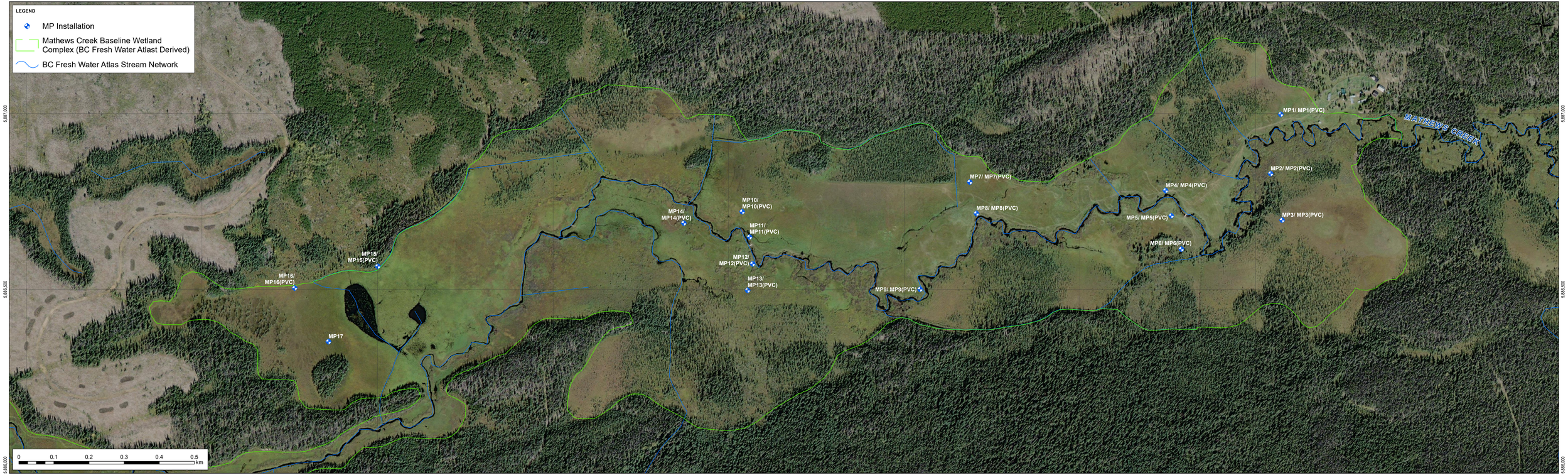
Prior to each MP installation, hand augers were used to characterize the upper 2 m of soil to provide a broad assessment of surficial geology and soil permeability in the valley (**Table 1**). Overall, the vegetation communities and soil conditions within the valleylands were found to be generally consistent across each monitoring location.

Thirteen (13) MPs were equipped with a Solinst Levelogger M5 automatic datalogger to record continuous water levels every 15 minutes. Groundwater and surface water monitoring of the installed MPs will occur monthly from May to October 2022 using manual measurements. Automatic data loggers will collect continuous groundwater level every 15 minutes over 12 months.

Table 1. MP Installation Details

Mini-Piezometer ID	Total MP Length (m)	Depth of Install (m)	Screen Length (m)	Screened Geology	Logger Installation
MP1	3.20	1.50	0.30	Silty Clay	**Yes**
MP1 (PVC)	1.66	0.86	1.50	Peat / Silty Clay	**No**
MP2	3.20	1.47	0.30	Silty Clay / Peat	**No**
MP2 (PVC)	1.66	0.80	1.50	Peat / Silty Clay	**No**
MP3	3.20	1.46	0.30	Peat	**Yes**
MP3 (PVC)	1.66	0.86	1.50	Peat	**No**
MP4	3.20	1.50	0.30	Peat / Sandy Silt	**Yes**
MP4 (PVC)	1.66	1.03	1.50	Silty Clay	**Yes**
MP5	3.20	1.50	0.30	Silty Sand / Silty Clay	**Yes**
MP5 (PVC)	1.66	0.77	1.50	Silty Sand	**No**

Mini-Piezometer ID	Total MP Length (m)	Depth of Install (m)	Screen Length (m)	Screened Geology	Logger Installation
MP6	3.20	1.80	0.30	Silty Clay / Silty Sand	**Yes**
MP6 (PVC)	1.66	0.91	1.50	Silty Clay	**No**
MP7	3.20	1.50	0.30	Peat	**Yes**
MP7 (PVC)	1.66	0.77	1.50	Peat	**No**
MP8	3.20	1.50	0.30	Silty Sand / Silty Clay	**Yes**
MP8 (PVC)	1.66	0.84	1.50	Silty Clay	**No**
MP9	3.20	1.50	0.30	Silty Sand	**Yes**
MP9 (PVC)	1.66	0.88	1.50	Silty Clay	**No**
MP10	3.20	1.50	0.30	Peat	**No**
MP10 (PVC)	1.66	0.81	1.50	Peat / Silty Clay	**No**
MP11	3.20	1.50	0.30	Peat / Silty Sand	**Yes**
MP11 (PVC)	1.66	0.87	1.50	Silty Clay	**No**
MP12	3.20	1.50	0.30	Peat / Silty Clay	**Yes**
MP12 (PVC)	1.66	0.82	1.50	Silty Clay	**No**
MP13	3.20	1.50	0.30	Silty Clay	**No**
MP13 (PVC)	1.66	0.76	1.50	Peat	**No**
MP14	3.20	1.50	0.30	Silty Sand	**Yes**
MP14 (PVC)	1.66	0.83	1.50	Silty Clay	**No**
MP15	3.20	1.35	0.30	Silty Sand, Some Gravel	**No**
MP15 (PVC)	1.66	0.83	1.50	Peat and Silty Sand	**No**
MP16	2.30	1.54	0.30	Peat	**Yes**
MP16 (PVC)	1.66	0.89	1.50	Peat	**No**
MP17	3.54	1.5	0.30	Peat	**No**


LEGEND
MP Installation
Mathews Creek Baseline Wetland Complex (BC Fresh Water Atlast Derived)
BC Fresh Water Atlas Stream Network
359,000
359,500
360,000
360,500
361,000
361,500
362,000
362,500
363,000
5,887,000
5,886,500
5,886,000
MP1/ MP1(PVC)
MATHEWS CREEK
MP2/ MP2(PVC)
MP3/ MP3(PVC)
MP4/ MP4(PVC)
MP5/ MP5(PVC)
MP6/ MP6(PVC)
MP7/ MP7(PVC)
MP8/ MP8(PVC)
MP9/ MP9(PVC)
MP10/ MP10(PVC)
MP11/ MP11(PVC)
MP12/ MP12(PVC)
MP13/ MP13(PVC)
MP14/ MP14(PVC)
MP15/ MP15(PVC)
MP16/ MP16(PVC)
MP17
0
0.1
0.2
0.3
0.4
0.5
km

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Memorandum

Date: August 12, 2022
Project #: 1704214

To: Ryan Durand and Daniel McAllister
From: Nathalie Brandebourger, M.Sc. and Nolan Boyes, M.Sc., P.Geo.
Cc: Jason Cole, M.Sc., P.Geo. and Josh Jodoin, B.Es., EP.
Re: **MRC Round 2 - Comment 60 - Field Summary for Shallow Groundwater Well Installations within Selected Wetlands**

1. Introduction

Artemis Gold Inc was granted a certificate under the *Environmental Assessment Act* for the Backwater Gold Project. The Project involves the development of an open pit gold and silver mine approximately 160 km southwest of Prince George, BC. Project components and activities include development of the mine site and access road, construction of the freshwater supply system, airstrip and access road, and electrical transmission line.

To support future wetland offsetting, Ecologic has been retained to collect baseline information on wetlands where mine construction and operations will occur and including but not limited to the Mine Access Road (MAR) and Transmission Line (TL), as described in sections 1.3 to 1.5 of the RFP. Hydrogeological/ hydrological specialists from Palmer were retained by Ecologic to complete a detailed hydrological and hydrogeological assessment of selected wetlands across all wetland types to establish baseline wetland hydroperiods as part of the long-term offsetting strategy.

Palmer is pleased to present this Technical Memorandum summarizing the completion of the shallow groundwater well installation program (herein referred to as mini-piezometers (MPs)) for selected wetlands based on the results of the wetland mapping task undertaken by Ecologic. This program was designed to integrate Artemis' scope of work in accordance with Section 1.5.2 of the RFP, outlined below:

"Hydrological function will need to be specifically studied at select wetlands across all wetland types by installing shallow groundwater piezometers and level loggers. During wetland ecosystem field surveys, a selection of wetland types in a variety of landscape positions will be identified. Selection criteria and justification will be documented. Shallow groundwater wells will be installed in the selected wetlands and will consist of 152 cm long, 2.5 cm diameter, slotted PVC pipe. The piezometers will be installed using a drive point, to approximately 1 m into the ground. Depending on the wetland, 4 to 8 groundwater wells will need to be installed at each site in a cross pattern. One axis of the cross will be perpendicular to the assumed direction of flow and the other parallel to the assumed direction of flow.

Wetland elevations relative to one another will be surveyed using a builders level, total station, or differential GPS accurate to within 5 cm vertical. In each wetland a minimum of two (2) level loggers will be installed

to record water levels from June through November at 15-minute intervals. A barologger will also need to be installed at one of the sites to correct for barometric pressure changes during the monitoring period."

Palmer expanded upon the above scope of work to include the installation a 5 cm diameter, slotted PVC stilling well at each MP location to obtain true wetland surface water levels in addition to the shallow piezometric head levels obtained by the shallow groundwater wells (MPs). This additional water level data will provide valuable insights into the duration and depth of inundation of the wetlands and allow for quantification of the vertical hydraulic gradient at each MP location to assess both horizontal and vertical movement of shallow groundwater in the valley. This will provide an overall benefit for further wetland offsetting design as the groundwater recharge/ discharge function of the valleylands can be characterized.

2. Summary of Field Program

Reconnaissance of wetland communities was completed by staff from Ecologic during the week of June 11th 2022. The purpose of this reconnaissance was to classify wetland community types and identify wetlands that would be suitable for long-term water level monitoring. Overall, the wetland communities within project area were found to be generally consistent (i.e., few differing wetland community types) and therefore MP installation location targeted representative communities within the project footprint and outside the project footprint to establish baseline conditions.

The MPs were installed between June 20th and June 30th, 2022, by staff from Palmer. A total of 4 wetland areas were selected to be instrumented. Between 4 to 5 MPs were installed at each wetland in a cross-pattern perpendicular/parallel to the expected groundwater flow direction. The location of each wetland is provided in **Figure 1.** The detailed location of each MP installation within the individual wetland community is provided in **Figures 2 to 5**. Installation details for each MP are provided in **Table 1**. A photograph log is presented in **Appendix A** documenting each wetland.

Each installation location included a 3.2 m steel pipe with a drive point installed approximately 1.5 m into the ground, as well as a 1.6 m slotted PVC pipe installed approximately 0.8 m into the ground. The intention of this installation method is to collect information on the shallow groundwater levels and the surface water levels throughout the four wetland complexes. Manual surface and shallow groundwater water levels were measured after the MPs installation (**Table 2**).

Prior to each MP installation, hand augers were used to extract the upper 2 m of soil for characterization to provide a broad assessment of surficial geology and soil permeability in the valley. Details on the soils at each MP location is presented in **Table 1**.

Twelve (12) MPs were equipped with a Solinst Levelogger M5/M10 automatic datalogger to record continuous groundwater levels every 15 minutes from June 2022 to November 2022. One (1) barologger has been installed to correct the data for barometric pressure over the same time interval.

Please note, due to the low permeability soils encountered at each of the wetlands, it is likely that the water level data presented in **Table 2** for the deeper steel MPs does not represent a static condition. We expect that the groundwater level will rise over the next 1-2 months until equilibrium is established. The shallow PVC standpipe MPs are expected to have captured static surface water levels at each location to assess wetland hydrology at the time of measurement.

Table 1. MP Installation Details

Wetland ID	Mini-Piezometer ID	Coordinates				Elevation (masl)	Depth of Install (m)	Screen Length (m)	Screened Geology	Logger Installation
		Longitude	Latitude	Northing	Easting					
4	MP4-1 (Steel)	53.20114709	-124.8209878	5896195	378367.3	1245.58	1.32	0.30	0-1.3 m: Peat and dark brown clay 1.3-2 m: Hard soil, gravely	**Yes**
	MP4-1 (PVC)	53.20114709	-124.8209878	5896195	378367.3	1245.58	0.8	1.50		**No**
	MP4-2 (Steel)	53.20109613	-124.8211217	5896189	378358.2	1245.66	1.35	0.30		**Yes**
	MP4-2 (PVC)	53.20109613	-124.8211217	5896189	378358.2	1245.66	0.8	1.50		**No**
	MP4-3 (Steel)	53.20096631	-124.8210799	5896175	378360.7	1245.56	1.25	0.30		**Yes**
	MP4-3 (PVC)	53.20096631	-124.8210799	5896175	378360.7	1245.56	0.8	1.50		**No**
	MP4-4 (Steel)	53.20110091	-124.8210199	5896190	378365	1245.66	1.31	0.30		**No**
	MP4-4 (PVC)	53.20110091	-124.8210199	5896190	378365	1245.66	0.8	1.50		**No**
	MP4-5 (Steel)	53.20108758	-124.8208851	5896188	378374	1245.47	1.55	0.30		**No**
	MP4-5 (PVC)	53.20108758	-124.8208851	5896188	378374	1245.47	0.8	1.50		**No**
9	MP9-1 (Steel)	53.18081487	-124.8505991	5893984	376331.1	1454.44	1.5	0.30	0-1.7 m: Peat 1.7-2 m: Brown/Reddish Clay	**No**
	MP9-1 (PVC)	53.18081487	-124.8505991	5893984	376331.1	1454.44	0.8	1.50		**No**
	MP9-2 (Steel)	53.180925	-124.850057	5893995	376368	1454.38	1.5	0.30		**Yes**
	MP9-2 (PVC)	53.180925	-124.850057	5893995	376368	1454.38	0.8	1.50		**No**
	MP9-3 (Steel)	53.18075101	-124.8508849	5893977	376311.8	1454.5	1.5	0.30		**Yes**
	MP9-3 (PVC)	53.18075101	-124.8508849	5893977	376311.8	1454.5	0.8	1.50		**No**
	MP9-4 (Steel)	53.18070993	-124.8505738	5893972	376332.5	1454.29	1.44	0.30		**Yes**
	MP9-4 (PVC)	53.18070993	-124.8505738	5893972	376332.5	1454.29	0.8	1.50		**No**
11	MP11-1 (Steel)	53.19769336	-124.8656551	5895888	375374	1342.7	1.46	0.30	0-1 m: Peat 1-2 m: Brown Clay with roots and organics	**Yes**
	MP11-1 (PVC)	53.19769336	-124.8656551	5895888	375374	1342.7	0.8	1.50		**No**
	MP11-2 (Steel)	53.19789326	-124.8659146	5895910	375357.3	1342.6	1.5	0.30		**Yes**
	MP11-2 (PVC)	53.19789326	-124.8659146	5895910	375357.3	1342.6	0.8	1.50		**No**

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Wetland ID	Mini-Piezometer ID	Coordinates				Elevation (masl)	Depth of Install (m)	Screen Length (m)	Screened Geology	Logger Installation
		Longitude	Latitude	Northing	Easting					
	MP11-3 (Steel)	53.19818476	-124.8658202	5895942	375364.4	1342.66	1.5	0.30	0-1 m: Peat 1-2 m: Brown Clay with roots and organics	**Yes**
	MP11-3 (PVC)	53.19818476	-124.8658202	5895942	375364.4	1342.66	0.8	1.50		**No**
	MP11-4 (Steel)	53.19791463	-124.8656586	5895912	375374.5	1342.64	1.5	0.30		**No**
	MP11-4 (PVC)	53.19791463	-124.8656586	5895912	375374.5	1342.64	0.8	1.50		**No**
	MP11-5 (Steel)	53.197951	-124.8656401	5895916	375375.8	1342.61	1.5	0.30		**No**
	MP11-5 (PVC)	53.197951	-124.8656401	5895916	375375.8	1342.61	0.8	1.50		**No**
15	MP15-1 (Steel)	53.15976518	-124.8454334	5891634	376615.9	1587.02	1.47	0.30	0-1.5 m: Peat 1.5-2 m: Hard soil, stoney	**Yes**
	MP15-1 (PVC)	53.15976518	-124.8454334	5891634	376615.9	1587.02	0.8	1.50		**No**
	MP15-2 (Steel)	53.1598587	-124.8452992	5891644	376625.2	1586.73	1.56	0.30		**Yes**
	MP15-2 (PVC)	53.1598587	-124.8452992	5891644	376625.2	1586.73	0.8	1.50		**No**
	MP15-3 (Steel)	53.16001921	-124.8453801	5891662	376620.2	1587.01	1.46	0.30		**Yes**
	MP15-3 (PVC)	53.16001921	-124.8453801	5891662	376620.2	1587.01	0.8	1.50		**No**
	MP15-4 (Steel)	53.15980705	-124.8454688	5891639	376613.7	1587.2	1.54	0.30		**No**
	MP15-4 (PVC)	53.15980705	-124.8454688	5891639	376613.7	1587.2	0.8	1.50		**No**
	MP15-5 (Steel)	53.15994596	-124.8455217	5891654	376610.5	1587.57	1.24	0.30		**No**
	MP15-5 (PVC)	53.15994596	-124.8455217	5891654	376610.5	1587.57	0.8	1.50		**No**
N/A	Barologger	53.18425646	-124.8675911	5894396	375205.7	N/A	N/A	N/A	N/A	N/A

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Table 2. Water Level Measurements

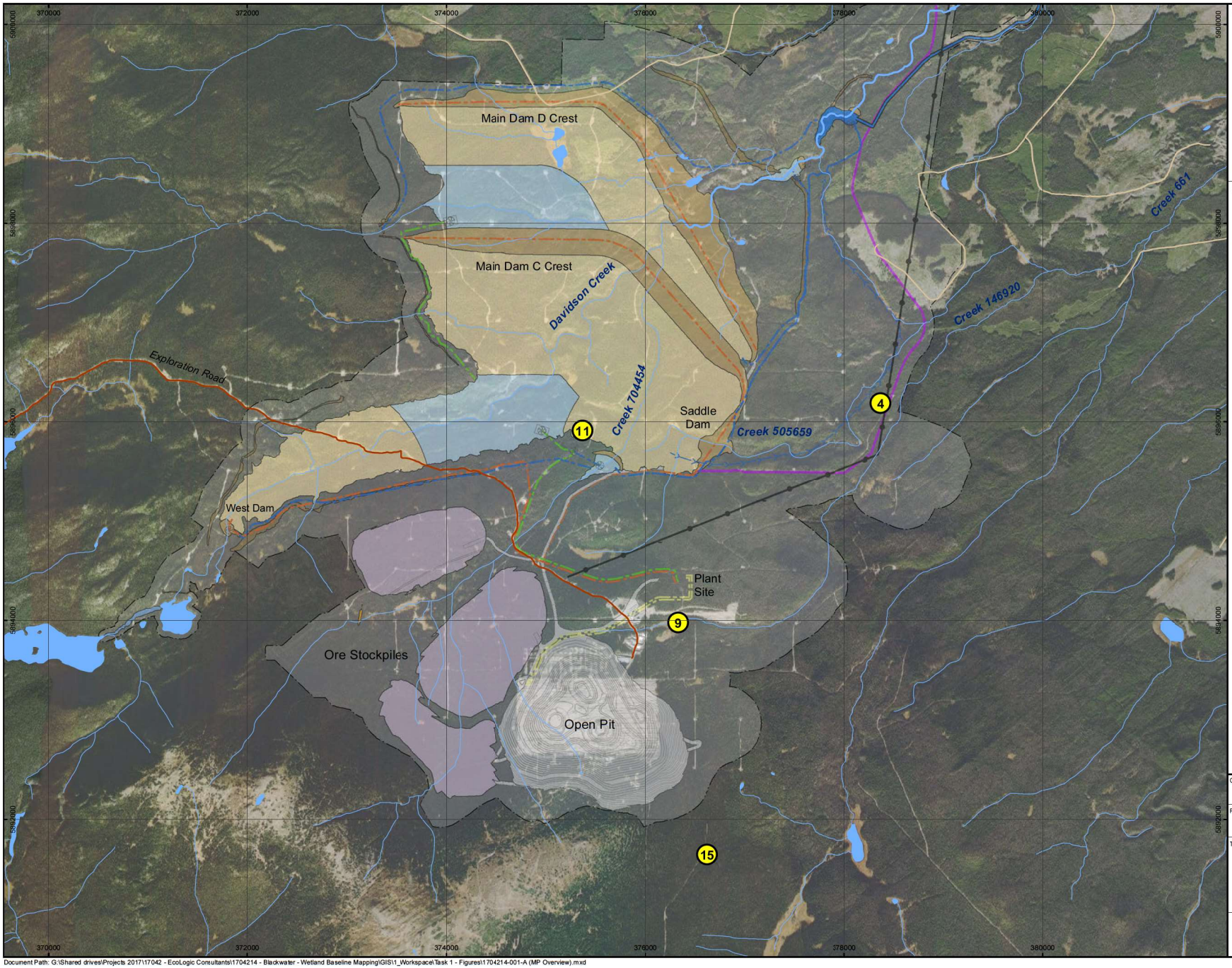
Wetland ID	Mini-Piezometer ID	Elevation (masl)	Date of measurement	Stick-up (m)	Water Level (mbtoc)
4	MP4-1 (Steel)	1245.58	29-Jun-22	1.88	**2.67**
	MP4-1 (PVC)	1245.58	29-Jun-22	0.8	**0.76**
	MP4-2 (Steel)	1245.66	29-Jun-22	1.85	**2.62**
	MP4-2 (PVC)	1245.66	29-Jun-22	0.8	**0.71**
	MP4-3 (Steel)	1245.56	29-Jun-22	1.95	**2.77**
	MP4-3 (PVC)	1245.56	29-Jun-22	0.8	**0.74**
	MP4-4 (Steel)	1245.66	29-Jun-22	1.89	**2.06**
	MP4-4 (PVC)	1245.66	29-Jun-22	0.8	**0.75**
	MP4-5 (Steel)	1245.47	29-Jun-22	1.65	**2.64**
	MP4-5 (PVC)	1245.47	29-Jun-22	0.8	**0.785**
9	MP9-1 (Steel)	1454.44	28-Jun-22	1.7	**1.74**
	MP9-1 (PVC)	1454.44	21-Jun-22	0.8	**0.85**
	MP9-2 (Steel)	1454.38	28-Jun-22	1.7	**1.64**
	MP9-2 (PVC)	1454.38	21-Jun-22	0.8	**0.84**
	MP9-3 (Steel)	1454.5	28-Jun-22	1.7	**2.8**
	MP9-3 (PVC)	1454.5	28-Jun-22	0.8	**0.805**
	MP9-4 (Steel)	1454.29	28-Jun-22	1.76	**2.15**
	MP9-4 (PVC)	1454.29	28-Jun-22	0.8	**0.67**
11	MP11-1 (Steel)	1342.7	29-Jun-22	1.74	**2.84**
	MP11-1 (PVC)	1342.7	29-Jun-22	0.8	**0.85**
	MP11-2 (Steel)	1342.6	29-Jun-22	1.7	**1.81**
	MP11-2 (PVC)	1342.6	29-Jun-22	0.8	**0.75**
	MP11-3 (Steel)	1342.66	29-Jun-22	1.7	**2.88**
	MP11-3 (PVC)	1342.66	29-Jun-22	0.8	**0.73**
	MP11-4 (Steel)	1342.64	29-Jun-22	1.7	**2.99**
	MP11-4 (PVC)	1342.64	29-Jun-22	0.8	**0.65**
	MP11-5 (Steel)	1342.61	29-Jun-22	1.7	**2.74**
	MP11-5 (PVC)	1342.61	29-Jun-22	0.8	**0.65**
15	MP15-1 (Steel)	1587.02	30-Jun-22	1.73	**2.26**
	MP15-1 (PVC)	1587.02	30-Jun-22	0.8	**0.485**
	MP15-2 (Steel)	1586.73	30-Jun-22	1.64	**3.13**
	MP15-2 (PVC)	1586.73	30-Jun-22	0.8	**0.4**
	MP15-3 (Steel)	1587.01	30-Jun-22	1.74	**2.93**
	MP15-3 (PVC)	1587.01	30-Jun-22	0.8	**0.85**
	MP15-4 (Steel)	1587.2	30-Jun-22	1.66	**2.89**

Wetland ID	Mini-Piezometer ID	Elevation (masl)	Date of measurement	Stick-up (m)	Water Level (mbtoc)
	MP15-4 (PVC)	1587.2	30-Jun-22	0.8	**0.49**
	MP15-5 (Steel)	1587.57	30-Jun-22	1.96	**2.91**
	MP15-5 (PVC)	1587.57	30-Jun-22	0.8	**0.36**

3. Closure

We trust that this field memo will be satisfactory for your current needs.

If you have any questions or require further information, please do not hesitate to contact Joshua Jodoin at joshua.jodoin@pecg.ca.



KEY MAP

LEGEND

- Wetland Location
- Existing Watercourse
- Contour (25 m)
- Existing Waterbody
- Mine Footprint

Mine Site Plan (Year 23)

- Embankment Fill
- Freshwater Reservoir or Channel Connector
- Mine Water
- Tailings Beach and PAG Waste Rock (Submerged)
- Ore Stockpile
- Proposed Transmission Line
- Fresh Water Supply Pipeline
- Mine Access
- Water Diversion Pipeline
- Water Reclaim Pipeline
- Tailings Pipeline
- Open Pit Dewatering Pipeline
- Spillway

DRAFT

0 500 1 000 1,500 2,000
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 10

Scale: 1:37,000
Page Size: Tabloid (11 x 17 inches)

Drawn: BE
Checked: NB
Date: Aug 12, 2022

Source Notes:
Site plan information provided by Artemis Gold Inc. Imagery (2013) provided by Esri basemap service

NORTH

CLIENT: EcoLogic Consultants

PROJECT: Blackwater - Wetland Baseline Mapping

TITLE: **Wetland Locations**

Palmer™

REF. NO. 1704214-001-B

Figure 1

Document Path: G:\Shared drives\Projects 2017\17042 - EcoLogic Consultants\1704214 - Blackwater - Wetland Baseline Mapping\GIS\1_Workspace\Task 1 - Figures\1704214-001-A (MP Overview).mxd

KEY MAP

LEGEND

Mini-Piezometer Location

0 5 10 15 20

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 10

Scale: 1:400
Page Size: Tabloid (11 x 17 inches)

Drawn: BE
Checked: NB
Date: Jul 11, 2022

Source Notes:
Imagery (2011) provided by Amec.

NORTH

CLIENT

EcoLogic Consultants

PROJECT

Blackwater - Wetland Baseline Mapping

TITLE

MP-4 Locations

Palmer™

REF. NO. 1704214-002-A

Figure 2

Document Path: G:\Shared drives\Projects 2017\17042 - EcoLogic Consultants\1704214 - Blackwater - Wetland Baseline Mapping\GIS\1_Workspace\Task 1 - Figures\1704214-002-A (MP Detail).mxd

KEY MAP

LEGEND

Mini-Piezometer Location

0 5 10 15 20

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 10

Scale: 1:400
Page Size: Tabloid (11 x 17 inches)

Drawn: BE
Checked: NB
Date: Jul 11, 2022

Source Notes:
Imagery (2011) provided by Amec.

NORTH

CLIENT
EcoLogic Consultants

PROJECT
Blackwater - Wetland Baseline Mapping

TITLE
MP-9 Locations

Palmer™

REF. NO. 1704214-002-A

Figure 3

Document Path: G:\Shared drives\Projects 2017\17042 - EcoLogic Consultants\1704214 - Blackwater - Wetland Baseline Mapping\GIS\1_Workspace\Task 1 - Figures\1704214-002-A (MP Detail).mxd

KEY MAP

LEGEND

Mini-Piezometer Location

0 5 10 15 20

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 10

Scale: 1:400
Page Size: Tabloid (11 x 17 inches)

Drawn: BE
Checked: NB
Date: Jul 11, 2022

Source Notes:
Imagery (2011) provided by Amec.

NORTH

CLIENT
EcoLogic Consultants

PROJECT
Blackwater - Wetland Baseline Mapping

TITLE
MP-11 Locations

Palmer™

REF. NO. 1704214-002-A

Figure 4

Document Path: G:\Shared drives\Projects 2017\17042 - EcoLogic Consultants\1704214 - Blackwater - Wetland Baseline Mapping\GIS\1_Workspace\Task 1 - Figures\1704214-002-A (MP Detail).mxd

KEY MAP

LEGEND

Mini-Piezometer Location

0 5 10 15 20

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 10

Scale: 1:400
Page Size: Tabloid (11 x 17 inches)

Drawn: BE
Checked: NB
Date: Jul 11, 2022

Source Notes:
Imagery (2011) provided by Amec.

NORTH

CLIENT
EcoLogic Consultants

PROJECT
Blackwater - Wetland Baseline Mapping

TITLE
MP-15 Locations

Palmer™

REF. NO. 1704214-002-A

Figure 5

Document Path: G:\Shared drives\Projects 2017\17042 - EcoLogic Consultants\1704214 - Blackwater - Wetland Baseline Mapping\GIS\1_Workspace\Task 1 - Figures\1704214-002-A (MP Detail).mxd

Appendix A: Photographic Log

Client Name:	Project No.	Site Location:
Ecologic Consultants Ltd.	1704214	Blackwater

Photo #:	Date.
1	6/14/2022

Description

Wetland Number 4.
Northeast facing photo.

Photo #:	Date.
2	6/14/2022

Description

Wetland Number 9.
Southwest facing photo.

Appendix A: Photographic Log

Client Name:	Project No.	Site Location:
Ecologic Consultants Ltd.	1704214	Blackwater

Photo #:	Date.
3	6/14/2022

Description

Wetland Number 11.
North facing photo.
Person present in photo: Nolan Boyes (Palmer) .

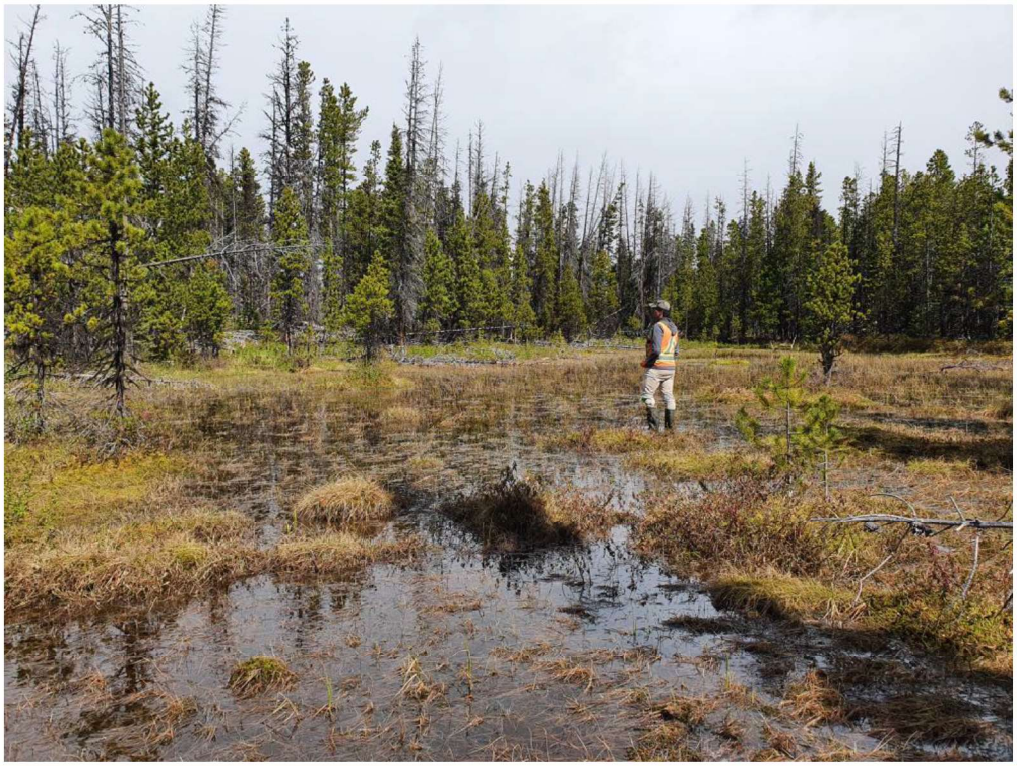


Photo #:	Date.
4	6/14/2022

Description

Wetland Number 15.
North facing photo.

Appendix A: Photographic Log

Client Name:	Project No.	Site Location:
Ecologic Consultants Ltd.	1704214	Blackwater

Photo #:	Date.
5	6/14/2022

Description

Wetland Number 4.
Mini-piezometer Identification: MP4-2.
Person present in photo: Nolan Boyes (Palmer).
South facing photo.

Photo #:	Date.
6	6/14/2022

Description

Wetland Number 9.
Mini-piezometer Identification: MP9-1.
Person present in photo: Nolan Boyes (Palmer)
South facing photo

Appendix A: Photographic Log

Client Name:	Project No.	Site Location:
Ecologic Consultants Ltd.	1704214	Blackwater

Photo #:	Date.
7	6/14/2022

Description

Wetland Number 9.
Mini-piezometer Identification: MP9-4.
Southeast facing photo.

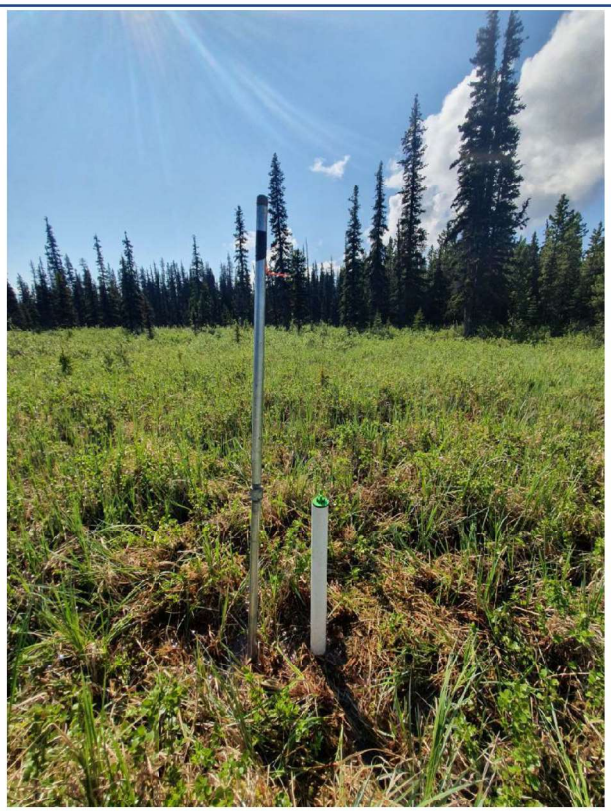


Photo #:	Date.
8	6/14/2022

Description

Wetland Number 11.
Mini-piezometer Identification: MP11-1.
Person present in photo: Nolan Boyes (Palmer)
North facing photo.

Appendix A: Photographic Log

Client Name:	Project No.	Site Location:
Ecologic Consultants Ltd.	1704214	Blackwater

Photo #:	Date.
9	6/14/2022

Description

Wetland Number 11.
Mini-piezometer Identification: MP11-2.
Person present in photo: Nolan Boyes (Palmer).
Northwest facing photo.

Photo #:	Date.
10	6/14/2022

Description

Wetland Number 15.
Mini-piezometer Identification: MP15-1.
West facing photo.

Appendix A: Photographic Log

Client Name:	Project No.	Site Location:
Ecologic Consultants Ltd.	1704214	Blackwater

Photo #:	Date.
11	6/14/2022

Description

Wetland Number 15.
Mini-piezometer
Identification: MP15-3.
West facing photo.

Appendix 10: BW Gold Whitebark Pine Field Update – 2022

ARTEMIS GOLD INC | Blackwater Mine

2022 Whitebark Pine Annual Report

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1.0 Introduction and Background

Whitebark pine (*Pinus albicaulis)* is an endangered tree in the mountainous regions of western Canada that also plays a significant ecological role. It is listed as Endangered on Schedule 1 of the Federal Species at Risk Act (SARA) primarily due to four main threats: 1) White pine blister rust caused by the fungus *Cronartium ribicola*, 2) Mountain pine beetle (*Dendroctonus ponderosae)*, changes to fire regimes, and global climate change ((Environment and Climate Change Canada (ECCC) 2017).).

The declines in whitebark pine may have wide reaching impacts as whitebark pine is a keystone species with important ecological roles ranging from stabilizing soils, moderating snowpack (Farnes 1990), initiating tree islands, and providing a crucial high calorie food source for a number of wildlife species primarily grizzly bear (*Ursus arctos*), red squirrels (*Tamiasciurus hudsonicus*), and most notably the Clark's nutcracker (*Nucifraga columbiana*) who is the primary seed disperser (Tomback and Kendall 2001).

Although mining and other human development is not a primary driver of whitebark decline, their impacts may be acute and have negative impacts on local populations. As such, several conditions have been developed within Artemis' permit to guide whitebark pine mitigation at the BW Gold mine site including:

> **8.19** The Proponent shall conduct progressive reclamation of areas disturbed by the Designated Project. In doing so the Proponent shall identify, in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, plant species native to the Designated Project area to use for revegetation as part of progressive reclamation, including whitebark pine (*Pinus albicaulis*) and other conifers suitable to create habitat for southern mountain caribou (*Rangifer tarandus caribou*) and other species of interest to Indigenous groups.
>
> **8.20** The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, a whitebark pine management plan to mitigate effects from the Designated Project on whitebark pine (*Pinus albicaulis*) and its critical habitat. The Proponent shall implement the plan during all phases of the Designated Project consistent with any applicable recovery strategy related to whitebark pine (*Pinus albicaulis*). As part of the whitebark pine management plan, the Proponent shall:
>
> a) establish criteria to be used to evaluate the health of whitebark pine trees and for the selection of whitebark pine (*Pinus albicaulis*) to be transplanted;
> b) collect and preserve whitebark pine (Pinus albicaulis) rust-resistant seeds within the Designated Project area prior to vegetation clearing and use them for progressive reclamation pursuant to condition 8.19;
> c) identify the locations to plant whitebark pine (*Pinus albicaulis*) in undisturbed areas within the Designated Project area prior to construction;
> d) implement measures to support whitebark pine (*Pinus albicaulis*) growth and use by Clark's nutcracker (*Nucifraga columbiana*);
> e) develop and implement a follow-up program in consultation with Indigenous groups to determine the effectiveness of the mitigation measures included in the whitebark pine management plan. The Proponent shall apply conditions 2.9 and 2.10 when implementing the follow-up program.

The follow-up program shall include:

> **8.20.5.1** visual monitoring of populations of whitebark pine (*Pinus albicaulis*), including their health, within reclaimed areas at a minimum every five years; and
>
> **8.20.5.2** monitoring of use of the reclaimed areas by Clark's nutcracker (*Nucifraga columbiana*) for the purpose of whitebark pine regeneration. Should the results of monitoring demonstrate that use of the reclaimed areas by Clark's nutcracker *(Nucifraga columbiana*) is not adequate, the Proponent shall implement additional mitigation measures.

2.0 Workplan

To initiate addressing the conditions above and implement a constructive workplan, the following field program was developed for 2022:

1) Stand assessments to confirm and refine the existing range of whitebark pine habitat and determine potential suitability for ecosystem restoration [To address 8.20 (d)]

2) Survey construction footprint for seedlings/saplings suited to translocation [To address 8.20 (a)]

3) Assessments to confirm stand level health and identify plus trees for cone collections [To address 8.20 (b)]

4) Collect cones from producing plus trees [To address 8.20 (b)]

5) Surveys to identify areas for field trials including priority areas for translocation and field rust screening [To address 8.19 and 8.20 (a,b, and c)]

6) Field measurements of progress to-date including sampling of planted and translocated seedlings [To address 8.19 and 8.20 (a,b, and c)]

3.0 2022 Work

3.1 Stand Assessments

Stand assessments were conducted to support a portion of Condition 8.20 (d):

> "Implement measures to support whitebark pine (*Pinus albicaulis*) growth and use by Clark's nutcracker (*Nucifraga columbiana*)." Assessments were undertaken to determine the extent of whitebark pine and the potential for restoration activities to support the maintenance of larger sized whitebark pine on site and in-turn ensure ongoing use by Clark's nutcracker.

To stratify the landscape into homogeneous units the Vegetation Resources Inventory (VRI) polygons were used. The forest-based mapping was interpreted in 2014 for the province of BC but was not available during earlier work at the site. Since VRI is linked to forest cover and species composition, using this coverage was considered as appropriate to stratify the landscape for future surveys as this mapping is based on stratified mapping to reflect forest structure and species composition. To utilize VRI polygons, the area around the mine site was clipped and each polygon assigned a unique Id (fId) and any work conducted assigned to the polygon (Figure 1).

Field plots of 11.28m fixed radius were established throughout polygons and whitebark pine sampled (primarily size). Field sampling was then converted to basal area to characterize the amount of whitebark pine present in each polygon. For some polygons basal area estimates were made based on estimates of comparable adjacent polygons (appeared visually comparable on orthophotos). Basal areas were then compared with those of other species occurring in each polygon.

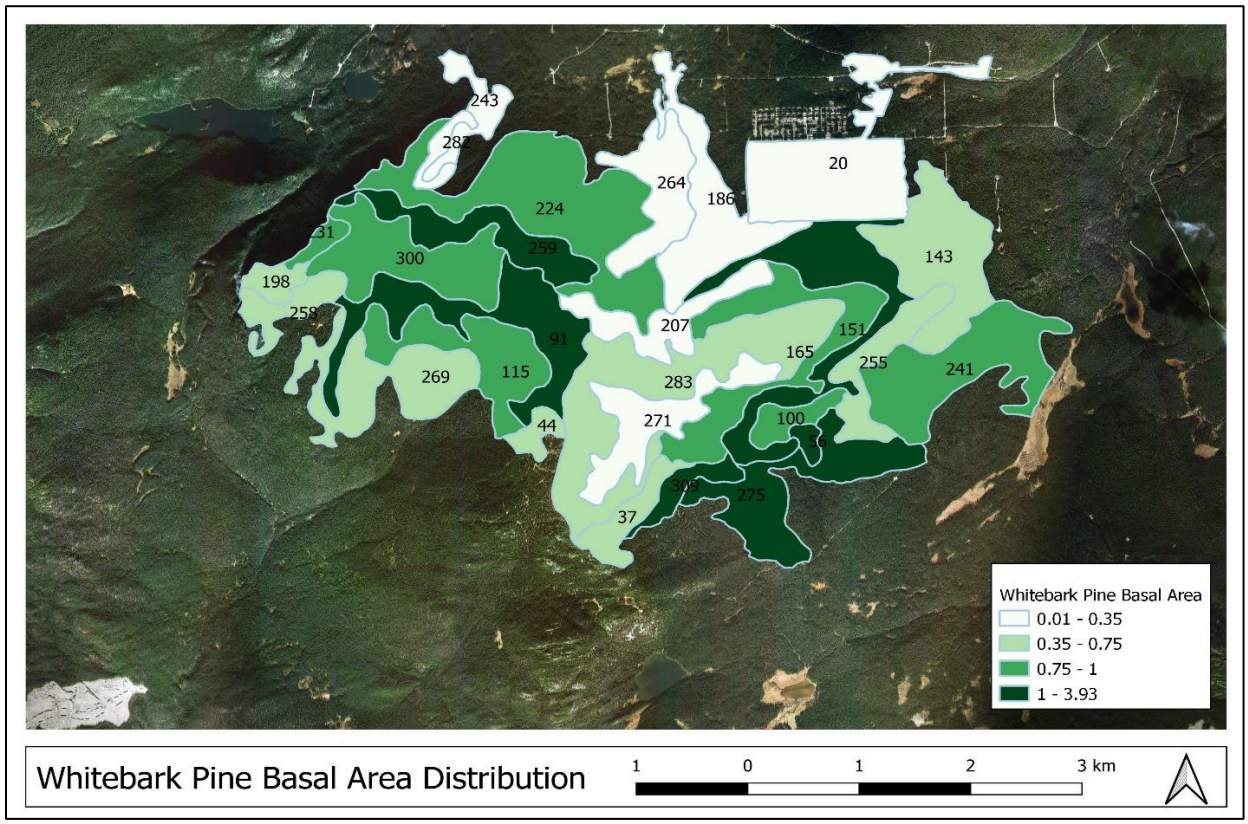

Figure 1. Distribution of whitebark pine basal area in discrete VRI polygons at Mount Davidson.

A total of 16 polygons were field sampled and 11 were assigned whitebark pine basal area values based on sampled whitebark pine in adjacent polygons. VRI basal area ranged from 0.01 to 3.93m^2/ha (Figure 1). Although VRI polygons were used as the basis of this inventory, whitebark pine did not appear in the provincial VRI inventory (Table 1). The basal area of leading trees (non-whitebark) in Table 1 shows that competing species often occupied greater that 10x the basal area of whitebark pine.

Table 1. Summary of VRI descriptions compared with field inventory of whitebark pine. Bl - Subalpine fir; Pli - Lodgepole pine (interior), Se - Engelmann spruce.

fid	VRI Leading Species	BASAL_AREA	Whitebark BASAL_AREA
20	N/A	N/A	0.01
37	BlPli(Se)	8.00	0.5
44	BlSe	15.45	0.75
56	BlPliSe	15.92	3.93
91	Bl	1.00	1.48
100	Bl(SePli)	16.54	1
115	BlSe	10.00	1
143	BlSePli	30.56	0.5
151	BlSe(Pli)	15.53	2.1
165	Bl(SePli)	5.00	0.8
186	BlSe(Pli)	45.25	0.05
198	BlSe(Pli)	15.20	0.6
207	Bl(PliSx)	10.00	0.25
224	BlSe	39.94	0.75
231	BlSe	19.83	1
241	SeBlPli	40.30	1
255	BlSe(Pli)	15.39	0.69
258	BlSePli	15.00	0.6
259	BlSe	10.00	2.5
264	BlSe	20.00	0.05
269	Pli	15.06	0.75
271	Bl	0.00	0.05
275	PliSe(Bl)	25.23	2.5
282	BlPliSe	15.28	0.05
283	Bl(Pli)	1.00	0.39
300	Bl(Pli)	1.00	0.9
309	BlPli(Se)	5.00	1.04

The inventory work showed that although whitebark pine is common to some degree across much of the landscape, its degree of occupation is highly variable. The most desirable scenario is for whitebark pine to be growing on productive sites unimpeded by competition; however, the high density of subalpine fir co-occurring on the landscape indicates that competition levels are likely to increase on most sites and in many cases subalpine fir will overtake whitebark pine and dominate many sites where the two presently co-occur. To meet the requirements of Condition 8.20 (d): "implement measures to support whitebark pine (*Pinus albicaulis*) growth and use by Clark's nutcracker (*Nucifraga columbiana*);" the emphasis does not need to be placed on improving the inventory of whitebark pine, rather identifying restoration sites to support existing whtitebark pine should be prioritized (unless development into new areas is planned).

