

Coulees & Cottonwoods

Nature Field Guide for Lethbridge



Helen Schuler
Nature Centre



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Background

In 1978, members of the Lethbridge Naturalists' Society produced "The Lethbridge Nature Reserve Field Guide". After the City of Lethbridge acquired new river valley parkland, the Naturalists' Society produced an updated version in 1986, "The Lethbridge River Valley Nature Field Guide". Since 1986, our knowledge and understanding of the river valley has grown, as has City parkland. In 1998, 20 years after the original version was written, members of the Naturalists' Society collaborated with the Helen Schuler Nature Centre and produced an updated guide called "Coulees and Cottonwoods", which has been distributed widely throughout Alberta, across Canada, and internationally. This second version of "Coulees and Cottonwoods" is a cooperative effort, bringing together the vast knowledge of local naturalists, past and present.

Introduction

The Oldman River meanders through the City of Lethbridge, bringing with it a diversity of landforms and ecosystems. Much of the valley has been designated as parkland, ranging from high-use areas, such as Indian Battle Park and Botterill Bottom Park, to Nature Reserves, such as Alexander Wilderness Park and Cottonwood Park. The Lethbridge river valley parks encompass an area of over 1,600 hectares (4,000 acres).

Grasslands, coulees, wetlands, and the river floodplain each have their own distinct plant and animal life. The valley is one of contrasts. In just a few steps, you can walk from a lush, moist, cottonwood forest, up to dry, cactus-covered coulee slopes.

This Field Guide is an invitation for you to explore Lethbridge's river valley. It will help you understand the landforms, plants and animals you might find here. If you wish to learn more, further sources of information are listed at the end of this guide, along with checklists of common plants, mammals, birds, amphibians, reptiles, and fish that can be found in the area.

The Lethbridge Naturalists' Society

The Lethbridge Naturalists' Society is an organization of people interested in our natural environment and concerned about its protection. The Society's goals include the development of knowledge and appreciation of natural aspects of southern Alberta, as well as to provide a forum for amateur and professional naturalists to discuss questions relating to conservation of the natural environment. During the summer, the Society organizes field trips and nature walks. In winter, monthly meetings feature guest speakers and workshops on a wide range of topics. The Society organizes winter and spring bird counts in Lethbridge, and also collaborates on wildlife activities within the province.



Helen Schuler Nature Centre Tour

The Helen Schuler Nature Centre

The Helen Schuler Nature Centre is Lethbridge's urban nature centre and is located in the Lethbridge Nature Reserve, just north of the CPR High Level Bridge. The Centre offers a variety of nature interpretive programs and hands-on exhibits. Volunteer naturalists greet visitors to the Centre and assist with many of the programs and services. Staff and volunteers have been recording plant and animal sightings since 1991, and have built up a comprehensive knowledge of the Lethbridge River Valley.

Acknowledgments

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History

Cultural History

Since 1870, the river valley has heard the war cries of the Blackfoot and Cree plains people, the rhythmic sound of miner's picks, the bustle of commercial coal mining, and the pounding of pneumatic riveting hammers during construction of the High Level Bridge. Today, the valley resounds with the sounds of courting great horned owls, squeaking ground squirrels, musical songbirds, and flying grasshoppers.

The First Americans

Beginning about 11,000 years ago, small groups of nomadic hunters probably travelled through Lethbridge in their search for woolly mammoths and other of the last, large ice-age mammals. Over time, the Pleistocene mega-fauna was replaced by herds of plains bison so vast the number staggers the imagination. At their peak, before the arrival of Europeans, over 50 million bison roamed the prairies from northern Mexico to the northern prairies of Canada.

The Native peoples who occupied the prairies – the ancestors of the Blackfoot, Sioux, and others – developed a way of life dependent on the bison. The bison provided food, shelter, clothing, tools, and utensils. In the Lethbridge area, tipi rings, stone cairns, hunting tools, and remnants of long-ago campfires can still be found.

The effects of European settlement were profound, including the introduction of horses by the Spaniards when they invaded Mexico. When horses were introduced to the northern plains, the Native peoples were able to expand their territories, become more efficient hunters, and increase their trade networks.



Bison

But the arrival of Europeans also marked the beginning of the end of a lifestyle followed for centuries. Before the Native peoples saw their first 'White Man', his diseases had spread across the continent, killing up to 90 per cent of the Native peoples of North America.

Along with disease came shifts in populations. The Cree began moving westward in their quest for furs to trade with the Hudson Bay and Northwest companies.

To the south, American notions of manifest destiny resulted in a flood of settlers moving west along the Oregon and other trails. In the process, the US government hired buffalo hunters, who began the systematic slaughter of the bison herds in an effort to destroy the culture of the region's Native inhabitants.

Disease, population shifts, and cultural upheavals created tensions on the prairies never before experienced by the Native peoples. Tensions led to conflicts – not only between Natives and the new settlers, but also among Native groups.

Indian Battle

The last inter-tribal conflict in North America occurred in 1870 between the Blackfoot and the Cree in an area extending from near the original site of Fort Whoop-Up, past the present location of the University of Lethbridge, into the area now called Indian Battle Coulee and across the river to Indian Battle Park. The battle was won by the Blackfoot, who gave the name Asinaawa-iitomottaawa, or "Where We Slaughtered the Crees", to the general locality.

This battle also marked the end of a culture that had existed for over 9,000 years. Drying hides, tipis, and Native ceremonies were replaced with Europeans seeking new resources, economic expansion and wealth.

Coal Mining

In 1874, an American Civil War veteran, Nicholas Sheran, came to the area and began operating a ferry, and mining coal from the surrounding coulees. What the Blackfoot called Sil-ooh-kotok, or "Black Rocks", became known by the miners as "The Coal Banks".

In 1879, Elliott Galt, assistant to the Commissioner of Indian Affairs, noted Sheran's coal mine. Galt and his father, Sir Alexander Galt, knew that a railway would soon be built to join the eastern provinces with British Columbia. Coal would be required for trains, and for the settlers who were bound to follow the tracks. A decision by the Canadian Pacific Railway (CPR) to build across the southern prairies gave the Galts their chance. Sir Alexander organized the North Western Coal and Navigation Company Limited and hired William Stafford of Westville, Nova Scotia, as his first Superintendent. In 1882, Stafford opened Drift Mines No. 1 and 2, and Coal Lease No. 4, just under the east end of the present High Level Bridge. The hamlet of Coalbanks, the precursor to Lethbridge, sprang up near the mine entrances where today the Coalbanks Kiosk, a small interpretive display close to the Helen Schuler Nature Centre, recognizes the role of coal in the development of Lethbridge.

Initially, coal was taken to Medicine Hat by steam paddle boats along the Oldman River. These were soon replaced by a narrow gauge railway.

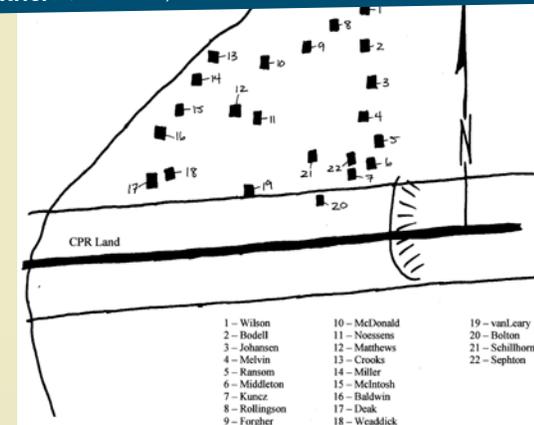
Valley Homes

By 1884, the hamlet of Coal Banks had a population of 250. However, in 1885, many families moved to the prairie level above the river floodplain. After serious floods in 1902 and 1908, still more left. In 1912, the area was subdivided into market gardens, called the River Bottom Tracks, and settlement was encouraged. By the early 1950s, the community was called Riverside, and supported 83 families.

Flooding in 1953, however, forced the Lethbridge city council to move all families out of the river valley and to designate the area as "parkland recreation".

By 1960, the present-day Indian Battle Park had been created. Reminders of previous settlements can still be seen close to the Nature Centre. When walking on the trails, look for lilac bushes, caragana rows, climbing hops, absinthe wormwood, and old building foundations.

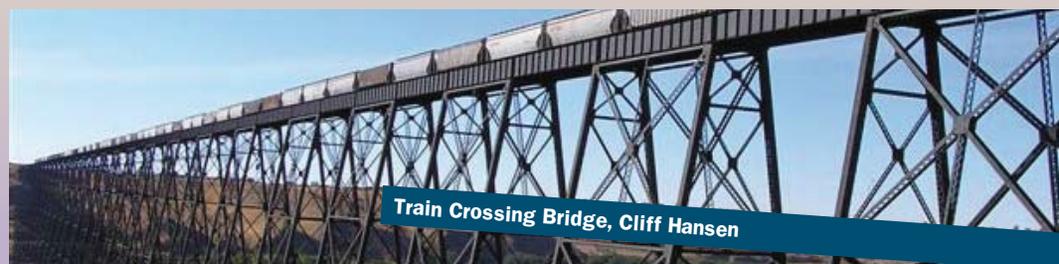
Riverside 1930's, The Galt Museum & Archives



The High Level Bridge

In 1905, the Canadian Pacific Railway decided to relocate the railway to run west through Fort Macleod and the Crownsnest Pass. The new route involved crossing the Oldman River at Lethbridge, which required the construction of a large bridge. Built between 1907 and 1909, the new bridge was 1,624 metres long with a maximum height of 96 metres above the river. This engineering marvel and Lethbridge icon is still one of the longest and highest bridges of its type in the world.

In addition to providing a river crossing for trains, the girders provide nesting sites for Canada geese, red-tailed hawks, and great horned owls. The shade cast by the bridge encourages lush shrub growth that is favoured by pheasants and white-tailed deer. On special occasions, the bridge is sometimes illuminated to further enhance its majestic outline across the river valley.



Train Crossing Bridge, Cliff Hansen



Aerial of Nature Trails

Parkland & Helen Schuler Nature Centre

In the mid-1970s, the Lethbridge Nature Reserve was established just north of Indian Battle Park. Its primary mandate was to protect the natural environment. In 1980, the City of Lethbridge, Lethbridge Naturalists' Society, and the Public School Board built what was to become Lethbridge's nature centre in the Nature Reserve. In 1982, it was formally opened as the Helen Schuler Coulee Centre, operated by the City of Lethbridge. In 2007, the name was changed to the Helen Schuler Nature Centre. The Centre continues to attract over 60,000 visitors a year to its interpretive programs, special events, nature exhibits, and resource materials.

In 1981, an "Urban Parks for the Future" project, funded by the Heritage Trust Fund, was established by the provincial government. This program enabled the City of Lethbridge to purchase new parkland and improve existing areas. River valley parks purchased or improved under this program are, from north to south: Pavan Park, Alexander Wilderness Park, Peenaquim Park, Lethbridge Nature Reserve, Elizabeth Hall Wetlands, Indian Battle Park, Bull Trail Park, Botterill Bottom Park, and Popson Park. An additional nature reserve was purchased in 1996 and named Cottonwood Park. Cottonwood Park Nature Reserve lies southwest of Popson Park and encompasses 108 acres of cottonwood forest and grasslands. In late 1999, additional property was added to the Elizabeth Hall Wetlands.

