

Grande Debris Jams

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Wildcat Creek is one of the larger tributaries to the Grande Ronde. During high flows in Wildcat Creek, large sediments (cobbles/boulders) are transported and deposited as a debris/delta fan at the confluence with the Grande Ronde where flow velocity and slope decrease. Large woody debris (LWD) is also transported during these high flows. Similar to the transported sediments, LWD gets deposited when slope/velocity decrease or get trapped and then accumulate as debris jams.

When debris jams form, they block flows and cause channel avulsions. In Wildcat Creek, two debris jams have formed in the debris/delta fan, leading to the formation of multiple channels. The debris jams caused the formation of a new active channel and the deactivation of the previous channel. However, the older channel still contains hyporheic flows and may become active during flood events.



Figure 1. Debris jam on Wildcat Creek, a tributary to the Grande Ronde River.