Whitebark pine does not produce cones until 30-40 years of age, with sizeable crops not produced until the trees are 80 years; with peak production at least double this timespan. Loss of mature trees can create a temporal lag in cone production, which can locally limit the keystone role of whitebark pine. Although planting is a suitable means of replacing mature trees, steps should also be taken to support naturally occurring whitebark pine of all size classes that form the current and future cone production cohorts. Current impacts to whitebark pine on Mount Davidson include land clearing, white pine blister

rust, mountain pine beetle, and seral replacement by subalpine fir (may be exacerbated by changing fire regimes). Addressing mountain pine beetle and seral replacement are likely to support cone production in the relatively near-term and ensure a reliable seed source for the Clark's nutcracker. In consideration of the stand assessments undertaken and to support whitebark pine growth and use by Clark's nutcrackers the following should be undertaken:

- Apply verbenone patches to large whitebark pine vulnerable to mountain pine beetle attack.
- Conduct daylighting around whitebark pine to support the survival of larger size trees and recruitment of sapling and poles to larger size classes.
    - Daylighting is process removing competing vegetation from around whitebark pine trees to ensure they grow unimpeded by competition; this action also removes ladder fuels from around whitebark pine to limit fire effects (Figure 2).
    - Prescriptions should be developed for stands of varying heights and locations to support a diversity of size classes and cone production over time across the mountain.

Figure 2. Examples of whitebark pine that would benefit from competition removal.

3.2 Seedling Translocation Surveys

As a component of Section 8.20 (a) of the federal permit regulations, BW Gold is required to:

> "Establish criteria to be used to evaluate the health of whitebark pine trees and for the selection of whitebark pine (Pinus albicaulis) to be transplanted." To address this requirement, two tasks were undertaken:

i) a survey of whitebark pine seedlings and saplings within areas where disturbance may occur during construction; and
ii) a remeasurement of previously transplanted whitebark pine to assess their survival and vigour.

To assess whitebark pine seedlings and saplings in potential disturbance areas, a series of random fixed radius plots were sampled and a random meander track was surveyed. Plots consisted of 11.28 m fixed radius plots in potential whitebark pine habitat adjacent to the project footprint including the pit and

explosives storage area (Figure 3 and Figure 4). Within each plot, seedlings and saplings of a ‘transplantable size’ were inventoried and health notes taken where applicable (rust infected and declining trees are not suited to transplant; thus comments around chlorosis and other signs of stress were noted).

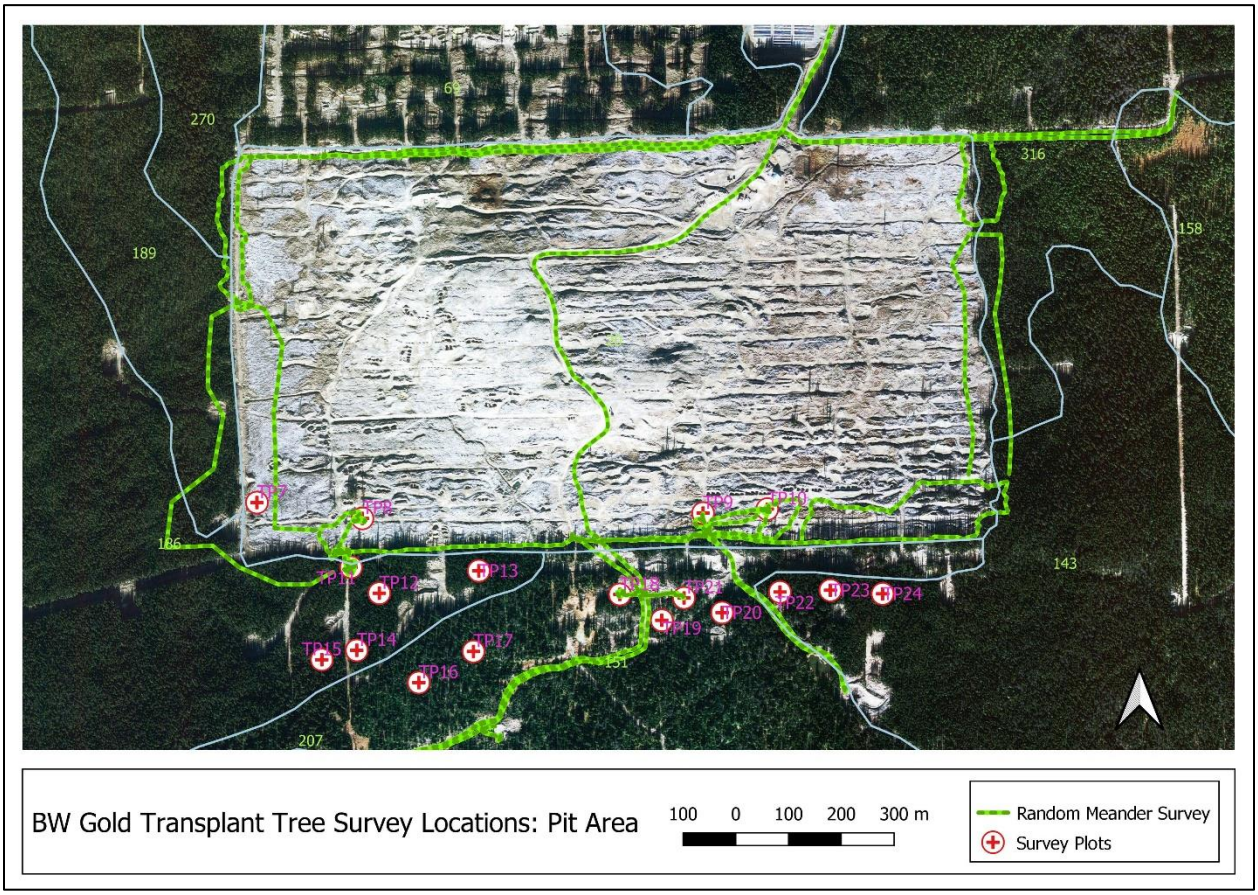

Figure 3. Location of surveys for trees suited to transplant around the mine site; green lines are random meanders and cross is 11.28m plot locations.

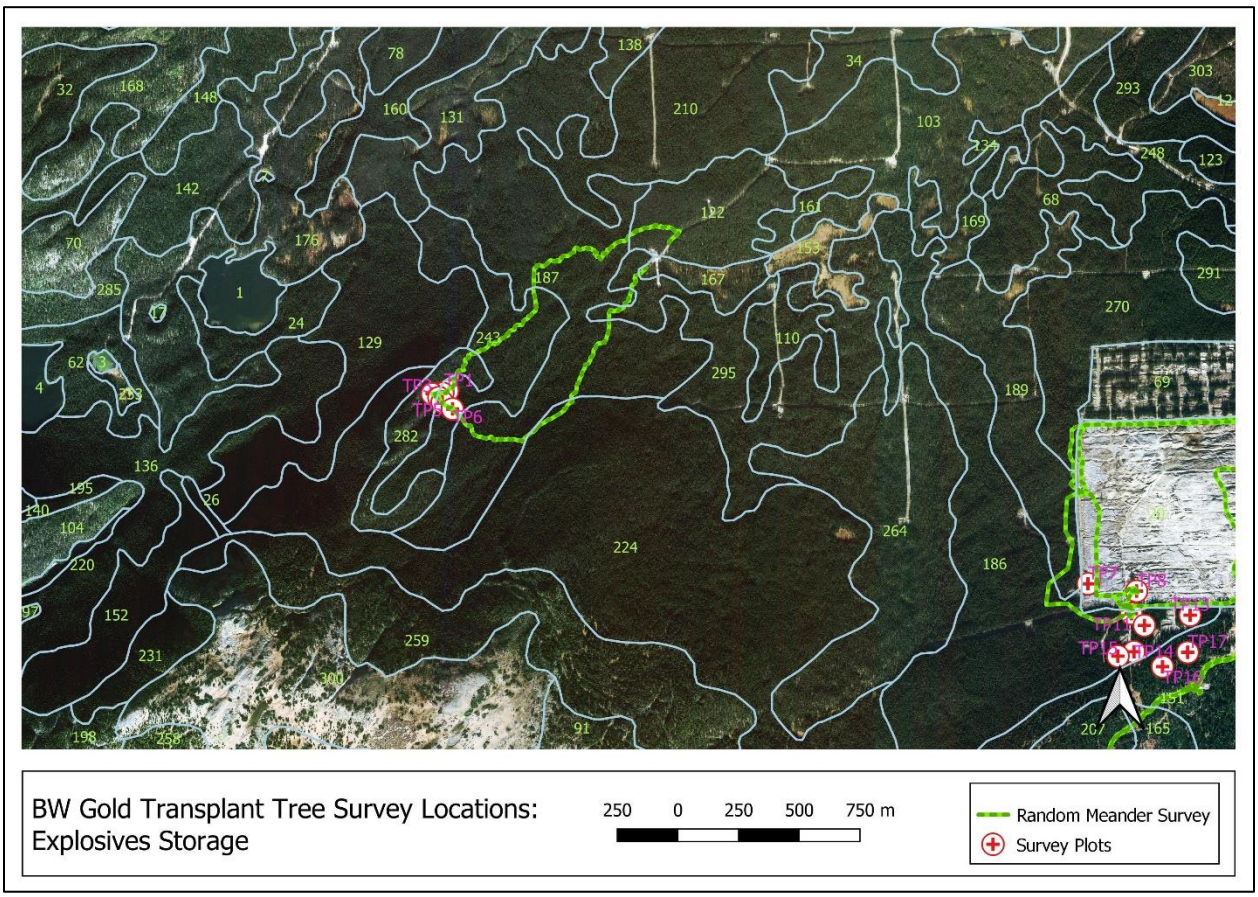

Figure 4. Location of surveys for trees suited to transplant around the explosives storage site; green lines are random meanders and cross is 11.28m plot locations.

A total of 24 plots were established and 43 whitebark seedlings/sapling inventoried (Table 2). Polygon 20, the open pit area, had seedlings present at a density of 12.5/ha, all whitebark pine seedlings in the pit area occurred near mature whitebark pine retained in the opening. In polygon 151 seedlings/saplings were common in the open stands at a density of 125/ha. Polygon 186 had no whitebark pine recorded, however, whitebark pine was noted as being adjacent to plots thus any transplant work should also consider this polygon.

Plots in polygons 243 and 282 were adjacent to the explosives storage area; in general there were very few whitebark pine trees in the area, however upslope rocky habitat above the storage area had some whitebark pine seedlings/saplings present at a density of 55/ha..

Table 2. Summary of sampled seedling densities in sampled polygons adjacent to potential disturbance.

Polygon Number (Fid)	Plots	Mean seedling or saplings/ha	s.d.
20	4	12.5	25.00
143	3	0	0.00
151	6	125	186.41
186	5	0	0.00
243*	5	55	81.78
282*	1	0	-

*Plots adjacent to explosives cache.

Previously translocated seedlings/saplings were surveyed, with two dead and the remainder classed as vigorous. Of the original 20 seedlings/saplings salvaged in 2013, 18 were transplanted in the field (two died in overwinter storage), and 13 survived 9-years for a 72% field transplant survival and 65% for overall survival (Table 3).

Table 3. Summary of previously transplanted whitebark pine seedlings/saplings.

Tree Number	Height (cm)	Status
730	37	Vigorous
728	63	Vigorous
726	42	Vigorous
725	60	Vigorous
SD06 (NT)	43	Vigorous
716	35	Vigorous
722	85	Vigorous
723	51	Vigorous
724		Dead
729	32	Vigorous
727	32	Vigorous
731	63	Vigorous
732	50	Vigorous
718	57	Vigorous
719		Dead

To effectively transplant seedlings/saplings from around the mine footprint the following recommendation were developed:

- Only transplant seedlings likely to be directly impacted by construction, the highest on-site survival is through avoidance of seedlings so seedlings/sapling should be left *in-situ* where feasible.
- Only healthy and vigorous seedlings should be excavated as seedlings/saplings displaying a high level of stress may not survive the additional stress of transplant.
- Saplings greater than 1m tall should not be excavated by hand as the size of the root mass to support trees of this size will likely be too large and extensive to excavate by hand; if a machine with a large bucket is assisting, transplants of this size and larger may be feasible.
- Easily excavated substrates are likely a key indicator of success potential. Easily excavated soil or rocks that may be removed from around the root system are preferred over substrates where roots are embedded in bedrock or immovable substrates. For the trials, we only moved easily excavated seedlings thus this recommendation is only an assumption.
- Seedlings/saplings should be placed in large containers; in the past 1-gallon pots up to large 55-gallon garbage cans retrofitted to serve as a pot and filled with local soil have been used.
- A large area around each seedling should be excavated, a trench should be excavated at 1.5x tree height radius away and excavated towards the tree and roots traced along and downward to limit damage and excavate as large of an undamaged root area as possible.

- Trees should be excavated when dormant in the fall and moved to a safe storage location where desiccation from heat and wind can be managed and root systems aren't subject to a hard freeze. Once dormant storage under snow is ideal.
- Trees should be transplanted into suitable habitat in the spring.
- Based on the number of seedlings/saplings observed an estimated 3-days of excavation are required with 2-days to establish proper storage conditions. This estimate may change based on the construction schedule and determination of exact impact locations.

3.3 Whitebark Pine Health Surveys

Whitebark pine health surveys were undertaken to support Condition 8.20 (b):

> "Collect and preserve whitebark pine (*Pinus albicaulis*) rust-resistant seeds within the Designated Project area prior to vegetation clearing and use them for progressive reclamation pursuant to condition 8.19."

Whitebark pine health transects established in 2013 and 2014 were re-sampled, these consisted of permanently marked transects of 50m x 10m with all whitebark pine greater than 1.4m in height permanently marked for trend monitoring over time. In addition to these transects, we conducted 100-Tree Surveys, these surveys are suited to rapid health assessments and are ideal for stands where whitebark is diffuse and a typical transect would not capture a large sample. For the 100-Tree surveys, as the name indicates, 100 trees were sampled for health over a discrete area, these trees were not tagged as the role of this survey is a rapid assessment to characterize a stand as opposed to change-monitoring, which is the role of permanent transects.

A total of eight health plots were sampled, consisting of five permanent transects and three 100-tree surveys (Figure 5). All transects showed a decline in forest health since 2013 or 2014 (Table 4). The greatest decline was in transect 4, which had a 20% decline since 2014; all health declines were due to increases in white pine blister rust.

The 100-tree surveys sampled stands with dispersed tree populations in a combination of mature forests (7) and subalpine habitat (6 and 8) (Figure 5 and Table 4). Survey 7 had very high mortality all due to mountain pine beetle within a mature stand (Figure 6). Survey 8 had the next poorest health followed by Survey 6, at these sites poor health was entirely attributed to rust. It is unclear why these sites had higher rust levels than the transect sites but it underscores that rust levels can vary across the landscape and at some locales are high enough in the region to impact overall stand health.

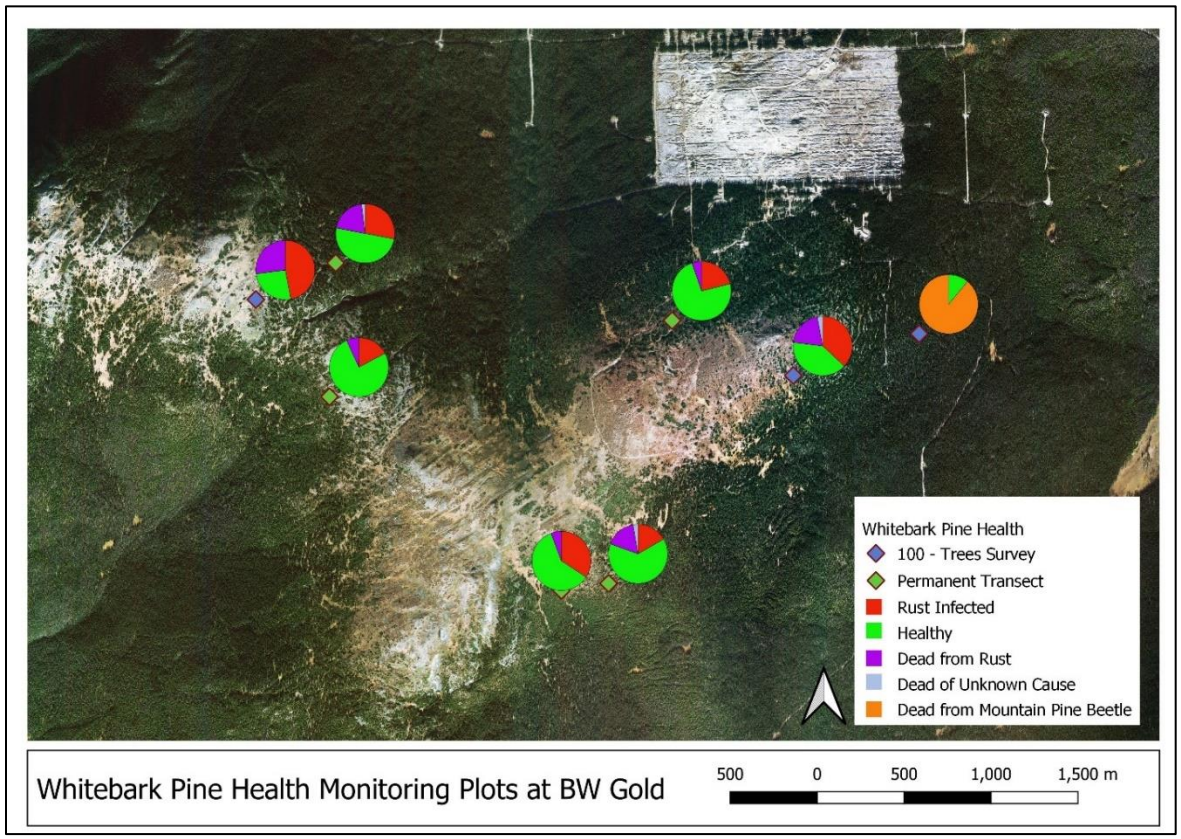

Figure 5. 2022 Health Summary of Whitebark Pine at BW Gold.

Table 4. Whitebark pine health summaries from permanent transects and 100-Tree surveys.

Plot	Type	Year of First Survey	Baseline % Healthy	2022 Rust Infected (n)	2022 Healthy (n)	2022 Dead Unknown (n)	2022 Dead Rust (n)	2022 Dead Mountain Pine Beetle	2022 % Healthy	Health Change
1	Transect	2013	64%	24	42	4	0	0	60%	-4%
2	Transect	2013	79%	5	22	2	0	0	76%	-3%
3	Transect	2013	84%	4	14	1	0	0	74%	-10%
4	Transect	2014	70%	14	25	10	1	0	50%	-20%
5	Transect	2014	68%	6	23	6	1	0	64%	-4%
6	100	2022	N/A	37	40	20	3	0	40%	N/A
7	100	2022	N/A	0	11	0	0	89	11%	N/A
8	100	2022	N/A	47	26	27	0	0	26%	N/A

Figure 6. Large whitebark pine killed by mountain pine beetle. Note the developing subalpine fir dominated understory.

To manage forest health the following recommendations were developed:

- Develop a field-based rust monitoring program on a number of site types to monitor a minimum of 30 parent trees and preferably 100 parent trees for rust tolerance.
- Submit seed from the vicinity of 100-tree survey plot 8 to the provincial screening program as this rust level may meet the minimum stand infection requirement for the program.
- Conduct additional 100-tree surveys in the southwest, southeast, and extreme northwest of Mount Davidson to fully characterize rust infection levels across the site.
- Continue to seek plus trees on site, namely larger/older trees where rust levels are greatest.
- Monitor larger trees for mountain pine beetle attack, receive trend updates from regional and provincial entomologists, and deploy verbenone on plus trees.
- Conduct treatments to support a diversity of size classes on Mount Davidson to build stand resilience.

3.4 Whitebark Pine Cone Collections

Whitebark pine cone collections were undertaken to support Condition 8.20 (b):

> "Collect and preserve whitebark pine (Pinus albicaulis) rust-resistant seeds within the Designated Project area prior to vegetation clearing and use them for progressive reclamation pursuant to condition 8.19."

Collecting cones from whitebark pine is a laborious effort in that cages must be placed over cones to protect them from foragers as the seeds are a highly sought after food source. To cage cones, trees must be climbed in early summer and cages placed over the cones, then cages and cones retrieved in mid-September. Given the effort required to collect cones, an early summer survey to determine the size of the cone crop is usually conducted to determine the practicality of initiating a cone collection. Cone crops are inconsistent ranging from dearths to masts, during mast years a large number of cones are produced on nearly every tree, during these years large cone collections should be conducted. Unfortunately, masts are unpredictable but occur approximately every five years.

In 2022, a large cone crop was present and cones were collected from 26 permanently marked plus trees. An additional three trees were identified for cone collection, but no seeds were recovered from these trees due to poor cone condition. The cone collection yielded a total of 13.64 kg of seed with an estimated yield of 109,128 seeds.

Tree 3180 had seed collected despite an active rust infection on branched and on the stem. This tree will serve as a control in all trials as its high rust infection indicates a high probability that its offspring will be infected as well; though it must be underscored that the pollen source is unknown which may impact the rust susceptibility of progeny.

Seed was dried down for storage and will be stored at freezing temperatures until needed. Seed will be stored by parent tree to facilitate any trials in the future and aid in selecting the most suited parents to use in reclamation and restoration.

Figure 7. Whitebark pine plus tree 3172, note cages to protect cones from foragers.

Table 5. Summary of parent trees and seed yield in 2022.

Tree Number	Latitude	Longitude	Seed Yield (grams)	Seeds**
39	53.15648	-124.899	438	3504
3167	53.16702	-124.927	425	3400
3168	53.16641	-124.927	335	2680
3169	53.16663	-124.927	507	4056
3170*	53.16845	-124.926	0	0
3171*	53.1687	-124.927	0	0
3172	53.16574	-124.928	536	4288
3173*	53.16536	-124.928	0	0
3174	53.15711	-124.9	182	1456
3175	53.15746	-124.899	736	5888
3176	53.15705	-124.898	460	3680
3177	53.16474	-124.932	544	4352
3178	53.1645	-124.928	594	4752
3179	53.16561	-124.919	234	1872
3180	53.16461	-124.909	1316	10528
3181	53.16458	-124.908	628	5024
3182	53.16415	-124.909	378	3024
3183	53.16357	-124.909	370	2960
3184	53.16323	-124.907	711	5688
3185	53.16304	-124.907	608	4864
3186	53.15967	-124.903	379	3032
3187	53.16048	-124.903	515	4120
3188	53.16137	-124.907	487	3896
3189	53.14876	-124.882	418	3344
3190	53.16266	-124.909	782	6256
3191	53.15668	-124.899	315	2520
3192	53.16302	-124.914	308	2464
3193	53.16704	-124.927	1179	9432
1208/37	53.15825	-124.901	256	2048
Totals			13,641	109,128

*Cones were of poor quality and no seeds extracted

**Based on 8 seeds/gram

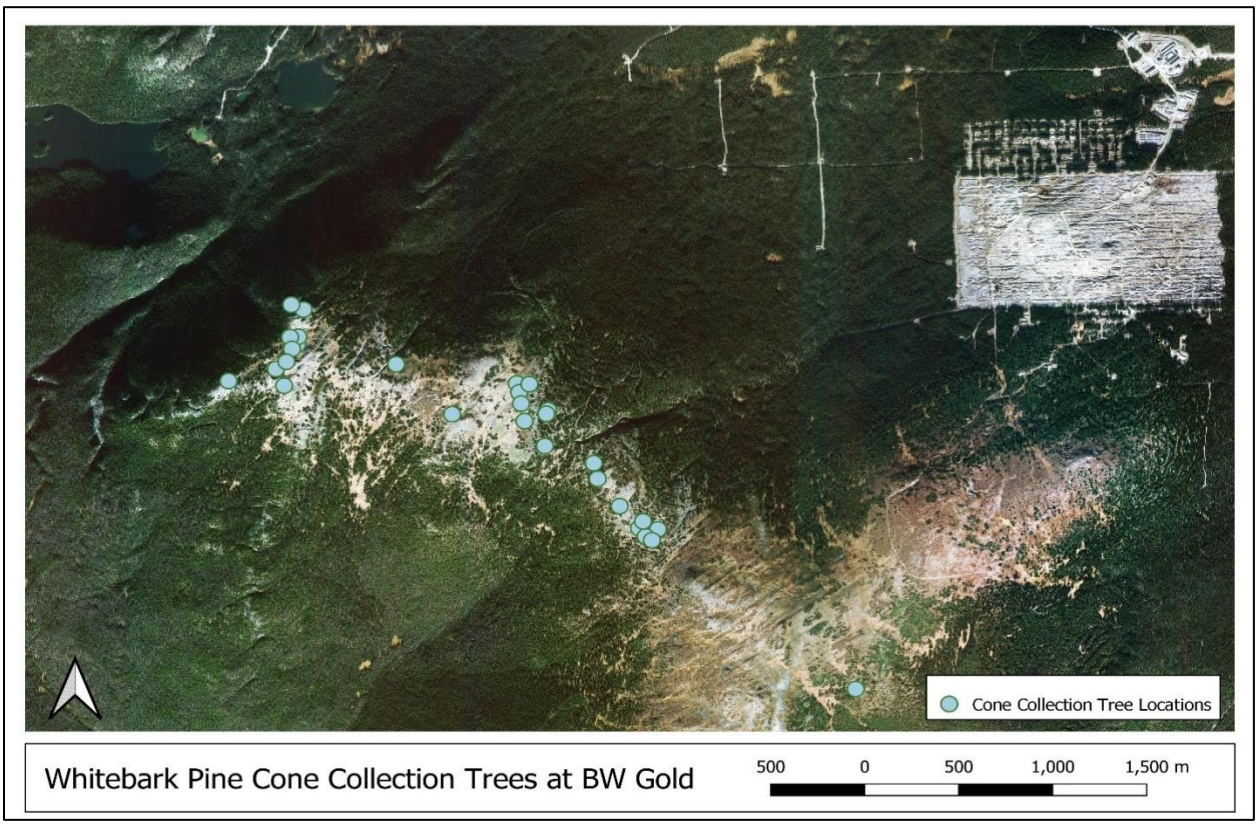

Figure 8. Whitebark pine cone collection map.

Since whitebark pine cone collections are used to support other programs including identifying rust resistance, reclamation research, and operational reclamation; additional cone collections are recommended. For cone collections, the following actions are recommended:

- Monitor mature trees for a cone crop each year as years of high cone production allow for greater choice when selecting parents as in most years not all plus trees will produce a cone crop. Monitoring should be done in late June for cones of the year or in late September for developing cones for the following year. As desirable plus trees (the healthiest trees that are also suitable for climbing) are identified, these trees will be specifically monitored for cone production.
- Collect from trees identified in 2022 that had a poor seed yield (3170, 3171, 3173, plus trees with lower numbers in storage).
- Integrate cone collections with health surveys and prioritize collections in high rust stands on Mount Davidson.
- Collect cones from the southern region of the mountain to increase genetic diversity.
- Collect cones from larger trees as these are likely older and had longer exposure to rust, thus may carry greater weight when selected as healthy plus trees. Collecting from larger trees will require two trained tree climbers to conduct in a safe manner.
- Incorporate research trials (rust, reclamation, and climate change) with operational reclamation to determine a seed requirements plan.

3.5 Field Trial Location Identification

Surveys to identify potential field trial locations were undertaken to support Condition 8.19:

> "The Proponent shall conduct progressive reclamation of areas disturbed by the Designated Project;' and Condition 8.20 (a, b, and c): "establish criteria to be used to evaluate the health of whitebark pine trees and for the selection of whitebark pine (*Pinus albicaulis*) to be transplanted, collect and preserve whitebark pine (*Pinus albicaulis*) rust-resistant seeds within the Designated Project area prior to vegetation clearing and use them for progressive reclamation pursuant to condition 8.19 Surveys *and* identify the locations to plant whitebark pine (*Pinus albicaulis*) in undisturbed areas within the Designated Project area prior to construction."

Field trial sites were identified for seedling/sapling transplants, climate change adaptation studies, and field monitoring for white pine blister rust tolerance. Establishing each of these trials on the mountain will also serve some level of restoration on undisturbed sites via seedling planting.

Identification of potential field trial locations was primarily conducted incidental to other work on the site as a range of field trial sites were required. Sites were identified for climate change adaptation, white pine blister rust tolerance monitoring, and transplant locations (Figure 9).

Climate change adaptation sites were identified at high areas on Mount Davidson with some level of soil development as it is impractical to plant seedlings in areas of poor soil development. Two potential study sites were located, characterized as 1) a high elevation grass-sedge community and 2) exposed mineral soil; a third location characterized by scrub birch cover, which is ubiquitous in the region, may also be selected (Figure 10).

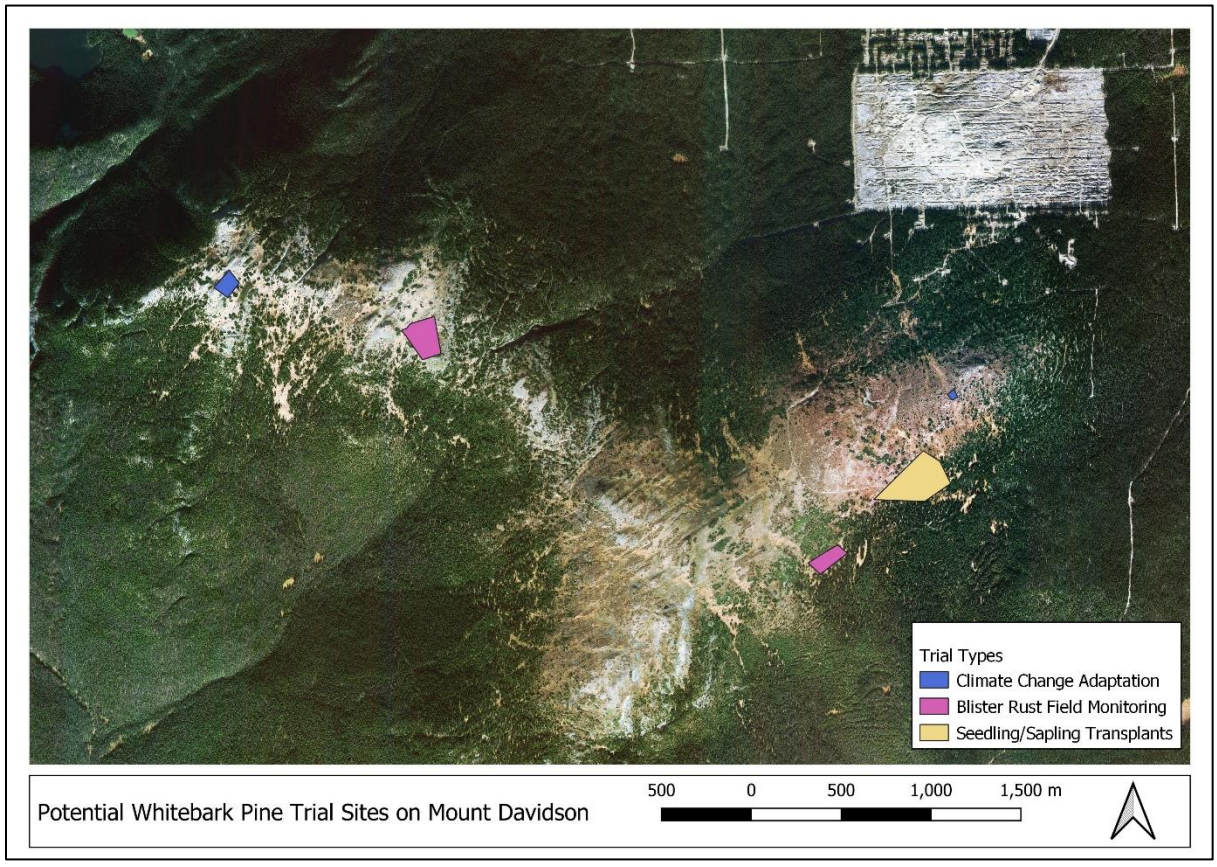

Figure 9. Potential Trial Locations on Mount Davidson.

Figure 10. Example of a high elevation mineral soil site; note the grass-sedge community on the perimeter.

For field trials specific to studying tolerance to local levels of white pine blister rust, locations were identified within parkland and high elevation whitebark pine stands (Figure 9), and an additional potential low elevation site was identified in recent cutblocks along the access road (Figure 11). Low elevation rust trials below the range of whitebark pine may yield results sooner than high elevation sites as rust will experience a longer growing season and seedlings may grow larger to form a larger target for intercepting rust spores, collectively resulting in greater and more rapid infections (Tomback and Schoettle per comm).

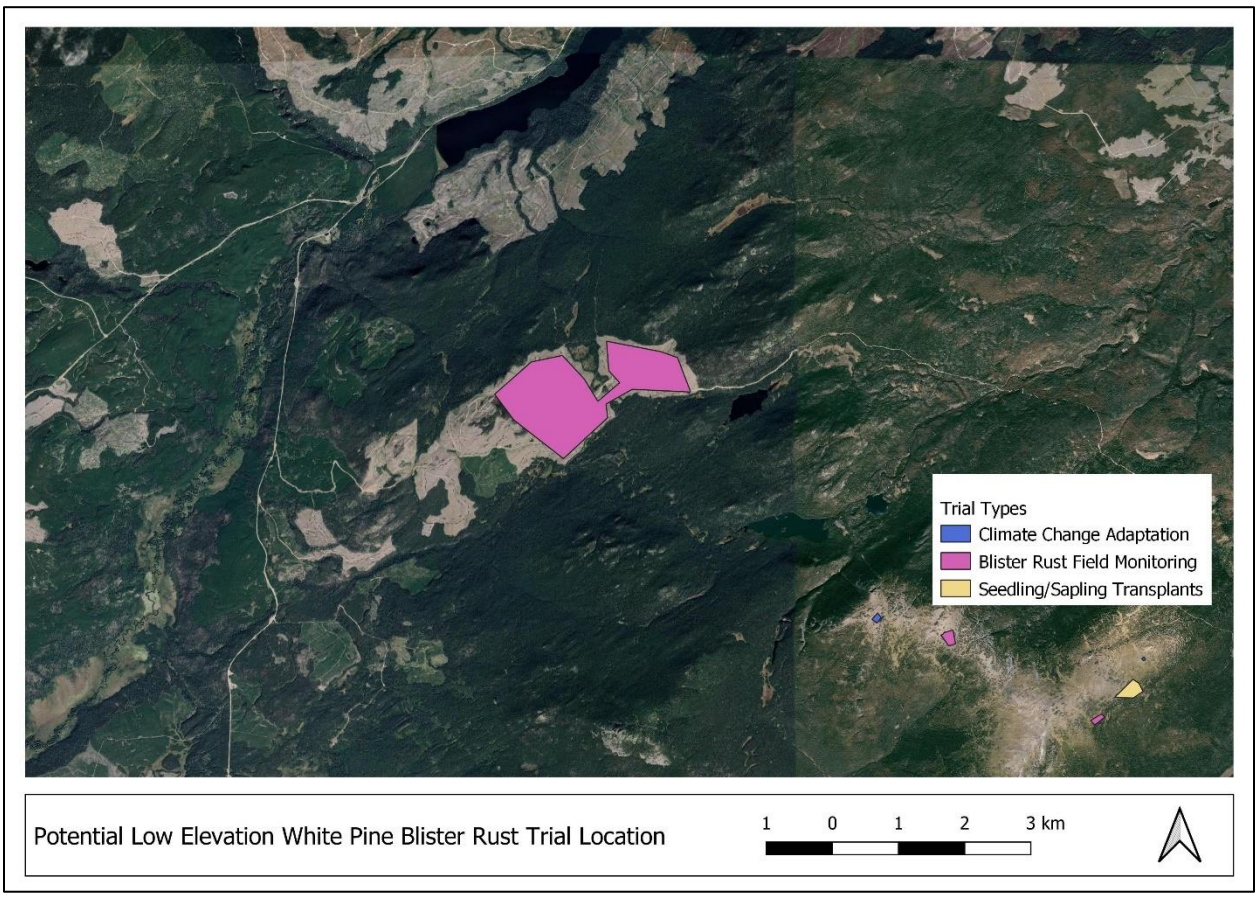

Figure 11. Location to review for low elevation white pine blister rust screening site.

Finalizing field trial locations requires the following steps:

- Develop field trial design that may be replicated across study sites, study should be replicated on reclamation substrates once they are available.
- Confirm trial areas once the trial design and number of seedlings is confirmed.
- Ecological homogeneity of sites over a size suitable for trial establishment must be confirmed.
- Low elevation white pine blister rust trial likely requires culling of competing tree seedlings to allow for trial layout.
- Permits may be required for low elevation trial establishment, these should be discussed with local government regulators. These will consist primarily of a Section 52 to cut the regenerating crop trees from the trial site; there may be opportunities to establish these trials at lower elevations within the mine footprint.

3.6 Planting and Trial Remeasurements

Trials for seedling planting on progressive reclamation sites and field rust screening were undertaken to support Condition 8.19:

> "The Proponent shall conduct progressive reclamation of areas disturbed by the Designated Project;' and Condition 8.20 (a, b, and c): "establish criteria to be used to evaluate the health of whitebark pine trees and for the selection of whitebark pine (*Pinus albicaulis*) to be transplanted, collect and preserve whitebark pine (*Pinus albicaulis*) rust-resistant seeds within the Designated Project area prior to vegetation clearing and use them for progressive reclamation pursuant to condition 8.19 Surveys *and* identify the locations to plant whitebark pine (*Pinus albicaulis*) in undisturbed areas within the Designated Project area prior to construction."

In previous years of whitebark pine work at Mount Davidson a number of trials and studies were established including health transects (discussed in Health Surveys Section), seedling and sapling transplants (discussed in Seedling Translocation Section), seedling planting trials, and a pilot white pine blister rust screening field installation described here.

Planting Trials

Seedling planting trials consisting of 25 seedlings grid planted and replicated at 12 locations were established in 2016 on reclaimed access roads and drill pads above the mine site (Figure 12). Overall seedling survival was 81% with a survival rate of 77% on undisturbed controls and 82% survival on disturbed ground. The greatest survival on disturbed sites (n=9) was 96% with the lowest survival at 56%; on control sites (n=3) the highest survival was 92% with 56% the lowest survival rate.

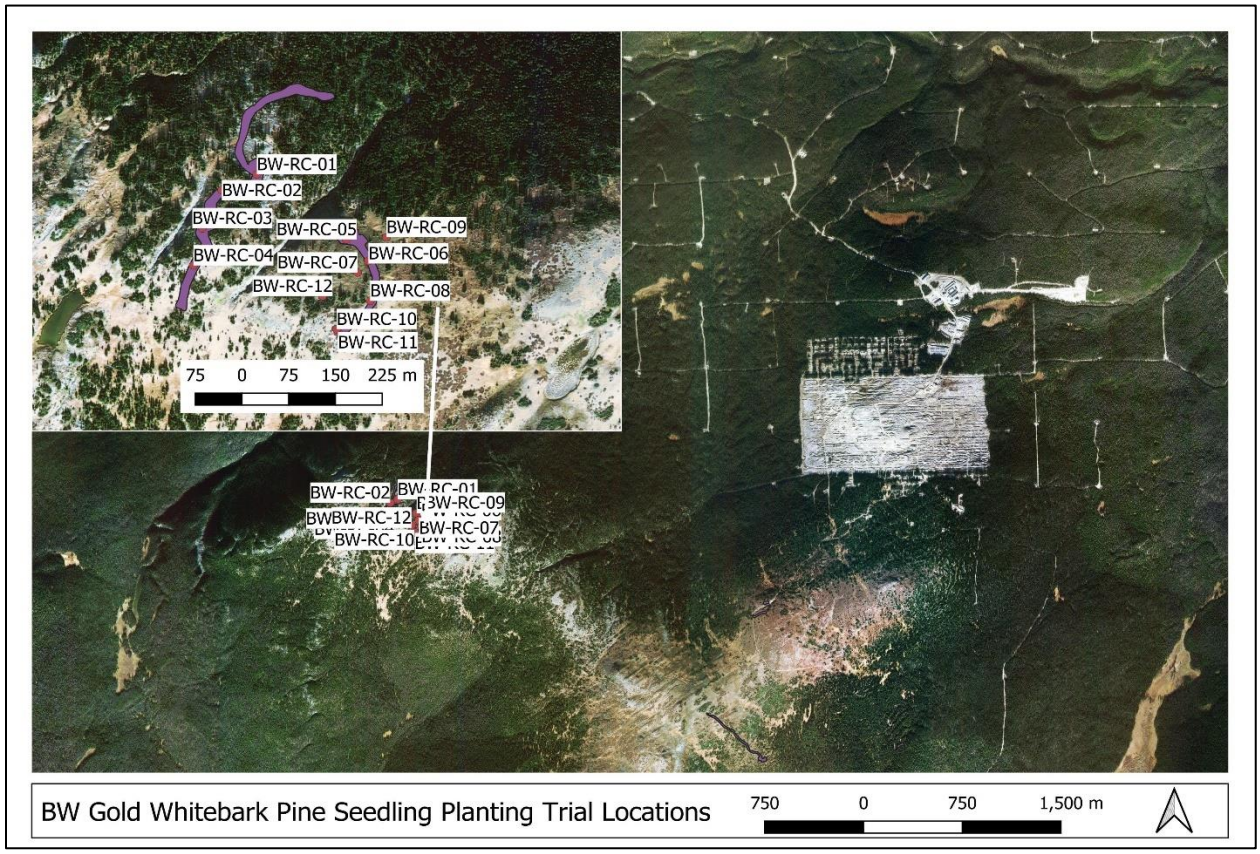

Figure 12. Location of seedling planting trials on reclaimed access roads and drill pads.

Table 6. Summary of seedling survival across trial locations.

Plot	Substrate	Zone	Easting	Northing	Live	Dead	Total % Survival
BW-RC-01	Disturbed	10	371637	5892539	23	2	92%
BW-RC-04	Disturbed	10	371531	5892389	14	11	56%
BW-RC-05	Disturbed	10	371778	5892426	23	2	92%
BW-RC-11	Disturbed	10	371760	5892271	24	1	96%
BW-RC-02	Disturbed	10	371580	5892514	20	5	80%
BW-RC-03	Disturbed	10	371547	5892451	19	6	76%
BW-RC-06	Disturbed	10	371812	5892389	22	3	88%
BW-RC-08	Disturbed	10	371813	5892322	21	4	84%
BW-RC-09	Control	10	371842	5892428	23	2	92%
BW-RC-10	Disturbed	10	371758	5892276	19	6	76%
BW-RC-07	Control	10	371794	5892370	14	11	56%
BW-RC-12	Control	10	371737	5892332	21	4	84%
Total							81%

Overall, 6-year planting survival was high at 81%, which fits well within the survival rates projected by others (e.g. Jenkins et al. 2022). No rust was observed on any seedlings live or dead; though at most locations dead seedlings had decayed and were absent thus no cause of death could be attributed to any seedlings. The high survival rate indicates that establishing seedlings through planting is a viable activity on disturbed sites and extensive trials can be developed.

White Pine Blister Rust Screening Planting

In 2016 a series of six planting transects were established with individual parents tracked within each transect; each transect had five seedlings from each parent planted within it, with the exception of some parents that had insufficient seedlings. Overall survival across all transects was 72% with a parent tree survival ranging from 57% to 90%; no rust was observed on any seedlings and cause of death could not be determined for any seedlings. The inability to determine a cause of death for any seedlings indicates a need to monitor all trials more frequently as the size of seedlings often results in rapid decay and ultimate complete loss of the dead seedling from the landscape. These more frequent monitoring events need only to look for signs of rust and can be conducted in a rapid and efficient manner.

Table 7. Summary of survival by parent tree in rust transects.

Parent	% Survival	n
1	N/A	N/A
2	73%	6
3	83%	6
4	80%	6
5	77%	6
6	57%	6
7	73%	6
8	63%	6
9	70%	6
10	90%	6
11	73%	6
12	74%	7
13	67%	6
14	70%	6
15	80%	6
16	67%	6
17	87%	6
18	N/A	N/A
19	57%	6
20	63%	6
21	70%	6
22	70%	6
23	60%	6
24	90%	6
25	80%	6
Total Survival	72%	

The planting and rust trials established in 2016 demonstrated that seedling establishment is highly feasible at Mount Davidson but improvements can be made to improve the utility of seedling planting trials and better identify rust impacts, including:

- Ensure homogeneity of all planting sites to ensure seedling losses may not be attributed to subtle differences in microsites.
- Have nurseries tag seedlings used in trials to ensure adequate tracking of seedlings.
- Using the field trial selection recommendations, establish a series of trials across the landscape to test site factors.
- Ensure rust monitoring is built into all trial monitoring.
- Use rust scoring developed by the USDA Forest Service where 1 is healthy, 2 is early signs of infection, 3 is branch cankers, 4 is stem cankers, and 5 is rust killed (Sniezko et al. 2007).
- Rust monitoring of seedlings should be viewed as complementary to submitting seeds to the provincial program.

4.0 Summary

This whitebark pine field season, the first since 2016, was conducted with a high level of direction thanks largely to conditions described on the federal permit, this project addressed these conditions and identified additional recommendations as described in Table 8.

Table 8. Summary or work completed and future recommendations to meet permit conditions.