Historical Resources

For information on the cultural history of Lethbridge, visit The Galt Museum & Archives and the Fort Whoop-Up Interpretive Centre.

Geology

Landforms

The present Oldman river valley was formed 10,000 to 15,000 years ago, after the last continental glacier retreated from southern Alberta. Glacial meltwater excavated the deep valley, which in the Lethbridge area, is 100 metres deep.

Easily seen along the Oldman River at Lethbridge are a series of short, v-shaped, tributary valleys leading towards the floor of the main valley. Aerial photographs show the patterns of the coulees clearly, with an average orientation of N70° E. This remarkable pattern of alignment can be traced westward from Lethbridge

to beyond Pincher Station. The distribution of the aligned coulees shows a close relationship with the southern Alberta Chinook belt, suggesting that the orientation of the features has been determined by the direction of the strongest winds in the region.

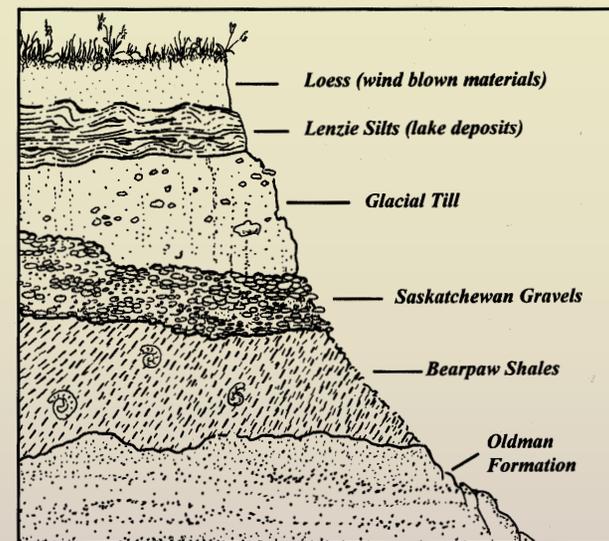
River Geomorphology and Flooding

The path of the river in the valley is ever changing. As the river meanders, fast-moving water on the outside of a bend undercuts the steep banks while the slower moving water on the inside of a bend deposits sediments on the outsides of point bars. Major floods cause the river to change its course dramatically, sometimes almost overnight. In Lethbridge, the path of the river has been altered to prevent undercutting of the river crossings. The Elizabeth Hall Wetlands were formed by the construction of a dike in 1953 to channel the river in a straight line under the Highway 3 bridge. There have been several floods in the history of Lethbridge. Major floods occurred in 1919, 1953, 1964, 1975, and in 1995. In the 1995 flood, large amounts of silt, sand, and gravel were deposited on the floodplain of the Oldman River. The action of the floodwaters, together with the silt deposits, resulted in the germination of many cottonwood tree seedlings, and the promotion of cottonwood suckers.

Geological Layers

Starting at the top, which is now the prairie level, many layers of relatively loose material are piled on top of each other to a thickness of 25-50 metres. These sands, gravels, and silts (and mixtures of all three) represent the most recent sediments deposited in the Lethbridge area, with the exception of materials being moved by the Oldman River today.

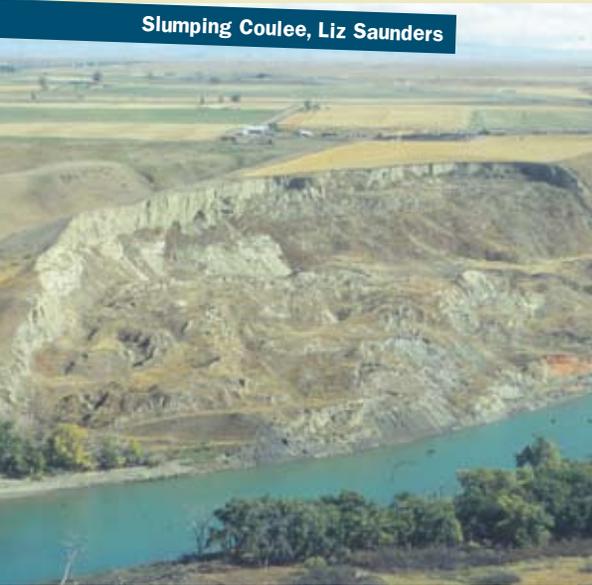
Most sediments were deposited by the great continental glaciers that reached southern Alberta several times during the last million years. These glacially-deposited materials are known as till. In addition to three or more layers of till, indicating at least three ice advances, there are also beds of loose debris. This debris was deposited by streams, accumulated on the bottoms of shallow lakes, or blown into the region by strong winds.



Geological layers at Lethbridge

Beneath these masses of loose material are layers of harder sedimentary rock. These layers extend several thousand feet below the river and consist mostly of sandstone and shale. Bedrock outcrops can readily be seen in the lower parts of steep cliffs along the river. The Bearpaw Shale Formation (over 70 million years) consists of crumbly gray and black materials that can be seen along Coalbanks Trail in the Lethbridge Nature Reserve. The Oldman Formation (over 80 million years) lies below this, and is of particular interest because of its coal seams and dinosaur fossils.

Slumping Coulee, Liz Saunders



Slumping

Steep north, west, and east-facing coulee slopes are most vulnerable to slumping (slope failure). Snow collects here, and the increased moisture content of the soil promotes instability. Often, coulee slumping is related to adjacent residential development and the impact of lawn watering. In 1996, Stafford Coulee, in north Lethbridge, was partially filled in an attempt to stabilize the north-facing slope and protect houses and utility lines. Coulee slumps provide good habitat for some wildlife species, such as rock wrens and yellow-bellied marmots.

Geological Tidbit: Ammolite is Lethbridge's official gemstone. It is formed when an ancient marine creature, called an ammonite, is exposed to over 71 million years of tectonic pressure, heat and mineralization. The resulting brilliant coloured gemstone is called ammolite. This beautiful gemstone is unique to this part of southern Alberta.

Ammolite, University of Lethbridge



Climate and Chinooks

Lethbridge is one of the sunniest and warmest cities in Canada. It receives approximately 2,400 hours of sunshine per year, and has a moderate continental climate with dry, mild summers and warm winters. Annual precipitation is approximately 350-400mm, falling mostly as rainfall (~250-280mm) and snowfall (~120-140mm). The average yearly daily maximum temperature is 12.3°C (30-

year analysis from 1971-2000) and average minimum temperature is -1.1°C. Extreme temperatures (39°C high, -42°C low) do occur.

The warm conditions that Lethbridge and southern Alberta experience during the winter months derive from Chinook winds. These winds develop off the Pacific coast, travelling with moist weather towards the Rocky Mountains of British Columbia and Alberta. They cool as they climb over the western slopes of these mountains, descending rapidly over the east side as a warm and dry weather system. Results of the Chinook winds include rapid temperature change, melting snow, moisture loss, and strong warm winds throughout the winter.

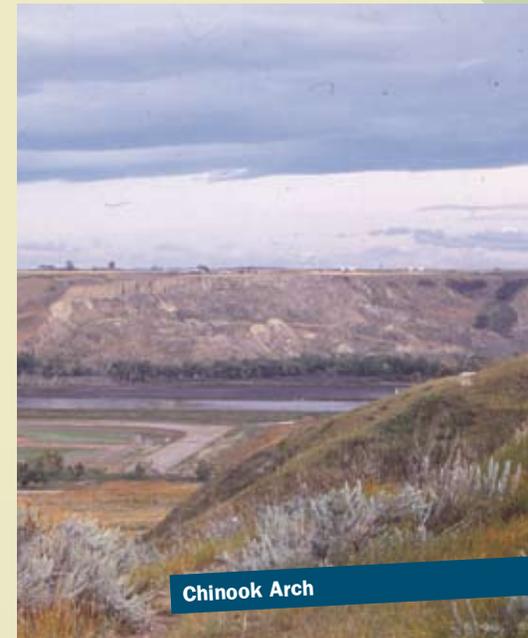
Plants

Vegetation

Plants flourish only where their seeds land and germinate. Influences, such as seedlings competing with others and finding enough moisture to grow into mature plants, vary for different kinds of plants. Since plants are so finely attuned to environmental variations, we find them being sorted by the environment with regards to where they can or cannot grow. Harsh winters, low rainfall, hot summers, Chinook winds, unpredictable snowfall, and early frosts naturally screen out a lot of plants that simply cannot survive in the Lethbridge area. Trees are only able to survive where there is adequate natural moisture, or someone to water them regularly!

Plants of the Coulees

One of the first things you will notice in the coulees is the striking difference between plant growth on north and south-facing slopes. The direction of the sun's rays on the hottest part of a summer day and the prevailing dry wind throughout the year focus on south-facing slopes. As a result, slopes facing south or southwest are quite desert-like, and much bare soil is visible. Dry, sparse



Chinook Arch



Prickly Pear Cactus In Bloom



Three-flowered Avens

grasses mingle with large, widely-spaced patches of prickly-pear cactus, skunkbush, and sagebrush. On the coulee ridge-tops, or bench, look for low-growing plants, such as cushion milk vetch, early locoweed, moss phlox, scarlet mallow, blue grama grass, and pincushion cactus. North-facing slopes are more protected from the sun and Chinook winds, and so retain moisture longer. They are characterized by dense areas of grasses, yarrow, cut-leaved anemone, prairie crocus, smooth bluebeard tongue, and three-flowered avens. Low-growing saskatoon, wolf willow, snowberry shrubs, and creeping juniper also survive on north-facing slopes.

Dense tangles of chokecherry, rose, western clematis, and thorny buffalo berry flourish in the coulee bottoms. Goldenrod, aster, brown-eyed Susan, Drummond's milk-vetch, sunflower, prairie coneflower, wild bergamot, and many others are also found here.

Six Mile Coulee, in south Lethbridge, is an excellent location to see many of the spring and summer blooms that colour the coulee slopes.

Riparian Areas

The vegetation and soils which are dependent on the presence of water, and that are located adjacent to waterways such as rivers, streams, lakes, and wetlands, are known as riparian areas.

A healthy riparian area acts as a buffer and filter for water quality and provides abundant green forage vegetation, shelter, and habitat for various wildlife species, including fish. Vegetation that overhangs water sources provides shade and reduces water temperature. This allows fish to spawn and lay eggs during the summer, and reduces ice build up to allow fish to survive over the winter. A number of tree and shrub species are able to grow in riparian areas.

Cottonwood Park is a good location to see regeneration of the riparian zone between the river and the floodplain.

Plants of the Floodplain

As you walk towards the river, you are soon surrounded by large shady cottonwoods. In the understory of the riparian forest, you will find many of the shrubs



Chokecherry, Ken Orich

that grow in the coulees, as well as red-osier dogwood and caragana. Wild licorice, buffalo bean, showy milkweed, asters, and goldenrods are all plants that prefer open spaces among the trees. In more protected and moist spots, you will find the star-flowered Solomon's seal, and patches of Canada anemone.

