Climate-Ecosystem Connections

Surrounding Kamloops is a unique mosaic of grasslands; shrubs; moist and wet ecosystems; and dry, open forests. Our climate influences what can live and grow here.

which is why we see an abundance of grasses along the valley trees and shrubs. Taking advantage of moisture, they provide oases of hade in the desert and important wildlife habitat.

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WHAT IS AN ECOSYSTEM?

community of living organisms, such as plants, animals, and

mponents of their environment, such as air, water, and minerals

crobes, that interact with one another and with non-living

## Inspiring Landscapes

The lower, middle, and upper grasslands, representing the range of grasslands found in British Columbia, can be visited within 16 km of the Thompson River valley bottom. They can't be found so close to each other anywhere else in western North America.

with similar climates based on their topography, vegetation, and soils. Many species move descend to the grasslands when young grass shoots begin to sprout in early spring.

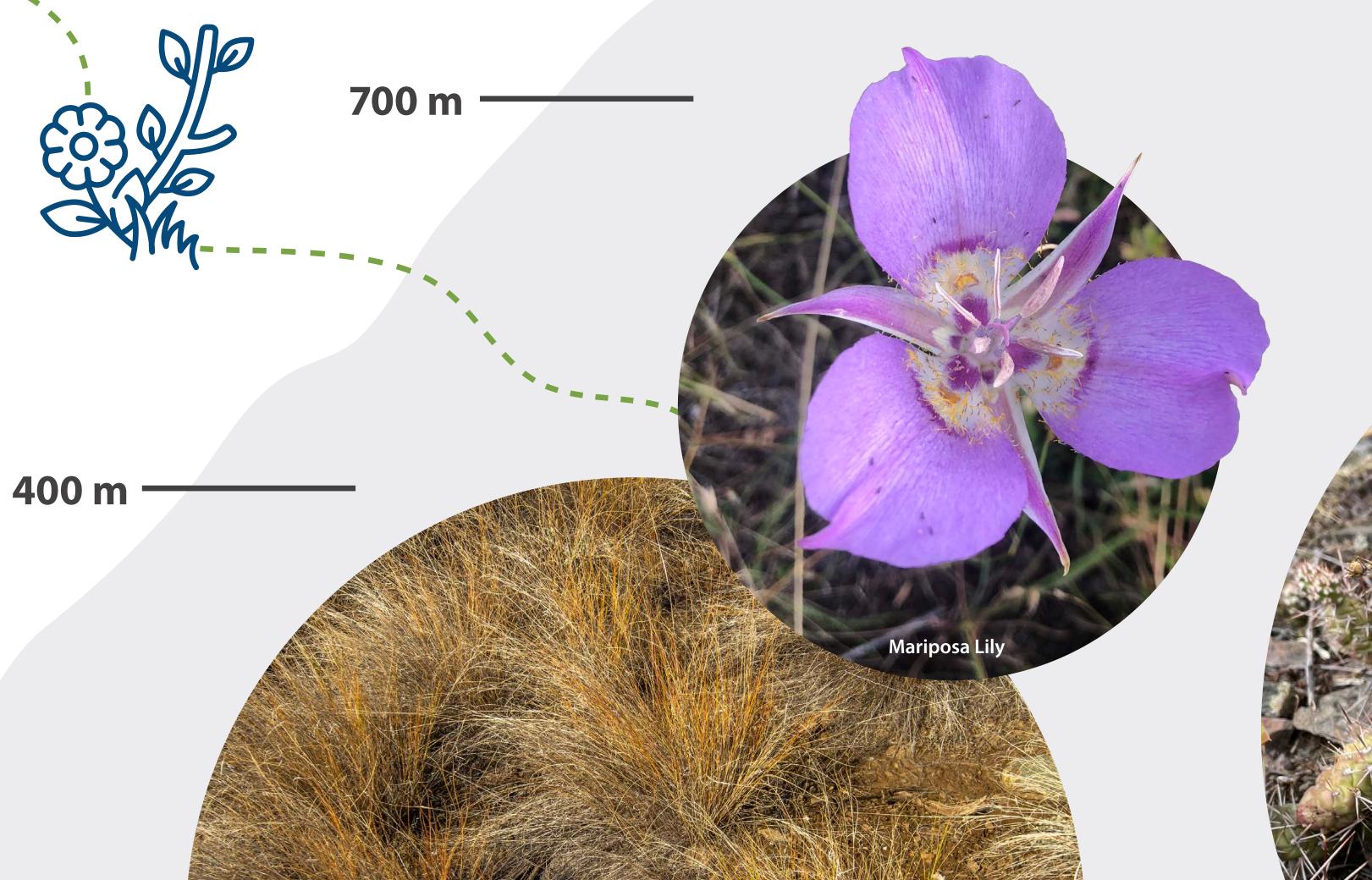
| ZONE                                        | ELEVATION                                 | CHARACTERISTICS                                                                                                                                                                                               |
|---------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interior Douglas Fir Zone: Upper Grasslands | 850 to<br>1,130 metres                    | Cooler temperatures and more precipitation in both summer and winter results in lush grasslands with many wildflowers, such as meadow death camas and old man's whiskers. Rough fescue is the dominant grass. |
| Bunchgrass Zone:<br>Middle Grasslands       | 700 to<br>1,000 metres                    | A cooler, moister climate results in a denser cover of plants, fewer sagebrush, and more flowering plants. Bluebunch wheatgrass is the dominant grass.                                                        |
| Ponderosa Pine Zone                         | 400 to<br>950 metres                      | Open stands of trees are interspersed with grasslands and only occasional shrubs, such as big sagebrush, Saskatoon, and mariposa lily.                                                                        |
| Bunchgrass Zone:<br>Lower Grasslands        | From valley<br>bottom up<br>to 700 metres | Hot, dry summers. Widely spaced clumps of bluebunch wheatgrass, big sagebrush, and an array of early spring blooming plants, such as blanket flower and rabbitbrush.                                          |