Condition	2022 Findings	Future Recommendations
8.19 The Proponent shall conduct progressive reclamation of areas disturbed by the Designated Project. In doing so the Proponent shall identify, in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, plant species native to the Designated Project area to use for revegetation as part of progressive reclamation, including whitebark pine (Pinus albicaulis) and other conifers suitable to create habitat for southern mountain caribou (Rangifer tarandus caribou) and other species of interest to Indigenous groups.	Trial locations were identified for rust monitoring, climate change adaptation, and translocation recipient sites. Trials from 2016 were re-measured and confirmed that planting survival was suitable to warrant future trials.	Develop restoration trial study design, which will include current trials and future replications on reclamation sites. All trials should include study at the individual parent tree scale. Confirm trial site size and site preparation requirements.
8.20 The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, a whitebark pine management plan to mitigate effects from the Designated Project on whitebark pine (Pinus albicaulis) and its critical habitat. The Proponent shall implement the plan during all phases of the Designated Project consistent with any applicable recovery strategy related to whitebark pine (Pinus albicaulis). As part of the whitebark pine management plan, the Proponent shall:	Updates in development, will integrate 2022 field work.	Updates in development, will integrate 2022 and future field work.
establish criteria to be used to evaluate the health of whitebark pine trees and for the selection of whitebark pine (Pinus albicaulis) to be transplanted;	Plots were established to sample whitebark pine seedling and sapling densities adjacent to project development areas. Previously transplanted seedlings and samplings were surveyed and a 9-year transplant of 72% was observed.	Transplant whitebark only within confirmed development areas. Follow transplant methods. Transplant recipient location identified on south side of mountain.
collect and preserve whitebark pine (Pinus albicaulis) rust-resistant seeds within the Designated Project area prior to vegetation clearing and use them for progressive reclamation pursuant to condition 8.19;	Rust monitoring transects were resampled and 100-tree surveys conducted; health levels ranged from 11% (mountain pine beetle impacted) to 26% (rust impacted) to a high of 76% (rust impacted). Cone collections were undertaken from 26 individual parent trees for use in rust tolerance monitoring and screening. Locations for field-based rust monitoring were identified.	Re-measures health in stands at 5-year intervals. Submit seed from highest infected stand (26% healthy) to provincial rust screening program. Establish field-based rust monitoring transects to study a greater sample of parent trees. Confirm field trial design, area required, and prepare field sites for trials.
identify the locations to plant whitebark pine (Pinus albicaulis) in undisturbed areas within the Designated Project area prior to construction;	Surveys of rust and planting trials from 2016 revealed that whitebark pine seedlings establish and grow well in disturbed and natural soils. Surveys identified climate change, rust monitoring and transplant donor sites for planting on undisturbed areas.	Establish planting trials for climate change and blister rust on undisturbed sites and disturbed sites where consistent within the study design.
implement measures to support whitebark pine (Pinus albicaulis) growth and use by Clark's nutcracker (Nucifraga columbiana);	Stand assessments identified competition and mountain pine beetle are most manageable threats in the near term to cone production and use by Clark's nutcrackers.	Apply verbenone to plus trees to minimize losses of reproductive trees to mountain pine beetle. Develop restoration prescriptions. Daylight whitebark pine to reduce competition levels and support current and future cone production.

5.0 References

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Appendix 11: Air Quality Monitoring January – March 31, 2023

October 11, 2023

Impact Assessment Agency of Canada
525 Superior Street
Victoria, BC
V8V 1T7

Additional January 1 – March 31, 2023 Air Quality Data

Dear Sir or Madam:

In addition to the BW Gold Ltd. "*Air Quality and Fugitive Dust Management Annual Report 2022*", dated March 31, 2023, please find results for January 1 – March 31, 2023, monitoring in this memorandum to align with the reporting period defined in the Federal Decision Statement Issued under Section 54 of the *Canadian Environmental Assessment Act, 2012.*

> 1.38 "*Reporting year means April 1 of a calendar year through March 31 of the subsequent calendar* year"

1.0 PARTICULATE MATTER MONITORING

Particulate matter data was measured for PM <10 microns (PM_{10}) and PM <2.5 microns ($PM_{2.5}$) mass concentration on a 47 mm filter contained in a single-action filter change mechanism. Samples were collected over a 24-hour period at a target flow rate of 1m^3/hr. Between January 1 and March 31, 2023, samples were collected on March 13, 19, 25, and 31st, 2023 following the National Air Pollution Surveillance Sampling Schedule (NAPS[1]).

Particulate matter data was not collected between December 19th, 2022, and March 13th, 2023, due to a cassette installation error, system faults due to power outages and user error. In 2023 training on the operation and maintenance of the sampling unit will be provided to relevant onsite personnel to reduce the likelihood of those preventable events in the future.

The results of the particulate matter were compared to the British Columbia Ambient Air Quality Objectives (BCAAQO), Canadian Ambient Air Quality Standards (CAAQS), Federal Air Quality Objectives as well as modelled baseline concentrations described in section 7.1 of the Air Quality and Fugitive Dust Management Plan (AQFDMP). Analytical results are presented in Table 1 below.

[1]National Air Pollution Surveillance (NAPS) Program https://data-donnees.ec.gc.ca/data/air/monitor/national-air-pollution-surveillance-naps-program/ProgramInformation-InformationProgramme/

Table 1: Particulate Matter Data

Client Sample ID	Date Sampled	Particulate, Fine	Particulate, Coarse	Particulate, PM_{10}	Particulate $PM_{2.5}$
BCAAQO				50	25[a]
CAAQS				50	28[b]
Federal Air Quality Objectives				-	27 to 28[c]
Baseline Modelling Concentrations				9	4
	Units	µg/m³	µg/m³	µg/m³	µg/m³
77703/68929	March 13, 2023	6.6	2.5	**9.1**	**6.6**
21530/76461	March 19, 2023	5.8	<2.0	5.8	**5.8**
77720/77723	March 25, 2023	3.0	5.4	<3.2	3.0
77717/77726	March 31, 2023	4.2	<2.1	**9.6**	**4.2**

Notes:
All units are in ug/m3 unless otherwise specified.
Sources: British Columbia Ministry of Environment and Climate Change Strategy (BCAAQO, 2023) and Canadian Ambient Air Quality Standards (CAAQS, 2020)

a- Achieved based on annual 98th percentile value.
b- Achieved based on 98th percentile of daily average, averaged over three consecutive years.
c- CAAQS is 28 ug/m³ in 2015 and 27 ug/m³ in 2020 (CCME, 1999); compliance is based on 98th percentile value, averaged over three consecutive years.

BOLD – indicated results exceed baseline concentrations.

Based on the analytical results, no samples exceeded any of the applicable provincial or federal objectives or standards; however, the baseline PM_{10} concentration (9 µg/m³) was exceeded on March 13th and 31st and the baseline $PM_{2.5}$ concentration (4 µg/m³) was exceeded on March 13th, 19th and 31st. The highest $PM_{2.5}$ concentration was 6.6 µg/m³ observed on March 13th and the highest PM_{10} concentration was 9.6 µg/m³ observed on March 31st, 2023.

The results of the particulate matter samples for both $PM_{2.5}$ and PM_{10} are above the predicted baseline concentrations (4 µg/m³ and 9 µg/m³ respectively); however, the max concentrations observed were below the BCAAQO, CAAQS, and the Federal Air Quality Objectives . As such, no adverse health effects for human receptors are likely to occur.

2.0 NITROGEN DIOXIDE AND SULFUR DIOXIDE MONITORING

The first sample collected for Nitrogen Dioxide (NO2) and Sulfur Dioxide (SO2) passive air samples was deployed on February 23rd, 2023, and was collected on March 25th, 2023. The Initial radiello was deployed for 30 days ± 4 days, before being collected; however, after discussion with ALS Laboratory, it is now understood radiello samplers should be collected as soon as 7-days and no later than 15-days, depending on relative humidity.

The results of the radiello samples were compared to the BCAAQO, CAAQS, and the Federal Air Quality Objectives. Analytical results are presented in Table 2 below.

Table 2: Nitrogen Dioxide and Sulfur Dioxide Data

Client Sample ID	Date Sampled	NO_2	SO_2
BCAAQO - Annual		17	5
CAAQS - Annual		17	5
Federal Air Quality Objectives - Annual		17	5
	Units	ppb	ppb
Rad1	March 25, 2023	0.70	<0.050

Notes:
All units are in ppb unless otherwise specified.
Sources: British Columbia Ministry of Environment and Climate Change Strategy, updated November 2021 (BCAAQO, 2023), Canadian Ambient Air Quality Standards (CAAQS 2020) and Federal Air Quality Objectives, Canadian Council of Ministers of the Environment (CCME 2023)

The BCAAQO, CAAQS, and the Federal Air Quality Objectives are based on 1-hour readings and/or annual average over 1 year. The radiello's on site measure the concentration of NO_2 and SO_2 over several days, as such, the most conservative objective of annual average over a year period was used for comparison. Based on the analytical results, no samples exceeded any of the applicable provincial or federal objectives or standards.

3.0 CO MONITORING

Carbon monoxide (CO) Monitoring commenced on May 8, 2023, as such there are no readings for this reporting period.

4.0 DUST FALL MONITORING

No dustfall monitoring occurred between January 1 and March 31, 2023. Per the Country Foods Monitoring Plan (CFMP), this monitoring occurs during the summer months. Relative the reporting period of the FDS, baseline sampling occurred August – September 2022, results are presented in Appendix C of the "*Air Quality and Fugitive Dust Management Annual Report 2022*".

5.0 SUMMARY AND CONCLUSION

Based on the sampling and analytical program findings described above, no exceedances of BCAAQO, CAAQS, and the Federal Air Quality Objectives occurred between January 1 and March 31, 2023.

Appendix 12: Wildlife Monitoring January 1 – March 31, 2023

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Blackwater 2023 Q1 Wildlife Monitoring Activity Memo

To	Travis Desormeaux, Blackwater Gold
From	Hannah Visty (ERM) and Alice Merondun (ERM)
Date	6 October 2023
Reference	0703946-03
Subject	Blackwater 2023 Q1 Wildlife Monitoring Activity

1. INTRODUCTION

The Blackwater Gold Project (the Project), owned by BW Gold LTD. (BW Gold), a wholly owned subsidiary of Artemis, is a gold and silver open pit mine located in central British Columbia (BC). The Project is located approximately 112 kilometres (km) southwest of Vanderhoof, 160 km southwest of Prince George, and 446 km northeast of Vancouver.

BW Gold has developed a Wildlife Mitigation and Monitoring Plan (WMMP) to manage potential Project-related adverse effects on wildlife and wildlife habitat during the Construction, Operations, Closure, and Post-closure phases (ERM 2022a). The Project also has a Caribou Mitigation and Monitoring Plan (CMMP; ERM 2022b) to avoid, reduce, and offset Project effects on caribou (*Rangifer tarandus caribou*) and its critical habitat. The first annual WMMP Compliance Report and associated CMMP EAC Compliance Report was submitted in 2022. The submitted 2022 WMMP Compliance Report included reporting of follow-up programs and monitoring of mitigation measures conducted during the period of January 2022 – December 2022.

This memo serves as an addendum to the 2022 WMMP Compliance Report, and associated 2022 CMMP EAC Compliance Report. The memo includes a summary of follow-up programs and monitoring conducted during the period of January 2023 – March 2023 to encompass the entirety of the April 2022 – March 2023 reporting period required by the Impact Assessment Agency of Canada (IAAC).

1.1 Background

The WMMP incorporates requirements from the Environmental Assessment Certificate #M19-01 (EAC), the federal Decision Statement (DS), and the master Mitigation Table (MT) which was approved by the BC Environmental Assessment Office (EAO) in November 2020 to address EAC condition 43.

The CMMP is required by EAC Condition 22 and federal Condition 8.18. The CMMP is guided by federal and provincial legislation, the federal DS and EAC #M19-01, and best management practices and guidelines including the *Recovery Strategy for the Woodland Caribou, Southern Mountain Population (Rangifer tarandus caribou) in Canada* (Environment Canada 2014).

As defined by the WMMP and relevant Project conditions, a compliance report is prepared annually and will:

- Summarize and present the results of the follow up programs and monitoring of mitigation measures during the previous year, during Construction and Operation of the Project;
- Include a table of concordance indicating where EAC and DS conditions have been addressed;
- Be sent to the EAO and Aboriginal Groups by March 31 the year following the reporting year;
- Subsequently, be sent to Environment and Climate Change Canada (ECCC) and Indigenous groups for review and comment by June 30 of the year following the reporting year (DS condition 2.12); and
- Be delivered in its final version to the Canadian Environmental Assessment Agency by September 30 of the year following the reporting year (DS condition 2.13).

The objectives of the annual WMMP compliance report, which includes the CMMP EAC Compliance Report, are to:

- Summarize and present the results of the follow-up programs carried out the previous year, as outlined in the WMMP (ERM 2022a);
- Summarize and present the results of the monitoring of mitigation measures carried out the previous year, as outlined in the WMMP (ERM 2022a);
- Provide analysis of monitoring results to test impact predictions from the Environmental Impact Statement (EIS; New Gold 2015, ERM 2017); and
- Provide an overview of adaptive management actions carried out the previous year, along with the reasoning and outcome for each action.

1.2 Monitoring Requirements

The only compliance monitoring conducted during the period of January 2023 – March 2023 included ungulate snow track surveys as described in the CMMP (ERM 2022b). Snow track surveys were completed as part of the monitoring programs developed for caribou which include:

- Ungulate distribution/avoidance monitoring using:
  - Pellet counts; and
  - Snow track surveys (EAC #M19-01 Condition 22c and 22d).
- Habitat loss monitoring; and
- Mortality risk monitored through wildlife interactions and incidents.

1.2.1 EAC and Federal DS Conditions

The federal DS and provincial EAC each have requirements directly related to the ungulate snow track surveys described in the CMMP (ERM 2022b) which were completed during the period of January 2023 – March 2023.

DS Condition 8.18

6) a description of the follow-up program the Proponent shall implement to determine the effectiveness of the mitigation measures included in the compensation plan. As part of the development of the follow-up program, the Proponent shall determine, in consultation with Indigenous groups, the methods, timing and frequency for conducting winter surveys for caribou abundance and distribution within the Designated Project area. The Proponent shall apply conditions 2.9 and 2.10 when implementing the follow-up program.

EAC Condition 22

c) the type, timing and frequency for undertaking caribou surveys prior to commencement of Construction, as well as during Operations, and how that information will inform development and implementation of monitoring and mitigation measures during Construction and Operations.

d) provision of survey results to Aboriginal Groups, FLNRORD, EMPR and ENV.

2. CARIBOU MONITORING – SNOW TRACKS

2.1 Objectives

The Project is on the eastern edge of the Tweedsmuir Local Population Unit (LPU) of southern mountain caribou; with approximately half of the mine site falling inside the LPU. The mine site is within the historic range of the Tweedsmuir caribou based on Traditional Knowledge from the Lhoosk'uz Dené Nation (LDN) and Ulkatcho First Nation (UFN) and includes areas mapped as winter caribou habitat. The mine site is outside of the annual range (1980-2020) used by collared female caribou but is still used intermittently by caribou based on aerial surveys, snow track surveys and incidental observations. The construction of the Project will result in the removal and disturbance of three types of Type 1 Matrix habitat (high elevation, low elevation and general) and potential disturbance by noise of High Elevation Winter Range.

The objectives of the snow track surveys outlined in the CMMP are to:

- Test whether aerial or ground-based surveys are better for determining avoidance of the mine by caribou;
- Determine whether there is a change in relative abundance (measured through track counts) by caribou through time, relative to the mine site; and
- Determine whether there is a change in relative abundance (measured through track counts) by moose through time, relative to the mine site.

2.2 Methods

In support of caribou avoidance monitoring through snow track surveys outlined in the CMMP (ERM 2022b), ground- and aerial-based ungulate snow track surveys were completed in March, 2023. Surveys were completed for the proposed Project footprint and an additional 8 km buffer of the surrounding area (the Study Area).

2.2.1 Aerial Survey Methods

Survey methods followed protocols outlined in *Aerial-based Inventory methods for Selected Ungulates: Bison, Mountain Goat, Mountain Sheep, Moose, Elk, Deer and Caribou* (RIC 2002). Aerial surveys were completed in linear transects spaced 1 km apart which directly intersected

the mine footprint and extended to approximately 8 km from the mine site. The timing of aerial surveys was determined based Traditional Knowledge of caribou movement from UFN and LDN, and an analysis of caribou collar data to determine when caribou were most likely to overlap the Project.

The following information was recorded during aerial surveys:

- Date and time;
- Time since last snowfall;
- Transect start and end points and track logs;
- Temperature, snow depth, snow conditions, and wind; and
- Location and direction of snow tracks, species, and number.

2.2.2 Ground-Based Survey Methods

Ground-based survey methods followed protocols outlined in *Ground-based Inventory Methods for Ungulate Snow-track Surveys* (RIC 2006). Prior to fieldwork, transects were established, radiating outwards from the mine site, preferentially oriented uphill towards Mt. Davidson on existing trails, roads, and seismic lines. Transects were stratified to occur evenly throughout the Study Area.

Transects were 1 km long, covered by use of a snowmobile or truck. Recorded information was the same as listed above for aerial surveys (see Section 2.2.1). Habitat was recorded along each transect to describe forest type and cover.

2.3 Results

Ground- and aerial-based ungulate snow track surveys were conducted from March 3 – 5, 2023. The following transects were completed:

- Nine ground transects totalling 101 km of survey effort, eight transects (87 km) by snowmobile and one (14 km) by truck (Figure 2.3-1); and
- Thirty aerial transects totalling 555 km of survey effort (Figure 2.3-2).

No caribou tracks or other signs were observed during survey efforts, nor incidentally.

A total of 37 individual track locations or animals were observed during ground-based surveys (Table 2.3-1). Species included moose, lynx, wolf, coyote, porcupine, river otter, and deer. For ungulate species, a total of 21 moose and 1 deer tracks or animals were observed.

A total of 560 individual track locations or animals were observed during aerial surveys (Table 2.3-2; Figure 2.3-2). Species included moose, lynx, wolf, coyote, otter, and mountain goat. For ungulate species, a total of 390 moose and 10 mountain goat tracks or animals were observed.

The most abundant species for both surveys were moose followed by lynx. Moose were most frequently recorded in the central and northern transects of the Study Area for both survey types (Figure 2.3-1 and 2.3-1).

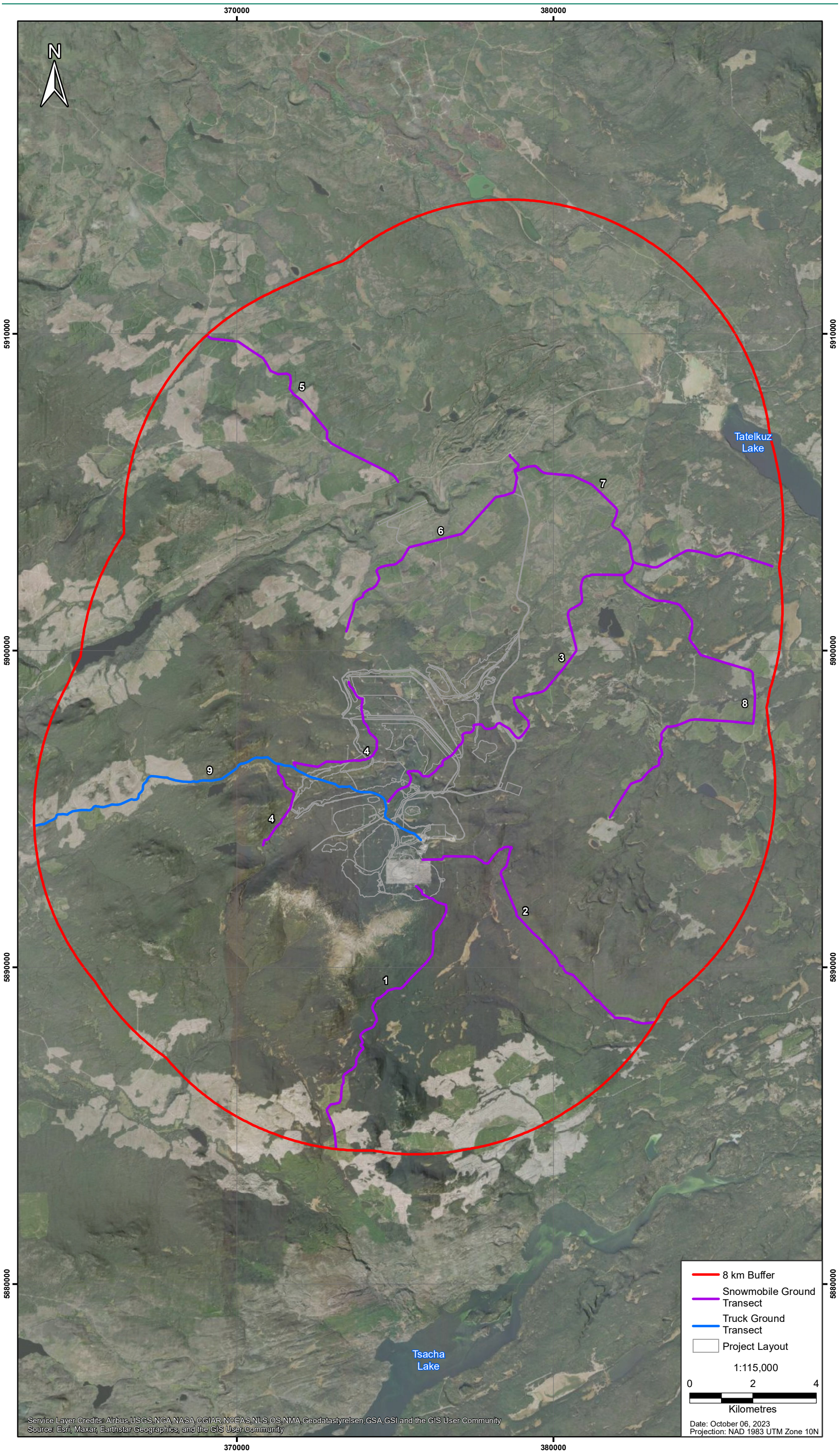

Figure 2.3-1: Ground-based Ungulate Snow Track Survey Transects, 2023

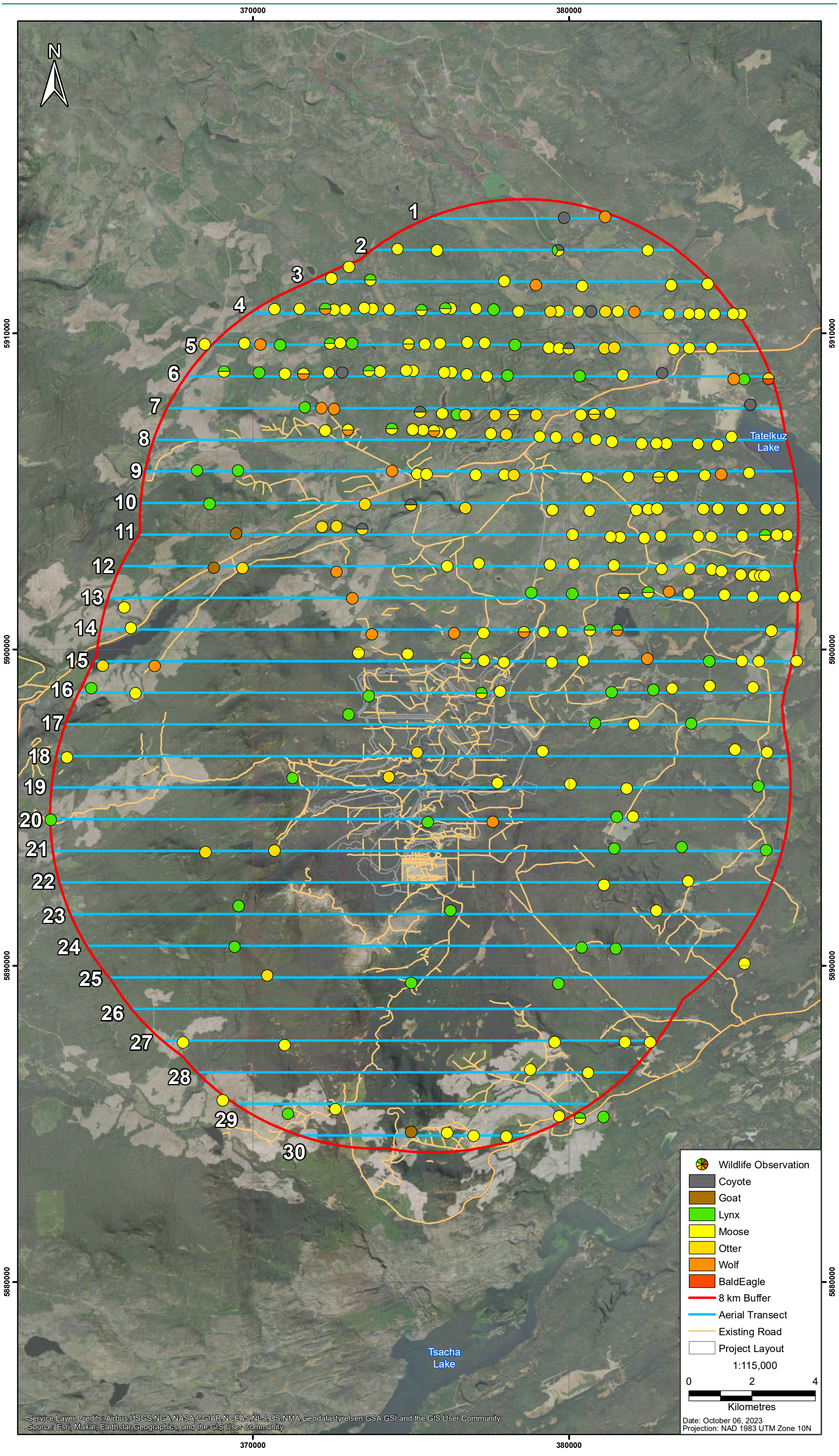

Figure 2.3-2: Aerial Ungulate Snow Track Survey Observations and Transects, 2023

Table 2.3-1: Ground-based Ungulate Snow Track Survey Results.

Transect[1]	Number of Locations where Tracks were Identified along the Transect							
	Moose	Lynx	Wolf	Coyote	Porcupine	River Otter	Unspecified Deer	Total
1	1	2	-	-	1	-	-	4
2	3	1	-	-	-	-	-	4
3	7	1	-	-	-	1	1	10
4	-	-	-	-	-	-	-	0
5	1	1	1	-	-	-	-	3
6	-	-	-	-	-	-	-	0
7	6	-	-	2	-	-	-	8
8	3	2	-	1	-	-	-	6
9	-	-	-	1	-	1	-	2
Total	**21**	**7**	**1**	**4**	**1**	**2**	**1**	**37**

Note: [1]Figure 2.3-1 shows transect locations.

Table 2.3-2: Aerial Ungulate Snow Track Survey Results.

Transect[1]	Number of Locations where Tracks were Identified along the Transect						
	Moose	Lynx	Wolf	Coyote	Otter	Mountain Goat	Total
1	-	-	1	1	-	-	2
2	12	1	-	3	-	-	16
3	11	1	2	-	-	-	14
4	53	4	5	1	2	-	65
5	32	4	3	1	4	-	44
6	25	6	6	2	1	-	40
7	20	2	5	2	7	-	36
8	35	1	4	-	2	-	42
9	21	2	6	-	2	-	31
10	17	1	-	2	3	-	23
11	17	1	-	1	3	4	26
12	35	-	2	-	1	4	42
13	12	3	2	1	-	-	18
14	23	2	8	-	1	-	34
15	16	2	6	-	1	-	25
16	7	5	-	-	1	-	13
17	3	3	-	-	-	-	6
18	6	-	-	-	2	-	8

Transect[1]	Number of Locations where Tracks were Identified along the Transect						
	Moose	Lynx	Wolf	Coyote	Otter	Mountain Goat	Total
19	6	2	-	-	1	-	9
20	4	3	4	-	-	-	11
21	-	3	-	-	2	-	5
22	3	-	-	-	-	-	3
23	3	2	-	-	-	-	5
24	-	3	-	-	-	-	3
25	-	2	-	-	1	-	3
26	4	2	-	-	-	-	6
27	10	-	-	-	-	-	10
28	3						3
29	7	3					10
30	5					2	7
Total	**390**	**58**	**54**	**14**	**34**	**10**	**560**

Note: [1]Figure 2.3-2 shows transect locations.

3. DISCUSSION

The majority of annual monitoring for the Blackwater project between the period of April 2022 and March 2023 is summarized in the 2022 WMMP Compliance Report and associated CMMP EAC Report. One wildlife survey for ungulate snow tracks was conducted in March 2023 and is summarized in this memo.

No caribou or caribou sign were recorded during the March 2023 snow track survey. These findings are consistent with baseline and existing field data collected for the Project between 2012 and 2021 (ERM 2022b). Ground-based and aerial animal and track surveys completed in March 2012, December 2015, and February 2018 did not report any caribou. However, an aerial snow track survey in December 2021 reported a total of three caribou tracks. An incidental observation in February 2018 on top of Mt. Davidson also recorded a likely caribou track. Additionally, collar data (1980-2020) indicate that the Project is not within a current movement corridor and appears to only be used intermittently by caribou.

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Appendix 13: January 1 – March 31, 2023 Pre-Clearing Surveys

BW GOLD LTD
a subsidiary company of Artemis Gold Inc

Pre-Clearing
Wildlife Survey Report

March 8th – March 10th, 2023

Prepared By:

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1. Summary

Five pre-clearing, furbearer den, bear den, hibernacula and nest surveys were carried out on March 8thth through March 10thth, 2023. No furbearer dens, bear dens, hibernacula, stick nests, or cavity nests were detected, observed, or located during these surveys.

2. Introduction

The Blackwater Gold project is on the northern flanks of Mt. Davidson in the Nechako Plateau approximately 160 kilometres southwest of the city of Prince George and 110 km southwest of the town of Vanderhoof, in central British Columbia.

Avison Management Services (AMS) Ltd. was retained to conduct furbearer den, bear den, hibernacula, and nest surveys to determine presence of denning furbearers and bears, potential bat hibernacula, or stick or cavity nests, prior to clearing and building road access and decking areas. The following is a summary of the survey results.

3. Locations

3.1 Location References

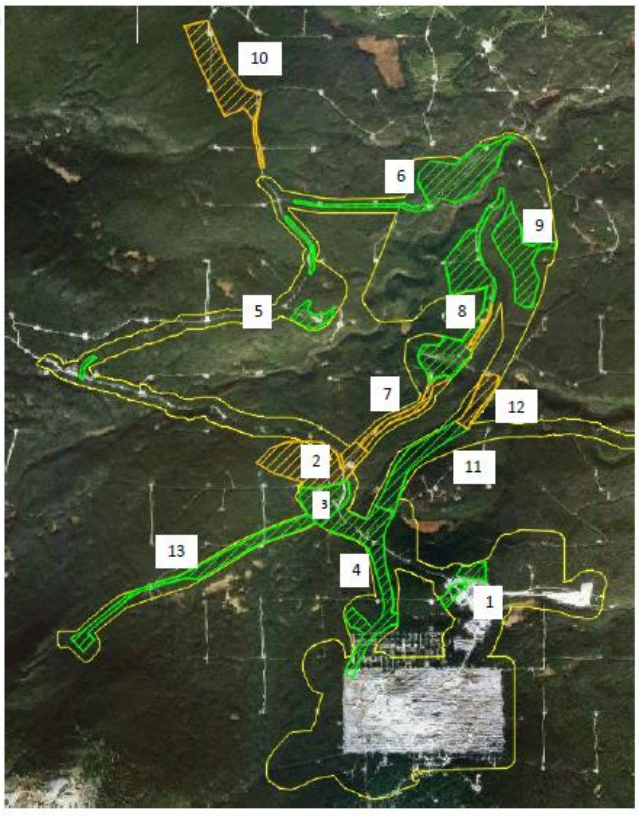
The map below includes a list of prioritized sequencing of clearing at the Blackwater Project. Pre-clearing wildlife surveys will document surveys completed for these prioritized areas.

Initial BW Clearing Areas – Trigger is Wetlands Offsetting Plan; **Complete**

Yellow Lines = Early Works OLTC
Green Hatching = Available no interaction with Canfor
Orange Hatching = Areas within Canfor Tenure (logs stacked separately for Canfor)

*Available clearing limits have been selected based on infrastructure requirements, current OLTC approval, 30m offset from all potential fish-bearing watercourses (except those where road crossings already exist)
The cut areas require approval from Canfor to harvest. **These blocks should be harvested under Canfor tenure, as they must be completed prior to April 1, 2023, to support topsoil stockpile development.

Area Name/Description	Sequence Number	Area (Ha)
ROM Pad	1	5.8
TS-3 and A-Trail Laydown (Canfor Tenure)	2	26.1
North MAC Haul Road	3	10.9
MAC to Pit Haul Road	4	26.0
C-Trail and Zone S/C Borrow	5	6.9
C-Trail Offshoot and Esker	6	27.8
A-trail to WMP (Canfor Tenure	7	5.2
WMP, E-Trail, Borrow Area	8	32.8
TSF East Side	9	19.4
TS-6 (CANFOR TENURE)	10	23.6
TSF Haul Road	11	13.9
TSF Haul Road (Canfor Tenure)	12	6.24
Explosives Access Road	13	16.9
	Total:	**221.6**



4. Survey Standards and Methodology

Bear Den Surveys

The Resources Inventory Committee's Inventory methods for Bears outline survey methodology for enumeration of bears, but do not elaborate on methodology specific to detection of dens in linear features such as exploration trails or drill pads. Hodder and Ray (2005) provide information on ecotypes and general characteristics of bear den locations, but again do not elaborate on methodology specific to detection of dens. Our approach to detecting bear dens when conducting pre-clearing surveys immediately prior to clearing, is based on walking a proposed disturbance feature (i.e. exploration trail, drill pad, road allowance or, cut block), and walk a linear, or grid pattern survey and search and observe based on sight ability a 10-50 m observable area around the surveyor, watching for important den habitat features (i.e. evidence of natural or excavated ground dens, tracks, trails, scat, etc.).

Furbearer Den Surveys

The Resources Inventory Committee's Inventory methods for medium-sized terrestrial carnivores, and for Marten and Weasel outline survey methodology for enumeration, but do not elaborate on methodology specific to detection of dens in linear features such as exploration trails or drill pads. The BC Fisher Working Group does provide some excellent information on fisher habitat and den sites which can also be broadly applied to marten and weasel. Our approach to detecting furbearer dens is based on walking a proposed disturbance feature (i.e. exploration trail, drill pad, road allowance or, cut block), and walk a linear or grid pattern survey and search and observe based on sight ability a 10-50 m observable around the surveyor, watching for tracks (i.e. good snow, conditions), important den habitat features (i.e. large diameter dead or rotting trees with potential for cavities, and evidence of ground dens, trails, excavations, scat, etc.).

Hibernacula Surveys

In terms of hibernacula, once again, the Resources Inventory Committee's inventory methods for Bats outline survey methodology for detection and enumeration of Bats, but do not elaborate on methodology specific to detection of hibernacula in linear features such as exploration trails or drill pads. However, the hibernacula section of the Wildlife Habitat Features Field Guide (Kootenay Boundary Region), does elaborate on what feature to look for, to detect hibernacula. This document was referenced for detection of hibernacula. Our approach to detecting hibernacula is based on walking a proposed disturbance feature (i.e. exploration trail, drill pad, road allowance or, cut block), and walk a linear or grid pattern survey and search and observe based on sight ability a 10-50 m observable area around the surveyor, searching in and around those features to locate potential hibernacula sites.

Nest Surveys

There currently are no provincial or federal standards for conducting bird nest surveys. As such, it is the responsibility of the proponent of a proposed development project to produce and adhere to their own bird nest survey methodology to demonstrate due diligence in not contravening any related legislation.

Avison Management Services Ltd., biologists attempt to follow all standards relevant to nesting surveys outlined in the Inventory Methods for Forest and Grassland Songbirds, Standards for Components for British Columbia's Biodiversity No. 15 (RIC 1999) and Inventory Methods for Raptors, Standards for Components for British Columbia's Biodiversity No. 11 (RIC 2001), as well as recommendations outlined by the Canadian Wildlife Service (CWS). Where deemed appropriate, survey methods are modified to account for local and/or site-specific conditions.

The previous Migratory Birds Regulations protected the nests of all migratory birds, at all times, for as long as they existed, which meant that many nests were protected when they no longer benefited migratory birds. The new Migratory Birds Regulations, 2022, provide protection to migratory bird nests when they are considered to have a high conservation value for migratory birds.

The nests of most migratory bird species may be destroyed, damaged, disturbed or removed when they do not contain a migratory bird or viable egg.

For most migratory bird species, removing the nest when it does not contain a migratory bird or viable egg (generally after the breeding season) will have no effect on the ability of those birds to nest again. The great majority build or occupy new nests each year. However, some species may reuse the same nest structure year after year, and the loss of these nests could have a negative effect on future nesting success. The nests of the 18 species, listed in Schedule 1 of the MBR 2022, are protected year-round and cannot be damaged, destroyed, removed or disturbed, even when they are unoccupied, unless the conditions of the regulations have been met. One of the most noteworthy changes to the amended Regulations of the Migratory Birds Convention Act is the inclusion of the Pileated Woodpecker on the list of species for which nesting sites are protected after active nesting.

Environment and Climate Change Canada (ECCC) encourages practices that will ensure the long-term conservation of migratory bird populations locally, including the retention of sufficient high-quality habitat. For cavity nesting species, this may mean the retention of dying and dead standing trees in forest stands, whether or not they contain the nesting cavity of the Pileated Woodpecker.

Avison Management Services Ltd., biologists attempt to follow all standards relevant to surveys provided by the Federal and Provincial governments and other reliable sources. Where deemed appropriate, survey methods are modified to account for local and/or site-specific conditions.

5. Wildlife Survey Results by Area

The following Tables are lists of the areas surveyed:

***Table 1**. Rom Pad Decking Area - Pre-clearing Wildlife Survey, March 8th, 2023.*

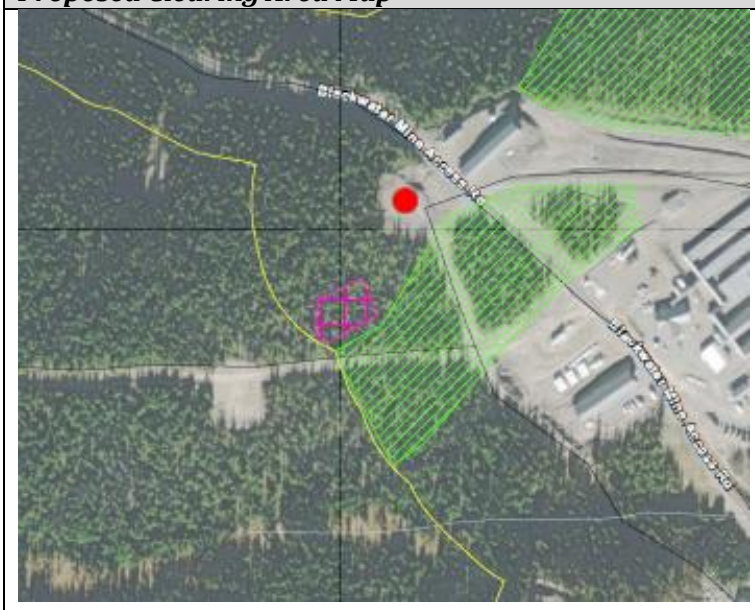
Name	***Area***
ROM Pad	*Approx. 3 ha*
Survey Date	***Survey Start and End Time***
March 8th, 2023	*11:00 am - 12:45 pm*
Weather	***Conditions***
Clear and -4 degrees Celsius	*1.5 m of Snow*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Snowshoe hare, Red squirrel, Red fox, Pine Marten, Spruce Grouse, and Short-tailed weasel were observed,	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed.*

***Table 2**. MAC to Pit Haul Road Decking Area 2 - Pre-clearing Wildlife Survey, March 9th, 2023.*

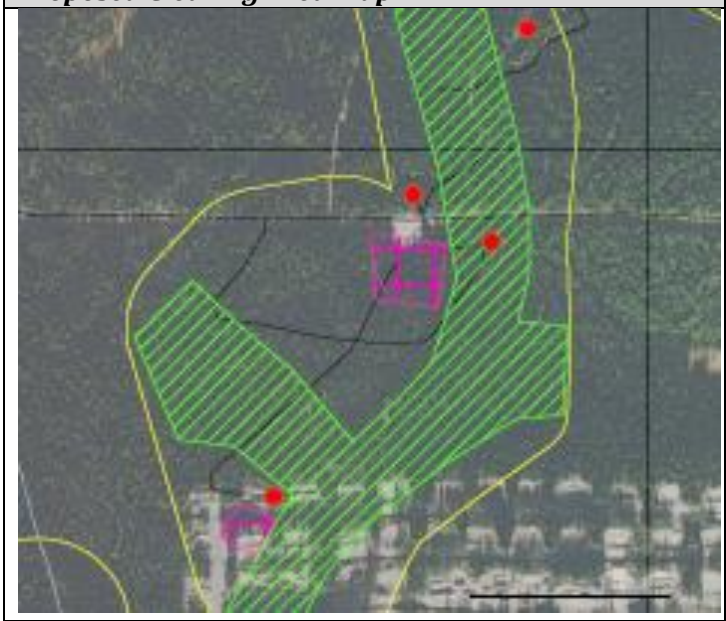
Name	***Area***
MAC to Pit Haul Road Decking Area 2	*Approx. 5.1 ha*
Survey Date	***Survey Start and End Time***
March 9th, 2023	*8:30 am - 11:00 pm*
Weather	***Conditions***
Clear and -8 degrees Celsius	*1.5 m of Snow*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Snowshoe hare, Red squirrel, Red fox, Pine Marten, Spruce Grouse, and Short-tailed weasel were observed, A Gray jay was observed, a Raven was herd vocalizing, and an unknown species of woodpecker species was heard drumming on a distant tree.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed.*

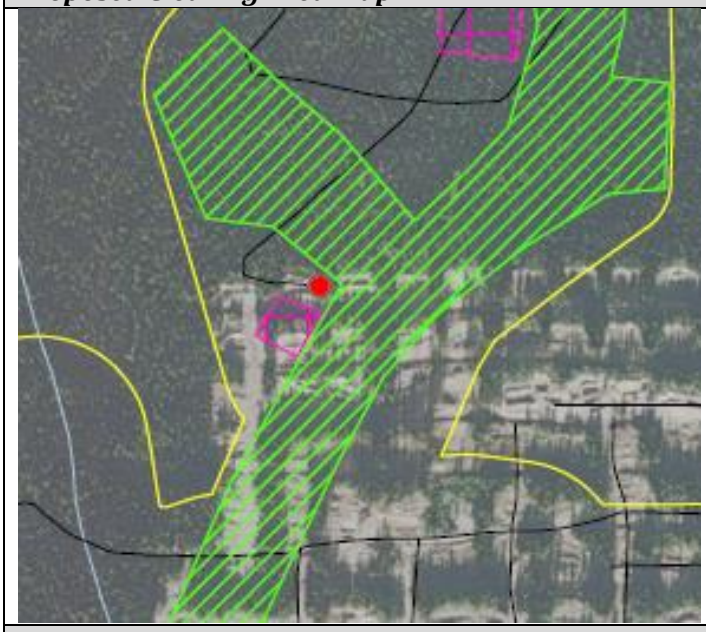
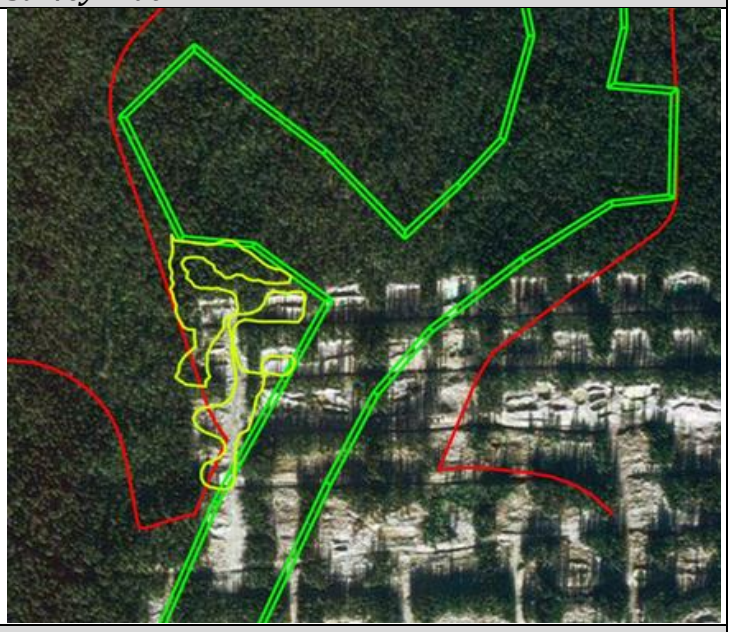
***Table 3**. MAC to Pit Haul Road Decking Area 1 - Pre-clearing Wildlife Survey, March 9th, 2023.*

Name	***Area***
MAC to Pit Haul Road Decking Area 1	*Approx. 2.41 ha*
Survey Date	***Survey Start and End Time***
March 9th, 2023	*1:30 pm – 15:30 pm*
Weather	***Conditions***
Clear and -4 degrees Celsius	*1.5 m of Snow*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Lynx, Snowshoe hare, Red squirrel, Red fox, Pine Marten, Spruce Grouse, and Short-tailed weasel were observed.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed.*

***Table 4**. MAC to Pit Haul Road Proposed Decking Area - Pre-clearing Wildlife Survey, March 10th, 2023.*

Name	***Area***
MAC to Pit Haul Road – Proposed Decking Area	*Approx. 3.8 ha*
Survey Date	***Survey Start and End Time***
March 10th, 2023	*7:45 am – 9:30 am*
Weather	***Conditions***
Overcast and -4 degrees Celsius	*1.5 m of Snow*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Lynx, Snowshoe hare, Red squirrel, Pine Marten, Spruce Grouse, and Short-tailed weasel were observed.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed.*

***Table 5**. MAC to Pit Haul Road Decking Area #3 - Pre-clearing Wildlife Survey, March 10th, 2023.*

Name	***Area***
MAC to Pit Haul Road Decking Area #3	*Approx. 1.36 ha*
Survey Date	***Survey Start and End Time***
March 10th, 2023	*11:00 am – 12:45 pm*
Weather	***Conditions***
Clear and -4 degrees Celsius	*1.5 m of Snow*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Lynx, Snowshoe hare, Red squirrel, Pine Marten, Willow Ptarmigan, and Short-tailed weasel were observed. Two Canada Jays were also observed.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed.*

6. Bear and Furbearer Den Survey Results

No active furbearer or bear dens were observed or identified during these surveys.

The following is a list of Bear species whose distribution overlap and have been observed in the Blackwater Mine area.

***Table 6**. List of potential Bear species whose distribution over-lap the Blackwater project. (E-Fauna BC, 2022).*

Common Name	Scientific Name
American Black Bear	*Ursus americanus*
Grizzly Bear	*Ursus arctos horribilis*

The following is a list of Furbearer species whose distribution overlap and/or have been observed in the Blackwater Mine area.

***Table 7**. List of potential Furbearer species whose distribution over-lap the Blackwater project. (E-Fauna BC, 2022).*

Common Name	Scientific Name
American (Pine) Marten	*Martes americana*
Ermine (Short-tailed weasel)	*Mustela erminea*
American Mink	*Neovison vison*
Fisher	*Pekania pennanti*
Least Weasel	*Mustela nivalis*
North American River Otter	*Lontra canadensis*
Wolverine	*Gulo gulo*

7. Hibernacula Survey Results

No hibernacula were observed or identified during these surveys.

The following is a list of Bat species that could potentially be present in the Blackwater Mine area.