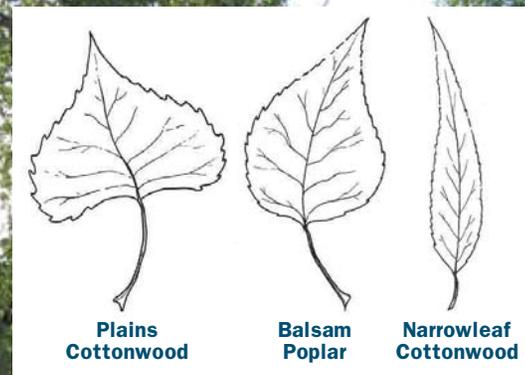
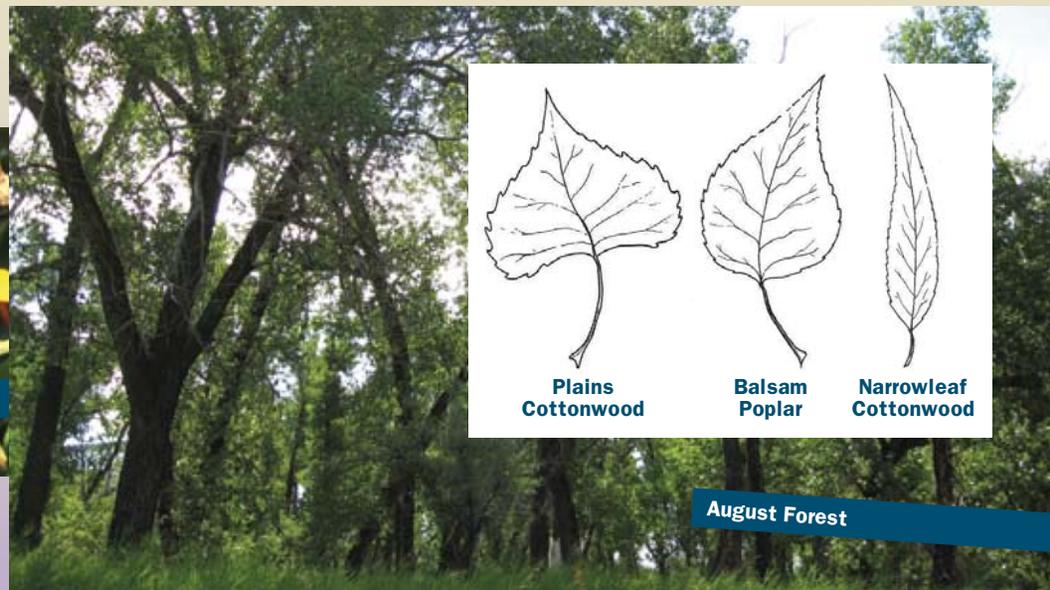
In late summer, mid-stream gravel bars and mud flats are left behind as the river recedes. Especially in the more sandy areas, many interesting native plants may be seen, such as several attractive rushes and buttercups. The seeds of numerous plants that depend on wet soil are carried along with the river each year. Some plants cannot easily establish themselves in this unstable environment and may only live for one year.

Stewardship & Conservation: Use only designated access sites when approaching the river. This will protect the shorelines and vegetation from erosion.

Trees of the Oldman River Valley

With very rare exceptions, the native trees found in the river valleys in the prairies of southern Alberta are all poplars. Three different species can be found, including the Plains or Western Cottonwood (*Populus deltoides*), the Balsam Poplar (*Populus balsamifera*), and the Narrowleaf Cottonwood (*Populus angustifolia*). The area from Brocket to Lethbridge is unique, being the only place in the world where these three poplar species interbreed to produce hybrids. This hybridization creates a very diverse forest with a wide range of leaf shapes and branching patterns. Research suggests that our hybrid poplar forests support greater densities of insects and birds than single-species poplar forests.

This unique habitat is best seen from a canoe or kayak at Popson Park on the southwest side of Lethbridge, and between Peenaquim, Alexander Wilderness Park, and Pavan Park on the north side of Lethbridge.



Plains Cottonwood

Balsam Poplar

Narrowleaf Cottonwood

August Forest



Insect Gall

Galls

A gall is an abnormal growth on a plant that results from a parasite attack. The parasite may be an insect, a mite, a bacterium, a fungus, or a nematode.

Buds, stems, roots, and leaves may be modified into galls of many unusual shapes and sizes, but the plants themselves are not often seriously harmed. Regardless of its shape, a gall is derived wholly from the tissue of the host plant. The parasite does not make the gall; it stimulates the plant to produce the abnormal growth. This growth surrounds the invading parasite with layers of nutritious cells and thus provides it with food.

Most gall-causing insects are specific to certain hosts and most cause galls of consistent size and shape. Good places to look for galls are: goldenrod stems, willows (the “cones” seen on some willows are actually galls), rose shrubs, and chokecherry leaves.

Lichens, Mosses & Rusts

Lichens form easy-to-see, colourful patches on bark, rocks, and cement. A few also grow on prairie soil that has not been disturbed by humans. Several species of bright orange lichen (*Xanthoria*) grow on the cement base of the High Level Bridge, the bark of older cottonwoods, and the stems and twigs of some shrubs.

Because of the dry climate, relatively few mosses grow in the Lethbridge area. However, extensive colonies of bristle mosses (*Orthotrichum*), and aspen or stocking moss (*Pylaisiella*), are present on the shaded side of older cottonwood trunks.

Two local rusts (a type of fungus) sometimes attract attention. Rock cress rust is responsible for the yellow rock cress plants often noticed by early spring hikers looking for wildflowers. One of the stages of the leaf rust of grasses is quite noticeable by its small orange-yellow lesions on plants such as the western clematis in the Nature Reserve.



Lichen on Rock

Mammals

Lethbridge's diverse vegetation communities and landforms result in a variety of mammals inhabiting the river valley. Dense cottonwood forests provide shelter for cottontail rabbits and porcupines, while open grasslands are the home of ground squirrels and badgers.

Cloven-hoofed Mammals

If you walk through the cottonwood forests, one of the larger mammals you will likely see is the white-tailed deer. Mule deer are more commonly observed in the coulees. By looking at their tails, the two species can be easily identified. Mule deer have white rumps with a narrow black-tipped tail, while white-tailed deer have larger flag-like tails that are white underneath. Surveys conducted in 2004 suggest that approximately 350-375 deer make their home within the city limits. Some deer, especially mule deer, wander into the residential parts of the city to dine on tasty garden plants, and are particularly fond of tulips! On very rare occasions, moose can wander this far down the river valley from the foothills, and have been observed in Botterill Bottom Park and Cottonwood Park. Elk have been sighted outside city limits.

Rodents

The smallest rodents in the river valley are deer mice, shrews, meadow voles, and pocket gophers. Deer mice can be found in all parts of the valley, while meadow voles live in the dense, shrubby vegetation in the coulees and river bottom. Here they form runways in dense grass cover. In the spring, melting snow may expose their runways and grass nests built during the winter. Likewise, evidence of pocket gophers may be seen in the form of mounds of earth with no apparent hole. Pocket gophers are rarely seen because they seldom venture from their burrows. There have been rare reports of bushy-tailed wood rats (pack rats) in Lethbridge.

Another common mammal is the Richardson's ground squirrel. Colonies can be found in open grassy habitats in the river valley, and on coulee slopes, with the highest densities where humans maintain nicely mowed and irrigated turf! The grounds of the University of Lethbridge are a haven for ground squirrels, as well as their predators – hawks, snakes, and badgers.

Yellow-bellied marmots have spread into the region from the southeastern corner of the province. Small colonies exist in rocky parts of the coulees and a number of these large rodents frequent the fairways of the Lethbridge Golf and Country Club and Paradise Canyon Golf Resort.

Beavers are often seen along the river and in the few wetlands in Lethbridge. They live in bank burrows along the river, as they are unable to build dams and lodges due to the size of the Oldman River. Muskrats are also common in wetlands, as well as in Henderson and Nicholas Sheran Lakes.



Long-tailed Weasel, Ken Moore



Cottontail in Bushes, Rick Palmer



White-tailed Bucks, Sarah Underwood



Yellow-bellied Marmots, Ken Orich



Mule Deer, Ken Orich



Red Foxes, Ken Orich



Porcupine

If you walk amongst the cottonwoods in winter, you will likely see porcupines feeding high up in the trees. Porcupines are one of the few animals that feed off of the inner bark of trees and shrubs. Throughout the spring and summer, porcupines have also been known to feed on catkins and leaves from currant, rose, dandelion, clover, and grass. They are common on the floodplain and are occasionally seen in the coulees.

Lagomorphs (rabbits and hares)

Two species of lagomorphs are common in Lethbridge. Nuttall's cottontails live in shrubby patches along the river bottom and can be seen feeding on grasses and shrubs throughout the day. The much larger white-tailed prairie hares (jackrabbit) occupy the upper slopes of the coulees and grasslands. In winter, the prairie hare turns white.

Carnivores

Among the carnivores, striped skunks, red foxes, and coyotes can be found regularly in the coulees. Foxes have established dens in several places within the city limits. Long-tailed weasels (although seldom seen) inhabit the river valley, feeding on Richardson's ground squirrels and other small rodents. Mink, least weasels, badgers, and raccoons are not common, although raccoons have been observed more frequently. Carnivores that very rarely visit the area include bobcats, river otters, lynx, cougars, and black bears.

Bats

Bats roost during the day in buildings, in holes, or under the bark of trees, from which they emerge around dusk. They can often be seen flying in clearings, both in the city and in the river valley, just after sunset. The most common are the little brown and big brown bats, which have adapted to human habitation, spending the day roosting in buildings. Hoary bats and red bats had been seen in the river valley in the past.

A stroll around Henderson Lake at dusk can provide an interesting opportunity to view bats hunting insects over the water.

Birds

Over 230 species of birds have been recorded in the city limits. Although the greatest diversity can be found in the river valley, older residential parts of the city can also harbour some interesting bird species.

Coulees

Spring bird song fills the coulee grasslands in May and June. Western meadowlarks, Sprague's pipits, vesper sparrows, and lark sparrows nest in these areas. Lazuli buntings, although not common, nest in isolated areas in southern Alberta and can be found in the arid coulee bottoms or east-slope meadows around thick shrubs and bushes. Brown thrashers and spotted towhees nest in the shrub thickets found in coulee bottoms.

Bluebird trails, made up of nest boxes, have been established in the coulees within Cottonwood Park. The nest boxes are used by both mountain bluebirds and tree swallows.

High Level Bridge

Visitors to Lethbridge are often surprised to notice a noisy pair of ravens that have chosen to nest on the girders of the bridge every year since 1989. These early nesters begin nest building in late February and early March, taking nearly a month to complete construction. Other birds that have been recorded nesting on the bridge include Canada geese, red-tailed hawks, great horned owls, and rock pigeons.

River

Throughout the winter, much of the Oldman River is frozen, but parts of it remain open below the weir in Botterill Bottom Park and below the waste water treatment plant in Peenaquim Park and Alexander Wilderness Park. The open water attracts thousands of Canada geese, mallards, and common goldeneyes. The high numbers of waterfowl in turn attract hunting bald eagles, which migrate to the Lethbridge area for the winter.

In the spring and summer, large bank swallow colonies and nesting belted kingfishers can be found along the river banks. Look for American white pelicans fishing in the river around the weir in spring and summer, as well as at Alexander Wilderness Park. Common nighthawks can be found flying over the river at dusk during summer months at Cottonwood Park.

Bird tidbit: A 'twitcher' is a bird watcher who travels great lengths to collect sightings of rare birds.



