March 26, 2026

To: Regional District of Central Kootenay (RDCK) and Emergency Management and Climate Readiness (EMCR)

From: Sarah Crookshanks, P.Geo., Ministry of Forests

Re: Poplar Creek avalanche debris slush flow event

On the afternoon of March 26, 2026, provincial landslide and flood subject matter experts Sarah Crookshanks (Ministry of Forests) and Kalenna Olynyk (Ministry of Water, Land and Resource Stewardship) responded to an emergency request from EMCR to investigate any lingering hazards present in Poplar Creek after the avalanche debris slush flow that occurred on the afternoon of March 19, 2026. Poplar Creek was investigated via a helicopter overflight from the fan to approximately 7 km upstream. Tanya Pauls from the RDCK also joined for the helicopter flight.

Photos of the fan after the Poplar Creek flow event that occurred on March 19th show slushy snow, large logs and sediment deposited on the fan (Photos 1 through 3). The deposit was primarily composed of slush and ice up to ~1 m thick, though sediment and debris were also mixed into the frozen water. Large logs were also transported as part of the flow event. The debris was deposited on the highway and on several private lots (PIDs 027-771-610, 027-007-448, 024-383-198, 016-080-360, 016-080-378, 015-376-966) to the west of the channel (see Photo 4 for an overview of the fan).

The slopes adjacent to the mainstem Poplar Creek channel appear to be regularly susceptible to large avalanches, as many large avalanche paths are visible in satellite photos. Avalanche Canada reported that the region experienced a widespread, natural avalanche cycle from March 17-20 associated with an atmospheric river that brought warm temperatures and significant rainfall. The Avalanche Canada forecasts for March 18th and 19th state that “avalanches will be large and may run full path”. The helicopter overflight on March 26th confirmed that many of the avalanche paths in Poplar Creek had already released, some of them eroding right to ground.

At the BC Hydro St. Leon Creek weather station 30 km to the west (1800 m elevation), the temperature rose above 0°C on the morning of Tuesday March 17th and remained above freezing until the evening of Friday March 20th. During that period, 81 mm of precipitation occurred in total, of which 36 mm fell on March 18th and 25 mm fell on March 19th. At the Gold Hill Fire Weather station 6 km to the southeast (820 m elevation), 87.6 mm of rain fell

between March 17th and March 20th, of which 28.2 mm fell on March 18th and 20.2 mm fell on March 19th.

The source of the slush that was deposited on the Poplar Creek fan on March 19th appears to be from avalanche debris transported to mainstem creek channel from multiple avalanche paths. A highwater and/or erosion trim line (~1- 3 m above the current water level) is visible along Poplar Creek from the fan apex to 6.5 km upstream (Photos 5 - 6). Several avalanche debris deposits span the creek channel, including one particularly large deposit located 6.5 km upstream (Photos 7 - 8). The depth of the debris over the creek channel at this large deposit is estimated to be 20 m thick. Evidence of water ponding is visible upstream of this avalanche deposit. The area of the ponding is estimated to be approximately 12,000 m^2. Upstream of this large avalanche deposit, there is no visible bank erosion or significant highwater trimline. The large avalanche deposit does not appear to have been overtopped, and the water is currently flowing unimpeded underneath the overlying debris.

Based on these observations, we suggest that during the rainfall and warming event on March 19th, a number of avalanches released, one of which at 6.5 km upstream temporarily blocked Poplar Creek. Likely shortly thereafter, the creek eroded underneath the avalanche debris. This small flood wave is thought to have proceeded downstream, eroding and picking up recently deposited avalanche debris (e.g. Photo 9), logs and channel material and transitioning to a “slush flow”. This slushy debris was then deposited on the fan.

While several avalanche deposits remain bridged over Poplar Creek, the most likely scenario is that these deposits will slowly melt out over the course of the spring. No large accumulations of logs or mud or other debris were observed along the Poplar Creek channel. Therefore, the likelihood of future flooding, slush flows or debris floods on Poplar Creek is not higher due to the avalanche slush flow that occurred on March 19th. As with many locations in the area, residents should be aware of any rapidly changing creek conditions, such as abnormally dirty water or sudden changes in flow, particularly during periods of very warm weather and/or significant rainfall events this spring.

Four landslides initiating at a forestry road (Forest File ID R14907 - 10) were also observed (Photos 10 - 11). These four landslides deposited their material directly into Poplar Creek, as there is no break in slope from the road down to the channel. These landslides likely occurred during the heavy rainfall and warming event (March 18th - 20th), though the exact date is not known. It is recommended that the licensee responsible for R14907 - 10 forestry road assess the current drainage configuration and landslide damage as soon as is possible. Landslide damage and deficient drainage infrastructure should be repaired

and/or upgraded immediately. The likelihood of additional landslide events that may cause dirty water in Poplar Creek remains high until remediation occurs.

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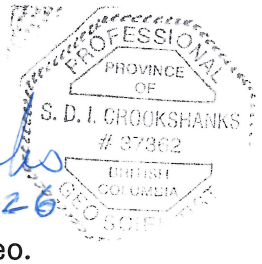

March 26, 2026

Sarah Crookshanks, P.Geo.
Ministry of Forests
Permit to practice #1003022

Reviewed by: Kalenna Olynyk, P.Ag.
Ministry of Water, Land and Resource Stewardship

Photo 1. Slush and debris deposit on Poplar Creek fan (photo credit: RDCK Emergency Operations Centre).

Photo 2. Slush and debris deposit on Poplar Creek fan (photo credit: RDCK Emergency Operations Centre).

Photo 3. Slush and debris deposit on Poplar Creek fan (photo credit: RDCK Emergency Operations Centre).

Photo 4. Overhead photo of Poplar Creek fan.

Photo 5. Evidence of a highwater/erosion mark along Poplar Creek.

Photo 6. Multiple avalanches along Poplar Creek.

Photo 7. View upstream of avalanche bridge at 6.5 km upstream of fan.

Photo 8. View downstream of avalanche bridge at 6.5 km upstream of fan.

Photo 9. View of collapsed or eroded avalanche debris.

Photo 10. Landslide from forestry road.

Photo 11. Landslides from forestry road.