Along with grasses, these shrubs provide winter food for elk and deer.

The valley has little wildlife, despite the presence of water and suitable food. This lack of animal life may be due to the difficulty of entering the valley, since access is now limited by the Trans Canada Highway and from the south, animals would have to climb a high pass from the Barrier Lake area.

Birds like the chickadee, pine siskin and common flicker live here and you may see a deer, but these days, people are the principal visitors to the valley.■

Working for the Future

Short, narrow valleys such as this one provide hikers with easy access to the backcountry and are susceptible to overuse by people.

Not long ago there were more than a hundred abandoned firepits in the Heart Creek valley. Too much camping resulted in a great deal of damage to the shrubs and trees, the soil and the scenic value of the valley.

To protect the valley, overnight camping is no longer allowed here. Backcountry campsites are available 4 kilometres to the east, in Quaite valley.

Preserving the beauty of this area is the responsibility of all who use it.■

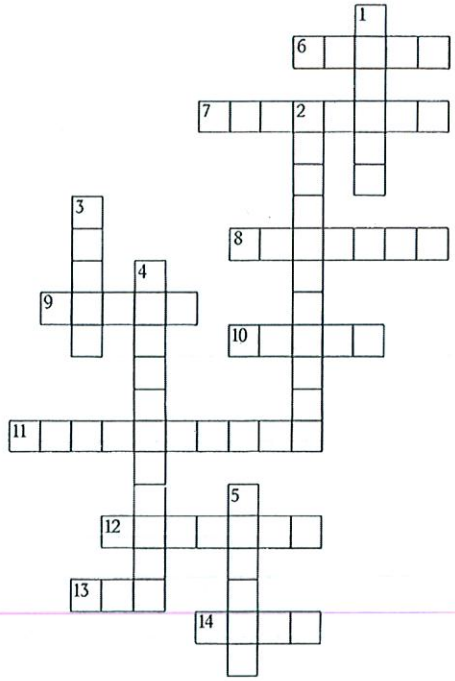
The Powerful Force of Water

Take a few moments at this viewpoint to enjoy the sound and power of water.

If you don't mind getting your feet wet, follow the stream to the small waterfall that is cutting back through layers of rock formed millions of years ago. Heart Creek is a young river that is actively extending and deepening its V-shaped valley. Change may not be apparent in our lifetimes, but water power will continue to change this valley for many years to come.■

Trail Quiz

Now that you have walked the trail, you may wish to try this puzzle.



Down:

1. After a chinook, growing plant tissue can . . . ?
2. Stream insects that live in cases.
3. These microscopic plants give rocks a slippery coating.
4. The Rocky Mountains in this area are made of this type of rock.
5. Type of bird found along fast-flowing streams.

Across:

6. Paper . . . ? . . . grew here because this valley is protected from chinooks.
7. At one time these ice masses covered this area.
8. A type of wind important to the plants and animals.
9. Erosion by this substance has given the valley a V-shape.
10. Breathing structures that stream insects use.
11. These stream insects have a flattened body so that they can live under rocks.
12. Something that is no longer allowed in the Heart Creek valley.
13. Chinooks are warm and . . . ? . . . winds.
14. A large animal sometimes seen along the trail.

Kananaskis
Alberta
COMMUNITY DEVELOPMENT

the Heart Creek Trail

Kananaskis Country

How do these creatures avoid being swept away by the strong current? Follow the trail to the next stop to discover more about their way of life.■

The Creatures of Heart Creek

The creatures that live in Heart Creek must be able to withstand the swift current. Most stream dwellers live near the bottom where the water moves more slowly.

Microscopic plants called algae form a slippery coating on the surface of submerged rocks. Larger types of algae have filaments that are firmly attached to the stones and spread out into the current. Algae provide food and shelter for many other forms of life.