Red-winged Blackbird, Ken Orich



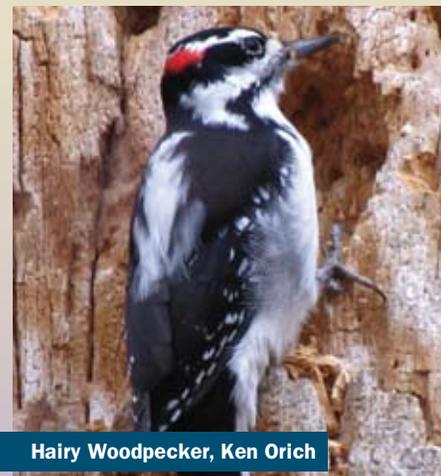
Great Horned Owl, Ken Orich



American White Pelican, Ken Orich



Northern Flicker, Rick Palmer



Hairy Woodpecker, Ken Orich



Western Meadowlark, Ken Orich

River Cliffs and Rocky Outcrops

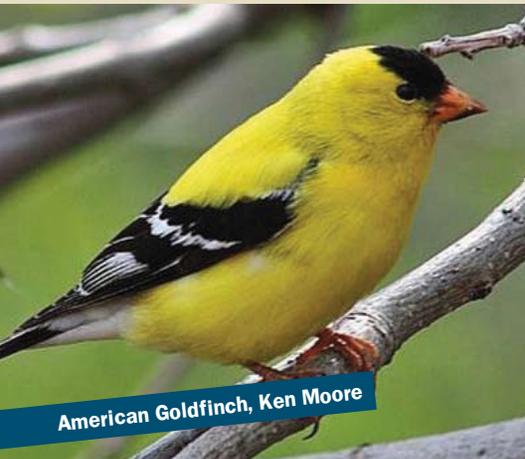
Steep cliffs high above the river are home to nesting prairie falcons, rock wrens, and cliff swallow colonies. Prairie falcons stay in the Lethbridge area year round but are only occasionally seen. Say's phoebes and violet-green swallows are uncommon in Lethbridge, but can sometimes be seen on steep, rocky coulees in spring and summer.

Wetlands

Although limited in extent, the few wetlands in Lethbridge harbour a variety of birds. Both red-winged and yellow-headed blackbirds and common yellowthroats inhabit the cattail marshes at the Elizabeth Hall Wetlands, University Marsh, and Sunridge community wetland in west Lethbridge. Nesting waterfowl include Canada geese, redheads, mallards, canvasbacks, and blue-winged teal. The wildlife viewing blind at the Elizabeth Hall Wetlands offers an opportunity to view waterfowl and other wetland wildlife close up. Sunridge wetland is another great location with various information signs to learn about and explore wetlands.

Cottonwood Forests

The greatest diversity of birds is found in the mature cottonwood forests, especially where there is a dense understory of shrubs. Between May and August, a one-hour early morning stroll in Pavan Park, the Lethbridge Nature Reserve, or the Elizabeth Hall Wetlands can reveal 20 to 30 bird species! The spring dawn chorus commonly consists of least flycatchers, American robins, yellow warblers, warbling vireos, house wrens, goldfinches, and Baltimore orioles. In late August, large numbers of migrating warblers stop over in the cottonwood forests. Over 20 species of warblers and vireos have been observed in the Nature Reserve at this time. Some of the species seen are Townsend's warbler, black and white warbler, Tennessee warbler, yellow-rumped warbler, American redstart, blackpoll warbler, northern waterthrush, and Wilson's warbler. The cottonwood forest is where raptors, such as great horned owls, kestrels, Swainson's hawks, and red-tailed hawks nest. Occasionally Cooper's hawks, and saw-whet owls, also nest in the cottonwood forests.



Residential Areas

As backyard trees mature, more and more bird species are being recorded in the residential parts of Lethbridge. In the late 1990's, red-breasted nuthatches had just begun to nest in

backyards and are now commonly seen. Large spruce trees occasionally attract winter flocks of white-winged and red crossbills. These trees also provide nest sites for pairs of merlins each spring. At backyard feeders during the winter, Lethbridge residents can expect black-capped chickadees, white-breasted nuthatches, red-breasted nuthatches, pine siskins, blue jays, northern flickers, downy woodpeckers, and house sparrows. House finches first appeared in the Lethbridge area in the winter of 1998 and are now common throughout the year. Eurasian collared doves arrived in the Lethbridge area in 2007 and are also increasing in the number of observations yearly.



Henderson Lake is a man-made urban lake in south Lethbridge. Many interesting species of waterfowl can be seen during spring and fall migration such as common loon, pied-billed grebe, bufflehead, and long-tailed duck. Ospreys are also seen here and along the river during migration.

The mature spruce and pine trees in Mountain View Cemetery and near the Lethbridge Research Station offer unique bird watching opportunities.

Amphibians & Reptiles

Due to Lethbridge's dry, northern climate, there are relatively few reptile and amphibian species in the area. Those species found here are not especially abundant and tend to be secretive and difficult to observe. However, few experiences in nature are as thrilling as an evening visit to a pond full of singing frogs, or hearing the sound of a rattlesnake warning you of its presence!

A characteristic of both amphibians and reptiles is their dependence upon external (environmental) rather than internal (metabolic) sources of heat for their body temperature. Most amphibians and reptiles function best at relatively high body temperatures, essential for proper internal functions, general activity, and alertness.

Frogs & Toads

The striped chorus frog is the only true frog now found in Lethbridge. Until the mid-seventies, the northern leopard frog was also found in Lethbridge. Populations of



Painted Turtles, Ken Orich



Prairie Rattlesnake, Ken Orich



Striped Chorus Frog, Liz Saunders



Bull Snake, Wendy Devent

leopard frogs have almost completely vanished from Alberta. Recent successful reintroduction has occurred in Magrath, Alberta, at Pothole Creek. The exact cause of their decline is unknown.

The chorus frog is tiny, only a few centimeters long when fully grown. Their song sounds like someone running their fingers along the tines of a comb. They can be heard at most wetland areas in the City, such as the Elizabeth Hall Wetlands and the man-made Sunridge wetland. Chorus frogs hibernate above ground, buried by only a thin layer of vegetation. They are able to survive by secreting an anti-freezing chemical from their liver.

The plains spadefoot toad emerges from below ground only in years when spring and summer rains fill temporary ponds. Their life cycle is rapid, so that their tadpoles can transform before the ponds dry up again. Spadefoots are uncommon, but have been found in temporary ponds in upland areas in and around Lethbridge.

Salamanders

Our one species of salamander is indeed very secretive. The tiger salamander makes its appearance only on cool, moist nights, spending the days hidden in mammal burrows and other shady places. Its eggs and larvae can sometimes be seen in local wetlands.

Snakes

At least four species of snakes are found in the Lethbridge river valley. The most commonly encountered is the wandering garter snake, a dull greyish snake with pale yellow stripes. There have also been observations of the plains garter snake in the valley. Garter snakes are often observed basking on park trails and fishing for prey in small wetlands or along the river bank shorelines.

Lethbridge is home to a very small population of prairie rattlesnakes. These snakes are the colour of dry prairie grasses, which helps them to hide from predators and prey. Rattlesnakes spend much of their time on dry coulee slopes, but will wander into cottonwood forests and wetlands in search of food. From November to April, these snakes hibernate in coulee sinkholes and old mammal burrows along with other species of snakes.

The sighting of prairie rattlesnake is uncommon on the east side of the river valley, but is more common on the west side at Paradise Canyon, Popson Park and Cottonwood Park in the summertime.

The bull snake, sometimes referred to as the gopher snake, is occasionally seen in the river valley. Bull snakes are excellent tree climbers and prey on rodents, eggs, and baby birds. They are the only egg-laying snake species found in Lethbridge (the other three species give birth to live young).

Be warned that bull snakes will mimic a rattlesnake, by coiling up and shaking their tail, to ward off predators!

Turtles

Western Painted turtles first appeared as released pets, but they are now breeding in the wild in Lethbridge. Over 20 turtles can sometimes be observed at Elizabeth Hall wetlands on a beautiful sunny summer afternoon, basking on logs, rocks, and floating vegetation. Females have been seen laying eggs in sand traps and bunkers at the Henderson golf course on occasion and baby turtles, still with their egg tooth, have been found at the Elizabeth Hall Wetlands. The closest natural population of painted turtles is along the Milk River in southeastern Alberta. They overwinter under the pond ice and can be seen on warm days as late as November.

Western painted turtles can be found in the Elizabeth Hall Wetlands and occasionally in Henderson Lake.

Urban Parks

River Valley Parks

Pavan Park - (217ha/537ac) The northernmost river valley park is home to great horned owl, yellow warbler, western meadowlark, and mule deer populations. This park has a thick undergrowth of shrubs, such as chokecherry and saskatoon, which provide shade and protection for many wildlife species. Horseback riding is permitted within the park and day-use picnic sites are a popular activity for families. A large picnic shelter can be booked for group use.

Alexander Wilderness Park - (42ha/104ac) This park, located in north Lethbridge and accessed through the Legacy Ridge subdivision, is a good location to look for summer bird species like brown thrasher, yellow-bellied sapsuckers, buffleheads, and prairie falcon. In the winter, bald eagles and a resident pair of great horned owls are common sightings. Bicycles and dogs are not permitted in this park as it has been designated as a preservation area. Exceptional wildlife viewing, photography, birdwatching, and quiet reflection can be enjoyed in this oasis in the city.

Elizabeth Hall Wetlands - (32ha/78ac) Located on the west side of the Oldman River, just off of Highway 3, this park features an oxbow lake which is home to western painted turtle, muskrat, beaver, and over 120 observed species of birds, including belted kingfisher, yellow-headed and red-winged blackbirds, and eastern and western kingbirds. Interpretive signs are located throughout the park and feature information on wetland wildlife throughout the seasons. A dipping dock provides a unique view of the wetlands. Pond dipping “kits” can be rented from the Helen Schuler Nature Centre to enhance your exploration of this unique environment.