***Table 8**. List of potential Bat species whose distribution over-lap the Blackwater project. (E-Fauna BC, 2022).*

Common Name	Scientific Name
Big Brown Bat	*Eptesicus fuscus*
California Bat	*Myotis californicus*
Keen Bat	*Myotis keenii*
Hairy Winged Bat	*Myotis volans*
Hoary Bat	*Lasiurus cinereus*
Little Brown Bat	*Myotis lucifugus*
Long-Eared Bat	*Myotis evotis*
Silver-haired Bat	*Lasionycteris noctivagans*
Yuma Bat	*Myotis yumanensis*

8. Nest Survey Result

No nests, stick nests, or cavities nests were observed or identified during these surveys.

This assessment also included searching the Provincial BC Red List and BC Blue List, SARA, and the federally designated COSEWIC Endangered, COSEWIC Threatened, COSEWIC Special Concern lists. The following species of birds or breeding birds listed as species at risk in the Caribou Regional District of British Columbia were found in this search (see below). None of the nests of the species below were located during this assessment, nor were cavity nests of the Pileated Woodpecker found in this pre-clearing survey.

Table 9. *Avian species designated at risk that have been identified as utilizing or residing in the Caribou Regional District.*

English Name	Scientific Name	BC List	Global	COSEWIC	SARA
American Avocet	*Recurvirostra americana*	Blue	G5 (2016)		
American Bittern	*Botaurus lentiginosus*	Blue	G5 (2016)		
American Golden-Plover	*Pluvialis dominica*	Blue	G5 (2016)		
American White Pelican	*Pelecanus erythrorhynchos*	Red	G4 (2016)	NAR	
Ancient Murrelet	*Synthliboramphus antiquus*	Blue	G4 (2016)	SC	1-SC (2006)
Band-tailed Pigeon	*Patagioenas fasciata*	Blue	G4 (2016)	SC	1-SC (2011)
Barn Owl	*Tyto alba*	Blue	G5 (2016)	T	1-T (2018)
Barn Swallow	*Hirundo rustica*	Yellow	G5 (2016)	SC	1-T (2017)
Bay-breasted Warbler	*Setophaga castanea*	Red	G5 (2016)		
Black Scoter	*Melanitta americana*	Blue	G5 (2016)		
Black Swift	*Cypseloides niger*	Blue	G4 (2016)	E	1-E (2019)
Black-crowned Night-heron	*Nycticorax*	Red	G5 (2016)		
Black-throated Green Warbler	*Setophaga virens*	Blue	G5 (2016)		
Bobolink	*Dolichonyx oryzivorus*	Red	G5 (2016)	SC	1-T (2017)
Brant	*Branta bernicla*	Blue	G5 (2016)		
Brewer's Sparrow, breweri subspecies	*Spizella breweri*	Blue	G5T5 (2016)		
Burrowing Owl	*Athene cunicularia*	Red	G4 (2016)	E	1-E (2003)
California Gull	*Larus californicus*	Red	G5 (2016)		
Canada Goose, occidentalis subspecies	*Branta canadensis occidentalis*	Red	G5T3 (2016)		
Canyon Wren	*Catherpes mexicanus*	Blue	G5 (2016)	NAR	
Cape May Warbler	*Setophaga tigrina*	Blue	G5 (2016)		
Caspian Tern	*Hydroprogne caspia*	Blue	G5 (2016)	NAR	
Cassin's Auklet	*Ptychoramphus aleuticus*	Red	G4 (2016)	SC	1-SC (2019)
Clark's Grebe	*Aechmophorus clarkii*	Red	G5 (2022)		
Common Murre	*Uria aalge*	Red	G5 (2016)		
Common Nighthawk	*Chordeiles minor*	Blue	G5 (2016)	SC	1-T (2010)
Double-crested Cormorant	*Nannopterum auritum*	Blue	G5 (2016)	NAR	
Eared Grebe	*Podiceps nigricollis*	Blue	G5 (2016)		

Evening Grosbeak	*Coccothraustes vespertinus*	Yellow	G5 (2016)	SC	1-SC (2019)
Ferruginous Hawk	*Buteo regalis*	Unknown	G4 (2016)	T	1-T (2010)
Flammulated Owl	*Psiloscops flammeolus*	Blue	G4 (2016)	SC	1-SC (2003)
Forster's Tern	*Sterna forsteri*	Red	G5 (2016)	DD	
Grasshopper Sparrow	*Ammodramus savannarum*	Red	G5 (2016)		
Gray Flycatcher	*Empidonax wrightii*	Blue	G5 (2016)	NAR	
Great Blue Heron, fannini subspecies	*Ardea herodias fannini*	Blue	G5T4 (2016)	SC	1-SC (2010)
Great Blue Heron, herodias subspecies	*Ardea herodias*	Blue	G5T5 (2016)		
Green Heron	*Butorides virescens*	Blue	G5 (2016)		
Gyrfalcon	*Falco rusticolus*	Blue	G5 (2016)	NAR	
Horned Lark, merrilli subspecies	*Eremophila alpestris merrilli*	Red	G5T4 (2016)		
Horned Lark, strigata subspecies	*Eremophila alpestris strigata*	Red	G5T2 (2016)	E	1-E (2005)
Horned Puffin	*Fratercula corniculata*	Red	G5 (2016)		
Hudsonian Godwit	*Limosa haemastica*	Red	G4 (2016)	T	
Lark Sparrow	*Chondestes grammacus*	Blue	G5 (2016)		
Lewis's Woodpecker	*Melanerpes lewis*	Blue	G4 (2016)	T	1-T (2012)
Long-billed Curlew	*Numenius americanus*	Yellow	G5 (2016)	SC	1-SC (2005)
Long-tailed Duck	*Clangula hyemalis*	Blue	G5 (2016)		
Marbled Murrelet	*Brachyramphus marmoratus*	Blue	G3 (2016)	T	1-T (2003)
Northern Fulmar	*Fulmarus glacialis*	Red	G5 (2016)		
Northern Goshawk, atricapillus subspecies	*Accipiter gentilis atricapillus*	Blue	G5T5 (2016)	NAR	
Northern Goshawk, laingi subspecies	*Accipiter gentilis laingi*	Red	G5T2 (2016)	T	1-T (2003)
Northern Pygmy-owl, swarthi subspecies	*Glaucidium gnoma swarthi*	Blue	G4G5T3T4Q (2019)		
Olive-sided Flycatcher	*Contopus cooperi*	Yellow	G4 (2016)	SC	1-T (2010)
Peregrine Falcon	*Falco peregrinus*	No Status	G4 (2016)	SC	1-SC
Peregrine Falcon, anatum subspecies	*Falco peregrinus anatum*	Red	G4T4 (2016)	NAR	1-SC (2012)
Peregrine Falcon, pealei subspecies	*Falco peregrinus pealei*	Blue	G4T3 (2016)	SC	1-SC (2003)
Pine Grosbeak, carlottae subspecies	*Pinicola enucleator carlottae*	Blue	G5T3 (2016)		
Prairie Falcon	*Falco mexicanus*	Red	G5 (2016)	NAR	
Purple Martin	*Progne subis*	Blue	G5 (2016)		
Red Knot	*Calidris canutus*	Blue	G4 (2016)	T	1-T (2010)

Red-necked Phalarope	*Phalaropus lobatus*	Blue	G4G5 (2016)	SC	1-SC (2019)
Rough-legged Hawk	*Buteo lagopus*	Blue	G5 (2016)	NAR	
Rusty Blackbird	*Euphagus carolinus*	Blue	G4 (2016)	SC	1-SC (2009)
Sage Thrasher	*Oreoscoptes montanus*	Red	G4 (2016)	E	1-E (2003)
Sharp-tailed Grouse, columbianus subspecies	*Tympanuchus phasianellus columbianus*	Blue	G5T3 (2022)		
Short-billed Dowitcher	*Limnodromus griseus*	Blue	G5 (2016)		
Short-eared Owl	*Asio flammeus*	Blue	G5 (2016)	T	1-SC (2012)
Smith's Longspur	*Calcarius pictus*	Blue	G4G5 (2016)		
Spotted Owl	*Strix occidentalis*	Red	G3G4 (2016)	E	1-E (2003)
Surf Scoter	*Melanitta perspicillata*	Blue	G5 (2016)		
Swainson's Hawk	*Buteo swainsoni*	Red	G5 (2016)		
Thick-billed Murre	*Uria lomvia*	Red	G5 (2016)		
Tufted Puffin	*Fratercula cirrhata*	Blue	G5 (2016)		
Tundra Swan	*Cygnus columbianus*	Blue	G5 (2016)		
Upland Sandpiper	*Bartramia longicauda*	Red	G5 (2016)		
Wandering Tattler	*Tringa incana*	Blue	G4G5 (2016)		
Western Grebe	*Aechmophorus occidentalis*	Red	G5 (2016)	SC	1-SC (2017)
Western Screech-Owl	*Megascops kennicottii*	No Status	G4G5 (2016)	T	1-T
Western Screech-Owl, kennicottii subspecies	*Megascops kennicottii*	Blue	G4G5T4 (2016)	T	1-T (2005)
Western Screech-Owl, macfarlanei subspecies	*Megascops kennicottii macfarlanei*	Blue	G4G5T4 (2016)	T	1-T (2005)
White-headed Woodpecker	*Dryobates albolarvatus*	Red	G4 (2016)	E	1-E (2003)
White-tailed Ptarmigan, saxatilis subspecies	*Lagopus leucura saxatilis*	Blue	G5T3T4 (2021)		
White-throated Swift	*Aeronautes saxatalis*	Blue	G5 (2016)		
Williamson's Sapsucker	*Sphyrapicus thyroideus*	Blue	G5 (2016)	E	1-E (2006)
Winter Wren	*Troglodytes hiemalis*	Blue	G5 (2016)		
Yellow-billed Cuckoo	*Coccyzus americanus*	Red	G5 (2016)		
Yellow-breasted Chat	*Icteria virens*	Red	G5 (2016)	E	1-E (2003)
American Avocet	*Recurvirostra americana*	Blue	G5 (2016)		
American Bittern	*Botaurus lentiginosus*	Blue	G5 (2016)		
American Golden-Plover	*Pluvialis dominica*	Blue	G5 (2016)		
American White Pelican	*Pelecanus erythrorhynchos*	Red	G4 (2016)	NAR	
Ancient Murrelet	*Synthliboramphus antiquus*	Blue	G4 (2016)	SC	1-SC (2006)

Band-tailed Pigeon	*Patagioenas fasciata*	Blue	G4 (2016)	SC	1-SC (2011)
Barn Owl	*Tyto alba*	Blue	G5 (2016)	T	1-T (2018)
Barn Swallow	*Hirundo rustica*	Yellow	G5 (2016)	SC	1-T (2017)
Bay-breasted Warbler	*Setophaga castanea*	Red	G5 (2016)		
Black Scoter	*Melanitta americana*	Blue	G5 (2016)		
Black Swift	*Cypseloides niger*	Blue	G4 (2016)	E	1-E (2019)
Black-crowned Night-heron	*Nycticorax*	Red	G5 (2016)		
Black-throated Green Warbler	*Setophaga virens*	Blue	G5 (2016)		
Bobolink	*Dolichonyx oryzivorus*	Red	G5 (2016)	SC	1-T (2017)
Brant	*Branta bernicla*	Blue	G5 (2016)		
Brewer's Sparrow, breweri subspecies	*Spizella breweri*	Blue	G5T5 (2016)		
Burrowing Owl	*Athene cunicularia*	Red	G4 (2016)	E	1-E (2003)
California Gull	*Larus californicus*	Red	G5 (2016)		
Canada Goose, occidentalis subspecies	*Branta canadensis occidentalis*	Red	G5T3 (2016)		
Canyon Wren	*Catherpes mexicanus*	Blue	G5 (2016)	NAR	
Cape May Warbler	*Setophaga tigrina*	Blue	G5 (2016)		
Caspian Tern	*Hydroprogne caspia*	Blue	G5 (2016)	NAR	
Cassin's Auklet	*Ptychoramphus aleuticus*	Red	G4 (2016)	SC	1-SC (2019)
Clark's Grebe	*Aechmophorus clarkii*	Red	G5 (2022)		
Common Murre	*Uria aalge*	Red	G5 (2016)		
Common Nighthawk	*Chordeiles minor*	Blue	G5 (2016)	SC	1-T (2010)
Double-crested Cormorant	*Nannopterum auritum*	Blue	G5 (2016)	NAR	
Eared Grebe	*Podiceps nigricollis*	Blue	G5 (2016)		
Evening Grosbeak	*Coccothraustes vespertinus*	Yellow	G5 (2016)	SC	1-SC (2019)
Ferruginous Hawk	*Buteo regalis*	Unknown	G4 (2016)	T	1-T (2010)
Flammulated Owl	*Psiloscops flammeolus*	Blue	G4 (2016)	SC	1-SC (2003)
Forster's Tern	*Sterna forsteri*	Red	G5 (2016)	DD	
Grasshopper Sparrow	*Ammodramus savannarum*	Red	G5 (2016)		
Gray Flycatcher	*Empidonax wrightii*	Blue	G5 (2016)	NAR	
Great Blue Heron, fannini subspecies	*Ardea herodias fannini*	Blue	G5T4 (2016)	SC	1-SC (2010)
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Green Heron	*Butorides virescens*	Blue	G5 (2016)		
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Horned Lark, merrilli subspecies	*Eremophila alpestris merrilli*	Red	G5T4 (2016)		
Horned Lark, strigata subspecies	*Eremophila alpestris strigata*	Red	G5T2 (2016)	E	1-E (2005)
Horned Puffin	*Fratercula corniculata*	Red	G5 (2016)		

Hudsonian Godwit	*Limosa haemastica*	Red	G4 (2016)	T	
Lark Sparrow	*Chondestes grammacus*	Blue	G5 (2016)		
Lewis's Woodpecker	*Melanerpes lewis*	Blue	G4 (2016)	T	1-T (2012)
Long-billed Curlew	*Numenius americanus*	Yellow	G5 (2016)	SC	1-SC (2005)
Long-tailed Duck	*Clangula hyemalis*	Blue	G5 (2016)		
Marbled Murrelet	*Brachyramphus marmoratus*	Blue	G3 (2016)	T	1-T (2003)
Northern Fulmar	*Fulmarus glacialis*	Red	G5 (2016)		
Northern Goshawk, atricapillus subspecies	*Accipiter gentilis atricapillus*	Blue	G5T5 (2016)	NAR	
Northern Goshawk, laingi subspecies	*Accipiter gentilis laingi*	Red	G5T2 (2016)	T	1-T (2003)
Northern Pygmy-owl, swarthi subspecies	*Glaucidium gnoma swarthi*	Blue	G4G5T3T4Q (2019)		
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Peregrine Falcon	*Falco peregrinus*	No Status	G4 (2016)	SC	1-SC
Peregrine Falcon, anatum subspecies	*Falco peregrinus anatum*	Red	G4T4 (2016)	NAR	1-SC (2012)
Peregrine Falcon, pealei subspecies	*Falco peregrinus pealei*	Blue	G4T3 (2016)	SC	1-SC (2003)
Pine Grosbeak, carlottae subspecies	*Pinicola enucleator carlottae*	Blue	G5T3 (2016)		
Prairie Falcon	*Falco mexicanus*	Red	G5 (2016)	NAR	
Purple Martin	*Progne subis*	Blue	G5 (2016)		
Red Knot	*Calidris canutus*	Blue	G4 (2016)	T	1-T (2010)
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Rusty Blackbird	*Euphagus carolinus*	Blue	G4 (2016)	SC	1-SC (2009)
Sage Thrasher	*Oreoscoptes montanus*	Red	G4 (2016)	E	1-E (2003)
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Short-billed Dowitcher	*Limnodromus griseus*	Blue	G5 (2016)		
Short-eared Owl	*Asio flammeus*	Blue	G5 (2016)	T	1-SC (2012)
Smith's Longspur	*Calcarius pictus*	Blue	G4G5 (2016)		
Spotted Owl	*Strix occidentalis*	Red	G3G4 (2016)	E	1-E (2003)
Surf Scoter	*Melanitta perspicillata*	Blue	G5 (2016)		
Swainson's Hawk	*Buteo swainsoni*	Red	G5 (2016)		
Thick-billed Murre	*Uria lomvia*	Red	G5 (2016)		
Tufted Puffin	*Fratercula cirrhata*	Blue	G5 (2016)		
Tundra Swan	*Cygnus columbianus*	Blue	G5 (2016)		

Upland Sandpiper	*Bartramia longicauda*	Red	G5 (2016)		
Wandering Tattler	*Tringa incana*	Blue	G4G5 (2016)		
Western Grebe	*Aechmophorus occidentalis*	Red	G5 (2016)	SC	1-SC (2017)
Western Screech-Owl	*Megascops kennicottii*	No Status	G4G5 (2016)	T	1-T
Western Screech-Owl, kennicottii subspecies	*Megascops kennicottii*	Blue	G4G5T4 (2016)	T	1-T (2005)
Western Screech-Owl, macfarlanei subspecies	*Megascops kennicottii macfarlanei*	Blue	G4G5T4 (2016)	T	1-T (2005)
White-headed Woodpecker	*Dryobates albolarvatus*	Red	G4 (2016)	E	1-E (2003)
White-tailed Ptarmigan, saxatilis subspecies	*Lagopus leucura saxatilis*	Blue	G5T3T4 (2021)		
White-throated Swift	*Aeronautes saxatalis*	Blue	G5 (2016)		
Williamson's Sapsucker	*Sphyrapicus thyroideus*	Blue	G5 (2016)	E	1-E (2006)
Winter Wren	*Troglodytes hiemalis*	Blue	G5 (2016)		
Yellow-billed Cuckoo	*Coccyzus americanus*	Red	G5 (2016)		
Yellow-breasted Chat	*Icteria virens*	Red	G5 (2016)	E	1-E (2003)

9. Limitations

The assessment(s) of the project site(s) described in this report have been made using acceptable minimal standards for detecting Bear and Furbearer Dens, and Hibernacula. Additionally, the assessment(s) described in this report have been made using acceptable standards for an Active Bird Nest Survey Program (ABNSP) and inactive nests outside the breeding window for use in pre-clearing surveys. These surveys are designed to help meet requirements for due diligence on behalf of the client(s) to achieve compliance with Federal and Provincial legislation pertaining to migratory birds and species at risk. Legislation includes the Federal Migratory Bird Convention Act [1994 c.22] and Migratory Birds Regulations [C.R.C., c. 1035], Species at Risk Act [2002, c.29] and British Columbia Wildlife Act [RSBC 1996 c.4SS]. The ABNSP follows standards relevant to nesting surveys outlined in the Inventory Methods of Forest and Grassland Songbirds, Standards for Components of British Columbia's Biodiversity No. 15 (RIC 1999) and Inventory Methods for Raptors, Standards for Components of British Columbia's Biodiversity No. 11 (RIC 2001). The program also follows recommendations outlined by the Canadian Wildlife Service (CWS). Where appropriate, survey methods deemed may be modified to account for local and/or site-specific conditions.

Notwithstanding the recommendations and conclusions made in this correspondence, it must be acknowledged that bear dens, furbearer dens, hibernacula, and stick and cavity nests can sometimes be difficult to locate despite following established protocols and making best possible survey efforts. While all reasonable efforts have been made to ensure the surveys were completed to the best possible standards, no guarantees are offered, or implied. It is both professionally and practically impossible to predict with absolute certainty that all bear dens, hibernacula, stick and cavity nests have been accounted for. In accordance with standard protocols, the assessment presented in this correspondence is valid for two weeks after the last survey date. If no work is initiated by the client(s) within these two weeks, a new survey is required. Approval and implementation of any recommendations made within this correspondence is the responsibility of the client, and in no way implies any inspection or supervisory role on the part of Avison Management Services Ltd. In the event that inspection or supervision of all or part of the implementation plan is requested, the request shall be in writing and the details agreed to in writing by both parties. Sketches, diagrams and photographs contained in this report, being intended as visual aids, should not be construed as engineering reports or legal surveys.

10. References

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11. Appendices

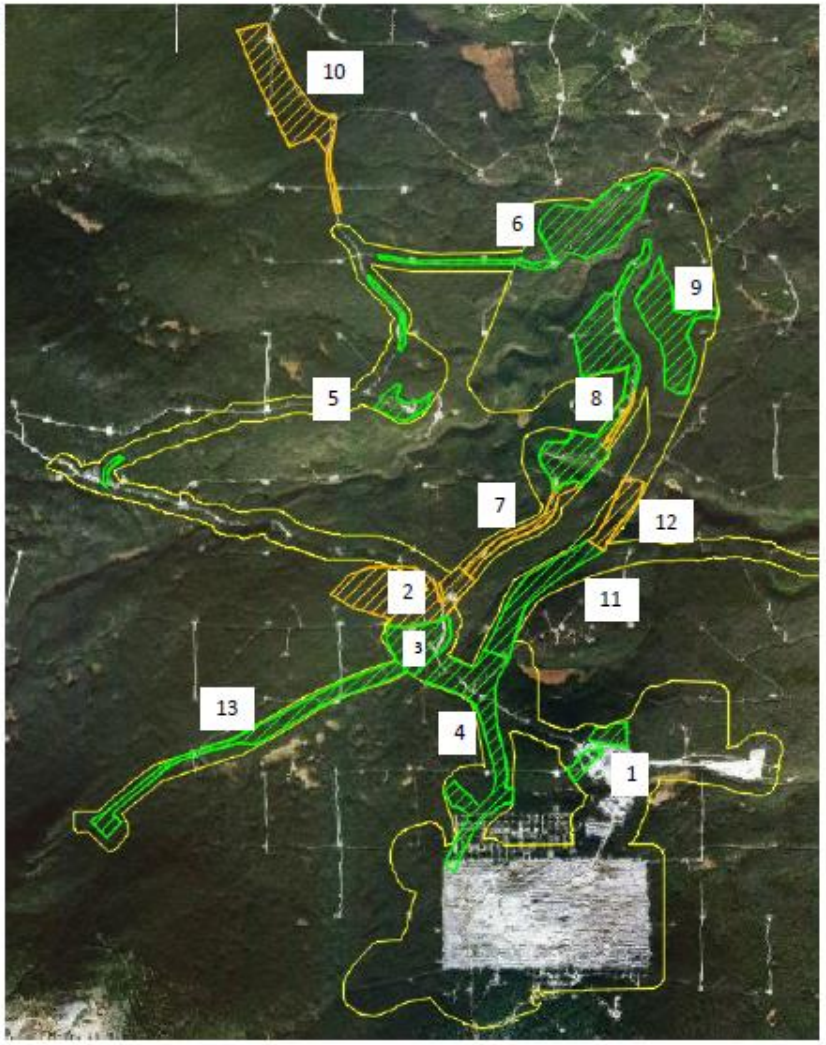
11.1 Appendix 1. Map of Prioritized Clearing Plan as of March 7, 2023.

Initial BW Clearing Areas – Trigger is Wetlands Offsetting Plan; **Complete**

Yellow Lines = Early Works OLTC
Green Hatching = Available no interaction with Canfor
Orange Hatching = Areas within Canfor Tenure (logs stacked separately for Canfor)

*Available clearing limits have been selected based on infrastructure requirements, current OLTC approval, 30m offset from all potential fish-bearing watercourses (except those where road crossings already exist)
The cut areas require approval from Canfor to harvest. **These blocks should be harvested under Canfor tenure, as they must be completed prior to April 1, 2023, to support topsoil stockpile development.

Area Name/Description	Sequence Number	Area (Ha)
ROM Pad	1	5.8
TS-3 and A-Trail Laydown (Canfor Tenure)	2	26.1
North MAC Haul Road	3	10.9
MAC to Pit Haul Road	4	26.0
C-Trail and Zone S/C Borrow	5	6.9
C-Trail Offshoot and Esker	6	27.8
A-trail to WMP (Canfor Tenure	7	5.2
WMP, E-Trail, Borrow Area	8	32.8
TSF East Side	9	19.4
TS-6 (CANFOR TENURE)	10	23.6
TSF Haul Road	11	13.9
TSF Haul Road (Canfor Tenure)	12	6.24
Explosives Access Road	13	16.9
	Total:	**221.6**



Memorandum – March 17, 2023

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Wildlife Pre-clearing Surveys – BWG March 13 through 17, 2023

Pre-clearing surveys were completed prior to construction and clearing activities. This report outlines the pre-clearing survey methods, results and associated management recommendations for identified wildlife features located in the BWG construction areas.

Scope of work:

- Review planned clearing areas, and previous surveys
  - Ensure the areas are within approved disturbance areas
- Complete pre-clearing surveys within areas of proposed logging for bear dens (and suitability), furbearer dens, raptor/bird nesting (stick nests and cavities) during their sensitive periods (Table 1)
- Submit daily survey locations and pertinent findings
  - Digital (kml/gpx) transects and observation/feature points for surveyed areas
  - Survey time, weather conditions, and other relative information
- A weekly written memorandum including
  - Detailed activities and findings
  - Survey time, weather conditions, and other relative information
  - Documented stripping and grubbing and stockpiling activities
  - Advice and guidance as required to BWG staff and construction subcontractors

Table 1. Sensitive Periods Applicable to the Blackwater Project Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bear Denning					15							
Furbearer Natal Denning												
Caribou												
Bat Hibernacula												
Waterbirds and Landbirds				15				31				
Raptors – including Owls			15					15				
Clark's Nutcracker (other early nesting species include white-winged crossbill and Canada jay)			15				30					

Methodology

Surveys were conducted following the Pre-Clearing Wildlife Features Survey SOP for Blackwater Gold.

Survey time, weather conditions, tracks, waypoints, and observations were documented for all surveys. All sign was identified to species using available field guides and the experience of the field crew. Observations and photos of representative sign (tracks and scat) and features (cavities, nests, dens) were taken.

Survey effort focussed on areas that contain potentially suitable denning habitat for bears and furbearers, and nesting habitat for birds such as mature deciduous or coniferous trees potentially containing cavities or snags with hollow cores. Non-forested areas (e.g., shrubby areas, previously cleared areas and open riparian areas) will not be surveyed due to lack of trees that support denning sites.

Furbearers

A pe-clearing survey for denning furbearers is completed when any vegetation is cleared, or construction activity is scheduled in or adjacent to furbearer denning habitat during the sensitive denning period (mid-March until the end of June) as outlined in the CEMP.

Snow track surveys were used to complete these late winter pre-clearing surveys. Surveys followed the methods established by the Resource Inventory Committee (RIC) for ground-based survey methods for furbearers (BC MELP 1998, BC MELP 1999). Surveys were conducted prior to clearing and/or construction activities.

Furbearer denning surveys have a 7 day expiration date. If the area surveyed is not cleared within 7 days of the survey, new surveys must be conducted. Methods used include:

- Traversing transects on snowshoes with a 20 m spacing.
- Further investigation occurred when denning habitat or multiple track trails were identified.
- Active dens were reported daily and provided with a 60 m setback.
    - A clearly visible setback boundary consisting of Green/Blue and MFZ flagging
- Den site is not flagged to prevent predation
- Areas are re-surveyed if clearing has not taken place within 5-7 days during the natal period.

  Furbearers occupy several den sites throughout the birthing period – known as maternal dens - and may move young from the natal den to these secondary maternal dens regularly during the kit development period.

Bear Dens

Identified bear dens will be monitored to determine activity. In March, activity is very difficult to determine as bears do not leave their den over the winter so there will be no sign (tracks, disturbance). If activity is inconclusive, the site will be monitored using remote cameras and a forward looking infrared camera – (FLIR) until activity is confirmed. Methods include:

- Traversing transects on snowshoes with a 20 m spacing.
- Further investigation occurs when denning habitat is identified.
- A FLIR thermal imaging camera can be used to help determine activity if clearing cannot be delayed.
- Active black bear dens are provided a 100 m setback.
  - A clearly visible setback boundary consisting of Green/Blue and MFZ flagging
- Den site is not flagged to prevent additional disturbance

Note:

Thermal cameras detect the heat lost by a subject as infrared. Since hibernating bears are expert at conserving heat using a thick layer of fat under their skin, heat levels released by bears may be minimal. Caution needs to be applied here. It is beneficial for crews to try the camera by detecting a crew member through a pile of snow and/or debris and determine best methods.

Bird Nests

Pre-clearing bird nest surveys are completed prior to vegetation clearing during sensitive breeding periods for bird species occurring in the project area (Table 1). Sensitive breeding periods are designated for waterbirds and landbirds, raptors, and Clark's nutcracker.

Detection cues for breeding behaviour include carrying food or nesting material, nests observed, distraction displays, copulation and alarm calling. Methods for late winter/early spring surveys include:

- Traversing transects on snowshoes with a 20 m spacing.
- Searching trees in the area for signs of wildlife/owls, including pellets and cavities.
- Knocking on larger diameter trees or snags which may serve as roosts.
- Utilizing playback for the detected species to elicit a reaction from owls in the area.
- Addition methods may be employed in specific areas
  - Areas of high owl nesting habitat
  - ARU(s) deployed to determine owl presence
- Active nests are provided with a setback ranging from 30 to 50 m for songbirds and up to 500 m for raptors
  - A clearly visible setback boundary consisting of Green/Blue and MFZ flagging
- The nest site is not flagged to avoid further disturbance

Results

Surveys were conducted by qualified professionals knowledgeable and experienced in identification of important wildlife features and habitat in the project area.

March 13 – Sequence 2

An active fur bearer den was identified in Sequence 2 and a 60 m buffer was applied - 2 strands of flagging tape at each mark - 1 blue and 1 green. GPS coordinates of the den site was recorded and submitted. The area surveyed is shown in Figure 1; the den site is shown in Photos 1 and 2.

Due to the location of the den and overlapping critical infrastructure, and to balance the wildlife and construction needs the buffer was adjusted. Both the den buffer and the laydown area were reduced along the overlapping area (Photo 3). The den setback was reduced to 25 m on the construction side and a tree fence will be constructed along this edge. The remaining setback remains connected to undisturbed forest.

No nesting behaviour or active nests was identified for Canada jay, white-winged crossbill, owls were found.

Photo 1. Active Den Site

Photo 2. Active Den Site

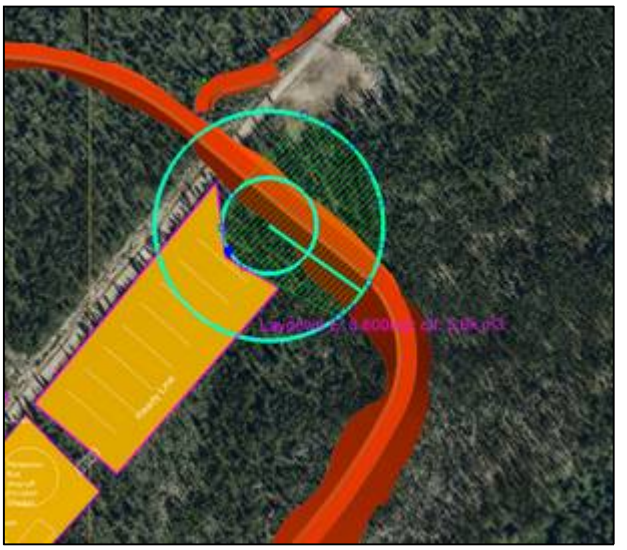

Photo 3.
The den is located in the center of the green circles. The outer green circle represents the 60 m setback required (CEMP). The adjusted setback is represented by green hatching. The green hatching connects the 25 m offset (inner circle) to the west and south.

The Atco trailers on the north side of the road near 0km are current being used by bushy-tailed wood rat and marten tracks were noted around the trailer parameters. There are open windows providing access. A one-way exit is an effective way to allow the animals to leave and block re-entry.

- Close all openings prior to installation
- Check to ensure there are no nestlings prior to enclosure is required.

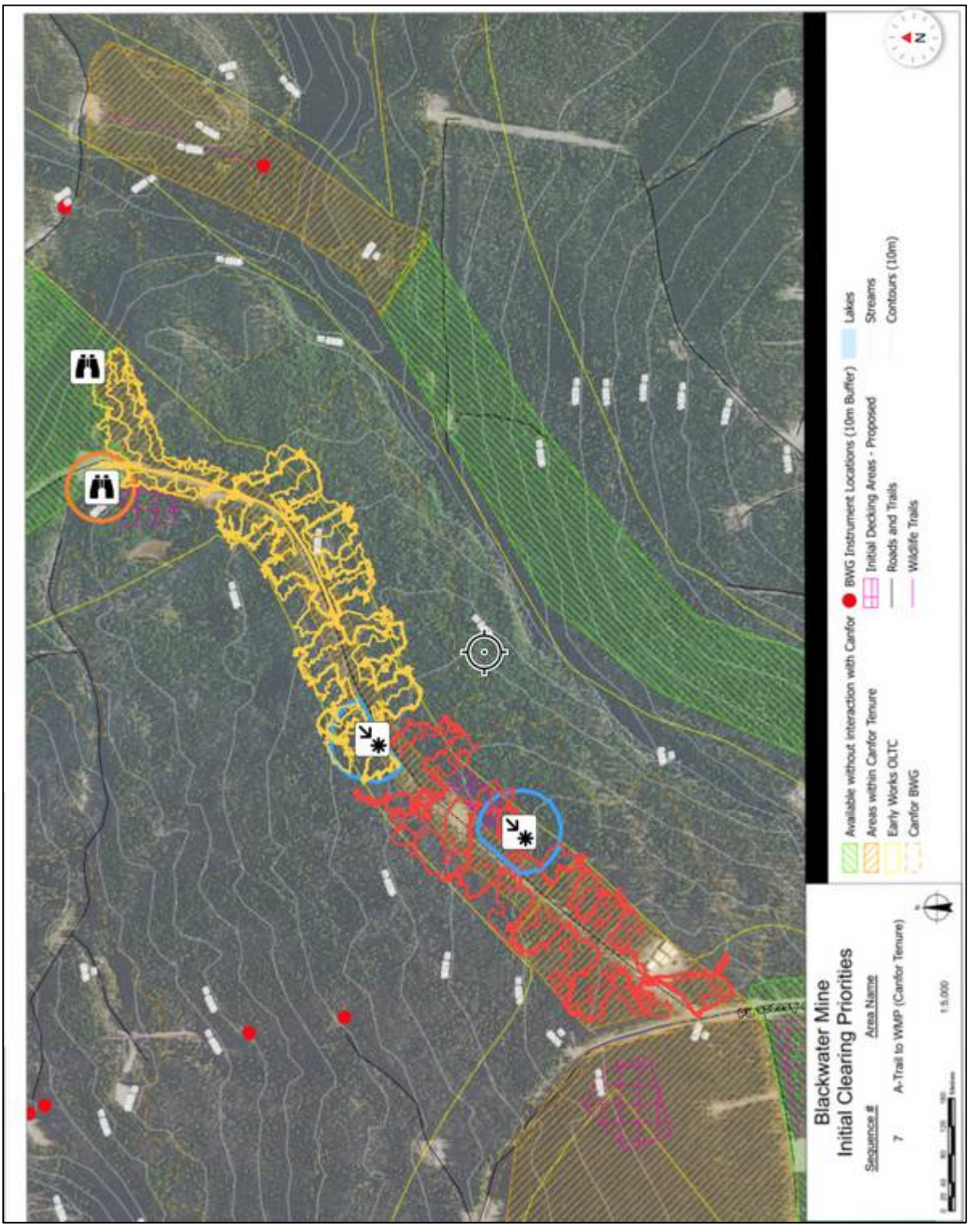

Figure 1. Sequence 2 and 7 surveys. Blue line is the den setback applied at the time of the survey; the red circle shows the potential black bear den site.

March 14 – Sequence 7

One active fur bearer den was identified in Sequence 7 and a 60 m buffer was applied - 2 strands of flagging tape at each mark. 1 blue and 1 green. GPS coordinates of the den site was recorded and submitted. The den site is shown in Photos 4 and 5.

The den is likely an alternate site for the den identified in Sequence 2. Due to the location of the den and overlapping critical infrastructure (haul road), this site will be monitored to provide additional information of activity. If the site is determined to be a natal den site it will be provided with a setback; if it is determined to be a resting site, it will not.

The den site was revisited on March 16. No new tracks were detected close to the den site; if no new tracks are identified on the next check, the den can be determined as non-natal.

A debris pile was identified as a potential black bear den site in Sequence 7 (Figure 1, red circle). The snow-covered pile is composed of CWD with spaces that may be attractive to a bear for overwintering. The site was reported and will be investigated further with a FLIR. Clearing has been held to 100 m of the site until activity can be confirmed.

No nesting behaviour or active nests were identified for Canada jay, white-winged crossbill, or owls.

Photo 4. Furbearer den site – entrance at tree stump

Photo 5. Den site – alternate entrance at base of tree cluster and CWD

Photo 6. Den site

Photo 7. Potential black bear den site

March 15 – Sequence 8 and 12

Sequence 8 and the north portion of 12 was accessed from E-Trail.

Sequence 8:

This is a young pine stand with low wildlife habitat value. Wildlife sign identified during this survey includes tracks from lynx, fox, grouse and red squirrel. All sign was identified as travelling animals. No active dens or nests for Canada jay, white-winged crossbill, and owls were found.

Sequence 12:

No active dens for primary furbearers was identified in this old (age class 7/8) mixed forest with high CWD and downed trees. The snow was deep with no upper crusts in this high use old forest. Wildlife sign identified include tracks from lynx, and marten. Wildlife observations included red squirrel, spruce grouse, black-backed woodpecker, white-winged crossbill, and boreal chickadee. No nesting behaviour or active nests were identified for Canada jay, white-winged crossbill, owls were found.

A very high use was observed for marten, lynx and red squirrel. A “special habitat” area was identified. This area showed a very high use by multiple species and contains numerous middens and other feeding areas, and small mammal denning.

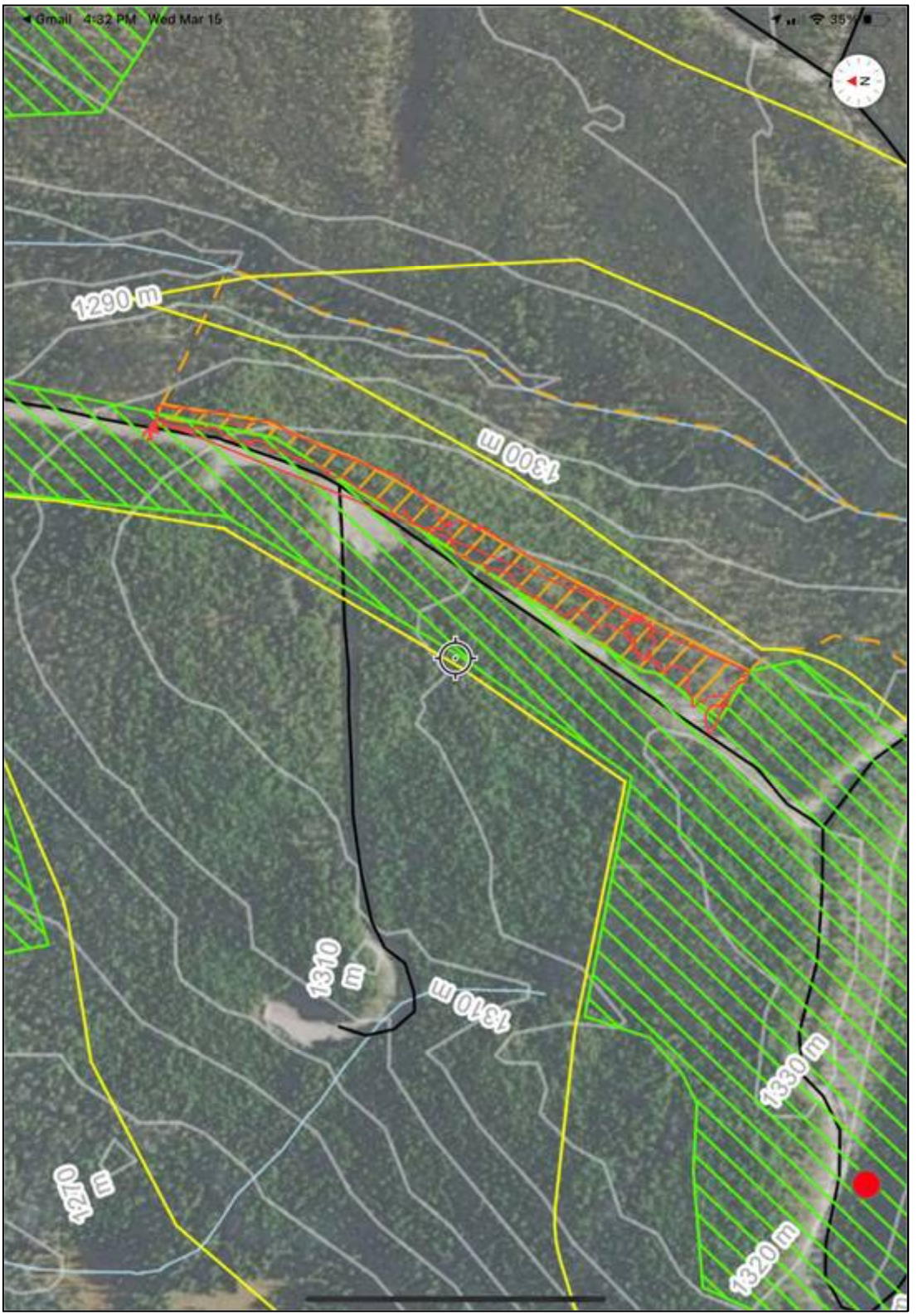

Figure 2. Sequence 8 survey area.

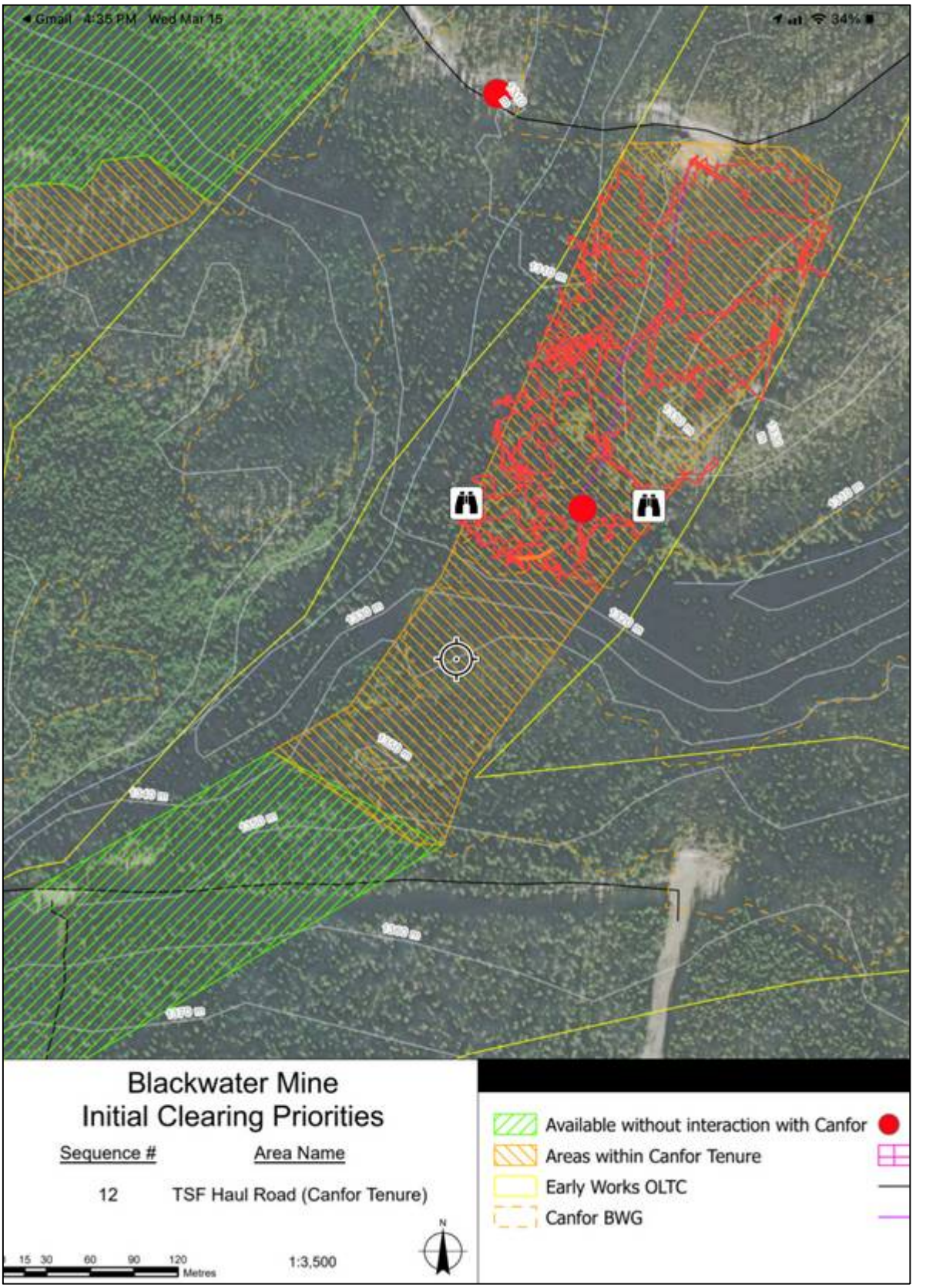

Figure 3. Sequence 12 north survey area.

March 16 – Sequence 12

The survey for the southern portion of Sequence 12 was completed the following day and accessed from the southern access road. Surveys were completed with assistance from Sam Lynch (BWG Environment).

The area surveyed ended at the top of the steep slope that occurs in the middle section of this block and is delineated with standard block boundary flagging. A higher density of trees occurs in the south section with a higher wildlife use (Photo 8).

A den for a primary furbearer was identified, although it is not known if the site is a natal or resting den. Marten track trails were observed leading into areas under the snow in CWD piles (Photo 9). The area surrounding the den is high use for marten, lynx, hare and squirrel.
A potential bear den was identified in their high value area. The potential den is northeast facing with good snow cover over a large fallen tree and an entrance under the tree (Photos 10 and 11). The area north of the potential bear den has a steep drop about 25 m past the den.

Both den sites were not flagged at the time of the survey. A 100 m setback buffer for the bear will encompass the majority of the southern section of the block. The marten and potential black bear den setbacks overlap and extend the potential setback area (Figure 4).

No nesting behaviour or active nests were identified for Canada jay, white-winged crossbill, owls were found.