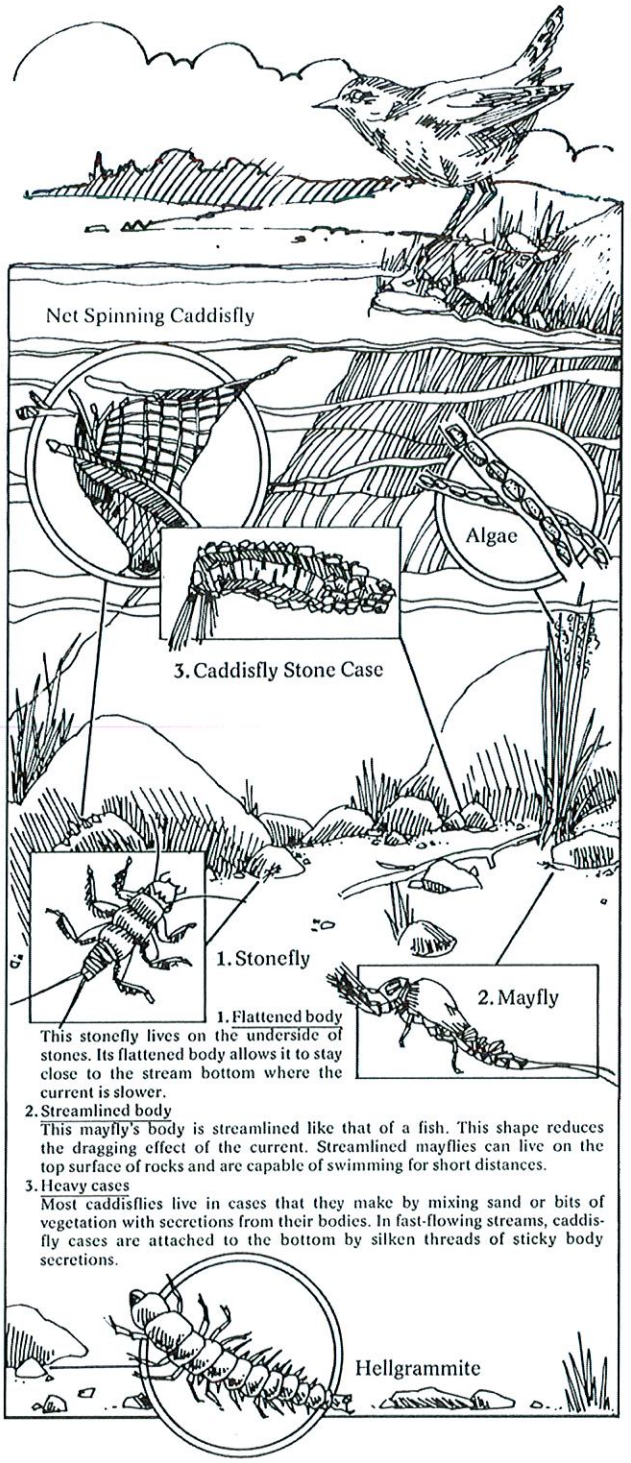
Stoneflies, mayflies and caddisflies are typical inhabitants of clean fast-flowing water. These are all immature forms of insects. They breathe through gills and require a lot of oxygen. The adult forms of these insects, which have wings, will eventually emerge from the stream.

Most insects living in fast-moving water have modified bodies to help them stay in one place. Other types find shelter in the lee of rocks or burrow into a muddy bottom.

A bird called a dipper can sometimes be seen walking through the chilly water in search of insects. The dipper is grey and can be recognized by its habit of bobbing up and down on bended knees.■

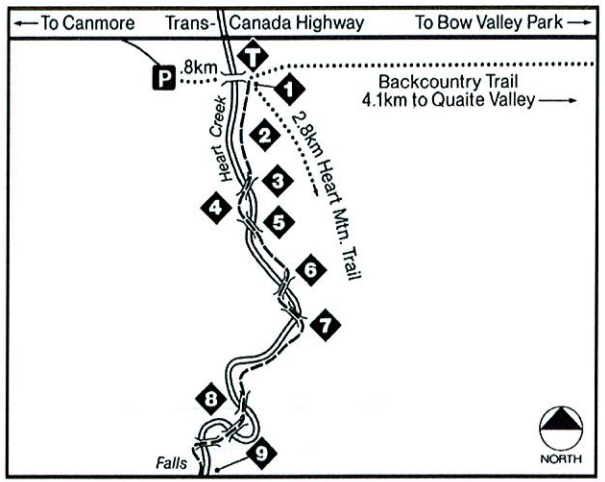
Wildlife

Thickets of willow and mountain alder line the edges of the creek. These shrubs live best in moist areas and are well adapted to changing water levels. Other shrubs in this valley include buffalo berry, Douglas maple and wild rose.



Heart Creek Trail

Welcome to the Heart Creek Trail in Kananaskis Country. Take this guide with you to help you enjoy your walk. At each numbered stopping point along the trail, consult the brochure for interesting details about the backcountry of Heart Creek valley.■



HEART CREEK TRAIL
Kananaskis Country
Trail Length 3km (round trip)

--- Trail
T Trail Head
1 Trail Stop
····· Other Trails
P Parking
River/Creek

Once through the narrow entrance of the Heart Creek valley you leave the noise and traffic of the Trans-Canada Highway behind you.