Lethbridge Nature Reserve - Helen Schuler Nature Centre - (81ha/200ac) Located within the heart of the City of Lethbridge, this protected nature reserve has three self-guided trails exploring different ecosystems, including the coulees,



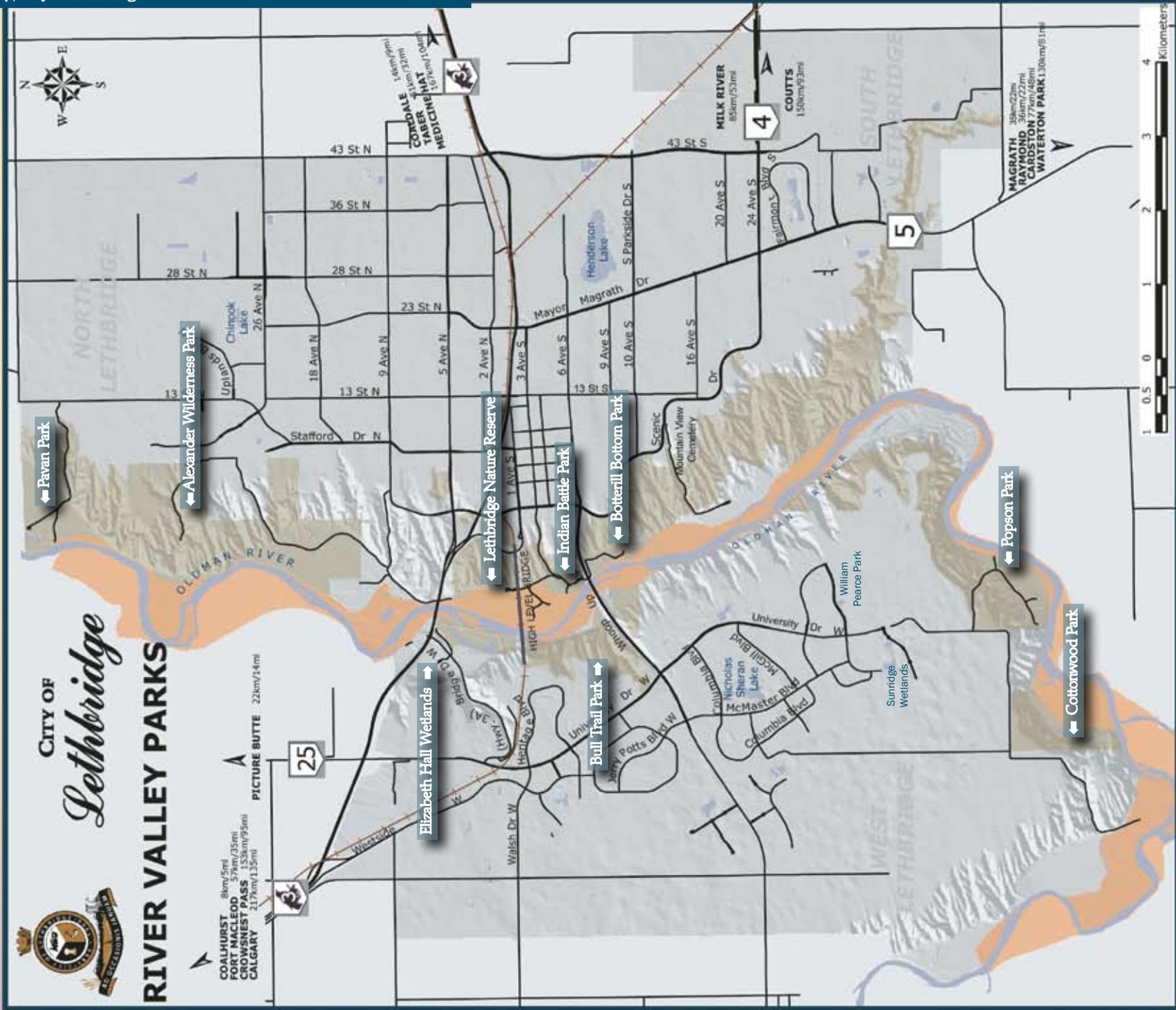
floodplain, riparian area, and river. This is a great location to see white-tailed deer, cottontail rabbits, and porcupine. It often is home to one of the only nesting pair of common ravens in Lethbridge. This park is frequently utilized as an outdoor classroom for both local and regional school groups.

Indian Battle Park - (102ha/253ac) This park is located just south of the Lethbridge Nature Reserve and the CP Rail High Level Bridge. Amenities in this park include Fort Whoop-up Interpretive Centre, picnic shelters, playgrounds, and paved trails suitable for walking, biking, and rollerblading. The west edge of the park provides one of the best locations in Lethbridge to enjoy pathways along the Oldman River. The east edge of the park offers a look-out on the top of the coulee with stunning views of the river valley.

Botterill Bottom Park - (80ha/200ac) To access this park, follow the road south from the Nature Centre, past Fort Whoop-up, and under the Whoop-up Drive bridge. The trail within this park is adjacent to the police training range and a golf course. You can find yellow-bellied marmots on the rocky outcrops, and beaver in the river. Great views of the American white pelican can be seen near the weir. Moose have occasionally been spotted near this park. A boat launch provides excellent access to the Oldman River for kayak and canoe enthusiasts.

Bull Trail Park - (160ha/395ac) Access to this park is in west Lethbridge. It is an historical and cultural site named for the bull trains that carried supplies from Montana. Mining activities also took place here. Common sightings include Swainson's hawk, red-tailed hawk, ring-necked pheasants and cactus.

Popson Park - (133ha/329ac) This park is located south of the University of Lethbridge. The drive down the entry road may seem long but take note of the different vegetation on the north and south facing slopes of the coulee walls. Prairie rattlesnakes are present in this park. Listen, and watch your footing while walking in the grass with your family and dog. The Oldman River Observatory is also located in Popson Park. Home to the Lethbridge Astronomy Society, this



facility coordinates a number of excellent education programs for both groups and the general public to gain new insights into our night skies. Other amenities in this park include a boat launch for river access.

Cottonwood Park - (43.7/ha/108ac) Continuing south from Popson Park, the road will turn west, Cottonwood Park is located on the south side of the road. Be prepared for a climb down to the floodplain and river below. This is a park that shows regeneration of the riparian area along the river. New saplings can be seen growing shortly after the spring floods. Keep an eye out for common nighthawks, mountain bluebirds, and prairie rattlesnakes.

Other Parks of Wildlife Interest

Nicholas Sheran Park - This park is located on the west side of Lethbridge and is a great place to take the family sport fishing. Some of the fish species that can be caught include northern pike, yellow perch, brown and brook trout, and burbot. Watch for birds on the lake, such as eared grebe, cinnamon and blue-winged teal, and merlins flying overhead. Watch for flying discs, as a disc golf course is also located here.

Sunridge Wetlands - These wetlands are located within an ecologically-green built community. This man-made pond is a great location to learn about wetlands. Signage is present to identify unique features of wetlands. Look for red-winged and yellow-headed blackbirds, common yellowthroats, and common grackles. An exceptional boardwalk trail offers unique views over the water amidst the reeds and cattails.

William Pearce Park - This park is located in the Riverstone community and has a stocked rainbow trout pond for family fishing. A fishing dock, playground, and access to the extensive westside pathway system can be enjoyed here.

Henderson Lake Park - A large regional park that is great for family fishing, walking, and rollerblading. The lake has a large population of crayfish. Common loons and ruddy ducks frequent this lake during migration. Look high in the spruce trees for white-winged crossbills, in other trees for red-napped sapsuckers, and at dusk and dawn for bats! This park has a unique urban forest, with examples of nearly all of the species of trees grown in Lethbridge located in and around this park. The park offers several playgrounds and day-use picnic shelters and is home to one of the largest Dragon Boat Festivals in Western Canada, as well as many other community events.

Your own backyard - In urban areas with mature trees, search for birds, such as house finch, house sparrow, black-capped chickadee, red-breasted nuthatch, and downy woodpecker. Dark-eyed junco and chipping sparrow can be seen seasonally. For more information on how to make your home and yard more wildlife friendly, contact the Helen Schuler Nature Centre or the Oldman Watershed Council.

Fish

Fish found in the Oldman River at Lethbridge include the brown trout, mountain whitefish, burbot, and walleye. Non-sport fish most commonly seen are the suckers (white, longnose, and shorthead red horse). The longnose dace is an abundant species found everywhere near Lethbridge. An uncommon fish that has been increasing in numbers in the Lethbridge area is the lake sturgeon, which spawns during high waters in late May to early June. Other common sport fish include northern pike, mooneye, and sauger.

Stewardship & Conservation: The 'notch' in the weir at Botterill Bottom Park was designed by Alberta Environment in 2001 to allow lake sturgeon (and other smaller fish species) to travel back upstream.

Lethbridge has a few lakes and ponds where families can do some fishing throughout the summer months.

Henderson Lake is home to northern pike, white sucker, and grass carp. There is also a large population of crayfish present. Nicholas Sheran Park has northern pike, brown and brook trout, yellow perch, and burbot. Riverstone Pond is a rainbow trout stocked fishery.



Invertebrates

Insect life abounds throughout Lethbridge. Both the abundance and variety of insects helps to support the tremendous diversity of mammal and bird life. The coulees are a good place to go in search of butterflies, beetles, and grasshoppers. The cottonwood forests offer interesting insect galls, crickets, and moths. Visit a wetland to see bright dragonflies and a great number of pond invertebrates, such as backswimmers, giant water bugs, snails, and leeches.

Butterflies & Moths

Some of the most common butterflies are the mourning cloak, clouded sulphur, cabbage white, common wood nymph, and Milbert's tortoiseshell. Both the mourning cloak and the tortoiseshell overwinter as adults and can sometimes be seen flying on warm Chinook days in late winter.

Two-striped Grasshopper, Dan Johnson



Monarch butterflies can be observed in the river valley in July and August, especially in areas where their host plant, showy milkweed, grows.

The caterpillar of the spurge hawkmoth is easily identified due to its vivid red colour. It was introduced into the area to help control the noxious weed, leafy spurge. Another highly visible moth is the cecropia moth. With a wingspan of 10 centimeters, this spectacular moth is a treat to watch.

Grasshoppers & Crickets

Throughout the spring and summer, more than 50 species of grasshoppers and crickets can be found in the Lethbridge area. During April and May, a short walk in the coulees reveals several species of grasshopper, such as the velvet-striped grasshopper or the speckled rangeland grasshopper. These species overwinter partially grown, or hatch very early in the season. Later on during the spring and summer, watch for species such as the spur-throated grasshopper or the marsh-meadow grasshopper.

Katydids, bush crickets, and long-horned grasshoppers are typically found along roadsides and where shrubs, forbs, and tall grasses grow. They are often noticed for their size and loud singing. Some species that you may notice in our area are camel crickets, the four-spotted tree cricket, or the broad-winged bush katydid.

Ticks & Spiders

The Rocky Mountain wood tick is most evident in Lethbridge from March to May. Ticks may be picked up by people walking in grassland and coulee areas. As they are big enough to see, most ticks are noticed before they bite. It is a good idea to check yourself for ticks after walking off trail in grassland areas in the spring.

The black widow spider is a surprisingly common inhabitant of the coulees. In general, they are nothing to fear as they tend to avoid people. They build messy, maze-like webs across the entrances of old mammal burrows. If you creep slowly up to such a web, you may be able to catch a glimpse of a black



Black Widow Spider, Ken Moore

widow and her hour-glass marking before she retreats down the burrow. Other relatives of spiders to look for include: wind scorpion, pseudoscorpion, and both the brown and eastern daddy-long legs.

Species at Risk

As we continue to learn more about wild species, we have discovered that many species once frequent in our area are now not as prominent as they once were. Long-time residents in Lethbridge and the surrounding grasslands outside the city have noticed the decline and disappearance of many wildlife species, particularly birds.

A plant or animal that has a low or decreasing population is considered a “species at risk”. Species are classified according to their known population status. In Alberta, a secure species is one that has a stable and healthy population. Sensitive or may be at risk species are species where there is a gradual decline in population size and warrant further observation. An undetermined species is one with insufficient information. A species that is at risk is one with a population that has significantly decreased to the point that it could become extinct from the landscape.

In the Lethbridge area, several species are classified as “species at risk”. These include the prairie rattlesnake (may be at risk), northern pintail (sensitive), sharp-tailed grouse (sensitive), Sprague’s pipit (sensitive), and the lake sturgeon (at risk).