### MAKING THE CONNECTION

## WHAT MAKES OUR GRASSLANDS SO SPECIAL?

- ealthy grasslands offer inspiring landscapes for ploring and connecting with nature.

1,130 m



Plant and Animal Adaptations

Plants and animals have evolved clever strategies to adapt to

our climate, which in the Interior includes both extreme heat and

cold. These adaptations have evolved over a long period of time

with a relatively stable climate, which is now changing rapidly.

Bluebunch Wheatgrass

Bluebunch wheatgrass has an

dry soil conditions.

extensive root system that enables

it to acquire soil moisture even in

**Prickly Pear Cactus** 

#### Sagebrush Buttercup

 The sagebrush buttercup flowers in early spring before the intense heat.

 They are perennials (i.e. live multiple years), but most of the above-ground plant disappears by midsummer, with their roots surviving below the soil.

#### **Western Terrestrial Garter Snake**

- The western garter snake gains body heat from the environment, so it is only active in the warm hours of the day.
- When the sun is too hot, they seek shelter in cooler areas, such as near streams and lakes.
- In winter, they hibernate communally in dens to survive cold temperatures.

#### **Snowshoe Hare**

- The snowshoe hare's name comes from its large hind feet, which allow it to hop and walk across the snow without sinking in.
- The hare's fur is white in mid-winter and turns to grey-brown in the summer to blend

## Climate change is occurring at a rate that is

difficult for many plant and animal species to adapt to and is compounded by other humaninduced changes to our landscapes, such as habitat loss from clearing land for urban development, agriculture, and mining.

Climate Change Impacts

The climate crisis is affecting where species live, how they interact, and the timing of key biological events, such as mating or flowering. As the average temperature gets hotter, many plant and animal species are migrating some species are not able to adapt fast enough and face increased risk of extinct

#### Examples of climate impacts on local ecosystems include:

- which were previously held in check by periods of extreme cold
- changes to stream flows and both marine and freshwater temperatures, affecting salmon population numbers and health

#### WAYS TO INCREASE RESILIENCE OF SPECIES AND ECOSYSTEMS:

- habitat restoration in both urban and rural environments
- expanding protected areas and establishing connected networks so that wildlife can safely migrate between areas to meet their needs
- ssisted migration of species to more suitable habitats or conditions where they have a higher likelihood of survival

- The great gray owl can locate and track prey under the snow using only their hearing, then pounce to grab it without

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#### **MAKING THE** CONNECTION

than they did in the past

# further impacted by climate change:

These local, at-risk species may be