Photo 8. Sequence 12 south habitat

Photo 9. Marten Den site

Photo 10. Potential black bear den

Photo 11. Potential black bear den

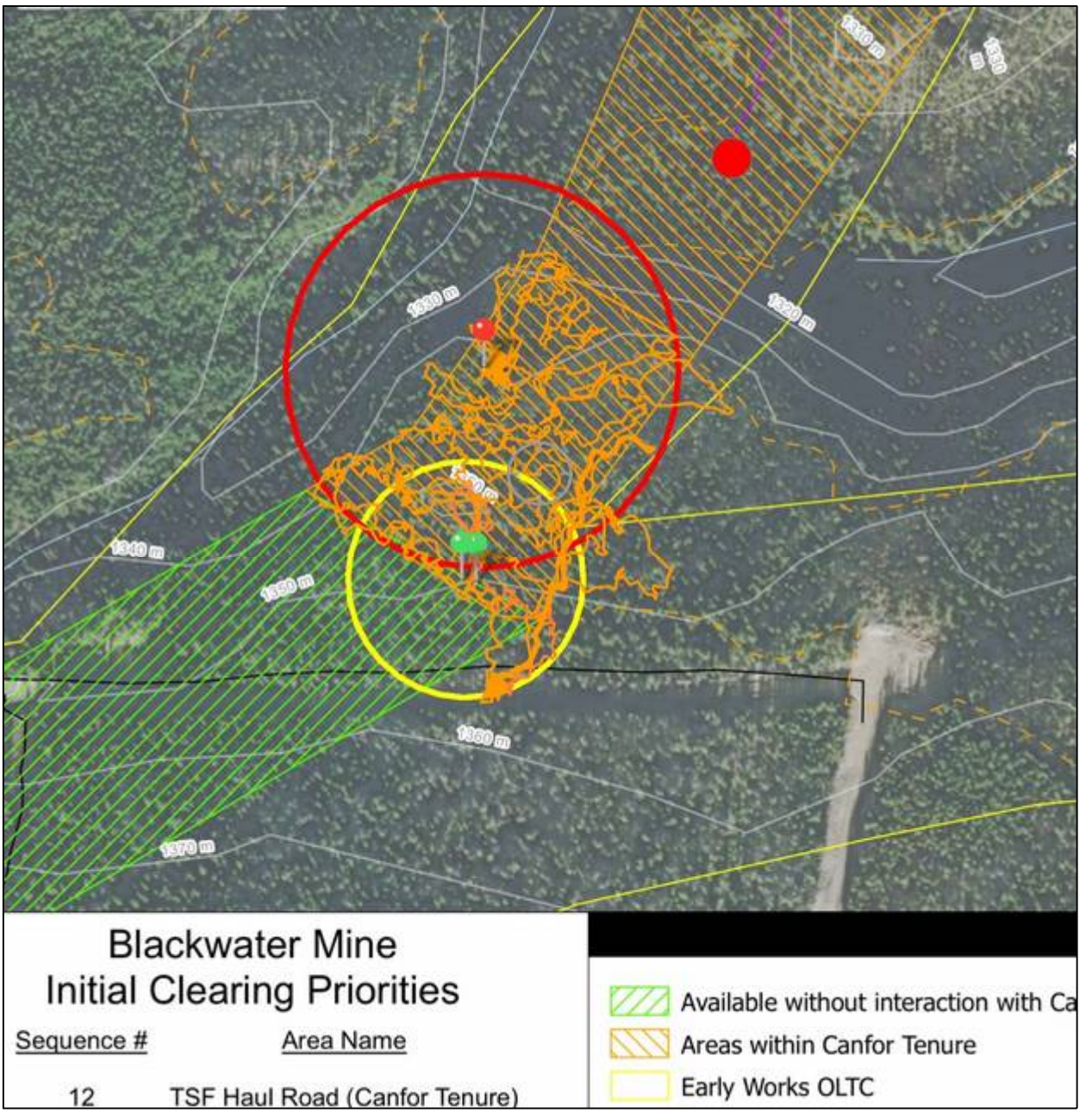

Figure 4. Sequence 12 south survey area. Potential bear den location is identified with the red pin and furbearer den with the green pin. Potential setbacks are red and green (respectively).

March 17 – Sequence 12 and 10

Sequence 12

After discussion with Jack Love, Environmental Manager BWG, the identified “special habitat” was flagged with MFZ flagging tape. The setback (Figure 5) was strategically placed to allow for beneficial preservation of the area as well as to allow for harvesting desired trees. Representative habitat is shown below (Photos 12-15).

Sequence 10

Access is from C-Trail around 12 km.

This moderately aged spruce forest is not high value wildlife habitat for bears or primary furbearers. The understory is somewhat simple and does not support prey for primary furbearers. No active dens were found for primary furbearers. Fresh tracks from marten, lynx, snowshoe hare and red squirrel were identified throughout the surveyed portion; however, use was moderately low. A white-winged crossbill was seen carrying nest materials.

This Sequence was incomplete – the surveyed area is shown in Figure 6.

Photo 12. Sequence 10 habitat

Photo 13. Sequence 10 habitat

Photo 14. Sequence 10 habitat

Photo 15. Sequence 10 habitat

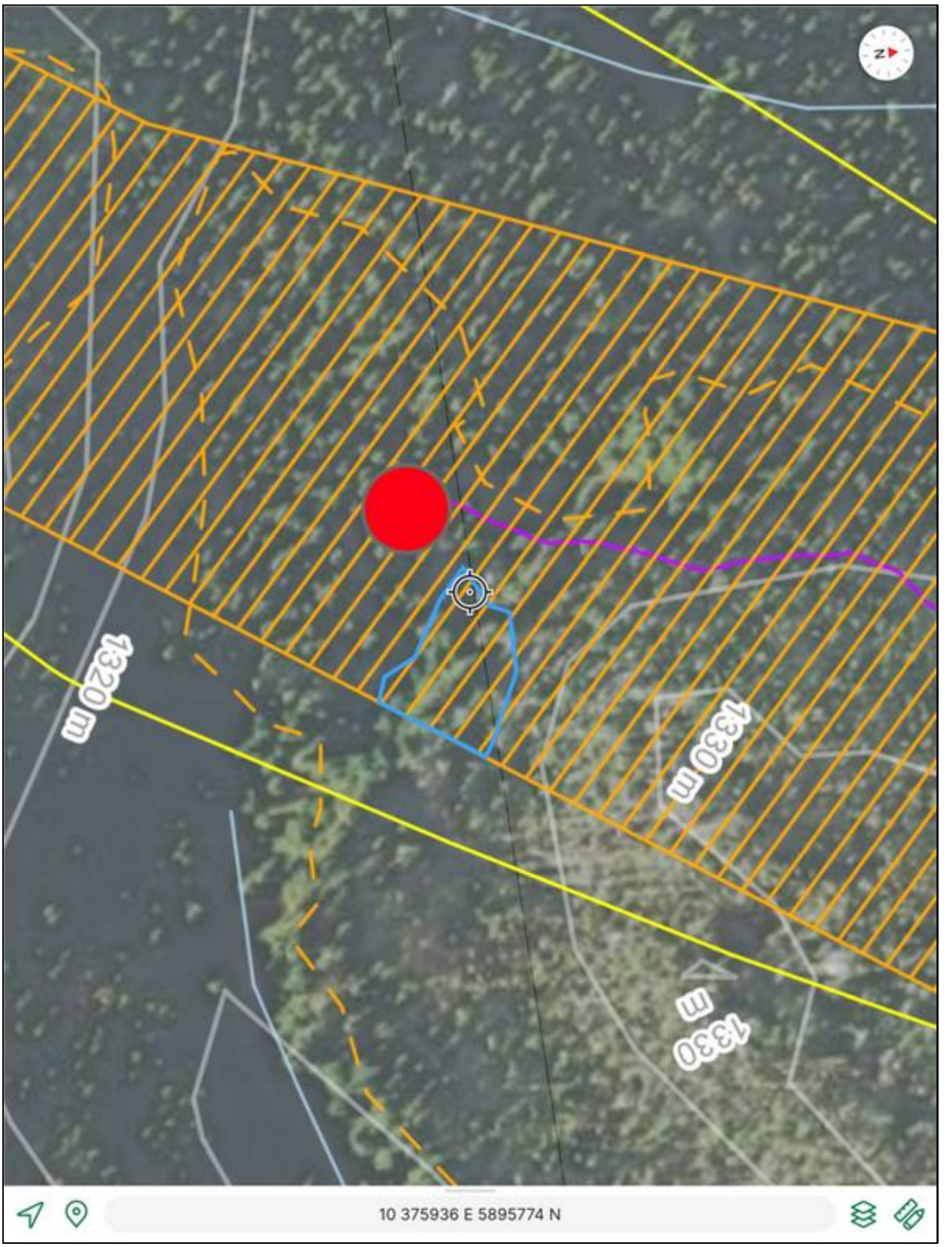

Figure 5. Sequence 12 Special habitat setback

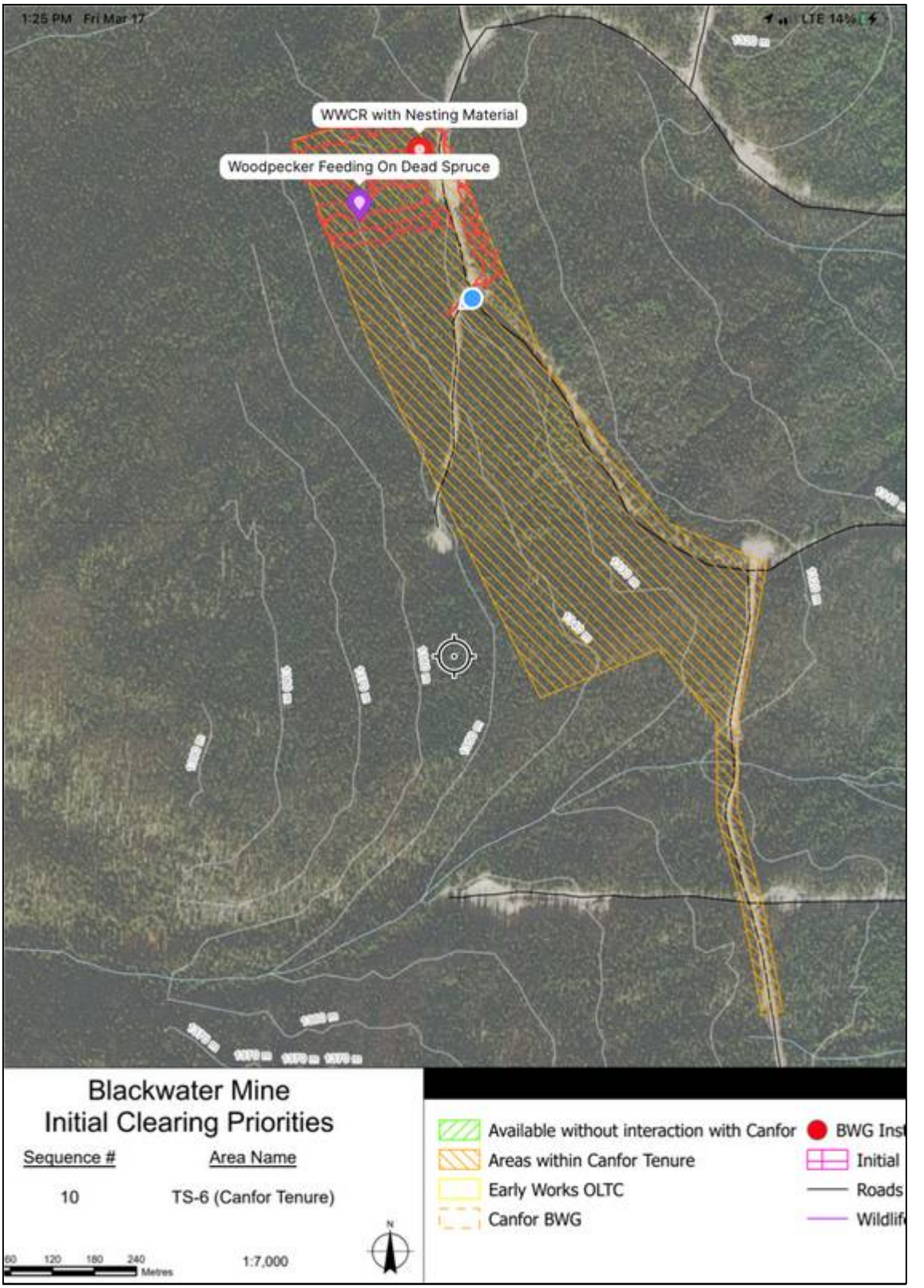

Figure 6. Sequence 10 surveyed area

Follow-up

- Sequence 2: Monitor den site with strategically placed remote cameras to determine effectiveness of the adjusted setback buffer methods**.**
- Sequence 7: Monitor site to determine type of marten den with remote cameras. Apply set back to natal den. The den site was revisited on March 16 with no new tracks detected. If no new tracks are identified on a secondary check, the den can be determined as non-natal.
- Sequence 7: Monitor potential bear den site to determine activity with a FLIR. Apply set back to active den.
- Sequence 12 south: Monitor site to determine type of marten den with remote cameras. Apply set back to natal den.
- Sequence 12 south: Monitor potential bear den site to determine activity with a FLIR. Apply set back to active den.
- Sequence 10 survey is incomplete.

Notes

Nesting behaviour was observed for Canada jay and white-winged crossbill. This is expected as they are known to begin nesting in late winter at these elevations (Ehrlich et al 1988, Sibley and Audobon field guides).

Wildlife Observations

A fox was seen on the Sequence 12 north access road (Photo 20). He was not shy and came right to the truck. A wildlife sighting card was submitted. Numerous birds were identified, including a male white-winged crossbill that was collecting nesting material. Mammals observed include fresh grey wolf tracks (Table 1).

Table 1. Wild observation Summary

13-Mar-23	14-Mar-23	15-Mar-23	16-Mar-23	17-Mar-23
Pine Grosbeak	Common Raven	Canada Jay	Canada Jay	Boreal Chickadee
White-winged crossbill	Canada Jay	Boreal Chickadee	Boreal Chickadee	American Three-toed Woodpecker - Males drumming in the surveyed area and outside the block.
Common Raven	White-winged crossbill - A male and female were together gathering grit from area with exposed dirt.	White-winged crossbill	White-winged crossbill	**White-winged crossbill Male with nesting material** in the surveyed area of the block, and birds calling and singing.
Boreal Chickadee	Boreal Chickadee	Pine Grosbeak	Pine Grosbeak	Red-breasted Nuthatch
Red-breasted Nuthatch		Black-backed Woodpecker	American Three-toed Woodpecker	Red Fox
		Spruce Grouse	Red-breasted Nuthatch	
Canada Jay		Grey Wolf (tracks)	Pine Siskin	

13-Mar-23	14-Mar-23	15-Mar-23	16-Mar-23	17-Mar-23
American Marten (tracks)	American Marten (tracks)	American Marten (tracks)	American Marten (tracks)	American Marten (tracks)
Canada Lynx (tracks)	Canada Lynx (tracks)	Canada Lynx (tracks)	Canada Lynx (tracks)	Canada Lynx (tracks)
Snowshoe Hare (tracks)	Snowshoe Hare (tracks)	Snowshoe Hare (tracks)	Snowshoe Hare (tracks)	Snowshoe Hare (tracks)

Weather Summary

The weather was mostly calm with no new snow during the week (Table 2).

Table 2. Weather Summary March 13 to 17.

Date	Temperature	Cloud Cover	Wind	Snow	Comments
13-Mar-23	-6 deg C	Overcast until noon then sun and cloud	Beaufort 4 to 5	light snow pellet shower at 15:00	
14-Mar-23	-7 deg C	Overcast unti 9:00 then sun and cloud	Beaufort 4 to 5	N/A	Snow pellets from March 13 present in wildlife tracks
15-Mar-23	-8 deg C	High cloud until 10:00 then sun and cloud	Beaufort 4 to 5	N/A	
16-Mar-23	-6 deg C	Sun	Beaufort 1 to 2	N/A	
17-Mar-23	-7 deg C	Sun	Beaufort 1	N/A	

References

BC Ministry of Environment, Lands and Parks (BC MELP). 1998. *Inventory Methods for Marten and Weasels. Standards for Components of British Columbia's Diversity No. 24. Version 2.0.* Prepared for the Terrestrial Ecosystems Task Force, Resources Inventory Committee by Ministry of Environment, Lands and Parks, Resources Inventory Branch: Victoria, BC.

BC Ministry of Environment, Lands and Parks (BC MELP). 1999. Inventory Methods for Medium-sized Terrestrial Carnivores: Coyote, Red Fox, Lynx, Bobcat, Wolverine, Fisher & Badger. Standards for Components of British Columbia's Biodiversity No. 25. Version 2.0. Prepared for the Terrestrial Ecosystems Task Force Resources Inventory Committee: Victoria, BC.

Ehrlich, P. R., Dobkin, D.S. and D. Wheye.1988. The Birders Handbook. (A field guide to the natural history of North American birds. The essential companion to your identification guide.) Simon & Schuster. New York. USA.

BW GOLD LTD
a subsidiary company of Artemis Gold Inc

Pre-Clearing
Wildlife Survey Report

March 20th – March 24th, 2023

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1. Summary

Seven pre-clearing, furbearer den, bear den, hibernacula and nest surveys were carried out between March 20th through March 24th, 2023. Two additional decking areas were asked to be surveyed on March 24th 2023 and included with the Sequence 6 map. No furbearer dens, bear dens, hibernacula, stick nests, or cavity nests were detected, observed, or located during these surveys.

2. Introduction

The Blackwater Gold project is on the northern flanks of Mt. Davidson in the Nechako Plateau approximately 160 kilometres southwest of the city of Prince George and 110 km southwest of the town of Vanderhoof, in central British Columbia.

Avison Management Services (AMS) Ltd. was retained to conduct furbearer den, bear den, hibernacula, and nest surveys to determine presence of denning furbearers and bears, potential bat hibernacula, or stick or cavity nests, prior to clearing and building road access and decking areas. The following is a summary of the survey results.

3. Locations

3.1 Location References

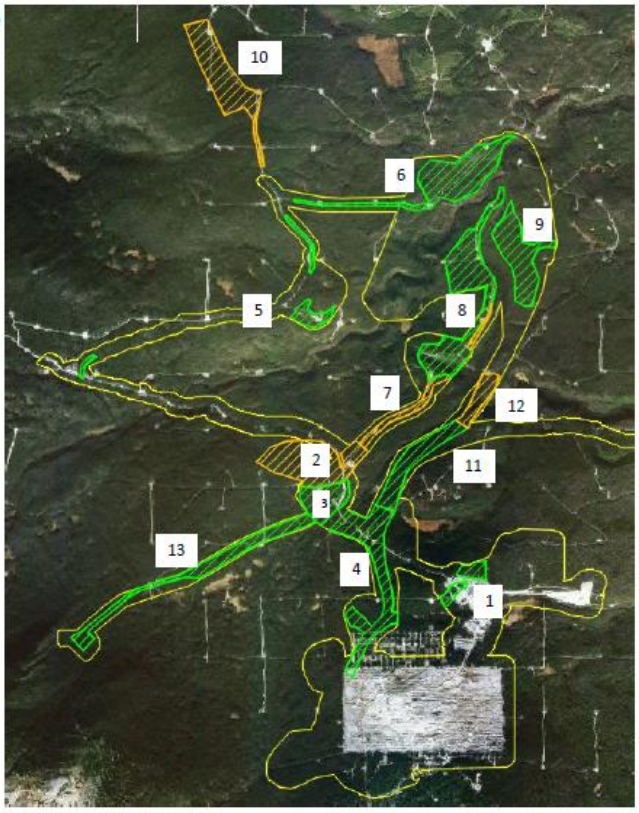
The map below includes a list of prioritized sequencing of clearing at the Blackwater Project. Pre-clearing wildlife surveys will document surveys completed for these prioritized areas.

Initial BW Clearing Areas – Trigger is Wetlands Offsetting Plan; **Complete**

Yellow Lines = Early Works OLTC
Green Hatching = Available no interaction with Canfor
Orange Hatching = Areas within Canfor Tenure (logs stacked separately for Canfor)

*Available clearing limits have been selected based on infrastructure requirements, current OLTC approval, 30m offset from all potential fish-bearing watercourses (except those where road crossings already exist)
**The cut areas require approval from Canfor to harvest. These blocks should be harvested under Canfor tenure, as they must be completed prior to April 1, 2023, to support topsoil stockpile development.

Area Name/Description	Sequence Number	Area (Ha)
ROM Pad	1	5.8
TS-3 and A-Trail Laydown (Canfor Tenure)	2	26.1
North MAC Haul Road	3	10.9
MAC to Pit Haul Road	4	26.0
C-Trail and Zone S/C Borrow	5	6.9
C-Trail Offshoot and Esker	6	27.8
A-trail to WMP (Canfor Tenure	7	5.2
WMP, E-Trail, Borrow Area	8	32.8
TSF East Side	9	19.4
TS-6 (CANFOR TENURE)	10	23.6
TSF Haul Road	11	13.9
TSF Haul Road (Canfor Tenure)	12	6.24
Explosives Access Road	13	16.9
	Total:	221.6



4. Survey Standards and Methodology

Bear Den Surveys

The Resources Inventory Committee's Inventory methods for Bears outline survey methodology for enumeration of bears, but do not elaborate on methodology specific to detection of dens in linear features such as exploration trails or drill pads. Hodder and Ray (2005) provide information on ecotypes and general characteristics of bear den locations, but again do not elaborate on methodology specific to detection of dens. Our approach to detecting bear dens when conducting pre-clearing surveys immediately prior to clearing, is based on walking a proposed disturbance feature (i.e. exploration trail, drill pad, road allowance or, cut block), and walk a linear, or grid pattern survey and search and observe based on sight ability a 10-50 m observable area around the surveyor, watching for important den habitat features (i.e. evidence of natural or excavated ground dens, tracks, trails, scat, etc.).

Furbearer Den Surveys

The Resources Inventory Committee's Inventory methods for medium-sized terrestrial carnivores, and for Marten and Weasel outline survey methodology for enumeration, but do not elaborate on methodology specific to detection of dens in linear features such as exploration trails or drill pads. The BC Fisher Working Group does provide some excellent information on fisher habitat and den sites which can also be broadly applied to marten and weasel. Our approach to detecting furbearer dens is based on walking a proposed disturbance feature (i.e. exploration trail, drill pad, road allowance or, cut block), and walk a linear or grid pattern survey and search and observe based on sight ability of a 10-50 m observable area around the surveyor, watching for tracks (i.e. good snow, conditions), important den habitat features (i.e. large diameter dead or rotting trees with potential for cavities, and evidence of ground dens, trails, excavations, scat, etc.).

Hibernacula Surveys

In terms of hibernacula, once again, the Resources Inventory Committee's inventory methods for Bats outline survey methodology for detection and enumeration of Bats, but do not elaborate on methodology specific to detection of hibernacula in linear features such as exploration trails or drill pads. However, the hibernacula section of the Wildlife Habitat Features Field Guide (Kootenay Boundary Region), does elaborate on what feature to look for, to detect hibernacula. This document was referenced for detection of hibernacula. Our approach to detecting hibernacula is based on walking a proposed disturbance feature (i.e. exploration trail, drill pad, road allowance or, cut block), and walk a linear or grid pattern survey and search and observe based on sight ability a 10-50 m observable area around the surveyor, searching in and around those features to locate potential hibernacula sites.

Nest Surveys

There currently are no provincial or federal standards for conducting bird nest surveys. As such, it is the responsibility of the proponent of a proposed development project to produce and adhere to their own bird nest survey methodology to demonstrate due diligence in not contravening any related legislation.

Avison Management Services Ltd., biologists attempt to follow all standards relevant to nesting surveys outlined in the Inventory Methods for Forest and Grassland Songbirds, Standards for Components for British Columbia's Biodiversity No. 15 (RIC 1999) and Inventory Methods for Raptors, Standards for Components for British Columbia's Biodiversity No. 11 (RIC 2001), as well as recommendations outlined by the Canadian Wildlife Service (CWS). Where deemed appropriate, survey methods are modified to account for local and/or site-specific conditions.

The previous Migratory Birds Regulations protected the nests of all migratory birds, at all times, for as long as they existed, which meant that many nests were protected when they no longer benefited migratory birds. The new

Migratory Birds Regulations, 2022, provide protection to migratory bird nests when they are considered to have a high conservation value for migratory birds.

The nests of most migratory bird species may be destroyed, damaged, disturbed or removed when they do not contain a migratory bird or viable egg.

For most migratory bird species, removing the nest when it does not contain a migratory bird or viable egg (generally after the breeding season) will have no effect on the ability of those birds to nest again. The great majority build or occupy new nests each year. However, some species may reuse the same nest structure year after year, and the loss of these nests could have a negative effect on future nesting success. The nests of the 18 species, listed in Schedule 1 of the MBR 2022, are protected year-round and cannot be damaged, destroyed, removed or disturbed, even when they are unoccupied, unless the conditions of the regulations have been met. One of the most noteworthy changes to the amended Regulations of the Migratory Birds Convention Act is the inclusion of the Pileated Woodpecker on the list of species for which nesting sites are protected after active nesting.

Environment and Climate Change Canada (ECCC) encourages practices that will ensure the long-term conservation of migratory bird populations locally, including the retention of sufficient high-quality habitat. For cavity nesting species, this may mean the retention of dying and dead standing trees in forest stands, whether or not they contain the nesting cavity of the Pileated Woodpecker.

Avison Management Services Ltd., biologists attempt to follow all standards relevant to surveys provided by the Federal and Provincial governments and other reliable sources. Where deemed appropriate, survey methods are modified to account for local and/or site-specific conditions.

5. Wildlife Survey Results by Area

The following Tables are lists of the areas surveyed:

Table 1. *Sequence 10 - Pre-clearing Wildlife Survey, March 20th – March 21st, 2023.*

Name	***Area***
Sequence 10	*Approx. 23.6 ha*
Survey Date	***Survey Start and End Time***
March 20th – 21st, 2023	*12:00 - 16:30 pm; 8:00 – 16:00 PDT*
Weather	***Conditions***
Clear and -1° C	*Snow covered*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Snowshoe hare, Red squirrel, Red fox, Pine Marten, Spruce Grouse, and were observed. Nuthatch and Raven was visually identified. Boreal Chickadee, White-Winged Crossbill and Dark-Eyed Junco identified by call	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed. The upper portion was completed prior to Avison returning to site March 20th.*

***Table 2**. Sequence 10 Proposed Decking Area - Pre-clearing Wildlife Survey, March 22nd, 2023.*

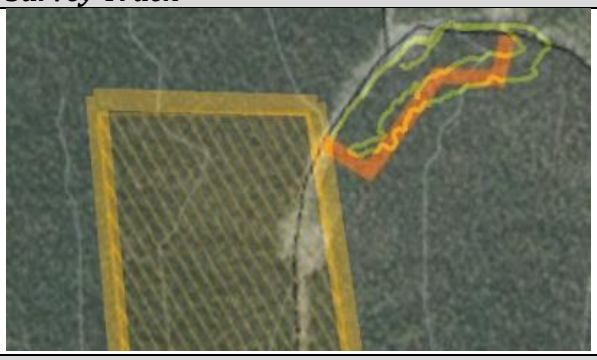
Name	***Area***
Sequence 10 Proposed Decking Area Directly North East	*Approx. 1 ha*
Survey Date	***Survey Start and End Time***
March 22nd, 2023	*8:00 am - 10:00 pm*
Weather	***Conditions***
Clear and -2˚C	*Snow Covered*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Snowshoe hare, Red squirrel were observed. a Raven was seen in the area and herd vocalizing. An American Three Toed woodpecker species visually identified and photographed.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed.*

***Table 3**. Sequence 10 Proposed Decking Area - Pre-clearing Wildlife Survey, March 22nd, 2023.*

Name	***Area***
Sequence 10 Proposed Decking Area directly East	*Approx. 1 ha*
Survey Date	***Survey Start and End Time***
March 22nd, 2023	*11:15 – 12:15 PDT*
Weather	***Conditions***
Clear and 0˚C	*Snow Covered*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Spruce Grouse and Snowshoe Hare were observed in the area. Dark-Eye Junco and White-Winged Crossbill were identified by their call.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed.*

***Table 4**. Sequence 10 extension - Pre-clearing Wildlife Survey, March 10th, 2023.*

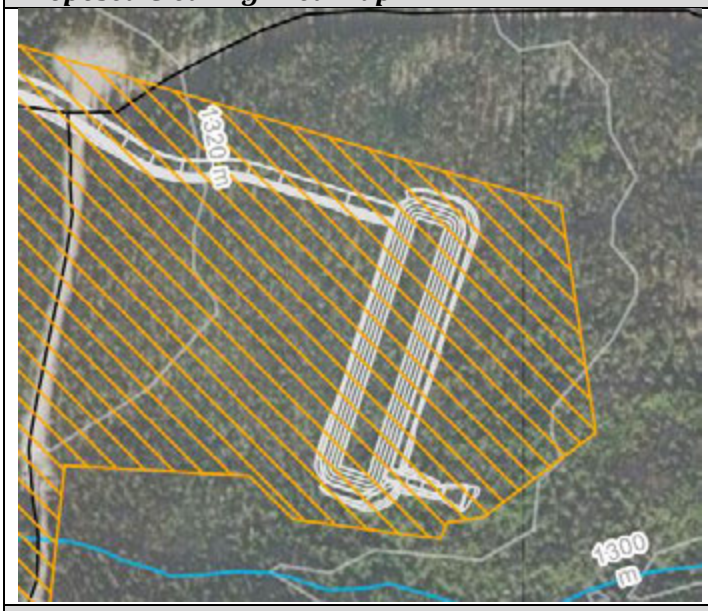
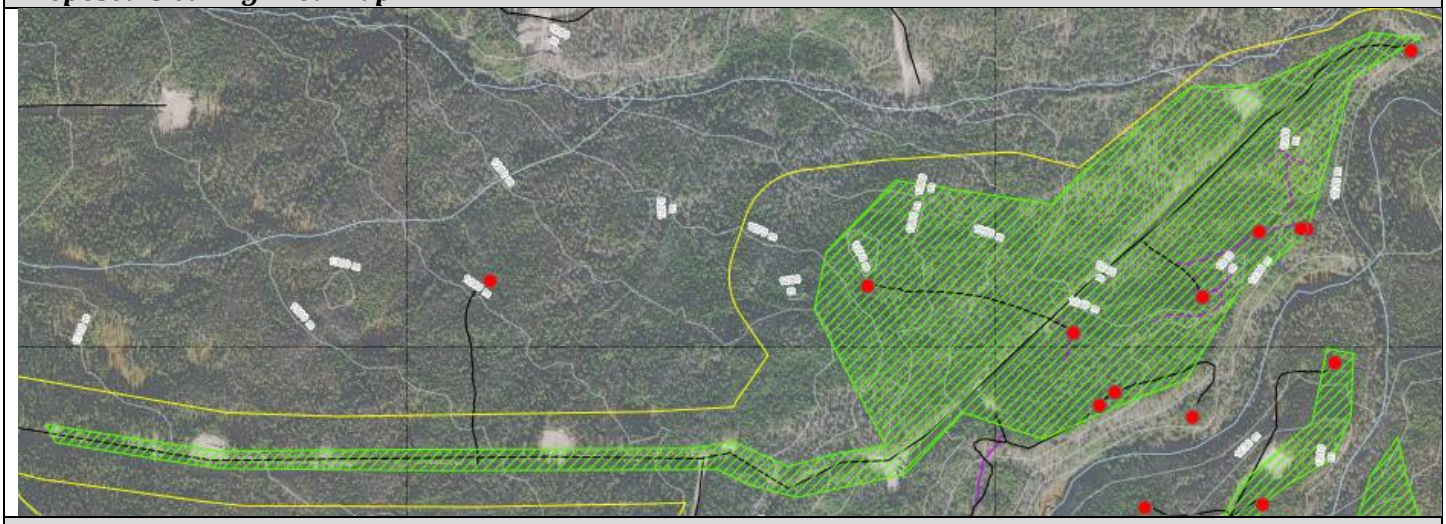
Name	***Area***
Sequence 10 - extension	*Approx. 7 ha*
Survey Date	***Survey Start and End Time***
March 23rd, 2023	*7:45 – 10:30*
Weather	***Conditions***
Overcast and 0 degrees Celsius	*Snow cover, crusted*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of coyote, Snowshoe hare, Red Squirrel, and Spruce Grouse were observed. American Robin identified by call.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed.*

***Table 5**. Sequence 6 and additional Decking Areas - Pre-clearing Wildlife Survey, March 21st – 24th, 2023.*

Name	***Area***
Sequence 6 and additional decking areas	*Approx. 12 ha*
Survey Date	***Survey Start and End Time***
March 22nd, 23rd, 24th, 2023	*10:00 – 12:30; 12:00 – 15:00; 8:00 – 11:30*
Weather	***Conditions***
Clear to Overcast. -4˚C to +3˚C	*Snow covered, crusted*
Proposed Clearing Area Map	
	
Survey Track	
	
Observed Wildlife	*Comments*
Tracks of Snowshoe hare, Red squirrel and Spruce Grouse were observed.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed. Two addition decking areas were surveyed on request of the client*

6. Bear and Furbearer Den Survey Results

No active furbearer or bear dens were observed or identified during these surveys.

The following is a list of Bear species whose distribution overlap and have been observed in the Blackwater Mine area.

***Table 6**. List of potential Bear species whose distribution over-lap the Blackwater project. (E-Fauna BC, 2022).*

Common Name	Scientific Name
American Black Bear	*Ursus americanus*
Grizzly Bear	*Ursus arctos horribilis*

The following is a list of Furbearer species whose distribution overlap and/or have been observed in the Blackwater Mine area.

***Table 7**. List of potential Furbearer species whose distribution over-lap the Blackwater project. (E-Fauna BC, 2022).*

Common Name	Scientific Name
American (Pine) Marten	*Martes americana*
Ermine (Short-tailed weasel)	*Mustela erminea*
American Mink	*Neovison vison*
Fisher	*Pekania pennanti*
Least Weasel	*Mustela nivalis*
North American River Otter	*Lontra canadensis*
Wolverine	*Gulo gulo*

7. Hibernacula Survey Results

No hibernacula were observed or identified during these surveys.

The following is a list of Bat species that could potentially be present in the Blackwater Mine area.

***Table 8**. List of potential Bat species whose distribution over-lap the Blackwater project. (E-Fauna BC, 2022).*

Common Name	Scientific Name
Big Brown Bat	*Eptesicus fuscus*
California Bat	*Myotis californicus*
Keen Bat	*Myotis keenii*
Hairy Winged Bat	*Myotis volans*
Hoary Bat	*Lasiurus cinereus*
Little Brown Bat	*Myotis lucifugus*
Long-Eared Bat	*Myotis evotis*
Silver-haired Bat	*Lasionycteris noctivagans*
Yuma Bat	*Myotis yumanensis*

8. Nest Survey Result

No nests, stick nests, or cavities nests were observed or identified during these surveys.

This assessment also included searching the Provincial BC Red List and BC Blue List, SARA, and the federally designated COSEWIC Endangered, COSEWIC Threatened, COSEWIC Special Concern lists. The following species of birds or breeding birds listed as species at risk in the Caribou Regional District of British Columbia were found in this search (see below). None of the nests of the species below were located during this assessment, nor were cavity nests of the Pileated Woodpecker found in this pre-clearing survey.

Table 9. *Avian species designated at risk that have been identified as utilizing or residing in the Caribou Regional District.*

English Name	Scientific Name	BC List	Global	COSEWIC	SARA
American Avocet	*Recurvirostra americana*	Blue	G5 (2016)		
American Bittern	*Botaurus lentiginosus*	Blue	G5 (2016)		
American Golden-Plover	*Pluvialis dominica*	Blue	G5 (2016)		
American White Pelican	*Pelecanus erythrorhynchos*	Red	G4 (2016)	NAR	
Ancient Murrelet	*Synthliboramphus antiquus*	Blue	G4 (2016)	SC	1-SC (2006)
Band-tailed Pigeon	*Patagioenas fasciata*	Blue	G4 (2016)	SC	1-SC (2011)
Barn Owl	*Tyto alba*	Blue	G5 (2016)	T	1-T (2018)
Barn Swallow	*Hirundo rustica*	Yellow	G5 (2016)	SC	1-T (2017)
Bay-breasted Warbler	*Setophaga castanea*	Red	G5 (2016)		
Black Scoter	*Melanitta americana*	Blue	G5 (2016)		
Black Swift	*Cypseloides niger*	Blue	G4 (2016)	E	1-E (2019)
Black-crowned Night-heron	*Nycticorax*	Red	G5 (2016)		
Black-throated Green Warbler	*Setophaga virens*	Blue	G5 (2016)		
Bobolink	*Dolichonyx oryzivorus*	Red	G5 (2016)	SC	1-T (2017)
Brant	*Branta bernicla*	Blue	G5 (2016)		
Brewer's Sparrow, breweri subspecies	*Spizella breweri*	Blue	G5T5 (2016)		
Burrowing Owl	*Athene cunicularia*	Red	G4 (2016)	E	1-E (2003)
California Gull	*Larus californicus*	Red	G5 (2016)		
Canada Goose, occidentalis subspecies	*Branta canadensis occidentalis*	Red	G5T3 (2016)		
Canyon Wren	*Catherpes mexicanus*	Blue	G5 (2016)	NAR	
Cape May Warbler	*Setophaga tigrina*	Blue	G5 (2016)		
Caspian Tern	*Hydroprogne caspia*	Blue	G5 (2016)	NAR	
Cassin's Auklet	*Ptychoramphus aleuticus*	Red	G4 (2016)	SC	1-SC (2019)
Clark's Grebe	*Aechmophorus clarkii*	Red	G5 (2022)		
Common Murre	*Uria aalge*	Red	G5 (2016)		
Common Nighthawk	*Chordeiles minor*	Blue	G5 (2016)	SC	1-T (2010)
Double-crested Cormorant	*Nannopterum auritum*	Blue	G5 (2016)	NAR	
Eared Grebe	*Podiceps nigricollis*	Blue	G5 (2016)		

Evening Grosbeak	*Coccothraustes vespertinus*	Yellow	G5 (2016)	SC	1-SC (2019)
Ferruginous Hawk	*Buteo regalis*	Unknown	G4 (2016)	T	1-T (2010)
Flammulated Owl	*Psiloscops flammeolus*	Blue	G4 (2016)	SC	1-SC (2003)
Forster's Tern	*Sterna forsteri*	Red	G5 (2016)	DD	
Grasshopper Sparrow	*Ammodramus savannarum*	Red	G5 (2016)		
Gray Flycatcher	*Empidonax wrightii*	Blue	G5 (2016)	NAR	
Great Blue Heron, fannini subspecies	*Ardea herodias fannini*	Blue	G5T4 (2016)	SC	1-SC (2010)
Great Blue Heron, herodias subspecies	*Ardea herodias*	Blue	G5T5 (2016)		
Green Heron	*Butorides virescens*	Blue	G5 (2016)		
Gyrfalcon	*Falco rusticolus*	Blue	G5 (2016)	NAR	
Horned Lark, merrilli subspecies	*Eremophila alpestris merrilli*	Red	G5T4 (2016)		
Horned Lark, strigata subspecies	*Eremophila alpestris strigata*	Red	G5T2 (2016)	E	1-E (2005)
Horned Puffin	*Fratercula corniculata*	Red	G5 (2016)		
Hudsonian Godwit	*Limosa haemastica*	Red	G4 (2016)	T	
Lark Sparrow	*Chondestes grammacus*	Blue	G5 (2016)		
Lewis's Woodpecker	*Melanerpes lewis*	Blue	G4 (2016)	T	1-T (2012)
Long-billed Curlew	*Numenius americanus*	Yellow	G5 (2016)	SC	1-SC (2005)
Long-tailed Duck	*Clangula hyemalis*	Blue	G5 (2016)		
Marbled Murrelet	*Brachyramphus marmoratus*	Blue	G3 (2016)	T	1-T (2003)
Northern Fulmar	*Fulmarus glacialis*	Red	G5 (2016)		
Northern Goshawk, atricapillus subspecies	*Accipiter gentilis atricapillus*	Blue	G5T5 (2016)	NAR	
Northern Goshawk, laingi subspecies	*Accipiter gentilis laingi*	Red	G5T2 (2016)	T	1-T (2003)
Northern Pygmy-owl, swarthi subspecies	*Glaucidium gnoma swarthi*	Blue	G4G5T3T4Q (2019)		
Olive-sided Flycatcher	*Contopus cooperi*	Yellow	G4 (2016)	SC	1-T (2010)
Peregrine Falcon	*Falco peregrinus*	No Status	G4 (2016)	SC	1-SC
Peregrine Falcon, anatum subspecies	*Falco peregrinus anatum*	Red	G4T4 (2016)	NAR	1-SC (2012)
Peregrine Falcon, pealei subspecies	*Falco peregrinus pealei*	Blue	G4T3 (2016)	SC	1-SC (2003)
Pine Grosbeak, carlottae subspecies	*Pinicola enucleator carlottae*	Blue	G5T3 (2016)		
Prairie Falcon	*Falco mexicanus*	Red	G5 (2016)	NAR	
Purple Martin	*Progne subis*	Blue	G5 (2016)		
Red Knot	*Calidris canutus*	Blue	G4 (2016)	T	1-T (2010)

Red-necked Phalarope	*Phalaropus lobatus*	Blue	G4G5 (2016)	SC	1-SC (2019)
Rough-legged Hawk	*Buteo lagopus*	Blue	G5 (2016)	NAR	
Rusty Blackbird	*Euphagus carolinus*	Blue	G4 (2016)	SC	1-SC (2009)
Sage Thrasher	*Oreoscoptes montanus*	Red	G4 (2016)	E	1-E (2003)
Sharp-tailed Grouse, columbianus subspecies	*Tympanuchus phasianellus columbianus*	Blue	G5T3 (2022)		
Short-billed Dowitcher	*Limnodromus griseus*	Blue	G5 (2016)		
Short-eared Owl	*Asio flammeus*	Blue	G5 (2016)	T	1-SC (2012)
Smith's Longspur	*Calcarius pictus*	Blue	G4G5 (2016)		
Spotted Owl	*Strix occidentalis*	Red	G3G4 (2016)	E	1-E (2003)
Surf Scoter	*Melanitta perspicillata*	Blue	G5 (2016)		
Swainson's Hawk	*Buteo swainsoni*	Red	G5 (2016)		
Thick-billed Murre	*Uria lomvia*	Red	G5 (2016)		
Tufted Puffin	*Fratercula cirrhata*	Blue	G5 (2016)		
Tundra Swan	*Cygnus columbianus*	Blue	G5 (2016)		
Upland Sandpiper	*Bartramia longicauda*	Red	G5 (2016)		
Wandering Tattler	*Tringa incana*	Blue	G4G5 (2016)		
Western Grebe	*Aechmophorus occidentalis*	Red	G5 (2016)	SC	1-SC (2017)
Western Screech-Owl	*Megascops kennicottii*	No Status	G4G5 (2016)	T	1-T
Western Screech-Owl, kennicottii subspecies	*Megascops kennicottii*	Blue	G4G5T4 (2016)	T	1-T (2005)
Western Screech-Owl, macfarlanei subspecies	*Megascops kennicottii macfarlanei*	Blue	G4G5T4 (2016)	T	1-T (2005)
White-headed Woodpecker	*Dryobates albolarvatus*	Red	G4 (2016)	E	1-E (2003)
White-tailed Ptarmigan, saxatilis subspecies	*Lagopus leucura saxatilis*	Blue	G5T3T4 (2021)		
White-throated Swift	*Aeronautes saxatalis*	Blue	G5 (2016)		
Williamson's Sapsucker	*Sphyrapicus thyroideus*	Blue	G5 (2016)	E	1-E (2006)
Winter Wren	*Troglodytes hiemalis*	Blue	G5 (2016)		
Yellow-billed Cuckoo	*Coccyzus americanus*	Red	G5 (2016)		
Yellow-breasted Chat	*Icteria virens*	Red	G5 (2016)	E	1-E (2003)
American Avocet	*Recurvirostra americana*	Blue	G5 (2016)		
American Bittern	*Botaurus lentiginosus*	Blue	G5 (2016)		
American Golden-Plover	*Pluvialis dominica*	Blue	G5 (2016)		
American White Pelican	*Pelecanus erythrorhynchos*	Red	G4 (2016)	NAR	
Ancient Murrelet	*Synthliboramphus antiquus*	Blue	G4 (2016)	SC	1-SC (2006)
Band-tailed Pigeon	*Patagioenas fasciata*	Blue	G4 (2016)	SC	1-SC (2011)

Barn Owl	*Tyto alba*	Blue	G5 (2016)	T	1-T (2018)
Barn Swallow	*Hirundo rustica*	Yellow	G5 (2016)	SC	1-T (2017)
Bay-breasted Warbler	*Setophaga castanea*	Red	G5 (2016)		
Black Scoter	*Melanitta americana*	Blue	G5 (2016)		
Black Swift	*Cypseloides niger*	Blue	G4 (2016)	E	1-E (2019)
Black-crowned Night-heron	*Nycticorax*	Red	G5 (2016)		
Black-throated Green Warbler	*Setophaga virens*	Blue	G5 (2016)		
Bobolink	*Dolichonyx oryzivorus*	Red	G5 (2016)	SC	1-T (2017)
Brant	*Branta bernicla*	Blue	G5 (2016)		
Brewer's Sparrow, breweri subspecies	*Spizella breweri*	Blue	G5T5 (2016)		
Burrowing Owl	*Athene cunicularia*	Red	G4 (2016)	E	1-E (2003)
California Gull	*Larus californicus*	Red	G5 (2016)		
Canada Goose, occidentalis subspecies	*Branta canadensis occidentalis*	Red	G5T3 (2016)		
Canyon Wren	*Catherpes mexicanus*	Blue	G5 (2016)	NAR	
Cape May Warbler	*Setophaga tigrina*	Blue	G5 (2016)		
Caspian Tern	*Hydroprogne caspia*	Blue	G5 (2016)	NAR	
Cassin's Auklet	*Ptychoramphus aleuticus*	Red	G4 (2016)	SC	1-SC (2019)
Clark's Grebe	*Aechmophorus clarkii*	Red	G5 (2022)		
Common Murre	*Uria aalge*	Red	G5 (2016)		
Common Nighthawk	*Chordeiles minor*	Blue	G5 (2016)	SC	1-T (2010)
Double-crested Cormorant	*Nannopterum auritum*	Blue	G5 (2016)	NAR	
Eared Grebe	*Podiceps nigricollis*	Blue	G5 (2016)		
Evening Grosbeak	*Coccothraustes vespertinus*	Yellow	G5 (2016)	SC	1-SC (2019)
Ferruginous Hawk	*Buteo regalis*	Unknown	G4 (2016)	T	1-T (2010)
Flammulated Owl	*Psiloscops flammeolus*	Blue	G4 (2016)	SC	1-SC (2003)
Forster's Tern	*Sterna forsteri*	Red	G5 (2016)	DD	
Grasshopper Sparrow	*Ammodramus savannarum*	Red	G5 (2016)		
Gray Flycatcher	*Empidonax wrightii*	Blue	G5 (2016)	NAR	
Great Blue Heron, fannini subspecies	*Ardea herodias fannini*	Blue	G5T4 (2016)	SC	1-SC (2010)
Great Blue Heron, herodias subspecies	*Ardea herodias*	Blue	G5T5 (2016)		
Green Heron	*Butorides virescens*	Blue	G5 (2016)		
Gyrfalcon	*Falco rusticolus*	Blue	G5 (2016)	NAR	
Horned Lark, merrilli subspecies	*Eremophila alpestris merrilli*	Red	G5T4 (2016)		
Horned Lark, strigata subspecies	*Eremophila alpestris strigata*	Red	G5T2 (2016)	E	1-E (2005)
Horned Puffin	*Fratercula corniculata*	Red	G5 (2016)		
Hudsonian Godwit	*Limosa haemastica*	Red	G4 (2016)	T	
Lark Sparrow	*Chondestes grammacus*	Blue	G5 (2016)		

Lewis's Woodpecker	*Melanerpes lewis*	Blue	G4 (2016)	T	1-T (2012)
Long-billed Curlew	*Numenius americanus*	Yellow	G5 (2016)	SC	1-SC (2005)
Long-tailed Duck	*Clangula hyemalis*	Blue	G5 (2016)		
Marbled Murrelet	*Brachyramphus marmoratus*	Blue	G3 (2016)	T	1-T (2003)
Northern Fulmar	*Fulmarus glacialis*	Red	G5 (2016)		
Northern Goshawk, atricapillus subspecies	*Accipiter gentilis atricapillus*	Blue	G5T5 (2016)	NAR	
Northern Goshawk, laingi subspecies	*Accipiter gentilis laingi*	Red	G5T2 (2016)	T	1-T (2003)
Northern Pygmy-owl, swarthi subspecies	*Glaucidium gnoma swarthi*	Blue	G4G5T3T4Q (2019)		
Olive-sided Flycatcher	*Contopus cooperi*	Yellow	G4 (2016)	SC	1-T (2010)
Peregrine Falcon	*Falco peregrinus*	No Status	G4 (2016)	SC	1-SC
Peregrine Falcon, anatum subspecies	*Falco peregrinus anatum*	Red	G4T4 (2016)	NAR	1-SC (2012)
Peregrine Falcon, pealei subspecies	*Falco peregrinus pealei*	Blue	G4T3 (2016)	SC	1-SC (2003)
Pine Grosbeak, carlottae subspecies	*Pinicola enucleator carlottae*	Blue	G5T3 (2016)		
Prairie Falcon	*Falco mexicanus*	Red	G5 (2016)	NAR	
Purple Martin	*Progne subis*	Blue	G5 (2016)		
Red Knot	*Calidris canutus*	Blue	G4 (2016)	T	1-T (2010)
Red-necked Phalarope	*Phalaropus lobatus*	Blue	G4G5 (2016)	SC	1-SC (2019)
Rough-legged Hawk	*Buteo lagopus*	Blue	G5 (2016)	NAR	
Rusty Blackbird	*Euphagus carolinus*	Blue	G4 (2016)	SC	1-SC (2009)
Sage Thrasher	*Oreoscoptes montanus*	Red	G4 (2016)	E	1-E (2003)
Sharp-tailed Grouse, columbianus subspecies	*Tympanuchus phasianellus columbianus*	Blue	G5T3 (2022)		
Short-billed Dowitcher	*Limnodromus griseus*	Blue	G5 (2016)		
Short-eared Owl	*Asio flammeus*	Blue	G5 (2016)	T	1-SC (2012)
Smith's Longspur	*Calcarius pictus*	Blue	G4G5 (2016)		
Spotted Owl	*Strix occidentalis*	Red	G3G4 (2016)	E	1-E (2003)
Surf Scoter	*Melanitta perspicillata*	Blue	G5 (2016)		
Swainson's Hawk	*Buteo swainsoni*	Red	G5 (2016)		
Thick-billed Murre	*Uria lomvia*	Red	G5 (2016)		
Tufted Puffin	*Fratercula cirrhata*	Blue	G5 (2016)		
Tundra Swan	*Cygnus columbianus*	Blue	G5 (2016)		
Upland Sandpiper	*Bartramia longicauda*	Red	G5 (2016)		
Wandering Tattler	*Tringa incana*	Blue	G4G5 (2016)		

Western Grebe	*Aechmophorus occidentalis*	Red	G5 (2016)	SC	1-SC (2017)
Western Screech-Owl	*Megascops kennicottii*	No Status	G4G5 (2016)	T	1-T
Western Screech-Owl, kennicottii subspecies	*Megascops kennicottii*	Blue	G4G5T4 (2016)	T	1-T (2005)
Western Screech-Owl, macfarlanei subspecies	*Megascops kennicottii macfarlanei*	Blue	G4G5T4 (2016)	T	1-T (2005)
White-headed Woodpecker	*Dryobates albolarvatus*	Red	G4 (2016)	E	1-E (2003)
White-tailed Ptarmigan, saxatilis subspecies	*Lagopus leucura saxatilis*	Blue	G5T3T4 (2021)		
White-throated Swift	*Aeronautes saxatalis*	Blue	G5 (2016)		
Williamson's Sapsucker	*Sphyrapicus thyroideus*	Blue	G5 (2016)	E	1-E (2006)
Winter Wren	*Troglodytes hiemalis*	Blue	G5 (2016)		
Yellow-billed Cuckoo	*Coccyzus americanus*	Red	G5 (2016)		
Yellow-breasted Chat	*Icteria virens*	Red	G5 (2016)	E	1-E (2003)

9. Limitations

The assessment(s) of the project site(s) described in this report have been made using acceptable minimal standards for detecting Bear and Furbearer Dens, and Hibernacula. Additionally, the assessment(s) described in this report have been made using acceptable standards for an Active Bird Nest Survey Program (ABNSP) and inactive nests outside the breeding window for use in pre-clearing surveys. These surveys are designed to help meet requirements for due diligence on behalf of the client(s) to achieve compliance with Federal and Provincial legislation pertaining to migratory birds and species at risk. Legislation includes the Federal Migratory Bird Convention Act [1994 c.22] and Migratory Birds Regulations [C.R.C., c. 1035], Species at Risk Act [2002, c.29] and British Columbia Wildlife Act [RSBC 1996 c.4SS]. The ABNSP follows standards relevant to nesting surveys outlined in the Inventory Methods of Forest and Grassland Songbirds, Standards for Components of British Columbia's Biodiversity No. 15 (RIC 1999) and Inventory Methods for Raptors, Standards for Components of British Columbia's Biodiversity No. 11 (RIC 2001). The program also follows recommendations outlined by the Canadian Wildlife Service (CWS). Where appropriate, survey methods deemed may be modified to account for local and/or site-specific conditions.