Some of the reasons why a species population may be declining include disappearing, fragmented and/or degraded habitat, overharvesting, pesticides, disease, persecution, human disturbance, introduction of exotic or invasive species, or a combination of these causes. Sometimes there is simply an unknown reason for the decline.

Successful Stewardship: In the town of Magrath, just southwest of Lethbridge, the northern leopard frog (at risk) has been reintroduced to its former habitat and its population is gradually increasing as a result of rescue efforts to protect this species.



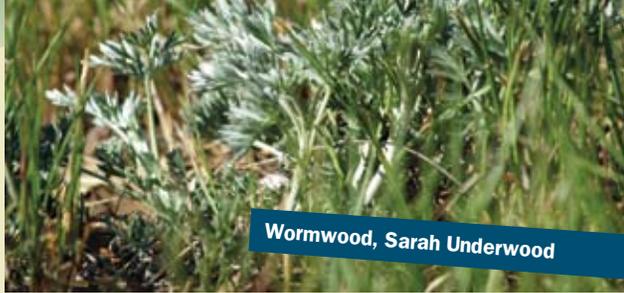
Leopard Frog, Liz Saunders

Invasive & Introduced Species

An invasive species is a species that has invaded or is unintentionally brought into a natural habitat. The presence of an invasive species indicates a change in the conditions or loss of health and function on the landscape. Invasives (other terms include exotic and alien species) come in all forms. Introduced species are ones that have been deliberately brought into an area. In the Lethbridge area,



Asparagus



Wormwood, Sarah Underwood



Leafy Spurge Hawkmoth Caterpillar, L. Shalapata

common introduced species include birds like the European starling and house sparrow. Many of the grass species growing in the shade of the cottonwoods are also introduced. The most common of these introduced grasses are smooth brome and crested wheatgrass. Unfortunately, several non-native weeds also thrive in the river valley. One example is leafy spurge, a noxious weed that has been spreading rapidly over the floodplain. Other plant invasive species include Canada thistle and spotted knapweed. Not only do these invasive species out-compete native species, leading to their loss, but they also affect our aesthetic landscape and are very costly and time consuming to remove.

Stewardship Tip: Always clean off your shoes, bike tires, and boats when travelling from one ecosystem to another, to prevent the spread and introduction of non-native species to a natural area. It is also important to stay on established trails. Off-road vehicles are not permitted in City of Lethbridge parks, in order to reduce damage to the environment and minimize the spread of invasive plant seeds.

Conclusion

The residents of Lethbridge are fortunate that so much of the Oldman River valley in the City has been preserved in a natural or semi-natural state. It is important that this valuable heritage be conserved in the future.

We hope this booklet has helped you to appreciate the valley, from its past human history and geological record, to the present-day assemblage of plant and animals. We ask that you treat the land and its wild residents with respect so that they will be here for generations to come, and hope that you visit the area often.

Checklists

Checklist of Common Plants

Please note that this is not a complete listing. This list contains relatively common species that visitors are more likely to see and be able to identify. "I" refers to introduced plants.

EQUISETACEAE (Horsetails)

- Equisetum arvense (Common Horsetail)
- Equisetum hyemale (Scouring Rush)

CUPRESSACEAE (Cypress Family)

- Juniperus horizontalis (Creeping Juniper)

TYPHACEAE (Cattails)

- Typha latifolia (Common Cattail)

ALISMATACEAE (Waterplantains)

- Sagittaria cuneata (Arrowhead / Wapato)

GRAMINEAE (Grasses)

- Agropyron dasystachyum (Northern Wheatgrass)
- Agropyron cristatum (Crested Wheatgrass) I
- Agropyron repens (Quack/Couch Grass) I
- Agropyron smithii (Western Wheat Grass)
- Agropyron trachycaulum (Slender Wheat Grass)
- Agrostis scabra (Hair/Tickle Grass)

- Beckmannia syzigachne (Slough Grass)
- Bouteloua gracilis (Blue Grama Grass)
- Bromus inermis (Awnless Brome) I
- Bromus tectorum (Downy Chess) I
- Calamagrostis inexpansa (N. Reed Grass)
- Calamagrostis montanensis (Plains Reed Grass)
- Calamovilfa longifolia (Sand Grass)
- Elymus canadensis (Canada Wild Rye)
- Glyceria grandis (Manna Grass)
- Hordeum jubatum (Foxtail Barley)
- Koeleria macrantha (June Grass)
- Muhlenbergia cuspidata (Plains Muhly)
- Oryzopsis hymenoides (Indian Rice Grass)
- Phalaris arundinacea (Reed Canary Grass)
- Poa arida (Plains Bluegrass)
- Poa cusickii (Early Bluegrass) I
- Poa pratensis (Kentucky Bluegrass)
- Poa sandbergii (Sandberg Bluegrass)
- Puccinellia nuttalliana (Nuttall's Alkali Grass)
- Stipa comata (Needle & Thread Grass)
- Stipa viridula (Green Needle Grass)



Prairie Crocus

CYPERACEAE (Sedges)

- Carex sp. (Sedge)
- Eleocharis sp. (Spike Rush)
- Scirpus sp. (Bulrush)

LEMNACEAE (Duckweeds)

- Lemna minor (Common Duckweed)

JUNCACEAE (Rushes)

- Juncus balticus (Baltic Rush)
- Juncus bufonius (Toad Rush)
- Juncus nodosus (Knotted Rush)
- Juncus tenuis (Slender Rush)
- Juncus torreyi (Torrey's Rush)

IRIDACEAE (Iris Family)

- Sisyrinchium montanum (Blue-eyed Grass)

LILIACEAE (Lily Family)

- Allium cernuum (Nodding Onion)
- Allium textile (Prairie Onion)
- Fritillaria pudica (Yellow-bell)
- Smilacina stellata (Star-flowered Solomon's Seal)

SALICACEAE (Willow Family)

- Populus angustifolia (Narrowleaf Cottonwood)
- Populus balsamifera (Balsam Poplar)
- Populus deltoides (Plains Cottonwood)
- Salix amygdaloides (Peach-leaf Willow)
- Salix exigua (Sandbar Willow)
- Salix lutea (Yellow Willow)

BETULACEAE (Birch Family)

- Betula occidentalis (Water Birch)

URTICACEAE (Nettle Family)

- Urtica dioica (Stinging Nettle)

SANTALACEAE (Sandalwood Family)

- Comandra umbellata (Bastard Toad-flax)

POLYGONACEAE (Buckwheats)

- Eriogonum flavum (Yellow Umbrella-plant)
- Polygonum achoreum (Striate Knotweed)
- Rumex maritimus var fueginus (Golden Dock)
- Rumex venosus (Wild Begonia/Veined Dock)

CHENOPODIACEAE (Goosefoot Family)

- Atriplex argentea (Silver Saltbush)
- Atriplex nuttallii (Nuttall's Atriplex)
- Ceratoides lanata (Winterfat)
- Chenopodium album (Lamb's-quarters) I
- Chenopodium salinum (Saline Goosefoot)
- Kochia scoparia (Summer Cypress) I
- Salsola kali (Russian Thistle) I

NYCTAGINACEAE (Four-o'clocks)

- Mirabilis hirsuta (Hairy Umbrellawort)

CARYOPHYLLACEAE (Pinks)

- Cerastium arvense (Mouse-ear Chickweed)
- Paronychia sessiliflora (Low Whitlowwort)

- Stellaria media (Common Chickweed) I

RANUNCULACEAE (Crowfoots)

- Anemone canadensis (Canada Anemone)
- Anemone multifida (Cut-leafed Anemone)
- Anemone patens (Prairie Crocus)
- Clematis ligusticifolia (Western Clematis)
- Ranunculus aquatilis (White Water Crowfoot)
- Ranunculus cymbalaria (Creeping Buttercup)
- Ranunculus sceleratus (Cursed Crowfoot)
- Thalictrum dasycarpum (Tall Meadow Rue)

CRUCIFERAE (Mustards)

- Alyssum alyssoides (Small Alyssum) I
- Arabis holboellii (Rock Cress)
- Capsella bursa-pastoris (Shepherd's Purse) I
- Descurainia sophia (Flixweed) I
- Lepidium densiflorum (Common Peppergrass) I
- Lesquerella arenosa (Bladderpod)
- Thlaspi arvense (Pennycress/Stinkweed) I

GROSSULARIACEAE (Currants)

- Ribes aureum (Golden Currant)
- Ribes oxycanthoides (Wild Gooseberry)

ROSACEAE (Roses)

Amelanchier alnifolia (Saskatoon)
Geum triflorum (Three-flowered Avens)
Potentilla anserina (Silverweed)
Potentilla concinna (Early Cinquefoil)
Potentilla pensylvanica (Prairie Cinquefoil)
Prunus virginiana (Chokecherry)
Rosa arkansana (Prairie Rose)
Rosa woodsii (Common Wild Rose)

LEGUMINOSAE (Pea Family)

Astragalus americanus (American Milk Vetch)
Astragalus bisulcatus (Two-grooved Milk Vetch)
Astragalus crassicaarpus (Ground Plum)
Astragalus drummondii (Drummond's Milk Vetch)
Astragalus gilviflorus (Cushion Milk Vetch)
Astragalus lotiflorus (Low Milk Vetch)
Astragalus missouriensis (Missouri Milk Vetch)
Astragalus pectinatus (Narrow-leaved Milk Vetch)
Astragalus striatus (Ascending Purple Milk Vetch)
Astragalus tenellus (Loose-flowered Milk Vetch)
Caragana arborescens (Common Caragana) I
Glycyrrhiza lepidota (Wild Licorice)
Hedysarum boreale (Northern Hedysarum)
Lupinus argenteus (Perennial Lupine)

Melilotus alba (White Sweet Clover) I
Melilotus officinalis (Yellow Sweet Clover) I
Oxytropis sericea (Early Yellow Loco-weed)
Oxytropis splendens (Showy Loco-weed)
Petalostemon candidum (White Prairie Clover)
Petalostemon purpureum (Purple Prairie Clover)
Psoralea esculenta (Indian Breadroot)
Thermopsis rhombifolia (Golden Bean)
Vicia americana (Wild Vetch)

LINACEAE (Flax Family)

Linum lewisii (Wild Blue Flax)
Linum rigidum (Yellow Flax)

EUPHORBIACEAE (Spurge Family)

Euphorbia esula (Leafy Spurge) I

ANACARDIACEAE (Sumach Family)

Rhus trilobata (Skunk-bush)

ACERACEAE (Maple Family)