This windy location at the valley mouth is surrounded by an open forest of balsam poplar, aspen and paper birch. These trees began growing here after fire and highway construction disturbed the area.

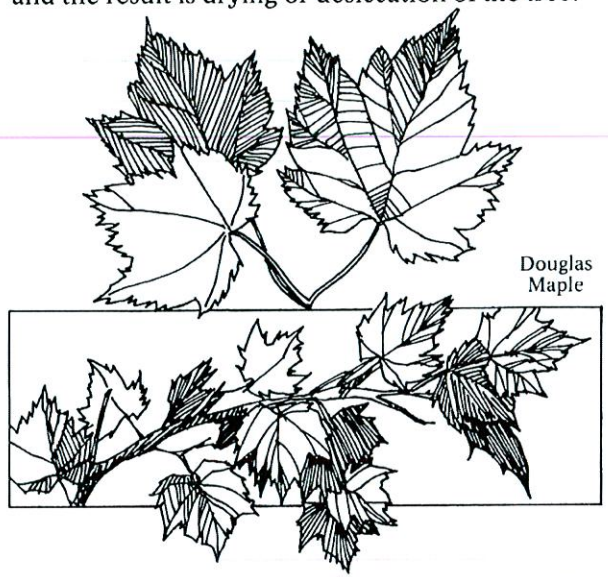
As you follow the trail into the valley, the resin-like scent of the poplars mingles with the pungent odours of spruce, pine and Douglas fir. Certain plants that are not common in the surrounding area grow in this valley. At the next stop you'll find out why.■

A Shelter from Chinooks

The climate in this part of the Rocky Mountains is characterized by cool summers and cold winters. Winter temperatures are moderated by the effects of warm chinook winds.

Chinook conditions occur when warm, humid air from the Pacific coast passes over the mountains. This air loses moisture as it rises over the continental divide. When it descends along the eastern slopes of the mountains it is warmer, drier and has picked up speed.

These west winds bring people and animals a welcome break in the cold winter weather. However, for the trees, chinooks can make life more difficult. The warm chinook air thaws the branches and starts sap flowing. Dry winds evaporate water from the branches and from the leaves of evergreens. This water cannot be replaced, as the ground is still frozen and the result is drying or desiccation of the tree.



The high ridges above Heart Creek shade the valley floor and protect the plants from the westerly chinooks. As a result, the climate in this valley is generally cooler than in the Bow valley. Temperatures fluctuate less and snow lasts a little longer.

Many plants benefit from this stabler climate. One of them is a small shrub called the Douglas maple. Look for its distinctive maple-type leaves in sheltered places along the trail.■

The Valley's Trees

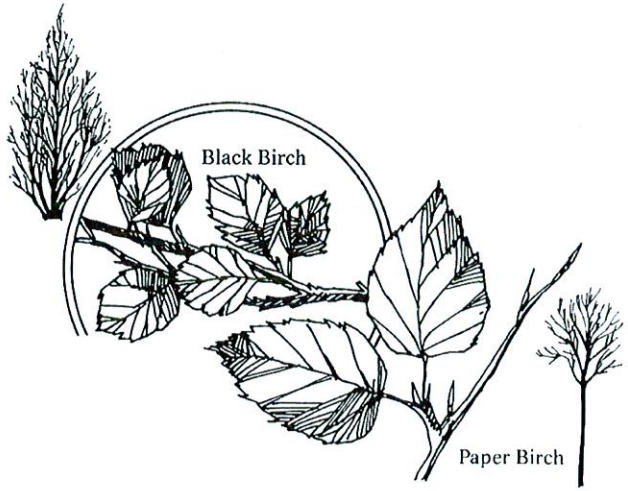
Compare the trees growing on each side of the valley. Do you notice any differences? These differences in the forest are mainly due to the amount of sunlight reaching the valley walls. The west-facing slopes of Heart Mountain to your left receive more sunlight than the shady side of Mt. McGillivray to your right.

