

Nature Notes

Surviving Drought



In mid-winter the deep snow carpeting the Kimberley Nature Park (KNP) makes it look like Kimberley receives a lot of moisture. But in reality Kimberley only gets an average 452mm (17.8 inches) annual precipitation. When you consider that the majority falls as snow during winter, it isn't surprising that by mid-summer the soil is usually parched.



Snowbrush photo by L. Duncan

In order to survive and reproduce through the dry, hot East Kootenay summers, the plants of the KNP have developed a variety of strategies to capture and conserve moisture. Specialized leaf structures are one such strategy. Some examples are the waxy leaves of the Snowbrush, the fuzzy leaves of the Pasture Sage, the curled edges of the Labrador Tea and the small size of the Blue-eyed Mary; all strategies which help reduce water lost to evaporation from the leaf surface. On the

other hand, succulent plants such as the Lance-leaf Stonecrop, use their leaves to store water for use in drier times.

Root systems can also play an important role in the effective capture and use of water. The fibrous root mats of sod-forming grasses are efficient at capturing precipitation as it falls on the soil surface while balsamroot displays a different strategy with its long, deep taproot which is able to draw moisture from the deeper soil levels.

Location also plays a role in water conservation. A plant growing in the shade will lose less water to evaporation while one exposed to winds will lose increased amounts of water. Groups of trees will lose less water than a lone tree exposed to the hot sun.

Some plants take advantage of the time that moisture is plentiful and emerge as soon as the ground



Spring Beauty

photo by J. Duncan

is free of snow. These spring ephemerals come to flower and form seeds before the dry heat of summer causes them to die back to their underground parts. Some of these welcome signs of winter's end include the Glacier Lily, Spring Beauty, Mertensia, Yellow Bell and Shooting Star.

The diversity of drought strategies used by plants allows every niche in the park to be filled and ensures there will be plants able to withstand the climatic twists and turns that come their way!