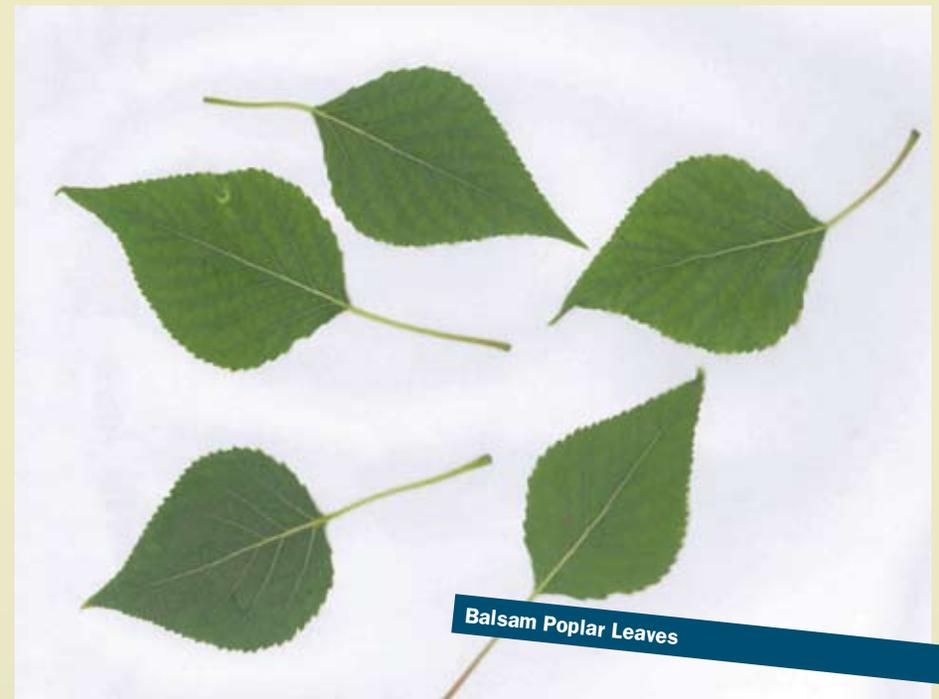
Acer negundo (Manitoba Maple)

MALVACEAE (Mallow Family)

Sphaeralcea coccinea (Scarlet Mallow)

VIOLACEAE (Violet Family)

Viola adunca (Early Blue Violet)
Viola nuttallii (Yellow Prairie Violet)



Balsam Poplar Leaves



Narrowleaf Cottonwood Leaf



Plains Cottonwood Leaf

LOASACEAE (Loasa Family)

Mentzelia decapetala (Sand Lily/
Evening Star)

CACTACEAE (Cactus Family)

Coryphantha vivipara (Pincushion
Cactus)

Opuntia polyacantha (Prickly Pear
Cactus)

ELAEAGNACEAE (Oleaster Family)

Elaeagnus commutata (Wolf Willow)

Shepherdia argentea (Thorny
Buffaloberry)

**ONAGRACEAE (Evening Primrose
Family)**

Gaura coccinea (Scarlet Butterfly-weed)

Oenothera biennis (Yellow Evening
Primrose)

Oenothera caespitosa (Butte Primrose)

UMBELLIFERAE (Carrot Family)

Cymopterus acaulis (Plains
Cymopterus)

Lomatium foeniculaceum (Hairy-
fruited Parsley)

Lomatium macrocarpum (White Prairie
Parsley)

Musineon divaricatum (Leafy
Musineon)

CORNACEAE (Dogwood Family)

Cornus stolonifera (Red Osier
Dogwood)

PRIMULACEAE (Primrose Family)

Androsace occidentalis (Fairy
Candelabra)

Androsace septentrionalis (Fairy
Candelabra)

Lysimachia ciliata (Fringed Loosestrife)

APOCYNACEAE (Dogbane Family)

Apocynum cannabinum (Indian Hemp)

**ASCLEPIADACEAE (Milkweed
Family)**

Asclepias speciosa (Showy Milkweed)

POLEMONIACEAE (Phlox Family)

Collomia linearis (Narrow-leaved
Collomia)

Phlox hoodii (Moss Phlox)

BORAGINACEAE (Borage Family)

Cynoglossum officinale (Hound's
Tongue) |

Lappula squarrosa (Blue-bur) |

Lithospermum incisum (Puccoon)

LABIATAE (Mint Family)

Lycopus asper (Water Horehound)

Mentha arvensis (Wild Mint)

Monarda fistulosa (Wild Bergamot)

Nepeta cataria (Catnip) |

SCROPHULARIACEAE (Figworts)

Linaria dalmatica. (Toadflax) |

Linaria vulgaris (Butter and Eggs) |



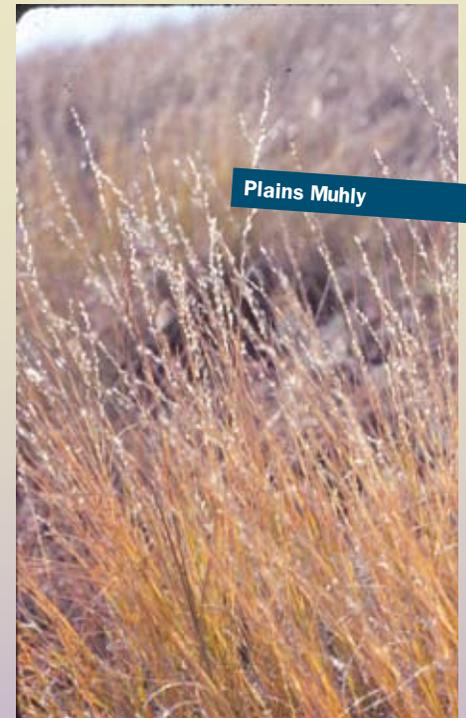
Blade of Grass, A. Dyck



Blue Grama Grass, A. Dyck



Needle and Thread Grass, Liz Saunders



Plains Muhly

Penstemon albidus (White Beardtongue)
 Penstemon nitidus (Smooth Blue Beard-tongue)
 Verbascum thapsus (Common Mullein) I

OROBANCHACEAE (Broomrape Family)

Orobanche fasciculata (Clustered Broomrape)

PLANTAGINACEAE (Plantain Family)

Plantago major (Common Plantain)
 Plantago patagonica (Pursh's Plantain)

RUBIACEAE (Madder Family)

Galium boreale (Northern Bedstraw)
 Galium triflorum (Sweet-scented Bedstraw)

CAPRIFOLIACEAE (Honeysuckles)

Lonicera tartarica (Tartarian Honeysuckle) I
 Symphoricarpos albus (Common Snowberry)
 Symphoricarpos occidentalis (Western Snowberry)

CAMPANULACEAE (Bluebells)

Campanula rotundifolia (Harebell)

COMPOSITAE (Composite Family)

Achillea millefolium (Common Yarrow)
 Antennaria parvifolia (Pussy-toes)

Arctium minus (Common Burdock) I
 Artemisia absinthium (Wormwood, Absinthe) I
 Artemisia campestris (Field Sage)
 Artemisia cana (Sagebrush)
 Artemisia dracuncululus (Dragonwort)
 Artemisia frigida (Pasture Sage)
 Artemisia ludoviciana (White Sagebrush)
 Aster ericoides (Tufted White Prairie Aster)
 Aster falcatus (Creeping White Prairie Aster)
 Aster hesperius (Western Willow Aster)
 Aster laevis (Smooth Aster)
 Centaurea diffusa (Diffuse Knapweed) I
 Centaurea maculosa (Spotted Knapweed) I
 Centaurea repens (Russian Knapweed) I
 Cirsium arvense (Canada Thistle) I
 Cirsium flodmanii (Flodman's Thistle)
 Cirsium undulatum (Wavy-leaved Thistle)
 Erigeron caespitosus (Tufted Fleabane)
 Erigeron canadensis (Canada Fleabane)
 Erigeron philadelphicus (Philadelphia Fleabane)
 Gaillardia aristata (Brown-eyed Susan)
 Grindelia squarrosa (Gumweed)
 Gutierrezia sarothrae (Broomweed)
 Haplopappus spinulosus (Spiny Ironplant)



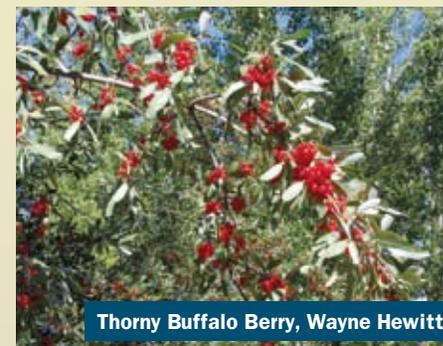
Coneflower, A. Dyck



Golden Bean, Sarah Underwood



Scarlet Mallow



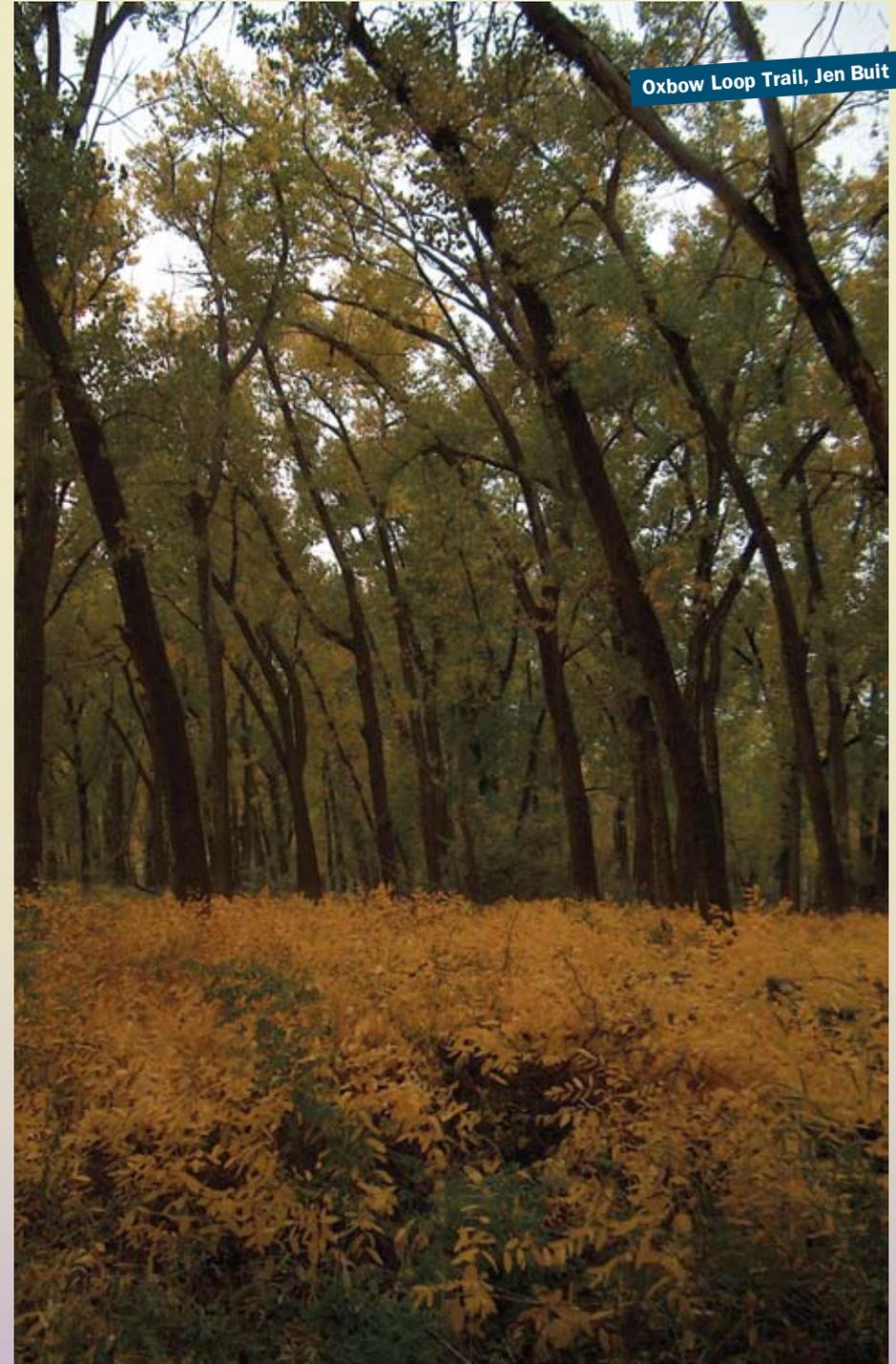
Thorny Buffalo Berry, Wayne Hewitt



Moss Phlox

Helenium autumnale (Sneezeweed)
Helianthus annuus (Common Sunflower)
Helianthus subrhomboides (Rhombicleaved Sunflower)
Heterotheca villosa (Golden Aster)
Hymenoxys acaulis (Butte Marigold)
Hymenoxys richardsonii (Colorado Rubberplant)
Liatris punctata (Dotted Blazing Star)
Lygodesmia juncea (Skeleton-weed)
Matricaria matricarioides (Pineappleweed) |
Ratibida columnifera (Prairie Coneflower)