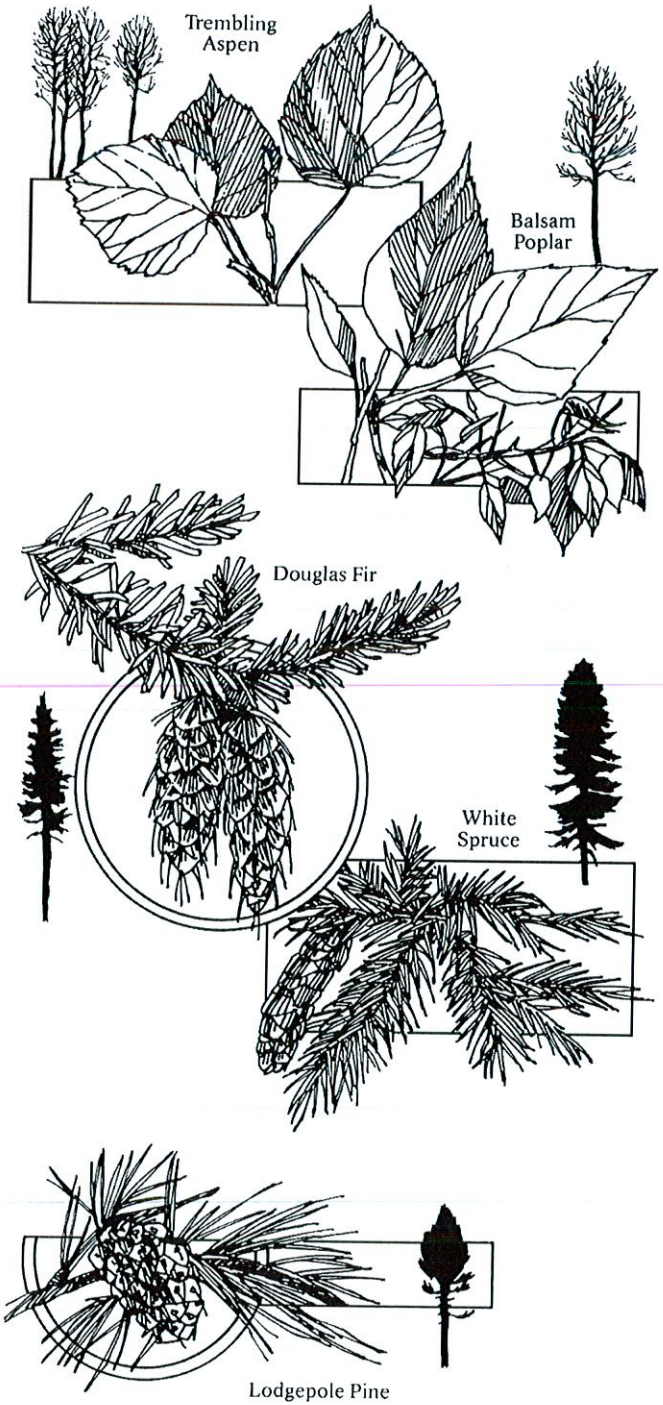
Broad-leaved trees like the trembling aspen are more common on the sunny slopes of Heart Mountain. Evergreen trees are abundant on the cooler side of the valley. Their needle-like leaves have a waxy coating that helps to protect them against moisture loss in winter.

Paper birch, a very common tree in Northern Alberta, also grows in isolated valleys in the front ranges of the Rocky Mountains. What prevents this species from being more widespread in the foothills and wider mountain valleys?

Paper birch are well adapted to cold winters since they have a thick, corky layer of insulation inside their bark. This insulation protects the tree from cold, but not from the effects of the warm chinook winds. The warm winds thaw young branches and buds. When the chinook is over these banches refreeze, killing the growing tissues. Valleys such as this one are usually not affected by chinooks, so paper birch are able to survive here.

If you want to identify trees along the trail, use the following picture identification key.■





Valley Formation

Water carved this valley over thousands of years.

As the huge rock slabs of the mountain peaks were slowly thrusting upwards, rivers were at work forming the major valleys. Tributary basins like this one were gradually carved from the softer layers in the sedimentary rock.

Wind, ice and water weathered the limestone slopes. Along this route, look for caves in the steep valley walls formed by the dissolving action of the water.

The ice age glaciers also left their mark upon the land. At times, ice covered this area to an elevation of 2000 metres. It may even have covered Heart Mountain, the summit directly to the east.

The moving ice deepened and widened the Bow valley, giving it a rounded U-shaped profile. Heart valley, with its narrow entrance and sheer cliffs, escaped the direct scouring action of the glaciers. Instead, the melting ice increased the volume of water flowing through the valley. This water cut through the rock, forming the deep V-shaped valley you see today.■

The Changing Creek

Listen to the water as it rushes and tumbles its way over the stones of Heart Creek. Test it, you'll find it cold.

The sources of the water in Heart Creek are underground springs, melting snow and rain, so its temperature remains cool throughout the year. The rate of flow changes with the seasons. During spring, the flow is doubled and the stream carries silt and other small debris, as well as rolling large rocks downstream. The force of the moving water changes the stream bottom and erodes its bank.

As the water flows over the jagged stones it picks up oxygen. The creek supports a small community of living things. These range from tiny one-celled plants to insects that live on the rocky bottom.