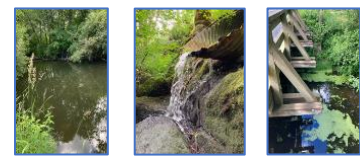
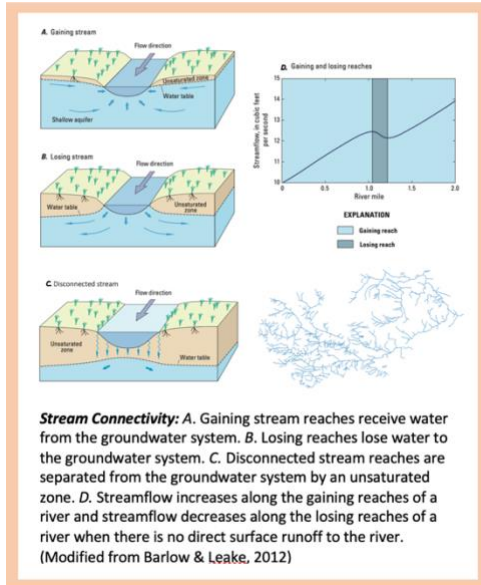
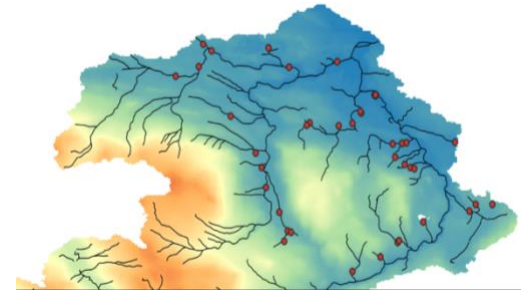


KOKSILAH CONNECTIONS

Low flow monitoring to understand groundwater-surface water connections while building human connections



Background: The use of groundwater in the watershed strongly impacts streamflow, most critically in the dry months of August and September. During this time water consumption is at its highest, the river ecosystem is most vulnerable and species such as salmon need adequate flow and cool temperatures to make the upstream run to spawning beds. In light of continuing climate change predicting further drought-like conditions there needs to be a whole system understanding of the Koksilah watershed.



Research Goals: The Koksilah River and the tributaries feeding into it have diverse connects to groundwater. Depending on local conditions the stream may be gaining, losing or disconnected from groundwater. The connection between a stream and groundwater affects how sensitive a stream is to well pumping where the greater the connectivity the greater likelihood pumping will deplete streamflow. Focusing on tributaries that feed into the lower Koksilah River, the primary goal of this research is to identify where groundwater is strongly linked to streamflow and how connectivity of the two influences summer flows of the Koksilah River.

Summer 2021 Project Outline: Led by University of Victoria, a core team of volunteers and project partners will collect data on temperature, conductivity and stream characteristics.

Data Collection: Temperature and conductivity provide insight as to the mixing of groundwater with surface water in streamflow. Regardless of the season groundwater retains a temperature similar to the mean annual air temperature, therefore in summer groundwater tends to be cooler than surface-water runoff or precipitation sourced streamflow. Conductivity measures water's capability to pass electrical flow and is directly related to the concentration of ions in the water. Flowing through the subsurface groundwater develops a far greater concentration of dissolved ions than surface water. Measuring these parameters as well as recording stream characteristics such as width and depth will allow us to tease apart how tributaries interact with groundwater and how resilient each tributary is under stress.

Data will be record on the "Koksilah Stream Tracker" project hosted on the Anecdota mobile application. Data and photos taken in the field will be directly uploaded to an open data platform for others to see. The mobile app can map and store observations till the device returns to cell service. For those volunteers who do not have or wish to use a smartphone, datasheets can be provided.

Thank you for your interest in the summer 2021 monitoring project! For more information please visit [Koksilah Connections](https://koksilahconnections.com) or contact Kristina at kdisney@uvic.ca.