Senecio canus (Prairie Groundsel)
Solidago canadensis (Canada Goldenrod)
Solidago graminifolia (Flat-topped Goldenrod)
Solidago missouriensis (Missouri Goldenrod)
Solidago mollis (Velvety Goldenrod)
Solidago spathulata (Mountain Goldenrod)
Taraxacum officinale (Common Dandelion) |
Townsendia hookeri (Prairie Townsendia)
Tragopogon dubius (Goat's-beard) |
Xanthium strumarium (Cocklebur)



Checklist of Mammals

For this checklist, the following categories have been used to determine the abundance of each species:

- **C** - Common—species seen over a wide area and at various times throughout the year
- **O** - Occasional—few records (seen once or twice)
- **R** - Rare—only seen in very specific areas or at certain times of the year
- **?** - Insufficient information
- **Urb** - In urban residential areas only

Common Shrew	C	White-footed Mouse	R
Prairie Shrew	?	Western Jumping Mouse	O
Dusky Shrew	?	Long-tailed Vole	?
Masked Shrew	?	Red-backed Vole	?
Pygmy Shrew	?	Meadow Vole.....	C
Wandering Shrew	?	House Mouse.....	Urb
Little Brown Bat	C	Bushy-tailed Wood Rat.....	O
Long-eared Bat	?	Porcupine	C
Long-legged Bat.....	?	Coyote	C
Small-footed Bat.....	?	Red Fox.....	R
Silver-haired Bat	O	Raccoon.....	R
Big Brown Bat	C	Least Weasel.....	R
Hoary Bat.....	O	Long-tailed Weasel	R
Red Bat.....	R	Mink	R
Nuttall's Cottontail.....	C	River Otter	O
White-tailed Jackrabbit	C	Striped Skunk	C
Yellow-bellied Marmot.....	C	Cougar	R
Richardson's Ground Squirrel	C	Canada Lynx.....	O
Gray Squirrel	Urb	Bobcat	R
Northern Pocket Gopher.....	O	Black Bear	O
Beaver.....	C	Mule Deer.....	C
Muskrat	C	White-tailed Deer	C
Deer Mouse.....	C	Moose	O
		Elk	O

Checklist of Birds

This checklist is of birds found regularly within the City limits. For a comprehensive listing showing abundance and seasonal distribution of birds in the Lethbridge area, refer to the publication, "Checklist of the Birds of the Lethbridge Area", available at the Helen Schuler Nature Centre.

C - Common	O - Occasional	R - Rare		
Y - Year-round	W - Winter	S - Summer		
			Bufflehead.....	OY
			Common Merganser	CY
			Red-breasted Merganser.....	RS
			Ruddy Duck.....	OS
			Osprey.....	OS
			Bald Eagle	RS-CW
			Northern Harrier	OS- RW
			Sharp-shinned Hawk.....	RS
			Cooper's Hawk.....	RS
			Northern Goshawk	RW
			Swainson's Hawk	CS
			Red-tailed Hawk.....	CS
			Rough-legged Hawk	CW
			Golden Eagle.....	OW
			American Kestrel	CS
			Merlin.....	CY
			Prairie Falcon	OY
			Gray Partridge	CY
			Ring-necked Pheasant.....	CY
			Sora.....	RS
			American Coot	CS
			Killdeer	CS
			American Avocet.....	OS
			Greater Yellowlegs.....	RS
			Lesser Yellowlegs.....	OS
			Solitary Sandpiper.....	OS
			Willet	OS
			Common Loon	OS
			Pied-billed Grebe	OS
			Horned Grebe	OS
			Red-necked Grebe.....	RS
			Eared Grebe	OS
			Western Grebe.....	OS
			American White Pelican.....	CS
			Double Crested Cormorant.....	OS
			Great Blue Heron.....	OS
			Tundra Swan	RS
			Canada Goose	CY
			Snow Goose	RS
			Green-winged Teal.....	OS
			Mallard.....	CY
			Northern Pintail	OS
			Blue-winged Teal.....	CS
			Cinnamon Teal.....	CS
			Northern Shoveler	CS
			Gadwall.....	CS
			American Wigeon	CS
			Canvasback.....	OS
			Redhead	CS
			Ring-necked Duck	RS
			Lesser Scaup	OS
			White-winged Scoter	RS
			Common Goldeneye.....	OS- CW

Spotted Sandpiper	CS	Blue Jay.....	CY
Wilson's Snipe	CS	Black-billed Magpie.....	CY
Franklin's Gull	CS	American Crow.....	CY
Ring-billed Gull.....	CS	Common Raven	OY
California Gull.....	CS	Black-capped Chickadee	CY
Common Tern.....	OS	Red-breasted Nuthatch	CY
Rock Pigeon	CY	White-breasted Nuthatch	OS-CW
Eurasian-collared Dove.....	CY	Brown Creeper	RS-OW
Mourning Dove	CS	Rock Wren	RS
Great Horned Owl.....	CY	House Wren.....	CS
Northern Saw-whet Owl	RS	Golden-crowned Kinglet.....	RS-OW
Snowy Owl	OW	Ruby-crowned Kinglet	OS
Short-eared Owl.....	RS	Mountain Bluebird.....	OS
Common Nighthawk.....	OS	Townsend's Solitaire	OS
Belted Kingfisher	OS-RW	Veery	RS
Yellow-bellied Sapsucker	RS	Swainson's Thrush	CS
Red-naped Sapsucker.....	RS	American Robin	CS-OW
Downy Woodpecker.....	CY	Varied Thrush.....	RW
Hairy Woodpecker	CY	Gray Catbird	CS
Northern Flicker.....	CY	Brown Thrasher	CS
Western Wood Pewee	CS	Sprague's Pipit.....	RS
Least Flycatcher.....	CS	Bohemian Waxwing.....	CW
Say's Phoebe	RS	Cedar Waxwing.....	CS-RW
Western Kingbird	CS	European Starling.....	CY
Eastern Kingbird	CS	Warbling Vireo	CS
Northern Shrike	RW	Red-eyed Vireo	RS
Horned Lark	CS-OW	Tennessee Warbler.....	OS
Tree Swallow	CS	Orange-crowned Warbler	OS
Violet-green Swallow	OS	Yellow Warbler.....	CS
Northern Rough-winged Swallow....	CS	Yellow-rumped Warbler	CS
Bank Swallow.....	CS	Townsend's Warbler	RS
Cliff Swallow	CS	Blackpoll Warbler	OS
Barn Swallow	OS	Black and White Warbler	RS

American Redstart	OS
Ovenbird	RS
Northern Waterthrush.....	RS
Common Yellowthroat.....	CS
Wilson's Warbler	OS
Black-headed Grosbeak	RS
Lazuli Bunting	RS
Spotted Towhee	CS
American Tree Sparrow.....	OW
Chipping Sparrow	CS
Clay-coloured Sparrow	CS
Vesper Sparrow.....	CS
Lark Sparrow	OS
Savannah Sparrow	CS
Song Sparrow.....	CS
Lincoln's Sparrow	RS
White-throated Sparrow	RS
White-crowned Sparrow	OS
Harris' Sparrow	RS
Dark-eyed Junco	OY

Snow Bunting.....	OW
Red-winged Blackbird	CS
Western Meadowlark.....	CS
Yellow-headed Blackbird.....	CS
Brewer's Blackbird	CS
Rusty Blackbird.....	RS
Common Grackle.....	CS
Brown-headed Cowbird.....	CS
Baltimore Oriole.....	CS
Bullock's Oriole.....	RS
Pine Grosbeak	OW
House Finch	CY
White-winged Crossbill.....	OW
Red Crossbill	OW
Common Redpoll	CW
Pine Siskin.....	RS-CW
American Goldfinch.....	CS
Evening Grosbeak	RY
House Sparrow	CY



Gray Catbird, Ken Orich



Baltimore Oriole, Ken Orich

Checklist of Fish in the Oldman River*

*Fish downstream of the Oldman River Dam

For this checklist, the following categories have been used to determine the abundance of each species:

- **C** - Common—species seen over a wide area and at various times throughout the year
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- **R** - Rare—only seen in very specific areas or at certain times of the year
- **S**—Sport Fish; all others are Non-Sport Fish

Lake Sturgeon.....	OS	Fathead Minnow.....	R
Bull trout.....	R	Lake chub.....	O
Brown trout.....	OS	Trout Perch.....	C
Cutthroat trout.....	R	Burbot.....	CS
Rainbow trout.....	OS	Brook Stickleback.....	R
Rainbow & cutthroat hybrid.....	O	Yellow perch.....	OS
Mountain whitefish.....	CS	Sauger.....	CS
Lake whitefish.....	OS	Walleye.....	CS
Goldeye.....	OS	Spoonhead Sculpin.....	C
Northern pike.....	CS	Mooneye.....	CS
Emerald Shiner.....	C	Longnose dace.....	C
River Shiner.....	O	Pearl dace.....	R
Spottail shiner.....	O	Quillback.....	R
Longnose Sucker.....	C	Shorthead (northern) red horse.....	C
White Sucker.....	C	Silver redhorse.....	O
Mountain Sucker.....	R		

Checklist of Reptiles & Amphibians

For this checklist, the following categories have been used to determine the abundance of each species:

- **C** - Common—species seen over a wide area and at various times throughout the year
- **O** - Occasional—few records (seen once or twice)
- **R** - Rare—only seen in very specific areas or at certain times of the year
- **I**— Introduced

Prairie Rattlesnake.....	R	Boreal Chorus Frog.....	C
Bull Snake.....	R	Canadian Toad.....	R
Wandering Garter Snake.....	C	Plains Spadefoot.....	R
Plains Garter Snake.....	O	Tiger Salamander.....	R
Western Painted Turtle.....	I		



Tiger Salamander

Websites

Helen Schuler Nature Centre.....	www.lethbridge.ca/hsnc
The Galt Museum & Archives.....	www.galtmuseum.com
Fort Whoop-Up.....	www.fortwhoopup.com
Lethbridge College-Hubbard Collection.....	www.lcvirtualwildlife.ca
Alberta Birds of Prey Centre.....	www.burrowingowl.com
Oldman Watershed Council.....	www.oldmanbasin.org
Prairie Conservation Forum.....	www.albertapcf.org

