

A second fall spawning survey was conducted in September 2019 to provide additional information on Bull Trout use throughout Alexander Creek and downstream to the confluence with Michel Creek. The 2019 survey was conducted from Michel Creek upstream to ALE7. ALE1 and ALE2 were classified as having good spawning potential based on the presence of appropriate spawning gravel size, some overhead cover, suitable flow, adequate water depth, and sufficient proximity to holding water. One confirmed Bull Trout redd was documented in ALE5.

### *Overwintering*

Overwintering habitat suitability in Alexander Creek was variable and was classified as poor, moderate, or good based on depth, temperature, and DO levels (Table 12.4-13). ALE8 provided the best overwintering potential across Alexander Creek with good overwintering potential (depths >0.20 m and temperatures >1°C) and moderately suitable habitat for all life stages of fish present. Reaches ALE1 and ALE7 were also considered to have good potential for overwintering, with ALE1 routinely observed to maintain surface flow year-round. ALE2 has long cascade sections and extensive anchor ice formation, precluding suitable overwintering use. The shallow depths and low temperatures in ALE9, ALE10, and WAL1 resulted in assessment of poor overwintering potential prior to the population study of 2020 to 2021. WAL2 was not measured directly due to winter access issues, but overwintering potential in this reach was deemed likely poor due to its shallow water depths, steep gradient, and short length. This conclusion changed during the population study, as tagged fish remained in these reaches throughout the year. Apart from this study providing evidence of excellent overwintering potential, it also provides evidence of a potential resident population of Westslope Cutthroat Trout occurring in West Alexander Creek, which would mean these reaches provide high quality habitat use throughout the year for all life stages and uses (Figure 12.4-15, Figure 12.4-16).

Table 12.4-13: Overwintering Potential in the Alexander Creek Watershed Based on Habitat Indicators and Population Study Results

Reach	Winter Depth (m)	Winter Temp (°C)	Winter DO (mg/L)	Overwintering Potential
ALE1	-	-	-	Good (inferred)
ALE2	-	-	-	Poor (inferred)
ALE7	0.20 – 0.24	2.0	12.11	Good
ALE8	0.10 – 0.28	1.5	12.48	Good
ALE9	0.05	-0.1	12.98	Moderate
ALE10	0.07 – 0.16	0.2	12.75	Moderate
WAL1	0.14	0.1	12.62	Very Good
WAL2	-	-	-	Good