Notwithstanding the recommendations and conclusions made in this correspondence, it must be acknowledged that bear dens, furbearer dens, hibernacula, stick nest, cavity nests, and other bird nests, can sometimes be difficult to locate despite following established protocols and making best possible survey efforts. While all reasonable efforts have been made to ensure the surveys were completed to the best possible standards, no guarantees are offered, or implied. It is both professionally and practically impossible to predict with absolute certainty that all bear dens, hibernacula, and nests have been accounted for. In accordance with standard protocols, the assessment presented in this correspondence is valid for two weeks after the last survey date. If no work is initiated by the client(s) within these two weeks, a new survey is required. Approval and implementation of any recommendations made within this correspondence is the responsibility of the client, and in no way implies any inspection or supervisory role on the part of Avison Management Services Ltd. In the event that inspection or supervision of all or part of the implementation plan is requested, the request shall be in writing and the details agreed to in writing by both parties. Sketches, diagrams and photographs contained in this report, being intended as visual aids, should not be construed as engineering reports or legal surveys.

10. References

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11. Appendices

11.1 Appendix 1. Map of Prioritized Clearing Plan as of March 7, 2023.

Initial BW Clearing Areas – Trigger is Wetlands Offsetting Plan; **Complete**

Yellow Lines = Early Works OLTC
Green Hatching = Available no interaction with Canfor
Orange Hatching = Areas within Canfor Tenure (logs stacked separately for Canfor)

*Available clearing limits have been selected based on infrastructure requirements, current OLTC approval, 30m offset from all potential fish-bearing watercourses (except those where road crossings already exist)
The cut areas require approval from Canfor to harvest. **These blocks should be harvested under Canfor tenure, as they must be completed prior to April 1, 2023, to support topsoil stockpile development.

Area Name/Description	Sequence Number	Area (Ha)
ROM Pad	1	5.8
TS-3 and A-Trail Laydown (Canfor Tenure)	2	26.1
North MAC Haul Road	3	10.9
MAC to Pit Haul Road	4	26.0
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TS-6 (CANFOR TENURE)	10	23.6
TSF Haul Road	11	13.9
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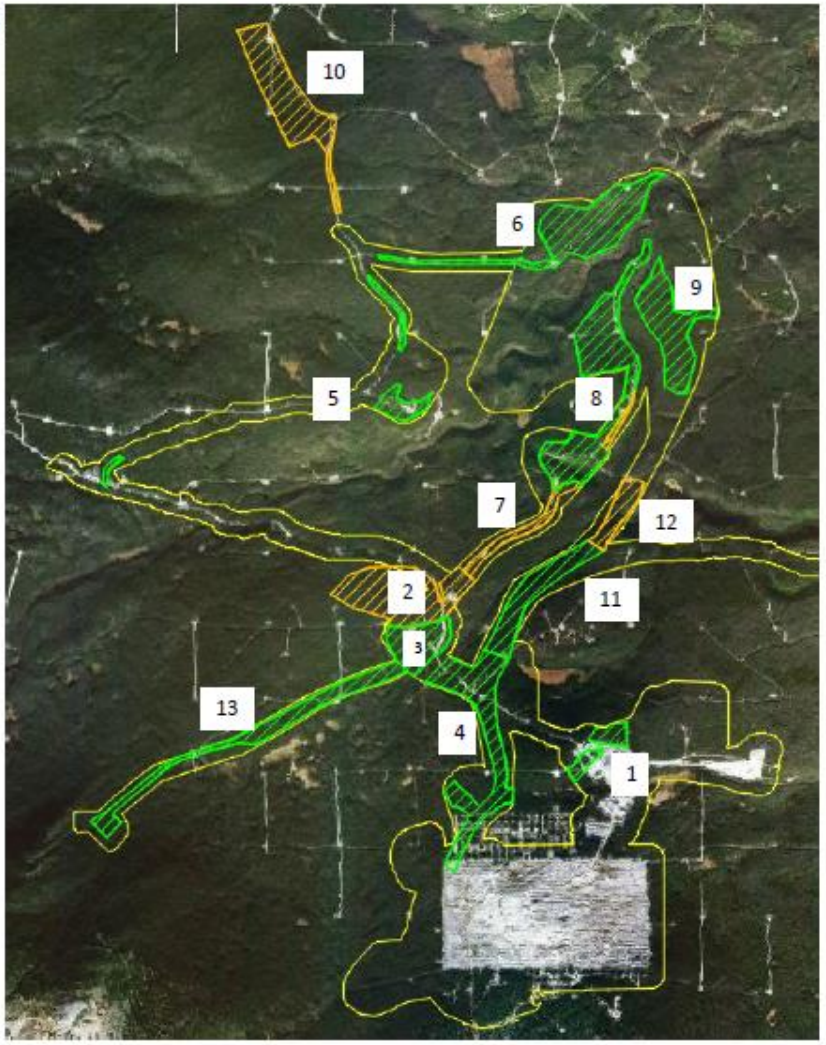
Explosives Access Road	13	16.9
	Total:	**221.6**



Memorandum – April 1, 2023

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Wildlife Pre-clearing Surveys – BWG March 27 through 31, 2023

Pre-clearing surveys were completed prior to construction and clearing activities. Two pre-clearing survey crews were on site this week. This report outlines the pre-clearing completed by the Sean Sharpe Environmental Consulting crew and includes survey methods, results and associated management recommendations for identified wildlife features located in the BWG construction areas.

Scope of work:

- Review planned clearing areas, and previous surveys
  - Ensure the areas are within approved disturbance areas
- Complete pre-clearing surveys within areas of proposed logging for bear dens (and suitability), furbearer dens, raptor/bird nesting (stick nests and cavities) during their sensitive periods (Table 1)
- Submit daily survey locations and pertinent findings
  - Digital (kml/gpx) transects and observation/feature points for surveyed areas
  - Survey time, weather conditions, and other relative information
- A weekly written memorandum including
  - Detailed activities and findings
  - Survey time, weather conditions, and other relative information
  - Documented stripping and grubbing and stockpiling activities
  - Advice and guidance as required to BWG staff and construction subcontractors

Table 1. Sensitive Periods Applicable to the Blackwater Project Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bear Denning					15							
Furbearer Natal Denning												
Caribou												
Bat Hibernacula												
Waterbirds and Landbirds				15				31				
Raptors – including Owls			15					15				
Clark's Nutcracker (other early nesting species include white-winged crossbill and Canada jay)			15				30					

Methodology

Surveys were conducted following the Pre-Clearing Wildlife Features Survey SOP for Blackwater Gold.

Survey time, weather conditions, tracks, waypoints, and observations were documented for all surveys. All sign was identified to species using available field guides and the experience of the field crew. Observations and photos of representative sign (tracks and scat) and features (cavities, nests, dens) were taken.

Survey effort focussed on areas that contain potentially suitable denning habitat for bears and furbearers, and nesting habitat for birds such as mature deciduous or coniferous trees potentially containing cavities or snags with hollow cores. Non-forested areas (e.g., shrubby areas, previously cleared areas and open riparian areas) were not surveyed due to lack of trees that support denning sites.

Non-forested habitats that support nesting birds will be surveyed after April 15 in areas where clearing activities are planned.

Furbearers

A pre-clearing survey for denning furbearers is completed when any vegetation is cleared, or construction activity is scheduled in or adjacent to furbearer denning habitat during the sensitive denning period (mid-March until the end of June) as outlined in the CEMP.

Snow track surveys were used to complete these late winter pre-clearing surveys. Surveys followed the methods established by the Resource Inventory Committee (RIC) for ground-based survey methods for furbearers (BC MELP 1998, BC MELP 1999). Surveys were conducted prior to clearing and/or construction activities.

Furbearer denning surveys should be repeated after 7 days *in areas of high value habitat* for the species surveyed if clearing activities have not commenced. Methods used include:

- Traversing transects on snowshoes with 20 m spacing.
- Further investigation occurred when denning habitat or multiple track trails were identified.
- Active dens were reported daily and provided with a 30-60 m setback (species and location dependent).
    - A clearly visible setback boundary consisting of yellow MFZ flagging (this is a change from the initial green/blue flagging as requested by BWG)
    - Setbacks varied in size and shape based on:
        - disturbance activities adjacent to the den site post initial clearing (grubbing, grooming, construction etc)
        - location within the polygon (setback island or edge)
- Den sites were not flagged to prevent predation.
- Areas with high value habitat were re-surveyed when clearing was postponed. (Sequence 4 -Avison crew).

Furbearers occupy several den sites throughout the birthing period – known as maternal dens - and may move young from the natal den to these secondary maternal dens regularly during the kit development period.

Bear Dens

Identified bear dens are monitored to determine activity. In March, activity is very difficult to determine as bears do not leave their den over the winter so there will be no sign (tracks, disturbance). If activity is inconclusive, the site is monitored using remote cameras and a forward looking infrared camera – (FLIR) until activity is confirmed. Methods include:

- Traversing transects on snowshoes with 20 m spacing.
- Further investigation occurs when denning habitat is identified.
- A FLIR thermal imaging camera can be used to help determine activity if clearing cannot be delayed.
- Active black bear dens are provided a 100 m setback.
  - A clearly visible setback boundary consisting of yellow MFZ flagging
- Den site is not flagged to prevent additional disturbance.

Note

Thermal cameras detect the heat lost by a subject as infrared. Since hibernating bears are expert at conserving heat using a thick layer of fat under their skin, heat levels released by bears may be minimal. Caution needs to be applied here. It is beneficial for crews to try the camera by detecting a crew member through a pile of snow and/or debris and determine best methods.

Bird Nests

Pre-clearing bird nest surveys are completed prior to vegetation clearing during sensitive breeding periods for bird species occurring in the project area (Table 1). Sensitive breeding periods are designated for waterbirds and landbirds, raptors, and Clark's nutcracker.

Detection cues for breeding behaviour include carrying food or nesting material, nests observed, distraction displays, copulation and alarm calling. Surveys are completed by crews knowledgeable in bird id and behaviour following the methods listed:

- Traversing transects on snowshoes with 20 m spacing.
- Searching trees in the area for signs of wildlife/owls, including pellets and cavities.
- Knocking on larger diameter trees or snags which may serve as roosts.
- Utilising playback for the detected species to elicit a reaction from owls in the area.
- Addition methods may be employed in specific areas.
  - Areas of high owl nesting habitat
  - ARU(s) deployed to determine owl presence
- A second visit the following day may be used to confirm nesting as required.
- Stand watch may be utilised to confirm nesting when bird behaviour suggests active nesting and a nest is not found.
- Active nest sites are provided with a setback ranging from 30 m to 1 km, depending on species and nest location (setback island or edge)

  - A clearly visible setback boundary consisting of yellow MFZ flagging
- The nest site is not flagged to avoid further disturbance

Results

Surveys were conducted by qualified professionals knowledgeable and experienced in identification of birds, important wildlife features and habitat in the project area.

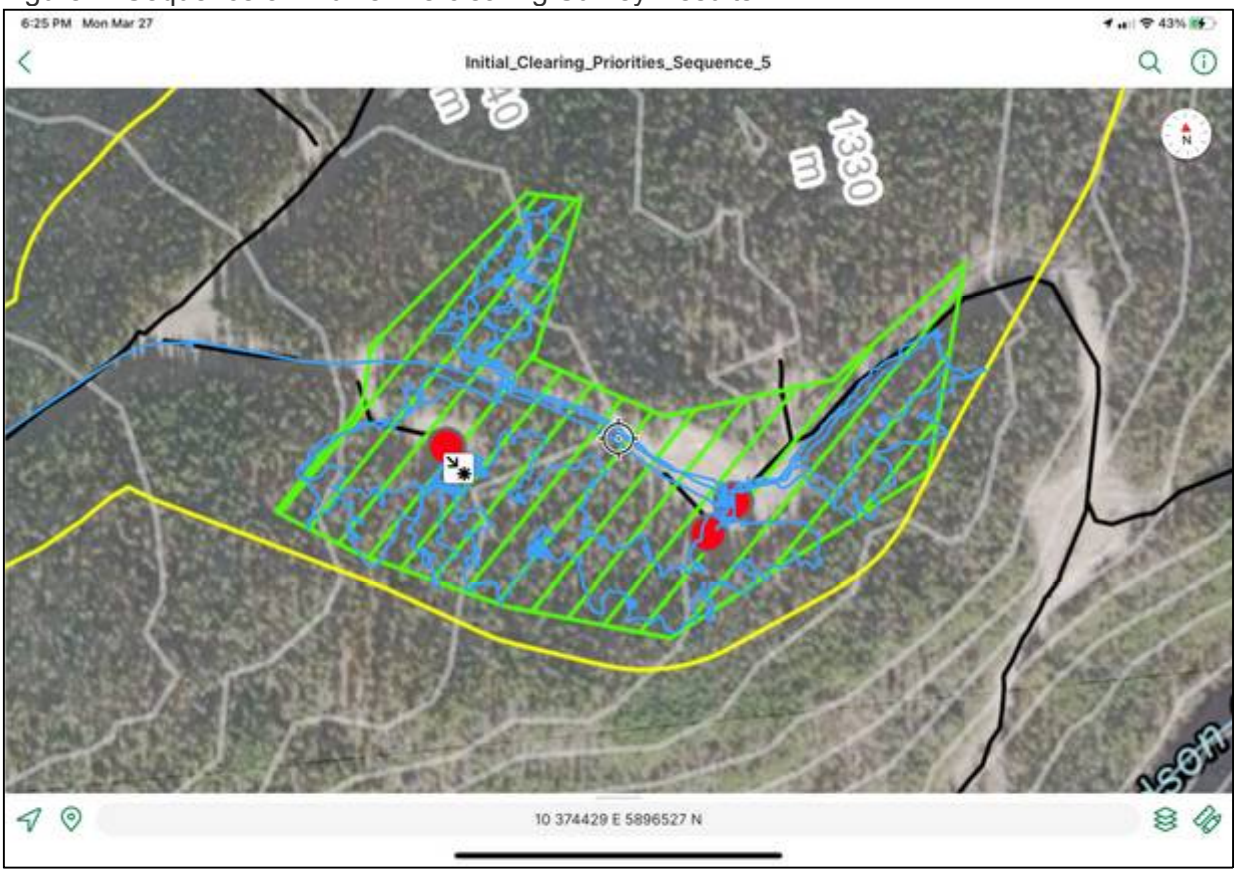
Sequence 5

- **Sequence 5 wildlife pre-clearing survey complete.**
- **1 wildlife setback established and marked with MFZ flagging tape.**

This is an age class 4 and 5 Pl (sx) stand with a Sx/Bl understory and dead pine. Wildlife sign identified during this survey includes tracks from snowshoe hare, red squirrel and grouse. High use and animals were seen in an area in the southern portion. This area is bounded by clear-cuts. No active nests (Canada jay, white-winged crossbill, owls) were found in this area.

An existing MFZ for an instrument location was extended 15 m to include a natal den for red squirrel in this area (Figure 1).

Figure 1. Sequence 5 Wildlife Pre-clearing Survey Results



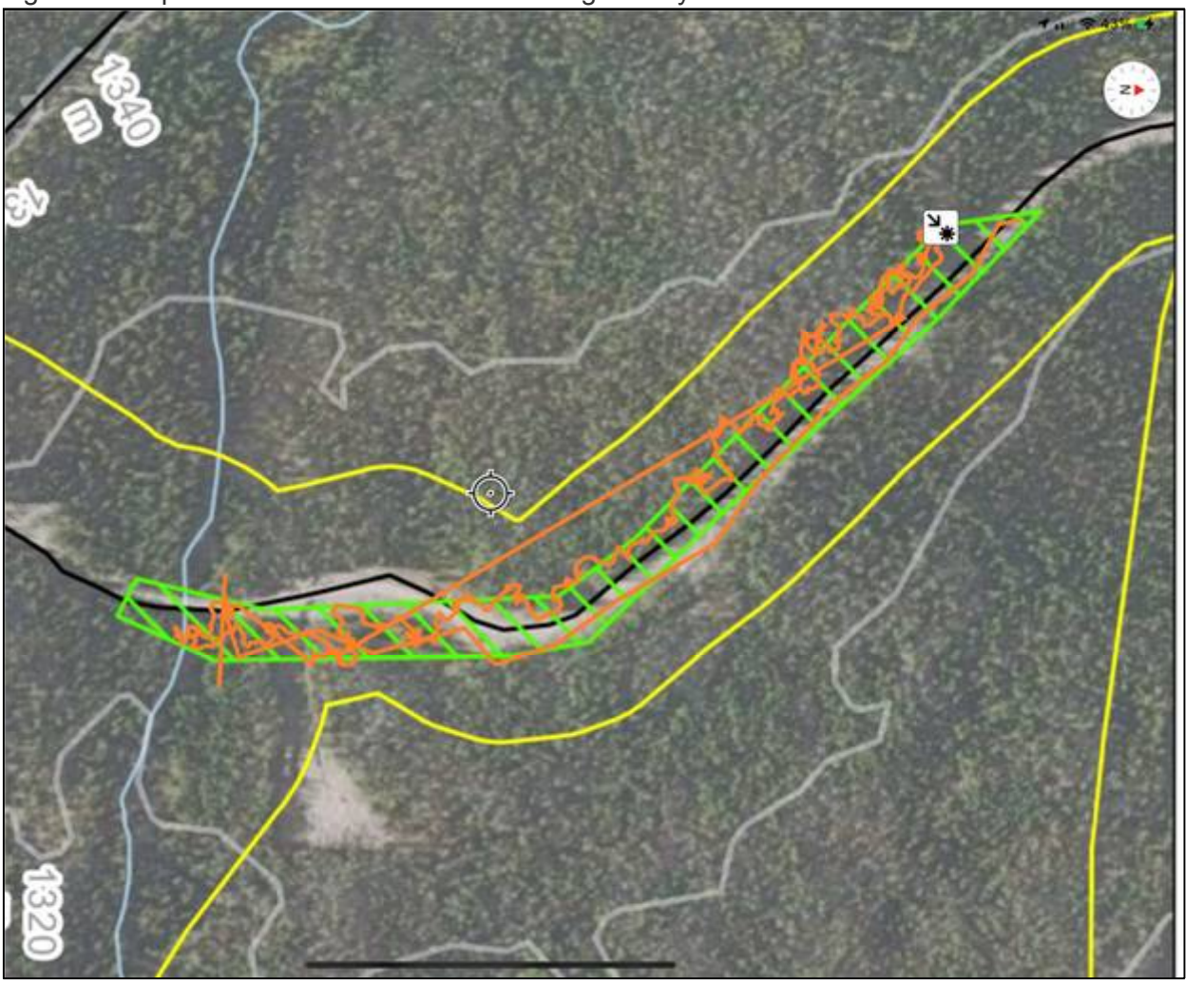
Sequence 5 North

- **Sequence 5-North wildlife pre-clearing survey complete.**
- **1 wildlife setback on boundary edge – Sequence boundary trees marked with MFZ flagging tape.**

This dense, age class 4 Sx (Pl) forest has a productive understory. Wildlife sign identified include tracks from snowshoe hare and red squirrel. No active nests (Canada jay, white-winged crossbill, owls) were found in this area.

An area north end was identified as a natal den for red squirrel. The area is located on the border and includes trees marked as the cutting boundary. MFZ flagging tape was added to 4 boundary marked trees to ensure these are not cut (Figure 2).

Figure 2. Sequence 5 North Wildlife Pre-clearing Survey Results



Sequence 10 Additional Decking Area

- **Sequence 10 wildlife pre-clearing survey complete.**
- **No wildlife setbacks established.**

This is an age class 5 Pl/Bl forest with a Sx/Bl understory with little habitat value. Very little wildlife use was identified in this area. Tracks were identified for wolf and grouse. The area surveyed is shown in Figure 3.

Figure 3. Sequence 10 Wildlife Pre-clearing Survey Results

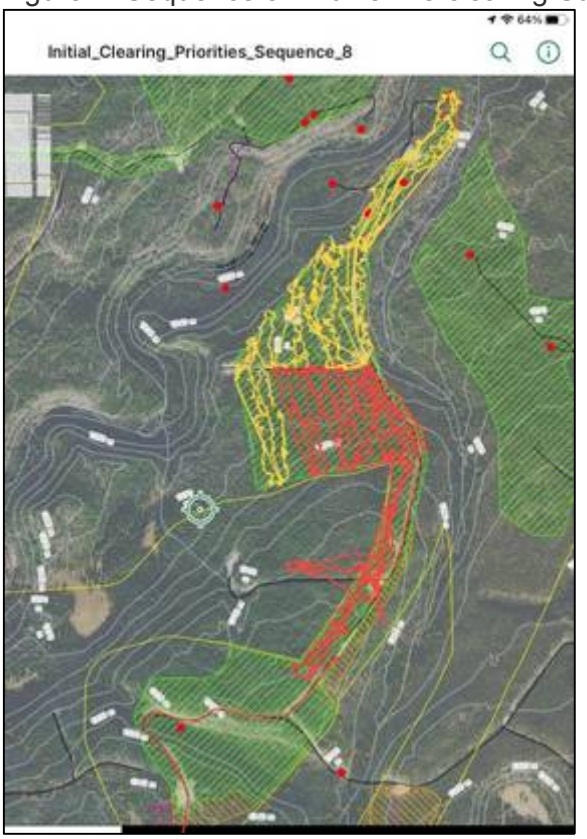
Sequence 8 - North of Buttonhook Road (including corridor between N and S lobes)

- **Sequence 8 wildlife pre-clearing survey complete.**
- **1 wildlife setback (established and marked with MFZ flagging tape by BWG).**

The area surveyed is a mixed age forest on a sloping landscape. This age class 5/6 pine leading with spruce forest has an understory of spruce and fir with low habitat value. Wildlife sign identified during this survey includes travel tracks from snowshoe hare, red squirrel and American marten. No active nests (Canada jay, white-winged crossbill, owls) were found in this area.

A large area was identified as very high use by red squirrel. This area was the highest use observed over the pre-clearing surveys to date. The location was provided to BWG with a recommended setback that includes a corridor to the edge to prevent and island feature setback. Area surveyed and setback location is shown in Figure 4.

Figure 4. Sequence 8 Wildlife Pre-clearing Survey Results



March 29

March 30

Sequence 3

- **Sequence 3 wildlife pre-clearing survey complete.**
- **2 wildlife setbacks established and marked with MFZ flagging tape.**
- **Re-survey April 7 if not cleared of vegetation.**

This is a productive age class 6 Sx/Pl forest. The conifer trees have an abundant cone crop, attracting an abundance of white-winged crossbills and squirrels. Very high use by snowshoe hare was also noted. Travel tracks were identified for American marten and wolf.

This site was surveyed for wildlife on March 30 and 31. On March 30, two white-winged crossbill fledglings were identified with a female and a pair was observed in a tree and thought to be on a nest. The pair flew off due to our presence and returned shortly after.

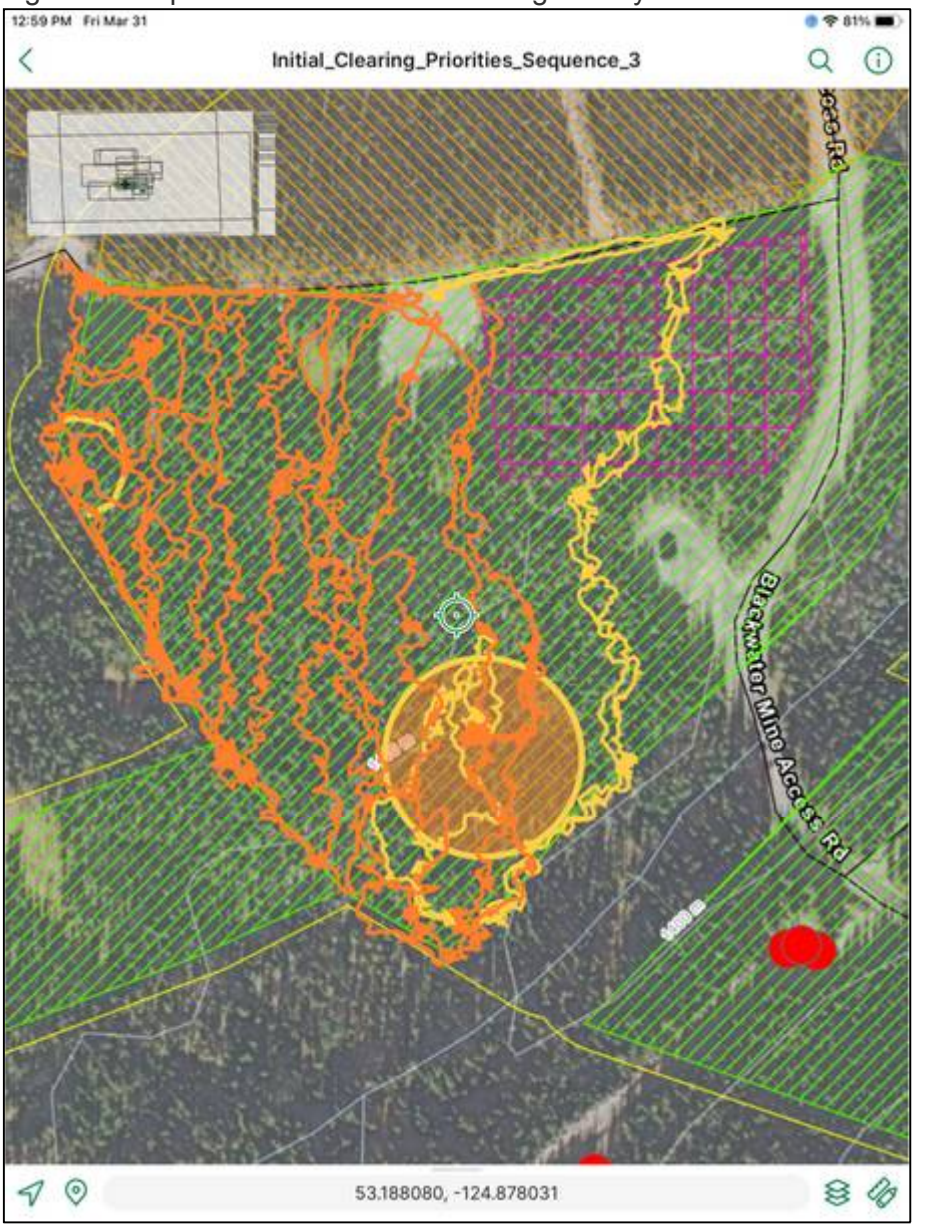
On March 31, the site was revisited to confirm activity. A male was observed alarm calling in the same location as on March 30th. Activity was detected, again in the same location. With the

behaviour shown by the male in the same location over 2 consecutive days, and the visuals of birds observed in the same tree, it has been determined to be an active nest.

A setback buffer of 50m was established and flagged with MFZ flagging tape. The maximum time the birds will need to finish their nesting is 5 weeks. Disturbance within the setback should be limited to essential pass through on foot only.

A setback buffer was provided for a natal den (snowshoe hare). This is located on the western boundary of Sequence 3 and is marked with yellow MFZ flagging tape. Survey area and setbacks are shown in Figure 5.

Figure 5. Sequence 3 Wildlife Pre-clearing Survey Results



Follow-up

- Follow up on Sequence survey completion and results reporting. Clearing of an area prior to wildlife pre-clearing surveys has highlighted the need to track pre-clearing survey results in a real-time table that is updated daily. This will provide information including:
  - Areas (Sequences) surveyed for wildlife (pre-clear surveys) and completion date
  - Active setbacks and dates of estimated release/actual release
  - Re-survey date if not cleared by (for birds and high value furbearer denning habitats)
- Monitor active dens and nests in setbacks to determine current activity
  - Sites are monitored from a distance to prevent disturbance
  - Standwatches are used for nest monitoring
  - Snowtracking and/or cameras (remote and FLIR) are used for den monitoring

Follow-up from March 13-17 Surveys

- Sequence 2: Monitor den site with strategically placed remote cameras to determine effectiveness of the adjusted setback buffer methods**.**
- Sequence 7: Monitor site to determine type of marten den with remote cameras. Apply set back to natal den. The den site was revisited on March 16 with no new tracks detected. If no new tracks are identified on a secondary check, the den can be determined as non-natal.
- Sequence 7: Monitor potential bear den site to determine activity with a FLIR. Apply set back to active den.
- Sequence 12 south: Monitor site to determine type of marten den with remote cameras. Apply set back to natal den.
- Sequence 12 south: Monitor potential bear den site to determine activity with a FLIR. Apply set back to active den.
- Sequence 10 survey is incomplete.

Sequence 2 and 7

The active fur bearer den was provided with an adjusted setback on March 13. The site was revisited on March 27 and no new tracks were identified. A remote camera was set up to monitor the site. The site was re-visited after 4 days to check for activity (camera detections and new tracks). No use was identified and the site was released.

The potential den site located in Sequence 7, 200 m from the Sequence 2 site, was also determined to be inactive and released.

The potential bear den in Sequence 7 was revisited on March 31 and determined to be inactive and released.

The Atco trailers on the north side of the road near A-Trail 0 km remain open to wildlife. If the trailers will be moved, a one-way exit is an effective way to allow the animals to leave and block re-entry prior to removal.

- Close all openings prior to installation
- Check to ensure there are no nestlings within the trailers prior to enclosure installation
- Check under the trailers for nestlings prior to moving them

Sequence 12 South

A den for a primary furbearer and a potential bear den were identified on March 16 in the southern portion of Sequence 12. Both den sites were reported with options for setbacks and monitoring. No monitoring or setbacks were employed and the site has since been logged.

Sequence 10

The area was cleared after March 17.

Notes

Nesting was observed for white-winged crossbill. This is expected as they are known to begin nesting in late winter at these elevations when cone crops are especially productive (Ehrlich et al 1988, Sibley and Audobon field guides). It is expected that there will be a high number of nesting birds in the areas containing productive spruce cone crops.

Bears are expected to emerge anytime so care and awareness of the dangers associated with bear encounters is highlighted.

Western toad is also expected to emerge from hibernation in the coming weeks and migrate to breeding areas. This species is known to use many forms of open water for breeding and egg laying including ditches, depressions and holes created during construction.

Breeding in construction areas can be prevented by limiting breeding features within these areas. Exclusion fencing is an effective management strategy to keep toads away and minimise the need for salvage and relocation.

Wildlife Observations

Numerous birds were identified, including white-winged crossbill fledglings and nesting adults. Sign observations include tracks from lynx, wolf, marten, black bear, hare, fox, squirrel, and river otter. Only red squirrel was seen (Table 1).

Table 1. Wildlife Observation Summary

March 27	March 28	March 29	March 30	March 31
Dark-eyed Junco	Dark-eyed Junco	Dark-eyed Junco	Dark-eyed Junco	Dark-eyed Junco
Common Raven	Common Raven	Common Raven	Boreal Chickadee	Canada Jay
Red-breasted Nuthatch	Red-breasted Nuthatch	Red-breasted Nuthatch	Red-breasted Nuthatch	White-winged Crossbill (WWCB). Male displaying territorial behaviour (alarm calling) in same location in Sequence 3 where two birds exited
American Three-toed Woodpecker (ATTW)	ATTW	ATTW Male drumming and feeding in sequence 8	ATTW drumming outside of survey area	
Canada Jay	Canada Jay	Canada Jay	Canada Jay	

March 27	March 28	March 29	March 30	March 31
White-winged Crossbill	White-winged Crossbill	White-winged Crossbill	Sequence 3 Female WWCB feeding with 2 juvenile birds. Two areas with suspect active WWCB nests	spruce tree. Additional WWCB flyovers
Unspecified grouse tracks. Suspect Spruce Grouse	Unspecified grouse tracks. Suspect Spruce Grouse	Unspecified grouse tracks. Suspect Spruce Grouse	Unspecified grouse tracks. Suspect Spruce Grouse	Unspecified grouse tracks. Suspect Spruce Grouse
Pine Grosbeak	Black Bear (trk)	Red Fox (trks)	Pine Grosbeak	Red Fox (trks)
Grey Wolf (trks)	Canada Lynx (trks)	Grey Wolf (trks)	American Marten (trks)	Grey Wolf (trks)
American Marten (trks)	American Marten (trks)	American Marten (trks)	Red Squirrel	American Marten (trks)
Snowshoe Hare (trks)	Snowshoe Hare (trks)	Snowshoe Hare (trks)		Snowshoe Hare (trks)
Red Squirrel	River Otter (trks)	Red Squirrel	Snowshoe Hare (trks)	Red Squirrel
	Red Squirrel			

Weather Summary

The weather was mostly calm and sunny. About 5 cm of snow fell on March 24th and several centimeters fell overnight Thursday March 30/31 (Table 2).

Table 2. Weather Summary March 27 to 31, 2023.

Date	Temp (0C)	Cloud Cover	Wind	Snow
March 27	-11 to -3	Low cloud until 10 am then full sun	Beaufort 2 in the afternoon	Snow on March 25. Soft layer of snow still present.
March 28	-11 to -3	Clear and sunny	Beaufort 2 in the afternoon	North aspect has soft snow. 4 days since last snowfall.
March 29	-7 to +1	Clear and sunny	Beaufort 2 in the afternoon	North aspect has soft snow. 5 days since last snowfall
March 30	-7 to +1	Clear and sunny	Beaufort 2 to 3 in the afternoon	North aspect has soft snow. 6 days since last snowfall
March 31	-2	Cloudy	N/A	2 cm of fresh snow overnight and snowing until 10 am.

References

BC Ministry of Environment, Lands and Parks (BC MELP). 1998. *Inventory Methods for Marten and Weasels. Standards for Components of British Columbia's Diversity No. 24. Version 2.0.* Prepared for the Terrestrial Ecosystems Task Force, Resources Inventory Committee by Ministry of Environment, Lands and Parks, Resources Inventory Branch: Victoria, BC.

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BW GOLD LTD
a subsidiary company of Artemis Gold Inc

Pre-Clearing
Wildlife Survey Report

March 29th – March 31st, 2023

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1. Summary

Three pre-clearing, furbearer den, bear den, hibernacula and nest surveys were carried out between March 29th through March 31st, 2023. No furbearer dens, bear dens, hibernacula, stick nests, or cavity nests were detected, observed, or located during these surveys.

2. Introduction

The Blackwater Gold project is on the northern flanks of Mt. Davidson in the Nechako Plateau approximately 160 kilometres southwest of the city of Prince George and 110 km southwest of the town of Vanderhoof, in central British Columbia.

Avison Management Services (AMS) Ltd. was retained to conduct furbearer den, bear den, hibernacula, and nest surveys to determine presence of denning furbearers and bears, potential bat hibernacula, or stick or cavity nests, prior to clearing and building road access and decking areas. The following is a summary of the survey results.

3. Locations

3.1 Location References

The map below includes a list of prioritized sequencing of clearing at the Blackwater Project. Pre-clearing wildlife surveys will document surveys completed for these prioritized areas.

Initial BW Clearing Areas – Trigger is Wetlands Offsetting Plan; **Complete**

Yellow Lines = Early Works OLTC
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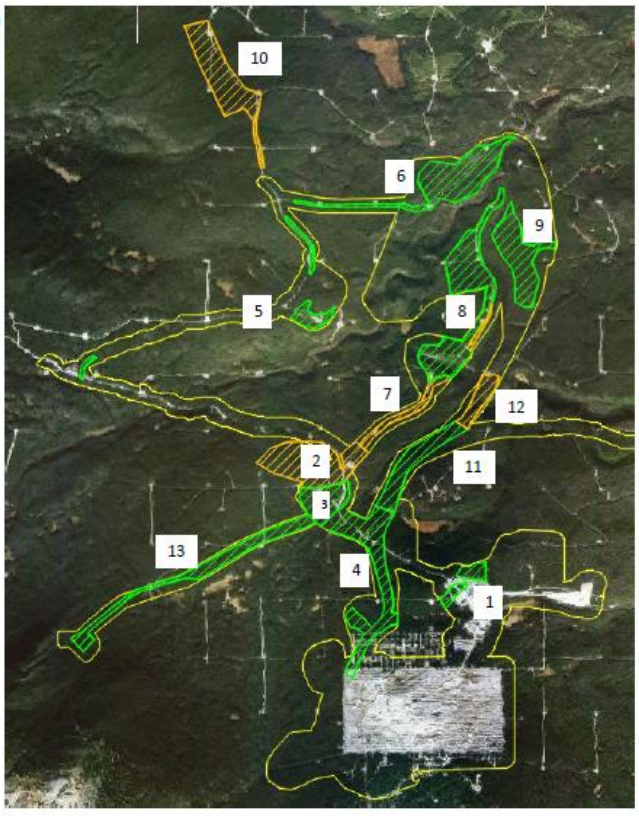


4. Survey Standards and Methodology

Bear Den Surveys

The Resources Inventory Committee's Inventory methods for Bears outline survey methodology for enumeration of bears, but do not elaborate on methodology specific to detection of dens in linear features such as exploration trails or drill pads. Hodder and Ray (2005) provide information on ecotypes and general characteristics of bear den locations, but again do not elaborate on methodology specific to detection of dens. Our approach to detecting bear dens when conducting pre-clearing surveys immediately prior to clearing, is based on walking a proposed disturbance feature (i.e. exploration trail, drill pad, road allowance or, cut block), and walk a linear, or grid pattern survey and search and observe based on sight ability a 10-50 m observable area around the surveyor, watching for important den habitat features (i.e. evidence of natural or excavated ground dens, tracks, trails, scat, etc.).

Furbearer Den Surveys

The Resources Inventory Committee's Inventory methods for medium-sized terrestrial carnivores, and for Marten and Weasel outline survey methodology for enumeration, but do not elaborate on methodology specific to detection of dens in linear features such as exploration trails or drill pads. The BC Fisher Working Group does provide some excellent information on fisher habitat and den sites which can also be broadly applied to marten and weasel. Our approach to detecting furbearer dens is based on walking a proposed disturbance feature (i.e. exploration trail, drill pad, road allowance or, cut block), and walk a linear or grid pattern survey and search and observe based on sight ability of a 10-50 m observable area around the surveyor, watching for tracks (i.e. good snow, conditions), important den habitat features (i.e. large diameter dead or rotting trees with potential for cavities, and evidence of ground dens, trails, excavations, scat, etc.).

Hibernacula Surveys

In terms of hibernacula, once again, the Resources Inventory Committee's inventory methods for Bats outline survey methodology for detection and enumeration of Bats, but do not elaborate on methodology specific to detection of hibernacula in linear features such as exploration trails or drill pads. However, the hibernacula section of the Wildlife Habitat Features Field Guide (Kootenay Boundary Region), does elaborate on what feature to look for, to detect hibernacula. This document was referenced for detection of hibernacula. Our approach to detecting hibernacula is based on walking a proposed disturbance feature (i.e. exploration trail, drill pad, road allowance or, cut block), and walk a linear or grid pattern survey and search and observe based on sight ability a 10-50 m observable area around the surveyor, searching in and around those features to locate potential hibernacula sites.

Nest Surveys

There currently are no provincial or federal standards for conducting bird nest surveys. As such, it is the responsibility of the proponent of a proposed development project to produce and adhere to their own bird nest survey methodology to demonstrate due diligence in not contravening any related legislation.

Avison Management Services Ltd., biologists attempt to follow all standards relevant to nesting surveys outlined in the Inventory Methods for Forest and Grassland Songbirds, Standards for Components for British Columbia's Biodiversity No. 15 (RIC 1999) and Inventory Methods for Raptors, Standards for Components for British Columbia's Biodiversity No. 11 (RIC 2001), as well as recommendations outlined by the Canadian Wildlife Service (CWS). Where deemed appropriate, survey methods are modified to account for local and/or site-specific conditions.

The previous Migratory Birds Regulations protected the nests of all migratory birds, at all times, for as long as they existed, which meant that many nests were protected when they no longer benefited migratory birds. The new

Migratory Birds Regulations, 2022, provide protection to migratory bird nests when they are considered to have a high conservation value for migratory birds.

The nests of most migratory bird species may be destroyed, damaged, disturbed or removed when they do not contain a migratory bird or viable egg.

For most migratory bird species, removing the nest when it does not contain a migratory bird or viable egg (generally after the breeding season) will have no effect on the ability of those birds to nest again. The great majority build or occupy new nests each year. However, some species may reuse the same nest structure year after year, and the loss of these nests could have a negative effect on future nesting success. The nests of the 18 species, listed in Schedule 1 of the MBR 2022, are protected year-round and cannot be damaged, destroyed, removed or disturbed, even when they are unoccupied, unless the conditions of the regulations have been met. One of the most noteworthy changes to the amended Regulations of the Migratory Birds Convention Act is the inclusion of the Pileated Woodpecker on the list of species for which nesting sites are protected after active nesting.

Environment and Climate Change Canada (ECCC) encourages practices that will ensure the long-term conservation of migratory bird populations locally, including the retention of sufficient high-quality habitat. For cavity nesting species, this may mean the retention of dying and dead standing trees in forest stands, whether or not they contain the nesting cavity of the Pileated Woodpecker.

Avison Management Services Ltd., biologists attempt to follow all standards relevant to surveys provided by the Federal and Provincial governments and other reliable sources. Where deemed appropriate, survey methods are modified to account for local and/or site-specific conditions.

5. Wildlife Survey Results by Area

The following Tables are lists of the areas surveyed:

Table 1. *Sequence 8 - Pre-clearing Wildlife Survey, March 29th – March 30th, 2023.*

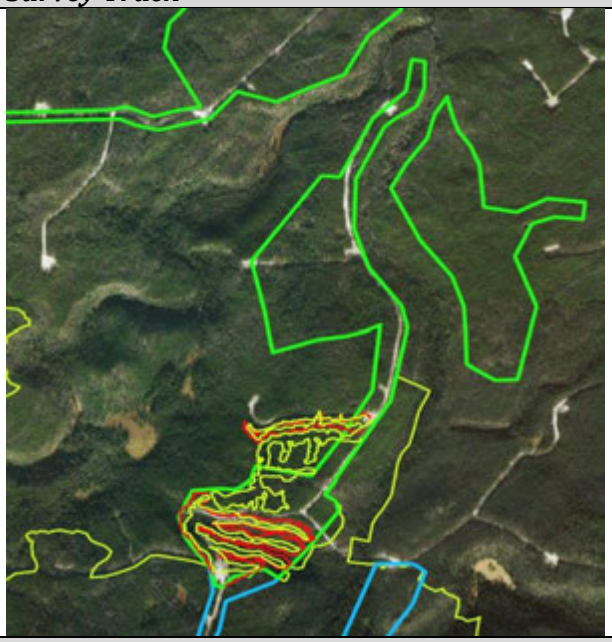
Name	***Area***
Sequence 8 and additional area	*Approx. 32.8 ha*
Survey Date	***Survey Start and End Time***
March 29th – 30th, 2023	*12:00 - 17:30 pm; 8:30 – 12:00 PDT*
Weather	***Conditions***
Clear and -6 - +2° C	*Snow covered*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Snowshoe hare, Red squirrel, Pine Marten, Red Fox, and Spruce Grouse were observed. Spruce Grouse and Dark-Eyed Junco were visually identified as well.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed. The northern portion was completed by another crew.*

***Table 2**. Sequence 3 - Pre-clearing Wildlife Survey, March 30th, 2023.*

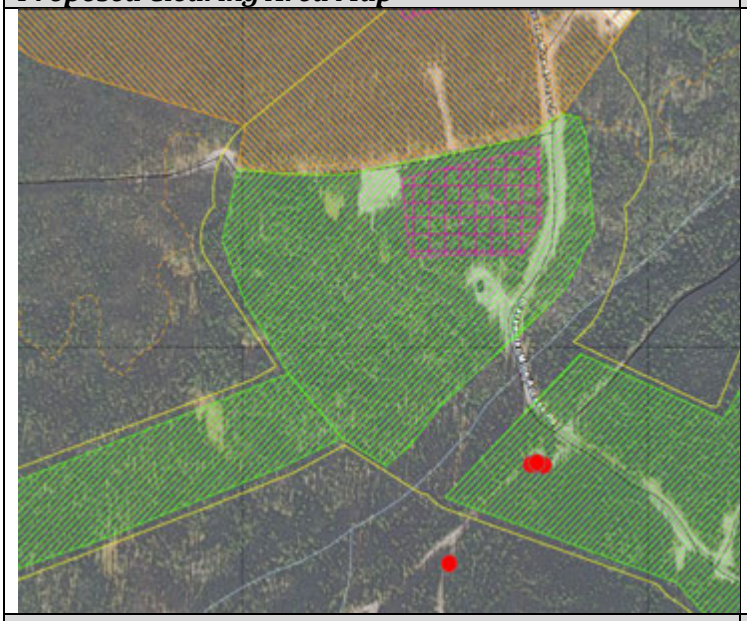
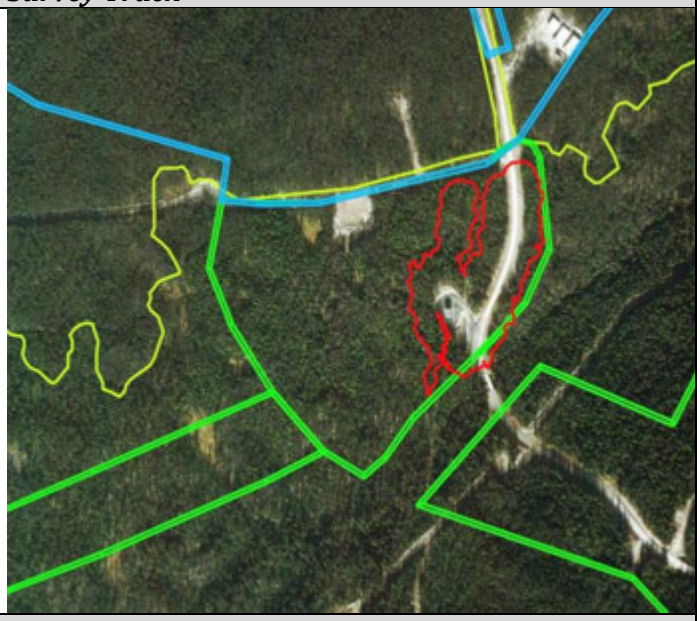
Name	***Area***
Sequence 3	*Approx. 10.3 ha*
Survey Date	***Survey Start and End Time***
March 30th, 2023	*12:30 pm - 2:45 pm*
Weather	***Conditions***
Clear and +4˚C	*Snow Covered*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Snowshoe hare, Red squirrel, Red Fox, Pine Marten, and Spruce Grouse were observed. White-winged Crossbill was identified by call.	*Although tracks were observed in the proposed clearing area, no dens, nests, or hibernacula were observed.*

***Table 3**. Sequence 4 - Pre-clearing Wildlife Survey, March 31st, 2023.*

Name	***Area***
Sequence 4	*Approx. 26 ha*
Survey Date	***Survey Start and End Time***
March 31st, 2023	*8:15 – 11:45 PDT*
Weather	***Conditions***
Snowing and -3°C	*Snow Covered*
Proposed Clearing Area Map	***Survey Track***
	
Observed Wildlife	*Comments*
Tracks of Spruce Grouse, Snowshoe Hare, Pine Marten, Red Squirrel, and Red Fox were observed in the area. White-Winged Crossbill, American Three-toed Woodpecker, Common Raven, and Canada Jay were visually observed and identified by their call.	*Lots of Red Fox tracks were observed in the area covered but no den was found. The pin location had 3-4 White-winged Crossbill and will be revisted to further investigate potential nesting in the area. Otherwise, no dens, nests, or hibernacula were observed.*

6. Bear and Furbearer Den Survey Results

No active furbearer or bear dens were observed or identified during these surveys.

The following is a list of Bear species whose distribution overlap and have been observed in the Blackwater Mine area.

***Table 4**. List of potential Bear species whose distribution over-lap the Blackwater project. (E-Fauna BC, 2022).*

Common Name	Scientific Name
American Black Bear	*Ursus americanus*
Grizzly Bear	*Ursus arctos horribilis*

The following is a list of Furbearer species whose distribution overlap and/or have been observed in the Blackwater Mine area.

***Table 5**. List of potential Furbearer species whose distribution over-lap the Blackwater project. (E-Fauna BC, 2022).*

Common Name	Scientific Name
American (Pine) Marten	*Martes americana*
Ermine (Short-tailed weasel)	*Mustela erminea*
American Mink	*Neovison vison*
Fisher	*Pekania pennanti*
Least Weasel	*Mustela nivalis*
North American River Otter	*Lontra canadensis*
Wolverine	*Gulo gulo*

7. Hibernacula Survey Results

No hibernacula were observed or identified during these surveys.

The following is a list of Bat species that could potentially be present in the Blackwater Mine area.

***Table 6**. List of potential Bat species whose distribution over-lap the Blackwater project. (E-Fauna BC, 2022).*

Common Name	Scientific Name
Big Brown Bat	*Eptesicus fuscus*
California Bat	*Myotis californicus*
Keen Bat	*Myotis keenii*
Hairy Winged Bat	*Myotis volans*
Hoary Bat	*Lasiurus cinereus*
Little Brown Bat	*Myotis lucifugus*
Long-Eared Bat	*Myotis evotis*
Silver-haired Bat	*Lasionycteris noctivagans*
Yuma Bat	*Myotis yumanensis*

8. Nest Survey Result

No nests, stick nests, or cavities nests were observed or identified during these surveys.

This assessment also included searching the Provincial BC Red List and BC Blue List, SARA, and the federally designated COSEWIC Endangered, COSEWIC Threatened, COSEWIC Special Concern lists. The following species of birds or breeding birds listed as species at risk in the Caribou Regional District of British Columbia were found in this search (see below). None of the nests of the species below were located during this assessment, nor were cavity nests of the Pileated Woodpecker found in this pre-clearing survey.

Table 7. *Avian species designated at risk that have been identified as utilizing or residing in the Caribou Regional District.*

English Name	Scientific Name	BC List	Global	COSEWIC	SARA
American Avocet	*Recurvirostra americana*	Blue	G5 (2016)		
American Bittern	*Botaurus lentiginosus*	Blue	G5 (2016)		
American Golden-Plover	*Pluvialis dominica*	Blue	G5 (2016)		
American White Pelican	*Pelecanus erythrorhynchos*	Red	G4 (2016)	NAR	
Ancient Murrelet	*Synthliboramphus antiquus*	Blue	G4 (2016)	SC	1-SC (2006)
Band-tailed Pigeon	*Patagioenas fasciata*	Blue	G4 (2016)	SC	1-SC (2011)
Barn Owl	*Tyto alba*	Blue	G5 (2016)	T	1-T (2018)
Barn Swallow	*Hirundo rustica*	Yellow	G5 (2016)	SC	1-T (2017)
Bay-breasted Warbler	*Setophaga castanea*	Red	G5 (2016)		
Black Scoter	*Melanitta americana*	Blue	G5 (2016)		
Black Swift	*Cypseloides niger*	Blue	G4 (2016)	E	1-E (2019)
Black-crowned Night-heron	*Nycticorax*	Red	G5 (2016)		
Black-throated Green Warbler	*Setophaga virens*	Blue	G5 (2016)		
Bobolink	*Dolichonyx oryzivorus*	Red	G5 (2016)	SC	1-T (2017)
Brant	*Branta bernicla*	Blue	G5 (2016)		
Brewer's Sparrow, breweri subspecies	*Spizella breweri*	Blue	G5T5 (2016)		
Burrowing Owl	*Athene cunicularia*	Red	G4 (2016)	E	1-E (2003)
California Gull	*Larus californicus*	Red	G5 (2016)		
Canada Goose, occidentalis subspecies	*Branta canadensis occidentalis*	Red	G5T3 (2016)		
Canyon Wren	*Catherpes mexicanus*	Blue	G5 (2016)	NAR	
Cape May Warbler	*Setophaga tigrina*	Blue	G5 (2016)		
Caspian Tern	*Hydroprogne caspia*	Blue	G5 (2016)	NAR	
Cassin's Auklet	*Ptychoramphus aleuticus*	Red	G4 (2016)	SC	1-SC (2019)
Clark's Grebe	*Aechmophorus clarkii*	Red	G5 (2022)		
Common Murre	*Uria aalge*	Red	G5 (2016)		
Common Nighthawk	*Chordeiles minor*	Blue	G5 (2016)	SC	1-T (2010)
Double-crested Cormorant	*Nannopterum auritum*	Blue	G5 (2016)	NAR	
Eared Grebe	*Podiceps nigricollis*	Blue	G5 (2016)		

Evening Grosbeak	*Coccothraustes vespertinus*	Yellow	G5 (2016)	SC	1-SC (2019)
Ferruginous Hawk	*Buteo regalis*	Unknown	G4 (2016)	T	1-T (2010)
Flammulated Owl	*Psiloscops flammeolus*	Blue	G4 (2016)	SC	1-SC (2003)
Forster's Tern	*Sterna forsteri*	Red	G5 (2016)	DD	
Grasshopper Sparrow	*Ammodramus savannarum*	Red	G5 (2016)		
Gray Flycatcher	*Empidonax wrightii*	Blue	G5 (2016)	NAR	
Great Blue Heron, fannini subspecies	*Ardea herodias fannini*	Blue	G5T4 (2016)	SC	1-SC (2010)
Great Blue Heron, herodias subspecies	*Ardea herodias*	Blue	G5T5 (2016)		
Green Heron	*Butorides virescens*	Blue	G5 (2016)		
Gyrfalcon	*Falco rusticolus*	Blue	G5 (2016)	NAR	
Horned Lark, merrilli subspecies	*Eremophila alpestris merrilli*	Red	G5T4 (2016)		
Horned Lark, strigata subspecies	*Eremophila alpestris strigata*	Red	G5T2 (2016)	E	1-E (2005)
Horned Puffin	*Fratercula corniculata*	Red	G5 (2016)		
Hudsonian Godwit	*Limosa haemastica*	Red	G4 (2016)	T	
Lark Sparrow	*Chondestes grammacus*	Blue	G5 (2016)		
Lewis's Woodpecker	*Melanerpes lewis*	Blue	G4 (2016)	T	1-T (2012)
Long-billed Curlew	*Numenius americanus*	Yellow	G5 (2016)	SC	1-SC (2005)
Long-tailed Duck	*Clangula hyemalis*	Blue	G5 (2016)		
Marbled Murrelet	*Brachyramphus marmoratus*	Blue	G3 (2016)	T	1-T (2003)
Northern Fulmar	*Fulmarus glacialis*	Red	G5 (2016)		
Northern Goshawk, atricapillus subspecies	*Accipiter gentilis atricapillus*	Blue	G5T5 (2016)	NAR	
Northern Goshawk, laingi subspecies	*Accipiter gentilis laingi*	Red	G5T2 (2016)	T	1-T (2003)
Northern Pygmy-owl, swarthi subspecies	*Glaucidium gnoma swarthi*	Blue	G4G5T3T4Q (2019)		
Olive-sided Flycatcher	*Contopus cooperi*	Yellow	G4 (2016)	SC	1-T (2010)
Peregrine Falcon	*Falco peregrinus*	No Status	G4 (2016)	SC	1-SC
Peregrine Falcon, anatum subspecies	*Falco peregrinus anatum*	Red	G4T4 (2016)	NAR	1-SC (2012)
Peregrine Falcon, pealei subspecies	*Falco peregrinus pealei*	Blue	G4T3 (2016)	SC	1-SC (2003)
Pine Grosbeak, carlottae subspecies	*Pinicola enucleator carlottae*	Blue	G5T3 (2016)		
Prairie Falcon	*Falco mexicanus*	Red	G5 (2016)	NAR	
Purple Martin	*Progne subis*	Blue	G5 (2016)		
Red Knot	*Calidris canutus*	Blue	G4 (2016)	T	1-T (2010)

Red-necked Phalarope	*Phalaropus lobatus*	Blue	G4G5 (2016)	SC	1-SC (2019)
Rough-legged Hawk	*Buteo lagopus*	Blue	G5 (2016)	NAR	
Rusty Blackbird	*Euphagus carolinus*	Blue	G4 (2016)	SC	1-SC (2009)
Sage Thrasher	*Oreoscoptes montanus*	Red	G4 (2016)	E	1-E (2003)
Sharp-tailed Grouse, columbianus subspecies	*Tympanuchus phasianellus columbianus*	Blue	G5T3 (2022)		
Short-billed Dowitcher	*Limnodromus griseus*	Blue	G5 (2016)		
Short-eared Owl	*Asio flammeus*	Blue	G5 (2016)	T	1-SC (2012)
Smith's Longspur	*Calcarius pictus*	Blue	G4G5 (2016)		
Spotted Owl	*Strix occidentalis*	Red	G3G4 (2016)	E	1-E (2003)
Surf Scoter	*Melanitta perspicillata*	Blue	G5 (2016)		
Swainson's Hawk	*Buteo swainsoni*	Red	G5 (2016)		
Thick-billed Murre	*Uria lomvia*	Red	G5 (2016)		
Tufted Puffin	*Fratercula cirrhata*	Blue	G5 (2016)		
Tundra Swan	*Cygnus columbianus*	Blue	G5 (2016)		
Upland Sandpiper	*Bartramia longicauda*	Red	G5 (2016)		
Wandering Tattler	*Tringa incana*	Blue	G4G5 (2016)		
Western Grebe	*Aechmophorus occidentalis*	Red	G5 (2016)	SC	1-SC (2017)
Western Screech-Owl	*Megascops kennicottii*	No Status	G4G5 (2016)	T	1-T
Western Screech-Owl, kennicottii subspecies	*Megascops kennicottii*	Blue	G4G5T4 (2016)	T	1-T (2005)
Western Screech-Owl, macfarlanei subspecies	*Megascops kennicottii macfarlanei*	Blue	G4G5T4 (2016)	T	1-T (2005)
White-headed Woodpecker	*Dryobates albolarvatus*	Red	G4 (2016)	E	1-E (2003)
White-tailed Ptarmigan, saxatilis subspecies	*Lagopus leucura saxatilis*	Blue	G5T3T4 (2021)		
White-throated Swift	*Aeronautes saxatalis*	Blue	G5 (2016)		
Williamson's Sapsucker	*Sphyrapicus thyroideus*	Blue	G5 (2016)	E	1-E (2006)
Winter Wren	*Troglodytes hiemalis*	Blue	G5 (2016)		
Yellow-billed Cuckoo	*Coccyzus americanus*	Red	G5 (2016)		
Yellow-breasted Chat	*Icteria virens*	Red	G5 (2016)	E	1-E (2003)
American Avocet	*Recurvirostra americana*	Blue	G5 (2016)		
American Bittern	*Botaurus lentiginosus*	Blue	G5 (2016)		
American Golden-Plover	*Pluvialis dominica*	Blue	G5 (2016)		
American White Pelican	*Pelecanus erythrorhynchos*	Red	G4 (2016)	NAR	
Ancient Murrelet	*Synthliboramphus antiquus*	Blue	G4 (2016)	SC	1-SC (2006)
Band-tailed Pigeon	*Patagioenas fasciata*	Blue	G4 (2016)	SC	1-SC (2011)

Barn Owl	*Tyto alba*	Blue	G5 (2016)	T	1-T (2018)
Barn Swallow	*Hirundo rustica*	Yellow	G5 (2016)	SC	1-T (2017)
Bay-breasted Warbler	*Setophaga castanea*	Red	G5 (2016)		
Black Scoter	*Melanitta americana*	Blue	G5 (2016)		
Black Swift	*Cypseloides niger*	Blue	G4 (2016)	E	1-E (2019)
Black-crowned Night-heron	*Nycticorax*	Red	G5 (2016)		
Black-throated Green Warbler	*Setophaga virens*	Blue	G5 (2016)		
Bobolink	*Dolichonyx oryzivorus*	Red	G5 (2016)	SC	1-T (2017)
Brant	*Branta bernicla*	Blue	G5 (2016)		
Brewer's Sparrow, breweri subspecies	*Spizella breweri*	Blue	G5T5 (2016)		
Burrowing Owl	*Athene cunicularia*	Red	G4 (2016)	E	1-E (2003)
California Gull	*Larus californicus*	Red	G5 (2016)		
Canada Goose, occidentalis subspecies	*Branta canadensis occidentalis*	Red	G5T3 (2016)		
Canyon Wren	*Catherpes mexicanus*	Blue	G5 (2016)	NAR	
Cape May Warbler	*Setophaga tigrina*	Blue	G5 (2016)		
Caspian Tern	*Hydroprogne caspia*	Blue	G5 (2016)	NAR	
Cassin's Auklet	*Ptychoramphus aleuticus*	Red	G4 (2016)	SC	1-SC (2019)
Clark's Grebe	*Aechmophorus clarkii*	Red	G5 (2022)		
Common Murre	*Uria aalge*	Red	G5 (2016)		
Common Nighthawk	*Chordeiles minor*	Blue	G5 (2016)	SC	1-T (2010)
Double-crested Cormorant	*Nannopterum auritum*	Blue	G5 (2016)	NAR	
Eared Grebe	*Podiceps nigricollis*	Blue	G5 (2016)		
Evening Grosbeak	*Coccothraustes vespertinus*	Yellow	G5 (2016)	SC	1-SC (2019)
Ferruginous Hawk	*Buteo regalis*	Unknown	G4 (2016)	T	1-T (2010)
Flammulated Owl	*Psiloscops flammeolus*	Blue	G4 (2016)	SC	1-SC (2003)
Forster's Tern	*Sterna forsteri*	Red	G5 (2016)	DD	
Grasshopper Sparrow	*Ammodramus savannarum*	Red	G5 (2016)		
Gray Flycatcher	*Empidonax wrightii*	Blue	G5 (2016)	NAR	
Great Blue Heron, fannini subspecies	*Ardea herodias fannini*	Blue	G5T4 (2016)	SC	1-SC (2010)
Great Blue Heron, herodias subspecies	*Ardea herodias*	Blue	G5T5 (2016)		
Green Heron	*Butorides virescens*	Blue	G5 (2016)		
Gyrfalcon	*Falco rusticolus*	Blue	G5 (2016)	NAR	
Horned Lark, merrilli subspecies	*Eremophila alpestris merrilli*	Red	G5T4 (2016)		
Horned Lark, strigata subspecies	*Eremophila alpestris strigata*	Red	G5T2 (2016)	E	1-E (2005)
Horned Puffin	*Fratercula corniculata*	Red	G5 (2016)		
Hudsonian Godwit	*Limosa haemastica*	Red	G4 (2016)	T	
Lark Sparrow	*Chondestes grammacus*	Blue	G5 (2016)		

Lewis's Woodpecker	*Melanerpes lewis*	Blue	G4 (2016)	T	1-T (2012)
Long-billed Curlew	*Numenius americanus*	Yellow	G5 (2016)	SC	1-SC (2005)
Long-tailed Duck	*Clangula hyemalis*	Blue	G5 (2016)		
Marbled Murrelet	*Brachyramphus marmoratus*	Blue	G3 (2016)	T	1-T (2003)
Northern Fulmar	*Fulmarus glacialis*	Red	G5 (2016)		
Northern Goshawk, atricapillus subspecies	*Accipiter gentilis atricapillus*	Blue	G5T5 (2016)	NAR	
Northern Goshawk, laingi subspecies	*Accipiter gentilis laingi*	Red	G5T2 (2016)	T	1-T (2003)
Northern Pygmy-owl, swarthi subspecies	*Glaucidium gnoma swarthi*	Blue	G4G5T3T4Q (2019)		
Olive-sided Flycatcher	*Contopus cooperi*	Yellow	G4 (2016)	SC	1-T (2010)
Peregrine Falcon	*Falco peregrinus*	No Status	G4 (2016)	SC	1-SC
Peregrine Falcon, anatum subspecies	*Falco peregrinus anatum*	Red	G4T4 (2016)	NAR	1-SC (2012)
Peregrine Falcon, pealei subspecies	*Falco peregrinus pealei*	Blue	G4T3 (2016)	SC	1-SC (2003)
Pine Grosbeak, carlottae subspecies	*Pinicola enucleator carlottae*	Blue	G5T3 (2016)		
Prairie Falcon	*Falco mexicanus*	Red	G5 (2016)	NAR	
Purple Martin	*Progne subis*	Blue	G5 (2016)		
Red Knot	*Calidris canutus*	Blue	G4 (2016)	T	1-T (2010)
Red-necked Phalarope	*Phalaropus lobatus*	Blue	G4G5 (2016)	SC	1-SC (2019)
Rough-legged Hawk	*Buteo lagopus*	Blue	G5 (2016)	NAR	
Rusty Blackbird	*Euphagus carolinus*	Blue	G4 (2016)	SC	1-SC (2009)
Sage Thrasher	*Oreoscoptes montanus*	Red	G4 (2016)	E	1-E (2003)
Sharp-tailed Grouse, columbianus subspecies	*Tympanuchus phasianellus columbianus*	Blue	G5T3 (2022)		
Short-billed Dowitcher	*Limnodromus griseus*	Blue	G5 (2016)		
Short-eared Owl	*Asio flammeus*	Blue	G5 (2016)	T	1-SC (2012)
Smith's Longspur	*Calcarius pictus*	Blue	G4G5 (2016)		
Spotted Owl	*Strix occidentalis*	Red	G3G4 (2016)	E	1-E (2003)
Surf Scoter	*Melanitta perspicillata*	Blue	G5 (2016)		
Swainson's Hawk	*Buteo swainsoni*	Red	G5 (2016)		
Thick-billed Murre	*Uria lomvia*	Red	G5 (2016)		
Tufted Puffin	*Fratercula cirrhata*	Blue	G5 (2016)		
Tundra Swan	*Cygnus columbianus*	Blue	G5 (2016)		
Upland Sandpiper	*Bartramia longicauda*	Red	G5 (2016)		
Wandering Tattler	*Tringa incana*	Blue	G4G5 (2016)		

Western Grebe	*Aechmophorus occidentalis*	Red	G5 (2016)	SC	1-SC (2017)
Western Screech-Owl	*Megascops kennicottii*	No Status	G4G5 (2016)	T	1-T
Western Screech-Owl, kennicottii subspecies	*Megascops kennicottii*	Blue	G4G5T4 (2016)	T	1-T (2005)
Western Screech-Owl, macfarlanei subspecies	*Megascops kennicottii macfarlanei*	Blue	G4G5T4 (2016)	T	1-T (2005)
White-headed Woodpecker	*Dryobates albolarvatus*	Red	G4 (2016)	E	1-E (2003)
White-tailed Ptarmigan, saxatilis subspecies	*Lagopus leucura saxatilis*	Blue	G5T3T4 (2021)		
White-throated Swift	*Aeronautes saxatalis*	Blue	G5 (2016)		
Williamson's Sapsucker	*Sphyrapicus thyroideus*	Blue	G5 (2016)	E	1-E (2006)
Winter Wren	*Troglodytes hiemalis*	Blue	G5 (2016)		
Yellow-billed Cuckoo	*Coccyzus americanus*	Red	G5 (2016)		
Yellow-breasted Chat	*Icteria virens*	Red	G5 (2016)	E	1-E (2003)

9. Limitations

The assessment(s) of the project site(s) described in this report have been made using acceptable minimal standards for detecting Bear and Furbearer Dens, and Hibernacula. Additionally, the assessment(s) described in this report have been made using acceptable standards for an Active Bird Nest Survey Program (ABNSP) and inactive nests outside the breeding window for use in pre-clearing surveys. These surveys are designed to help meet requirements for due diligence on behalf of the client(s) to achieve compliance with Federal and Provincial legislation pertaining to migratory birds and species at risk. Legislation includes the Federal Migratory Bird Convention Act [1994 c.22] and Migratory Birds Regulations [C.R.C., c. 1035], Species at Risk Act [2002, c.29] and British Columbia Wildlife Act [RSBC 1996 c.4SS]. The ABNSP follows standards relevant to nesting surveys outlined in the Inventory Methods of Forest and Grassland Songbirds, Standards for Components of British Columbia's Biodiversity No. 15 (RIC 1999) and Inventory Methods for Raptors, Standards for Components of British Columbia's Biodiversity No. 11 (RIC 2001). The program also follows recommendations outlined by the Canadian Wildlife Service (CWS). Where appropriate, survey methods deemed may be modified to account for local and/or site-specific conditions.

Notwithstanding the recommendations and conclusions made in this correspondence, it must be acknowledged that bear dens, furbearer dens, hibernacula, stick nest, cavity nests, and other bird nests, can sometimes be difficult to locate despite following established protocols and making best possible survey efforts. While all reasonable efforts have been made to ensure the surveys were completed to the best possible standards, no guarantees are offered, or implied. It is both professionally and practically impossible to predict with absolute certainty that all bear dens, hibernacula, and nests have been accounted for. In accordance with standard protocols, the assessment presented in this correspondence is valid for two weeks after the last survey date. If no work is initiated by the client(s) within these two weeks, a new survey is required. Approval and implementation of any recommendations made within this correspondence is the responsibility of the client, and in no way implies any inspection or supervisory role on the part of Avison Management Services Ltd. In the event that inspection or supervision of all or part of the implementation plan is requested, the request shall be in writing and the details agreed to in writing by both parties. Sketches, diagrams and photographs contained in this report, being intended as visual aids, should not be construed as engineering reports or legal surveys.

10. References

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Resources Inventory Committee. 2001. Inventory methods for Raptors. Standards for components of British Columbia's biodiversity No. 11. Min. Environ., Lands and Parks, Resources Inventory Branch, Victoria, BC. 145 pp.

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11. Appendices

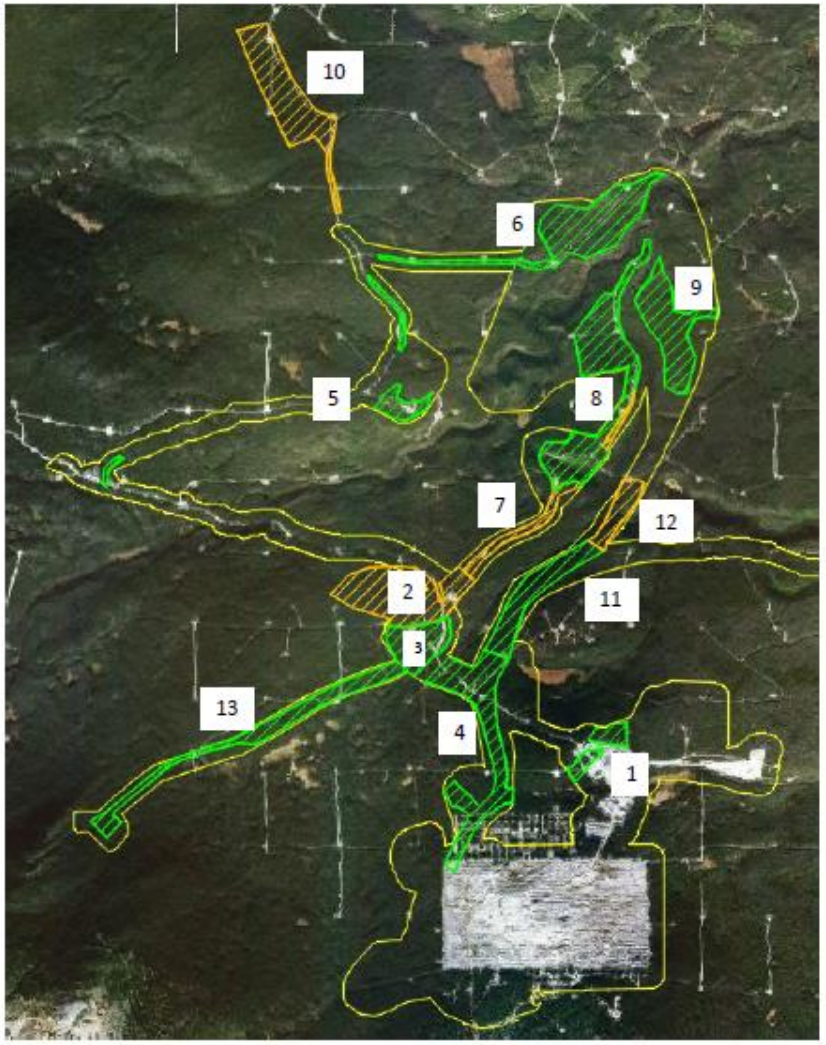
11.1 Appendix 1. Map of Prioritized Clearing Plan as of March 7, 2023.

Initial BW Clearing Areas – Trigger is Wetlands Offsetting Plan; **Complete**

Yellow Lines = Early Works OLTC
Green Hatching = Available no interaction with Canfor
Orange Hatching = Areas within Canfor Tenure (logs stacked separately for Canfor)

*Available clearing limits have been selected based on infrastructure requirements, current OLTC approval, 30m offset from all potential fish-bearing watercourses (except those where road crossings already exist)
The cut areas require approval from Canfor to harvest. **These blocks should be harvested under Canfor tenure, as they must be completed prior to April 1, 2023, to support topsoil stockpile development.

Area Name/Description	Sequence Number	Area (Ha)
ROM Pad	1	5.8
TS-3 and A-Trail Laydown (Canfor Tenure)	2	26.1
North MAC Haul Road	3	10.9
MAC to Pit Haul Road	4	26.0
C-Trail and Zone S/C Borrow	5	6.9
C-Trail Offshoot and Esker	6	27.8
A-trail to WMP (Canfor Tenure	7	5.2
WMP, E-Trail, Borrow Area	8	32.8
TSF East Side	9	19.4
TS-6 (CANFOR TENURE)	10	23.6
TSF Haul Road	11	13.9
TSF Haul Road (Canfor Tenure)	12	6.24
Explosives Access Road	13	16.9
	Total:	**221.6**



Appendix 14: Summary of DS Condition Activities (2.11.1)

Summary of Activities Undertaken to Comply with the Federal Decision Statement: April 1 2022 - March 31 2023		
Condition No.	**Condition**	**Reporting Period Activity**
2.1	The Proponent shall ensure that its actions in meeting the conditions set out in this Decision Statement during all phases of the Designated Project are considered in a careful and precautionary manner, promote sustainable development, are informed by the best information and knowledge available at the time the Proponent takes action (including community and Indigenous traditional knowledge), are based on methods and models that are recognized by standard-setting bodies, are undertaken by qualified individuals, and have applied the best available economically and technically feasible technologies.	Section 1.4 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.2	The Proponent shall, when mitigation is a requirement of a condition set out in this Decision Statement, give preference to avoiding the adverse environmental effect of the Designated Project over minimizing the adverse environmental effect of the Designated Project. If unable to avoid the adverse environmental effect, the Proponent shall give preference to minimizing the adverse environmental effect of the Designated Project over compensating for the adverse environmental effect of the Designated Project. If unable to minimize the adverse environmental effect, the Proponent shall compensate for the adverse environmental effect of the Designated Project.	BW Gold has applied the mitigation hierarchy set out in the Ministry of Environment 2014a, 2014b to avoid or minimize the Project's adverse environmental effects. Project effects have been mitigated through Project design and will be mitigated by the implementation of mitigation measures and offsetting / compensation plans. References: Ministry of Environment. 2014a. Policy for Mitigating Impacts on Environmental Values - Working Document. Ministry of Environment. 2014b. Procedures for Mitigating Impacts on Environmental Values (Environmental Mitigation Procedures) Version 1.0
2.3	The Proponent shall, where consultation is a requirement of a condition set out in this Decision Statement:	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.3.1	provide a written notice of the opportunity for the party or parties being consulted to present their views and information on the subject of the consultation;	
2.3.2	provide all information available and relevant on the scope and the subject matter of the consultation and a period of time agreed upon with the party or parties being consulted, not less than 15 days, to prepare their views and information;	
2.3.3	undertake a full and impartial consideration of all views and information presented by the party or parties being consulted on the subject matter of the consultation;	
2.3.4	strive to reach consensus with Indigenous groups; and	
2.3.5	advise the party or parties being consulted on how the views and information received have been considered by the Proponent including a rationale for why the views have, or have not, been integrated. The Proponent shall advise the party or parties in a time period that does not exceed the period of time taken in 2.3.2.	
2.4	The Proponent shall, where consultation with Indigenous groups is a requirement of a condition set out in this Decision Statement, determine and strive to reach consensus with each Indigenous group regarding the manner by which to satisfy the consultation requirements referred to in condition 2.3, including:	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.4.1	the methods of notification;	
2.4.2	the type of information and the period of time to be provided when seeking input;	
2.4.3	the process to be used by the Proponent to undertake impartial consideration of all views and information presented on the subject of the consultation; and	
2.4.4	the period of time and the means by which to advise Indigenous groups of how their views and information were considered by the Proponent.	
2.5	The Proponent shall, where a follow-up program is a requirement of a condition set out in this Decision Statement, have a Qualified Professional, where such a qualification exists for the subject matter of the follow-up program, determine, as part of the development of each follow-up program and in consultation with the party or parties being consulted during the development, the following information:	Follow-up programs (FUP) and adaptive management have been incorporated into management and monitoring plans, or provided in standalone documents where they are required by the DS. The plans have been prepared by qualified professionals (or qualified individuals), where such a qualification exists for the subject matter of the FUP, and they identify follow-up activities to be undertaken by qualified individuals.
2.5.1	the follow-up activities that must be undertaken by a qualified individual;	
2.5.2	the methodology, location, frequency, timing and duration of monitoring associated with the follow-up program;	The methodology, location, frequency, timing and duration of monitoring associated with each FUP are described in management and monitoring plans or standalone documents.
2.5.3	the scope, content, format and frequency of reporting of the results of the follow-up program;	The scope, content, format and frequency of reporting of the results of the FUP are described in management and monitoring plans or standalone documents.
2.5.4	the levels of environmental change relative to baseline conditions that would require the Proponent to implement modified or additional mitigation measure(s), including instances where the Proponent may require Designated Project activities to be stopped; and	The FUPs identify quantitative or qualitative thresholds or triggers to assess whether there have been changes to baseline conditions that would require the implementation of modified or additional mitigation measures. Instances where Project activities may be stopped would include non-compliance with Project federal and provincial permit conditions or federal and provincial legislation.
2.5.5	the technically and economically feasible mitigation measures to be implemented by the Proponent if monitoring conducted as part of the follow-up program shows that the levels of environmental change referred to in condition 2.5.4 have been reached or exceeded.	The technically and economically feasible mitigation measures to be implemented if monitoring shows that environmental conditions have changed from baseline conditions will be depend on the value component have been determined in consultation with relevant federal and provincial authorities and Indigenous groups (Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*).
2.6	The Proponent shall update and maintain the follow-up and adaptive management information referred to in condition 2.5 during the implementation of each follow-up program in consultation with the party or parties being consulted during the development of each follow-up program.	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*

Condition No.	Condition	Reporting Period Activity
2.7	The Proponent shall provide a draft of the follow-up programs referred to in conditions 3.14, 3.15, 3.16, 4.5, 5.5, 6.11, 6.12, 6.13, 6.14, 8.18.6, 8.20.5, 8.21, and 8.22, if required, to the party or parties being consulted during the development of each follow-up program for a consultation period of up to 60 days prior to providing follow-up programs pursuant to condition 2.8.	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.8	The Proponent shall provide the follow-up programs referred to in conditions 3.14, 3.15, 3.16, 4.5, 5.5, 6.11, 6.12, 6.13, 6.14, 8.18.6, 8.20.5, 8.21, and 8.22, if required, to the Agency and to the party or parties being consulted during the development of each follow-up program prior to the implementation of each follow-up program. The Proponent shall also provide any update(s) made pursuant to condition 2.6 to the Agency and to the party or parties being consulted during the development of each follow-up program within 30 days of the follow-up program being updated.	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.9	The Proponent shall, where a follow-up program is a requirement of a condition set out in this Decision Statement:	Monitoring for follow-up programs occurred as outlined in those plans. Modified/ mitigative measures were taken as needed. See *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.9.1	conduct the follow-up program according to the information determined pursuant to condition 2.5;	
2.9.2	undertake monitoring and analysis to verify the accuracy of the environmental assessment as it pertains to the particular condition and/or to determine the effectiveness of any mitigation measure(s);	
2.9.3	determine whether modified or additional mitigation measures are required based on the monitoring and analysis undertaken in accordance with condition 2.9.2; and	
2.9.4	if modified or additional mitigation measures are required pursuant to condition 2.9.3, develop and implement these mitigation measures in a timely manner and monitor them in accordance with condition 2.9.2.	
2.10.	Where consultation with Indigenous groups is a requirement of a follow-up program, the Proponent shall discuss the follow-up program with Indigenous groups and determine, in consultation with Indigenous groups, opportunities for their participation in the implementation of the follow-up program, including the analysis of the follow-up results and whether modified or additional mitigation measures are required, as set out in condition 2.9.	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.11	The Proponent shall, commencing in the reporting year during which the Proponent begins the implementation of the conditions set out in this Decision Statement, prepare an annual report that sets out:	*Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.11.1	the activities undertaken by the Proponent in the reporting year to comply with each of the conditions set out in this Decision Statement;	Activities taken in the reporting year are summarized in this table.
2.11.2	how the Proponent complied with condition 2.1;	Section 1.4 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.11.3	for conditions set out in this Decision Statement for which consultation is a requirement, how the Proponent considered any views and information that the Proponent received during or as a result of the consultation, including a rationale for how the views have, or have not, been integrated;	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.11.4	the information referred to in conditions 2.5 and 2.6 for each follow-up program;	Section 1.2 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.11.5	the results of the follow-up program requirements identified in conditions 3.14, 3.15, 3.16, 4.5, 5.5, 6.11, 6.12, 6.13, 6.14, 8.18.6, 8.20.5, 8.21, and 8.22 if required;	Section 1.2 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.11.6	any update made to any follow-up program in the reporting year;	Section 1.2 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.11.7	any modified or additional mitigation measures implemented or proposed to be implemented by the Proponent, as determined under condition 2.9 and rationale for why mitigation measures were selected pursuant to condition 2.5.4; and	Section 1.2 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.11.8	any change(s) to the Designated Project in the reporting year.	No changes to the Designated Project occurred during the reporting period.
2.12	The Proponent shall provide a draft annual report referred to in condition 2.11 to Indigenous groups, no later than June 30 following the reporting year to which the annual report applies. The Proponent shall consult Indigenous groups on the content and findings in the draft annual report.	Section 1.5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.13	The Proponent, in consideration of any comments received from Indigenous groups pursuant to condition, 2.12 shall revise and submit to the Agency and Indigenous groups a final annual report, including an executive summary in both official languages, no later than September 30 following the reporting year to which the annual report applies.	Section 1.5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
2.14	The Proponent shall publish on the Internet, or any medium which is publicly available, the annual reports and the executive summaries referred to in conditions 2.11 and 2.13, the offsetting plan(s) referred to in condition 3.11, the compensation plan referred to in condition 8.18 and, if required, condition 5.3, the whitebark pine management plan referred to in condition 8.20, the communication plans referred to in conditions 6.15 and 10.5, the reports related to accidents and malfunctions referred to in conditions 10.4.2 and 10.4.3, the schedules referred to in conditions 11.1 and 11.2, and any update(s) or revision(s) to the above documents, upon submission of these documents to the parties referenced in the respective conditions. The Proponent shall keep these documents publicly available for 25 years following the end of decommissioning of the Designated Project. The Proponent shall notify the Agency and Indigenous groups of the availability of these documents within 48 hours of their publication.	During the reporting year FUPs have been made publicly available here: https://blackwatergoldmine.com/eac-plans/
2.15	When the development of any plan is a requirement of a condition set out in this Decision Statement, the Proponent shall submit the plan to the Agency and to Indigenous groups prior to construction, unless otherwise required through the condition.	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*

Condition No.	Condition	Reporting Period Activity
2.16	The Proponent shall notify the Agency and Indigenous groups in writing no later than 30 days after the day on which there is any transfer of ownership, care, control or management of the Designated Project in whole or in part.	In August 2020, Artemis Gold Inc. (Artemis) acquired the mineral tenures, assets and rights in the Blackwater Project that were previously held by New Gold Inc. On August 7, 2020, the Certificate was transferred to BW Gold Ltd. (BW Gold), a wholly-owned subsidiary of Artemis, under the 2018 Environmental Assessment Act. BW Gold notified the IAAC and Indigenous groups of the ownership change on September 15, 2020. The IAAC and Indigenous groups will be notified of any future changes to ownership, care, control or management of the Designated Project no later than 30 days of a change.
2.17	The Proponent shall consult with Indigenous groups and relevant authorities prior to initiating any change(s) to the Designated Project that may result in adverse environmental effects, and shall notify the Agency and Indigenous groups in writing at a minimum of 60 days prior to initiating the change(s).	BW Gold initiated consultation with Indigenous groups on Project optimizations in September 2020 with the release of the Project's prefeasibility study (Blackwater Gold Project British Columbia - NI 43-101 Technical Report on Pre-Feasibility Study) in late August 2020. BW Gold met with the IAAC in January 2021 to review the proposed changes.
2.18	In notifying the Agency and Indigenous groups pursuant to condition 2.17, the Proponent shall provide the Agency with a description of the potential adverse environmental effects of the change(s) to the Designated Project, the proposed mitigation measures and follow-up requirements to be implemented by the Proponent, and the results of the consultation with Indigenous groups and relevant authorities.	BW Gold prepared a response to IAAC's May 2021 letter, including an analysis of the potential environmental effects of the Project optimizations, taking into account proposed mitigation measures and follow-up requirements proposed to be implemented, and the results of consultation with Indigenous groups and relevant authorities. The analysis also took into account the DS and EAC conditions. IAAC reviewed the submission and concluded that the Agency did not consider the proposed changes to the Project to increase the extent to which the effects of the Project, as assessed during the initial environmental assessment, are adverse and that no amendment of the FDS is required. The analysis can be accessed here: https://iaac-aeic.gc.ca/050/documents/p80017/145722E.pdf
3.1	The Proponent shall implement measures to control erosion and sedimentation within the Designated Project area to avoid the deposit of deleterious substances in water frequented by fish. The Proponent shall submit these measures to the Agency and to Indigenous groups before implementing them.	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
3.2	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and Fisheries and Oceans Canada, measures to protect fish and fish habitat when undertaking activities in or near water, taking into account Fisheries and Oceans Canada's Measures to Avoid Causing Harm to Fish and Fish Habitat. In doing so, the Proponent shall:	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
3.2.1	develop, to the satisfaction of Fisheries and Oceans Canada and any other relevant authorities, and in consultation with Indigenous groups, a proposal to salvage and relocate fish prior to conducting any Designated Project activity requiring removal of fish habitat. The Proponent, if authorized under the Fisheries Act and its regulations, shall salvage and relocate fish in a manner consistent with their authorization.	Compliance with this condition was addressed through the *Blackwater Gold Project Application for Authorization under Paragraph 35(2)(b) of the Fisheries Act (Non- Emergency Situations)* and the *Blackwater Gold Project Fish Habitat Compensation Plan* . Both authorizations (e.g. *Section 27.1 MDMER Schedule 2 Amendment and Section 35(2)(b) Fisheries Act Authorization*) were approved and issued to BW Gold in June 2023. The fish salvage plan was also provided to the BC Ministry of Water, Lands and Resource Stewardship for their review. They provided review comments, and the plan was revised to address their comments.
3.3	The Proponent shall design, install and operate the freshwater intakes for the freshwater supply system to avoid fish entry or reduce the incidental capture, death or injury of fish through entrainment and impingement.	This condition is addressed in Section 3.5.2 (Screened Intake Pipes) of the *Fresh Water Supply System Design Report.*
3.4	The Proponent shall comply with the Metal and Diamond Mining Effluent Regulations and the pollution prevention provisions of the Fisheries Act.	Compliance with this condition was addressed through the *Blackwater Gold Project Fish Habitat Compensation Plan – Pursuant to Section 27.1 of the Metal and Diamond Mining Effluent Regulations*
3.5	The Proponent shall, during operation and decommissioning, cover all acid generating, potentially acid-generating, and potentially metal leaching tailings and waste with an oxygen-limiting barrier, in a manner determined by a Qualified Professional. The timing for covering potentially acid-generating tailings and waste rock shall be prior to the onset of acid rock drainage as determined by a Qualified Professional.	No PAG was handled during the reporting period. Handling of PAG is outlined in the *Metal Leaching and Acid Rock Drainage Management Plan, which is a part of the project Construction Environmental Management Plan (CEMP).*
3.6	The proponent shall, for any low-grade ore stored on land that cannot be covered prior to the onset of acid rock drainage, place the low-grade ore on a low permeability foundation, and collect and monitor seepage. The Proponent shall move the low-grade ore stored on land to the tailings storage facility or the pit lake prior to the start of decommissioning.	No PAG was handled during the reporting period. Handling of PAG is outlined in the *Metal Leaching and Acid Rock Drainage Management Plan, which is a part of the project Construction Environmental Management Plan (CEMP).*
3.7	The Proponent shall, from operation through post-closure phase, collect and treat seepage from the tailings storage facility and any other contact water, in accordance with the requirements of the Metal and Diamond Mining Effluent Regulations and the Fisheries Act, before it is deposited into the receiving environment. When treating contact water and seepage, the Proponent shall take into account the water quality thresholds in British Columbia's Water Quality Guidelines for the Protection of Aquatic Life and any water quality standards established under the Yinka Dene 'Uza'hné Surface Water Management Policy and the Yinka Dene 'Uza'hné Guide to Surface Water Quality Standards, for Davidson Creek, Chedakuz Creek, and Tatelkuz Lake, respectively classified as class III, class II and class I surface waterbodies under the Yinka Dene 'Uza'hné Surface Water Management Policy.	Blackwater Gold was not in the operation phase during the reporting period. Compliance with this condition is addressed in the *Mine Site Water and Discharge Monitoring and Management Plan.*
3.8	The Proponent shall develop, prior to construction, measures to maintain instream flow needs in Davidson Creek. The Proponent shall maintain instream flow needs in Davidson Creek during all phases of the Designated Project at a minimum within flow rates recommended by the Proponent in Appendix 5.1.2.6D of the Environmental Impact Statement, unless otherwise authorized by Fisheries and Oceans Canada.	Compliance with this condition is addressed in the *Mine Site Water and Discharge Monitoring and Management Plan* and the *Aquatic Effects Monitoring Program Plan.*
3.9	The Proponent shall maintain water temperature in Davidson Creek, as described by the Proponent in Section 5 of Appendix A (Blackwater Gold Project – Assessment of Flows from the Water Treatment Plant and North and South Diversions on Davidson Creek Temperatures. Knight Piesold. Memorandum VA16-01038) of Appendix C-1 of the Environmental Impact Statement Supplemental Report Assessment of Effects Related to Project Changes (August 2016), unless otherwise authorized by Fisheries and Oceans Canada.	Compliance with this condition is outlined in the *Aquatic Effects Monitoring Program Plan* .

Condition No.	Condition	Reporting Period Activity
3.10.	The Proponent shall mitigate effects to fish and fish habitat from water withdrawn from Tatelkuz Lake during operation, including by using mine water and water from the northern and southern diversions identified by the Proponent in Figure 3-1 of the Environmental Impact Statement Supplemental Report Assessment of Effects Related to Project Changes (August 2016) for the operation of the mill and redirect water used to process ore in the mill into the tailings management facility. When withdrawing water from Tatelkuz Lake, the Proponent shall comply with the Fisheries Act and any other applicable legal requirements and associated regulations.	No water was withdrawn from Tatelkuz Lake during the reporting period. Measures to mitigate effects to fish and fish habitat during Tatelkuz Lake water withdrawals are addressed through the *Blackwater Gold Project Application for Authorization under Paragraph 35(2)(b) of the Fisheries Act (Non- Emergency Situations).*
3.11	The Proponent shall develop, to the satisfaction of Fisheries and Oceans Canada and Environment and Climate Change Canada and in consultation with Indigenous groups, and implement any offsetting plan(s) related to any residual adverse effects to fish and fish habitat associated with the carrying out of the Designated Project. The Proponent shall submit any approved offsetting plan(s) to the Agency prior to implementation.	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* Compliance with this condition was addressed through the *Blackwater Gold Project Application for Authorization under Paragraph 35(2)(b) of the Fisheries Act (Non- Emergency Situations)* and the *Blackwater Gold Project Fish Habitat Compensation Plan* . Both authorizations (e.g. *Section 27.1 MDMER Schedule 2 Amendment and Section 35(2)(b) Fisheries Act Authorization*) were approved and issued to BW Gold in June 2023.
3.12	The Proponent shall, for any fish habitat offsetting measure(s) proposed in any offsetting plan(s) referred to in condition 3.11 that may cause adverse environmental effects not considered in the environmental assessment, develop and implement, following consultation with Indigenous groups, Fisheries and Oceans Canada and Environment and Climate Change Canada, measures to mitigate those effects, including effects to Indigenous peoples' current use of lands and resources for traditional purposes. The Proponent shall submit these measures to the Agency before implementing them.	Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* Compliance with this condition was addressed through the *Blackwater Gold Project Application for Authorization under Paragraph 35(2)(b) of the Fisheries Act (Non- Emergency Situations)* and the *Blackwater Gold Project Fish Habitat Compensation Plan* . Both authorizations (e.g. *Section 27.1 MDMER Schedule 2 Amendment and Section 35(2)(b) Fisheries Act Authorization*) were approved and issued to BW Gold in June 2023.
3.13	The Proponent shall, subject to any authorization required under the Fisheries Act, connect Lake 01682LNRS to Lake 01538UEUT prior to constructing the site C dam and in a manner that will maintain rainbow trout habitat and populations during all phases of the Designated Project and be consistent with any offsetting plan(s) referred to in condition 3.11.	Acknowledged. No action taken during the reporting period.
3.14	The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Fisheries and Oceans Canada, and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of the mitigation measures as it pertains to adverse environmental effects of the Designated Project on fish and fish habitat. The Proponent shall implement the follow-up program during all phases of the Designated Project and shall apply conditions 2.9 and 2.10 when implementing the follow-up program. As part of the follow-up program, the Proponent shall:	Section 2 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
3.14.1	conduct parasite and pathogen inventories in Lake 01538UEUT and Lake 01682LNRS prior to enlarging Lake 01682LNRS and connecting it to Lake 01538UEUT pursuant to condition 3.13 and compare the results of the parasite and pathogen inventories for the two lakes;	
3.14.2	monitor, starting when the Proponent starts to pump water into Davidson Creek and continuing through until the freshwater supply system has been decommissioned, rainbow trout (Oncorhynchus mykiss) and Kokanee (Oncorhynchus nerka) populations in Davidson Creek, including:	
3.14.2.1	community composition of rainbow trout (Oncorhynchus mykiss) and Kokanee (Oncorhynchus nerka), their absolute abundance, genetic structure and diversity;	
3.14.2.2	absolute abundance of overwintering rainbow trout juveniles; and	
3.14.2.3	characteristics of spawner populations through surrogate monitoring metrics including size at 50% maturity, redd counts and spawner distribution.	
3.15	The Proponent shall develop, in consultation with Indigenous groups and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of the mitigation measures as it pertains to adverse environmental effects of the Designated Project on fish habitat in Davidson Creek, Creek 661 and Chedakuz Creek. The Proponent shall develop the follow-up program prior to construction and shall implement the follow-up program during all phases of the Designated Project. The Proponent shall apply conditions 2.9 and 2.10 when implementing the follow-up program. As part of the follow-up program, the Proponent shall:	Section 3 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
3.15.1	monitor water flows in Davidson Creek during the open water season from construction until decommissioning, and temperature continuously from construction until decommissioning;	
3.15.2	monitor water quality in Davidson Creek, Creek 661 and Chedakuz Creek for contaminants of potential concern, including those identified in Table 5 of the environmental assessment report, during all phases of the Designated Project; and	
3.15.3	monitor, during all phases of the Designated Project, groundwater quality and quantity downstream of the tailings storage facility site D, open pit, west waste rock dump and low-grade ore stockpile to confirm that groundwater quantity and quality parameters are at or below the values identified by the Proponent in the modelled predictions in Section 5 of Blackwater Gold Project: Additional Water Quality Model Sensitivity Scenario (July 20, 2017) and Section 3 of Blackwater Gold Project: Water Treatment Responses for Comments 1266, 1270, 1271, 1272, and 1273 (February 15, 2017) for nitrite and contaminants of potential concern, and to verify the effectiveness of water management measures.	

Condition No.	Condition	Reporting Period Activity
3.16	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of the mitigation measures as it pertains to fish habitat in Tatelkuz Lake and Chedakuz Creek. The Proponent shall implement the follow-up program from construction through decommissioning and shall apply conditions 2.9 and 2.10 when implementing the follow-up program. As part of the follow-up program, the Proponent shall:	Section 4 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
3.16.1	conduct, prior to the commissioning of the freshwater supply system, fish habitat quantity and quality surveys in the Tatelkuz Lake littoral zone;	
3.16.2	monitor the Tatelkuz Lake littoral zone from the commissioning of the freshwater supply system until decommissioning; and	
3.16.3	monitor water flows in Chedakuz Creek between Tatelkuz Lake and the confluence with Davidson Creek during the open water season from construction until decommissioning.	
4.1	The Proponent shall carry out the Designated Project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's Avoidance Guidelines and the risk of incidental take. The Proponent's actions when carrying out the Designated Project shall be in compliance with the Migratory Birds Convention Act, 1994, the Migratory Birds Regulations and with the Species at Risk Act.	See Appendix 5 and 13 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
4.2	The Proponent shall deter migratory birds from using or frequenting the tailings storage facility, reclamation wetlands, pit lake and sediment control ponds until such time that water quality in these structures meets legislative requirements and water quality objectives. The Proponent shall identify the water quality objectives using an ecological risk based approach, developed in consultation with Indigenous groups and relevant authorities.	During the reporting period, there were no tailings storage facilities, reclamation wetlands, pit lake and the plant site sediment pond did not require any deterring of migratory birds, however compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.*
4.3	The Proponent shall conduct pre-construction surveys for migratory birds and their habitat in the Designated Project area to validate the results of habitat suitability modelling for migratory birds, including migratory birds that are listed species at risk, conducted by the Proponent and presented in the Environmental Impact Statement and in the Blackwater Gold Project – Waterbird Memo (Response to LDN/UFN #684, 693, 697, and NWFN/StFN #964). As part of the pre-construction surveys, the Proponent shall validate the applicability of fisher (Martes pennant) habitat suitability modelling to migratory birds, as identified by the Proponent in the Blackwater Gold Project – Forest Birds (Supplemental Information in Response to 681, 683, 685, 694, 695, 703, 717, 936; and ECCC Annex 1, IR 21, 24, 25). Based on the results of the pre-construction surveys the Proponent shall, in consultation with Indigenous groups and relevant authorities, develop and implement mitigation measures for migratory bird habitat.	See 5 and 13 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
4.4	The Proponent shall develop, prior to construction, and in consultation with relevant authorities, mitigation measures related to sensitive periods and locations for migratory birds, including greater yellowlegs (Tringa melanoleuca). The mitigation measures shall consider critical habitat identified in applicable recovery strategies under the Species at Risk Act and suitable habitat identified by the Proponent in the environmental assessment for migratory birds, including common nighthawk (Chordeiles minor), olive-sided flycatcher (Contopus cooperi), yellow rail (Coturnicops noveboracensis), barn swallow (Hirundo rustica), bank swallow (Riparia riparia), horned grebe (Podiceps auritus). The Proponent shall implement the mitigation measures during all phases of the Designated Project.	Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.* See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* for consultation on this Plan.
4.5	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of all mitigation measures to avoid harm to migratory birds, including migratory birds that are listed species at risk, their eggs and nests. The follow-up program shall include the mitigation measures used to comply with condition 4.1 to 4.4. The Proponent shall implement the follow-up program during all phases of the Designated Project and shall apply conditions 2.9 and 2.10 when implementing the follow-up program.	Section 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
5.1	The Proponent shall mitigate the adverse environmental effects of the Designated Project on wetland functions with a preference for avoiding the loss of wetlands and wetland functions over minimizing the adverse effects on wetlands, and for minimizing the adverse effects on wetlands over compensating for lost or adversely affected wetlands, taking into account British Columbia's Wetland Ways: Interim Guidelines for Wetland Protection and Conservation in British Columbia, and Riparian Management Area Guidebook.	Compliance with this condition is outlined in the *Wetland Management and Offsetting Plan* . See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* for consultation on this Plan.
5.2	The Proponent shall maintain, during construction and operation, a 30-metre buffer of undisturbed vegetation around wetlands located within the mine site, excluding activities required to construct project components. The Proponent shall conduct work or activity within the 30-metre buffer only to the extent necessary for safety reasons, to control invasive plants, or to install and maintain erosion or sediment run-off control measures. The Proponent shall have an independent environmental monitor observe work being done within the buffer, except when not possible for safety reasons. As part of the annual report, the Proponent shall include a summary of work or activities conducted for safety reasons within the 30-metre buffer.	No work occurred within the 30-metre buffer of wetlands relevant to this condition during the reporting period.

Condition No.	Condition	Reporting Period Activity
5.3	The Proponent shall, for adverse environmental effects from the Designated Project on wetlands that cannot be avoided or minimized pursuant to condition 5.1, set out mitigation measures in a wetland compensation plan. The Proponent shall develop the wetland compensation plan, prior to construction, in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, and taking into account Canada's Federal Policy on Wetland Conservation, Environment and Climate Change Canada's Operational Framework for Use of Conservation Allowances and habitat needs for migratory birds, moose (Alces alces) and listed species at risk. When identifying mitigation measures, the Proponent shall select wetland restoration over enhancement and wetland enhancement over wetland creation. The Proponent shall start the implementation of the wetland compensation plan prior to the wetlands being adversely affected.	Compliance with this condition is outlined in the *Wetland Management and Offsetting Plan* . See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* for consultation on this Plan.
5.4	For any wetland creation required pursuant to condition 5.3, the Proponent shall establish, prior to wetland creation and in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, performance standards for wetland functions.	Compliance with this condition is outlined in the *Wetland Management and Offsetting Plan* . See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* for consultation on this Plan.
5.5	The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the predictions of the environmental assessment as it pertains to the adverse environmental effects of the Designated Project on wetland functions and to determine the effectiveness of the mitigation measures as it pertain to wetlands. The Proponent shall implement the follow-up program during from construction through decommissioning and shall apply conditions 2.9 and 2.10 when implementing the follow-up program. As part of the follow-up program, the Proponent shall:	Section 6 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
5.5.1	conduct pre-construction surveys within the mine site to confirm the absence of red or blue-listed wetlands. The Proponent shall provide the results of the survey to the Agency and to Indigenous groups prior to the start of construction. If the results of the survey demonstrate the presence of red or blue-listed wetlands within the mine site, the Proponent shall develop, prior to construction, and implement additional mitigation measures;	
5.5.2	monitor changes to wetland functions of wetlands located within the mine site and remaining after vegetation clearing required to construct project components during all phases of the Designated Project; and	
5.5.3	monitor all compensatory wetland sites at a minimum annually, to ensure they meet or exceed performance standards for wetland functions established pursuant to condition 5.4 from the start of compensation until wetland functions are attained.	
6.1	The Proponent shall mitigate, during all phases of the Designated Project, emissions of fugitive dust from the Designated Project, including dust associated with vehicles on project roads.	See Appendix 6 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* .
6.2	The Proponent shall establish a speed limit of a maximum of 50 kilometers/hour on project roads and require that all persons abide by this speed limit during all phases of the Designated Project.	A speed limit of 50 km/hour has been established on project roads. Compliance with this condition is outlined in the *Air Quality and Fugitive Dust Management Plan* and *Mine Traffic Control Plan.*
6.3	The Proponent shall develop, prior to construction and in consultation with Indigenous groups, a protocol for receiving complaints related to the exposure to noise and dust from the Designated Project. The Proponent shall respond to any noise or dust complaint(s) within 48 hours of the complaint being received and shall implement corrective actions to reduce exposure to noise or dust in a timely manner. The Proponent shall implement the protocol during construction, operation and decommissioning.	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* .
6.4	The Proponent shall, during all phases of the Designated Project, limit landing and take-off of flights to daylight hours and shall limit taxiing time of aircraft on the ground to time necessary for take-off and landing manoeuvers, except if not feasible for safety reasons.	Compliance with this condition is outlined in the *Noise and Vibration Effects Monitoring and Mitigation Plan* .
6.5	The Proponent shall, in consultation with Indigenous groups, install and maintain signs indicating that consumption of surface water is not advisable in the tailings storage facility, the pit lake and Davidson Creek year-round at locations established in consultation with Indigenous groups.	Compliance with this condition is outlined in the *Country Food Monitoring Plan.* See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* .
6.6	The Proponent shall provide Indigenous holders of provincially-registered traplines, whose traplines overlap with the Designated Project area, with the schedules referred to in condition 11.2 and updates or revisions to the initial schedules pursuant to condition 11.3 and 11.4 at the same time these documents are provided to the Agency.	Complete via letter dated September 16, 2022.
6.7	The Proponent shall provide tenure holders, including trappers, guide outfitters and range tenure holders whose activities overlap with the Designated Project area with the schedules referred to in condition 11.2 and updates or revisions to the initial schedules pursuant to condition 11.3 and 11.4 at the same time these documents are provided to the Agency.	Complete via letter dated September 16, 2022.
6.8	The Proponent shall develop and implement measures in consultation with Indigenous groups to manage invasive species within the Designated Project area.	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* .
6.9	The Proponent shall determine the location of the transmission line towers in consultation with Indigenous groups, to mitigate visual effects of the transmission line where the transmission line crosses trails and sites of importance to Indigenous peoples, unless not technically and economically feasible.	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* .
6.10.	The Proponent shall, during all phases of the Designated Project, prohibit employees and contractors associated with the Designated Project from fishing, hunting, trapping and gathering for any purposes not associated with the Designated Project, within the Designated Project area, or using the Designated Project area to access lands outside the Designated Project area for fishing, hunting, trapping and gathering, unless an employee or contractor is provided access by the Proponent for traditional purposes or for exercising Aboriginal rights, to the extent that such access is safe.	Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan* .

Condition No.	Condition	Reporting Period Activity
6.11	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to adverse environmental effects of the Designated Project on the health of Indigenous Peoples caused by changes in concentrations of contaminants of potential concern in water, soil, vegetation and wildlife, including fish, and determine the effectiveness of mitigation measures. As part of the development of the follow-up program, the Proponent shall identify the vegetation and wildlife species that shall be monitored, the locations where the monitoring will be conducted, the contaminants to be monitored and the frequency of the monitoring. The Proponent shall implement the follow-up program during all phases of the Designated Project and shall apply conditions 2.9 and 2.10 when implementing the follow-up program. In doing so, the Proponent shall:	Section 7 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
6.11.1	monitor, prior to construction, contaminants of potential concern in soil, vegetation, wildlife, including fish and water. The Proponent shall also co-locate soil sampling with vegetation samples and water sampling with fish samples;	
6.11.2	monitor, during all phases of the Designated Project, contaminants of potential concern in water, soil, vegetation, and wildlife species;	
6.11.3	if the sampling and monitoring results referred to in condition 6.11.1 and 6.11.2 exceed the predictions made during the environmental assessment, implement any modified or additional mitigation measures pursuant to condition 2.9 based on the results of the follow-up program and update the human health risk assessment identified by the Proponent in Appendix 9.2.2A of the Environmental Impact Statement using the results of the sampling and monitoring. The Proponent shall integrate the current and predicted consumption patterns of each Indigenous group identified during the environmental assessment in the updated human health risk assessment and any updated consumption pattern information provided by Indigenous groups as part of the follow-up program.	
6.12	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to adverse environmental effects of the Designated Project on the health of Indigenous Peoples as a result of changes to air quality and determine the effectiveness of mitigation measures. As part of the implementation of the follow-up program, the Proponent shall monitor nitrogen dioxide (NO2), sulfur dioxide (SO2), fine particulate matter (PM2.5), particulate matter (PM10), dust, and carbon monoxide (CO) in air. The Proponent shall implement the follow-up program during all phases of the Designated Project and shall apply conditions 2.9 and 2.10 when implementing the follow-up program.	Section 8 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
6.13	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to adverse environmental effects of the Designated Project on the socio-economic conditions of Indigenous Peoples as a result of changes to access, availability and quality of country foods. The Proponent shall implement the follow-up program from construction through decommissioning and shall apply conditions 2.9 and 2.10 when implementing the follow-up program.	Section 7 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
6.14	The Proponent shall, prior to construction and in consultation with Indigenous groups and relevant authorities, develop a follow-up program to verify the accuracy of the environmental assessment as it pertains to adverse effects from the Designated Project on moose (Alces alces) and determine the effectiveness of mitigation measures. As part of the implementation of the follow-up program, the Proponent shall conduct winter distribution and density surveys for moose (Alces alces) starting prior to construction and until the end of operation. The Proponent shall implement the follow-up program from construction through decommissioning and shall apply conditions 2.9 and 2.10 when implementing the follow-up program.	Section 9 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
6.15	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, and implement, during all phases of the Designated Project, a plan to communicate the results of the follow-up program referred to in conditions 6.11, 6.12, 6.13 and 6.14 in plain language to Indigenous groups and relevant authorities. The communication plan shall include the procedures to communicate, including the frequency of communication.	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* . Compliance with this condition is outlined in the *Country Foods Monitoring Plan* , *Air Quality and Fugitive Dust Management Plan* , and *Wildlife Mitigation and Monitoring Plan* .
7.1	The Proponent shall develop, prior to construction and in consultation with Indigenous groups, and implement an archaeological impact assessment of the footprints of the final transmission line alignment and associated poles, roads and towers to help inform final placement of these features. The Proponent shall take into account British Columbia's Archaeological Impact Assessment Guidelines when developing and implementing the archaeological impact assessment. The Proponent shall apply the archaeological and heritage management plan pursuant to condition 7.2 to structures, sites, or things of historical, archaeological, paleontological, or architectural significance or physical or cultural heritage resources discovered within the footprint of the final transmission line alignment.	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023* . Compliance with this condition is outlined through the *Cultural and Spiritual Resources Management Plan.*
7.2	The Proponent shall have a Qualified Professional develop, prior to construction and in consultation with Indigenous groups and relevant authorities, and implement, during construction, operation and decommissioning, an archaeological and heritage management plan for any structures, sites, or things of historical, archaeological, paleontological, or architectural significance or physical or cultural heritage resources within the Designated Project area. The archaeological resources and heritage management plan shall include:	
7.2.1	protocols to respect the discovery, handling, recognition, recording, transferring and safekeeping of structures, sites or things of historical, archaeological, paleontological or architectural significance;	
7.2.2	procedures to record, analyze, and mitigate the effects on cultural heritage resources and historic heritage sites, cultural sites previously identified through the heritage effects assessments conducted by the Proponent during the environmental assessment and, if applicable, the archaeological impact assessment completed for the final transmission line alignment;	

Condition No.	Condition	Reporting Period Activity
7.2.3	a process for reporting information about physical and cultural heritage features and structures, sites or things of historical, archaeological, paleontological or architectural significance to Indigenous groups;	Compliance with this condition is outlined through the *Cultural and Spiritual Resources Management Plan.*
7.2.4	a process for informing workers of sensitive cultural areas; and	
7.2.5	a chance find procedure to apply in the event that previously unidentified physical or cultural heritage features or structures, sites or things of historical, archaeological, paleontological or architectural significance are discovered by the Proponent. As part of the chance find procedure the Proponent shall:	
7.2.5.1	immediately halt work at the location of the discovery, except work required to be undertaken to protect the integrity of the discovery;	
7.2.5.2	delineate an area of at least 30 metres around the discovery as a no-work zone;	
7.2.5.3	conduct an assessment at the location of the discovery taking into account British Columbia's Archaeological Impact Assessment Guidelines;	
7.2.5.4	inform the Agency and Indigenous groups within 24 hours of the discovery, and allow Indigenous groups to monitor any work related to this discovery; and	
7.2.5.5	consult with Indigenous groups and relevant authorities on the manner by which to comply with all applicable legal requirements and associated regulations, customs and protocols respecting the discovery, handling, recognition, recording, transferring and safekeeping of previously unidentified structures, sites or things of historical, archaeological, paleontological or architectural significance; and	
7.2.5.6	consult Indigenous groups on the manner by which to protect the confidentiality of the discovery. The Proponent shall protect the confidentiality of the discovery in a manner that is consistent with provincial laws.	
7.3	The Proponent shall provide access, during all phases of the Designated Project and within 24 hours of an access request being received, to Indigenous groups to the mine site for cultural purposes or for exercising Aboriginal rights, to the extent that such access and exercise of rights are safe. The Proponent shall notify Indigenous groups in a timely manner if access to the mine site, or any part thereof, must be prohibited for safety reasons.	Compliance with this condition is outlined through the *Cultural and Spiritual Resources Management Plan.*
8.1	The Proponent shall control lighting required for all phases of the Designated Project, including direction, timing and intensity, to avoid adverse effects on listed species at risk, while meeting health and safety requirements.	Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.* See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.2	The Proponent shall, prior to construction and in consultation with Indigenous groups and relevant authorities, identify wildlife corridors that intersect project roads and shall install and maintain, during all phases of the Designated Project, wildlife crossing signs where the wildlife corridors intersect the project roads.	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.* See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.3	The Proponent shall not use salt for de-icing or traction control purposes on project roads during all phases of the Designated Project, unless all other methods used for de-icing or traction control purposes do not meet safety requirements.	Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.* See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.4	The Proponent shall, from the start of construction to the end of decommissioning, manage carrion on project roads in consultation with relevant authorities and Indigenous groups.	Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.* See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.5	The Proponent shall, during all phases of the Designated Project, manage snow bank height along project roads and shall create and maintain escape pathways where the wildlife corridors identified pursuant to condition 8.2 intersect the project roads to allow ungulates and wolverines (Gulo gulo) to exit the plowed roads in winter.	Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.* See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.6	The Proponent shall, prior to the start of construction, conduct mineral lick surveys within the Designated Project area. If the results of the surveys indicate the presence of mineral licks outside the area disturbed by Designated Project components, the Proponent shall, in consultation with Indigenous groups and relevant authorities, maintain the mineral licks in their natural state.	Mineral lick surveys were done in 2021, results are summarized in the *Wildlife Mitigation and Monitoring Plan.*
8.7	The Proponent shall maintain vegetation under the transmission line right of way to a minimum height of 1 metre from the ground except at the location of the tower bases, guy anchor points and along the transmission line access roads, or where not feasible for safety reasons.	No Transmission Line construction activities occurred during the reporting period. Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.*
8.8	The Proponent shall deposit woody debris on the surface of upland slopes, between rocks and parallel and perpendicular to the slope when undertaking vegetation maintenance under the transmission line pursuant to condition 8.7, unless not feasible for safety reasons.	No Transmission Line construction activities occurred during the reporting period. Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.*
8.9	The Proponent shall identify, prior to construction and in consultation with Indigenous groups and relevant authorities, time periods during which construction activities must be carried out to protect wildlife during sensitive life stages, including for grizzly bear (Ursus arctos), western toad (Anaxyrus boreas), wolverine (Gulo gulo), American marten (Martes americana), fisher (Pekania pennanti) and southern mountain caribou (Rangifer tarandus caribou). In doing so, the Proponent shall:	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.* See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.9.1	apply British Columbia's Compendium of Wildlife Guidelines for Industrial Development Projects in the North Area, British Columbia. Interim Guidance, North Area when identifying these time periods;	
8.9.2	notify, prior to construction, the Agency and Indigenous groups of these time periods and of the areas within which each of these time periods shall apply; and	
8.9.3	conduct construction activities during these time periods, unless not technically feasible.	

Condition No.	Condition	Reporting Period Activity
8.10.	If construction during the time periods referred to in condition 8.9 for grizzly bear (Ursus arctos), western toad (Anaxyrus boreas), wolverine (Gulo gulo), American marten (Martes americana) and fisher (Pekania pennanti) is not technically feasible, the Proponent shall conduct pre-construction surveys to identify western toad (Anaxyrus boreas) breeding habitat and wolverine (Gulo gulo), American marten (Martes americana), fisher (Pekania pennanti) and grizzly bear (Ursus arctos) denning habitat and develop and implement additional mitigation measures, from construction until the end of operation, in consultation with Indigenous groups and relevant authorities. In doing so, the Proponent shall:	See Appendix 5 and 13 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.10.1	establish no work buffer zones for habitat identified during pre-construction surveys. The Proponent shall take into account British Columbia's Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia when establishing buffer zones for western toad breeding habitat and shall take into account British Columbia's Compendium of Wildlife Guidelines for Industrial Development Projects in the North Area, British Columbia. Interim Guidance, North Area when establishing buffer zones for wolverine (Gulo gulo), American marten (Martes americana), fisher (Pekania pennanti) and grizzly bear (Ursus arctos) denning habitat.	
8.11	The Proponent shall, in consultation with Environment and Climate Change Canada, have a qualified individual salvage and relocate western toad (Anaxyrus boreas) to suitable habitat, prior to clearing activities that cannot be scheduled outside of sensitive periods pursuant to condition 8.9.	See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.12	The Proponent shall deter western toad (Anaxyrus boreas) from the tailings storage facility, reclamation wetlands, pit lake, sediment control ponds, and environmental control dam until such time that water meets British Columbia's Water Quality Guidelines for the Protection of Wildlife and from project roads during construction, operation and decommissioning.	See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.13	The Proponent shall take into account the Western Canada White Nose Syndrome Transmission Prevention when undertaking construction activities in little brown myotis (Myotis lucifugus) and northern myotis (Myotis septentrionalis) habitat. The Proponent shall report evidence of white nose syndrome as indicated by white muzzle or dead bats to British Columbia's Ministry of Forests, Lands, and Natural Resource Operations and Rural Development, Environment and Climate Change Canada, and Indigenous groups.	Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.* See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.14	The Proponent shall conduct pre-construction surveys to determine the distribution of little brown myotis (Myotis lucifugus) and northern myotis (Myotis septentrionalis), and establish from construction until the end of operation, in consultation with Indigenous groups and relevant authorities, buffer zones around active hibernacula and active roosts. The Proponent shall take into account British Columbia's Compendium of Wildlife Guidelines for Industrial Development Projects in the North Area, British Columbia when identifying active hibernacula and active roosts and when establishing buffer zones.	Compliance with this condition is included in the *Wildlife Mitigation and Monitoring Plan.*
8.15	If the pre-construction surveys referred to in condition 8.14 identify the loss of little brown myotis (Myotis lucifugus) and northern myotis (Myotis septentrionalis) roosting habitat, the Proponent shall install, prior to construction, and maintain, during construction operation, and decommissioning, roosting structures to offset any loss of little brown myotis (Myotis lucifugus) and northern myotis (Myotis septentrionalis) roosting habitat.	See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.16	The Proponent shall, prior to construction and in consultation with Indigenous groups and relevant authorities, conduct pre-construction surveys to identify short-eared owl (Asio flammeus) moderate to high-value nesting and foraging habitat, and shall implement measures to mitigate the loss of short-eared owl (Asio flammeus) habitat caused by the Designated Project.	Compliance with this condition is addressed through the *Wildlife Mitigation and Monitoring Plan.*
8.17	The Proponent shall, during all phases of the Designated Project and in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, mitigate adverse environmental effects on southern mountain caribou (Rangifer tarandus caribou) and its habitat, including by carrying out construction activities during time periods referred to in condition 8.9 for southern mountain caribou (Rangifer tarandus caribou). In doing so, the Proponent shall give preference to avoiding the destruction or alteration of habitat over minimizing the destruction or alteration of habitat, to minimizing the destruction or alteration of habitat over restoring altered or destroyed habitat on-site, and to restoring altered or destroyed habitat on-site over offsetting.	See Appendix 5 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.18	For any offsetting required pursuant to condition 8.17, the Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, and to the satisfaction of Environment and Climate Change Canada, a compensation plan for southern mountain caribou (Rangifer tarandus caribou). When developing the compensation plan, the Proponent shall take into account habitat needs for migratory birds and listed species at risk. The Proponent shall implement the compensation plan from the beginning of construction. The compensation plan shall include:	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.* Compliance with this condition is addressed through the *Caribou Mitigation and Monitoring Plan.*
8.18.1	mapping of critical habitat of southern mountain caribou (Rangifer tarandus caribou) altered or destroyed by the Designated Project;	
8.18.2	an offsetting ratio for direct habitat loss and indirect (e.g. sensory) losses based on an assessment of options, including revegetation and road closures, that consider the types of offset, location, time lags, securement, technical and economic feasibility, and probability of success;	
8.18.3	field verified suitability mapping of areas to be prioritized for offsetting;	
8.18.4	if residual environmental effects cannot be fully offset with habitat-based measures, a description of non-habitat measures to be implemented by the Proponent and a description of how these measures will be implemented by the Proponent, including a schedule for implementation;	

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8.18.5	a description of performance indicators to be used by the Proponent to evaluate the effectiveness of habitat-based and non-habitat-based compensation measures; and	
8.18.6	a description of the follow-up program the Proponent shall implement to determine the effectiveness of the mitigation measures included in the compensation plan. As part of the development of the follow-up program, the Proponent shall determine, in consultation with Indigenous groups, the methods, timing and frequency for conducting winter surveys for caribou abundance and distribution within the Designated Project area. The Proponent shall apply conditions 2.9 and 2.10 when implementing the follow-up program.	Section 10 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.19	The Proponent shall conduct progressive reclamation of areas disturbed by the Designated Project. In doing so the Proponent shall identify, in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, plant species native to the Designated Project area to use for revegetation as part of progressive reclamation, including whitebark pine (Pinus albicaulis) and other conifers suitable to create habitat for southern mountain caribou (Rangifer tarandus caribou) and other species of interest to Indigenous groups.	Compliance with this condition is outlined in the *Whitebark Pie Management Plan.* Consultation for this plan is outline in Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
8.20.	The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, a whitebark pine management plan to mitigate effects from the Designated Project on whitebark pine (Pinus albicaulis) and its critical habitat. The Proponent shall implement the plan during all phases of the Designated Project consistent with any applicable recovery strategy related to whitebark pine (Pinus albicaulis). As part of the whitebark pine management plan, the Proponent shall:	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.* Compliance with this condition is addressed through the *Whitebark Pine Management Plan* .
8.20.1	establish criteria to be used to evaluate the health of whitebark pine trees and for the selection of whitebark pine (Pinus albicaulis) to be transplanted;	
8.20.2	collect and preserve whitebark pine (Pinus albicaulis) rust-resistant seeds within the Designated Project area prior to vegetation clearing and use them for progressive reclamation pursuant to condition 8.19;	
8.20.3	identify the locations to plant whitebark pine (Pinus albicaulis) in undisturbed areas within the Designated Project area prior to construction;	
8.20.4	implement measures to support whitebark pine (Pinus albicaulis) growth and use by Clark's nutcracker (Nucifraga columbiana);	
8.20.5	develop and implement a follow-up program in consultation with Indigenous groups to determine the effectiveness of the mitigation measures included in the whitebark pine management plan. The Proponent shall apply conditions 2.9 and 2.10 when implementing the follow-up program. The follow-up program shall include:	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.* Section 11 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
8.20.5.1	visual monitoring of populations of whitebark pine (Pinus albicaulis), including their health, within reclaimed areas at a minimum every five years; and	
8.20.5.2	monitoring of use of the reclaimed areas by Clark's nutcracker (Nucifraga columbiana) for the purpose of whitebark pine regeneration. Should the results of monitoring demonstrate that use of the reclaimed areas by Clark's nutcracker (Nucifraga columbiana) is not adequate, the Proponent shall implement additional mitigation measures.	
8.21	The Proponent shall develop, in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of the mitigation measures as it pertains to the effects of changes caused by the Designated Project on western toad (Anaxyrus boreas). The Proponent shall implement the follow-up program from construction through decommissioning and shall apply conditions 2.9 and 2.10 when implementing the follow-up program. As part of the follow-up program, the Proponent shall:	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.* Section 12 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
8.21.1	conduct western toad surveys annually in breeding habitat identified pursuant to condition 8.10 from the start of construction until the end of decommissioning;	
8.21.2	monitor western toad (Anaxyrus boreas) in relocation areas for western toad (Anaxyrus boreas) salvage conducted pursuant to condition 8.11; and	
8.21.3	monitor western toad (Anaxyrus boreas) mortality on project roads from the start of construction until the end of decommissioning.	
8.22	The Proponent shall develop, in consultation with Indigenous groups, and implement a follow-up program to monitor little brown myotis (Myotis lucifugus) and northern myotis (Myotis septentrionalis) usage of buffer zones established pursuant to condition 8.14 and roosting structures installed and maintained by the proponent pursuant to condition 8.15 to determine the effectiveness of the mitigation measures. The Proponent shall implement the follow-up program during construction and operation and shall apply conditions 2.9 and 2.10 when implementing the follow-up program.	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.* Section 13 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023*
9.1	The Proponent shall retain, prior to construction, the services of an independent environmental monitor, who is a qualified individual as it pertains to environmental monitoring of mining projects in British Columbia, and is also a Qualified Professional, where such a qualification exists, to observe, record, and report on the implementation of the conditions set out in this Decision Statement during all phases of the Designated Project.	Compliance with this condition is outlined in the *Independent Environmental Monitor - Terms of Engagement* . Monitoring occurred through the reporting period.
9.2	As part of the reporting requirement pursuant to condition 9.1, the independent environmental monitor shall advise the Proponent, the Agency and Indigenous groups if, in their view, the activities do not comply with the conditions set out in this Decision Statement. The independent environmental monitor shall also advise the Proponent, the Agency and Indigenous groups whether measures should be taken in respect to these activities.	Compliance with this condition is outlined in the *Independent Environmental Monitor - Terms of Engagement* . Monitoring occurred through the reporting period.

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9.3	The Proponent shall require the independent environmental monitor to prepare reports at a frequency determined in consultation with the Agency and relevant authorities that include:	Compliance with this condition is outlined in the *Independent Environmental Monitor - Terms of Engagement* . Monitoring and reporting occurred through the reporting period.
9.3.1	a description, including through photo evidence, of the Designated Project activities that occurred and the mitigation measures that were applied during the period covered by the report; and	
9.3.2	a description, including through photo evidence, of occurrence(s) of non-compliance related to the implementation of conditions set out in this this Decision Statement observed during the period covered by the report, including:	
9.3.2.1	date of the occurrence(s) of non-compliance;	
9.3.2.2	whether Designated Project activities were changed or stopped as a result of the occurrence(s) of non-compliance;	
9.3.2.3	how the occurrence(s) of non-compliance was or were corrected by the Proponent and the date that the corrective action(s) was or were completed by the Proponent; and	
9.3.2.4	if any, the status of pending occurrences of non-compliance that have not been corrected yet by the Proponent and a description of any adverse environmental effects associated with the occurrences of non-compliance.	
9.4	The Proponent shall require the independent environmental monitor to provide the reports referred to in condition 9.3 to the Agency, Indigenous groups and relevant federal authorities within 10 days of their production. The Proponent shall require the independent environmental monitor to retain the reports referred to in condition 9.3 until the end of decommissioning.	During the reporting period IEM reports were submitted to the Agency, Indigenous groups, and other relevant federal authorities by the IEM.
9.5	The Proponent shall require the independent environmental monitor to report all occurrence(s) of non-compliance observed by the independent environmental monitor directly to the Agency, Indigenous groups and relevant federal authorities within 48 hours of the observation of occurrence(s) of non-compliance.	Compliance with this condition is outlined in the *Independent Environmental Monitor - Terms of Engagement.*
10.1	The Proponent shall take all reasonable measures to prevent accidents and malfunctions that may result in adverse environmental effects. The measures taken by the Proponent shall include measures to prevent dam breaches, water treatment plant failures or shutdowns.	Compliance with this condition is outlined in the *Accidents and Malfunctions Administration and Communications Plan.*
10.2	The Proponent shall, prior to construction, consult with Indigenous groups and relevant authorities on the measures to be implemented to prevent accidents and malfunctions.	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
10.3	The Proponent shall, prior to construction and in consultation with Indigenous groups and relevant authorities, develop an accident and malfunction response plan in relation to the Designated Project. The accident and malfunction plan shall include;	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.*
10.3.1	the types of accidents and malfunctions that may cause adverse environmental effects; and	Compliance with this condition is outlined in the *Accidents and Malfunctions Administration and Communications Plan.*
10.3.2	the measures to be implemented in response to each type of accident and malfunction referred to in condition 10.3.1 to mitigate any adverse environmental effects caused by the accident or malfunction, including response plans for dam breaches, water treatment plant failures or shutdowns.	Compliance with this condition is outlined in the *Accidents and Malfunctions Administration and Communications Plan.*
10.4	In the event of an accident or malfunction with the potential to cause adverse environmental effects, the Proponent shall immediately implement the measures appropriate to the accident or malfunction referred to in condition 10.3.2 and shall:	No accident or malfunction as defined in the plan occurred during the reporting period. Compliance with this condition is outlined in the *Accidents and Malfunctions Administration and Communications Plan.*
10.4.1	notify, as soon as possible, Indigenous groups and relevant authorities of the accident or malfunction, and notify the Agency in writing no later than 24 hours following the accident or malfunction. For the notification to Indigenous groups and the Agency, the Proponent shall specify:	
10.4.1.1	the date when and location where the accident or malfunction occurred;	
10.4.1.2	a summary description of the accident or malfunction; and	
10.4.1.3	any substances potentially released into the environment as a result of the accident or malfunction and the quantities released for each substance, if available.	
10.4.2	submit a written report to the Agency no later than 30 days after the day on which the accident or malfunction occurred. The written report shall include:	
10.4.2.1	a detailed description of the accident or malfunction and of its adverse environmental effects;	
10.4.2.2	a description of the measures that were taken by the Proponent to mitigate the adverse environmental effects caused by the accident or malfunction;	
10.4.2.3	any view(s) from Indigenous groups and advice from relevant authorities received with respect to the accident or malfunction, its adverse environmental effects and the measures taken by the Proponent to mitigate these adverse environmental effects;	
10.4.2.4	a description of any potential residual adverse environmental effects and any modified or additional measures required by the Proponent to mitigate residual adverse environmental effects; and	
10.4.2.5	details concerning the implementation of the accident or malfunction response plan referred to in condition 10.3.	
10.4.3	submit a written report to the Agency no later than 90 days after the day on which the accident or malfunction occurred that includes a description of the changes made to avoid a subsequent occurrence of the accident or malfunction and of the modified or additional measure(s) implemented by the Proponent to mitigate and monitor residual adverse environmental effects and to carry out any required progressive reclamation, taking into account the information submitted in the written report pursuant to condition 10.4.2. The report shall include all additional views from Indigenous groups and advice from relevant authorities received by the Proponent since the views and advice referred to in condition 10.4.2.3 were received by the Proponent.	

Condition No.	Condition	Reporting Period Activity
10.5	The Proponent shall develop a communication plan in consultation with Indigenous groups. The Proponent shall develop the communication plan prior to construction and shall implement and keep it up to date during all phases of the Designated Project. The plan shall include:	See Appendix 1 of the *Blackwater Gold Mine Annual DS Follow-Up Report: April 1, 2022 - March 31, 2023.* Compliance with this condition is outlined in the *Accidents and Malfunctions Administration and Communications Plan.*
10.5.1	the types of accidents and malfunctions requiring the Proponent to notify the respective Indigenous groups;	
10.5.2	the manner by which Indigenous groups shall be notified by the Proponent of an accident or malfunction and of any opportunities for the Indigenous groups to assist in the response to the accident or malfunction; and	
10.5.3	the contact information of the representatives of the Proponent that the Indigenous groups may contact and of the representatives of the respective Indigenous groups to which the Proponent provides notification.	
11.1	The Proponent shall submit to the Agency a schedule for all conditions set out in this Decision Statement no later than 60 days prior to the start of construction. This schedule shall detail all activities planned to fulfill each condition set out in this Decision Statement and the commencement and estimated completion month(s) and year(s) for each of these activities.	Schedule provided in December 2021, prior to the start of construction.
11.2	The Proponent shall submit to the Agency a schedule outlining all activities required to carry out all phases of the Designated Project no later than 60 days prior to the start of construction. The schedule shall indicate the commencement and estimated completion month(s) and year(s) and duration of each of these activities.	Complete via letter dated September 16, 2022.
11.3	The Proponent shall submit to the Agency in writing an update to schedules referred to in conditions 11.1 and 11.2 every year no later than September 30, until completion of all activities referred to in each schedule.	Complete via letter dated September 16, 2022.
11.4	The Proponent shall provide to the Agency revised schedules if any change is made to the initial schedules referred to in condition 11.1 and 11.2 or to any subsequent update(s) referred to in condition 11.3, upon revision of the schedules.	Complete via letter dated September 16, 2022.
11.5	The Proponent shall provide Indigenous groups with the schedules referred to in conditions 11.1 and 11.2 and the updates or revisions to the initial schedules pursuant to condition 11.3 and 11.4 at the same time the Proponent provides these documents to the Agency.	Complete via letter dated September 16, 2022.
12.1	The Proponent shall maintain all records relevant to the implementation of the conditions set out in this Decision Statement. The Proponent shall retain the records and make them available to the Agency throughout construction and operation and for 25 years following the end of decommissioning of the Designated Project. The Proponent shall provide the aforementioned records to the Agency upon demand within a timeframe specified by the Agency.	Acknowledged.
12.2	The Proponent shall retain all records referred to in condition 12.1 at a facility in Canada and shall provide the address of the facility to the Agency. The Proponent shall notify the Agency at least 30 days prior to any change to the physical location of the facility where the records are retained, and shall provide to the Agency the address of the new location.	Acknowledged.
12.3	The Proponent shall notify the Agency of change(s) to the contact information of the Proponent included in the Decision Statement.	Acknowledged.