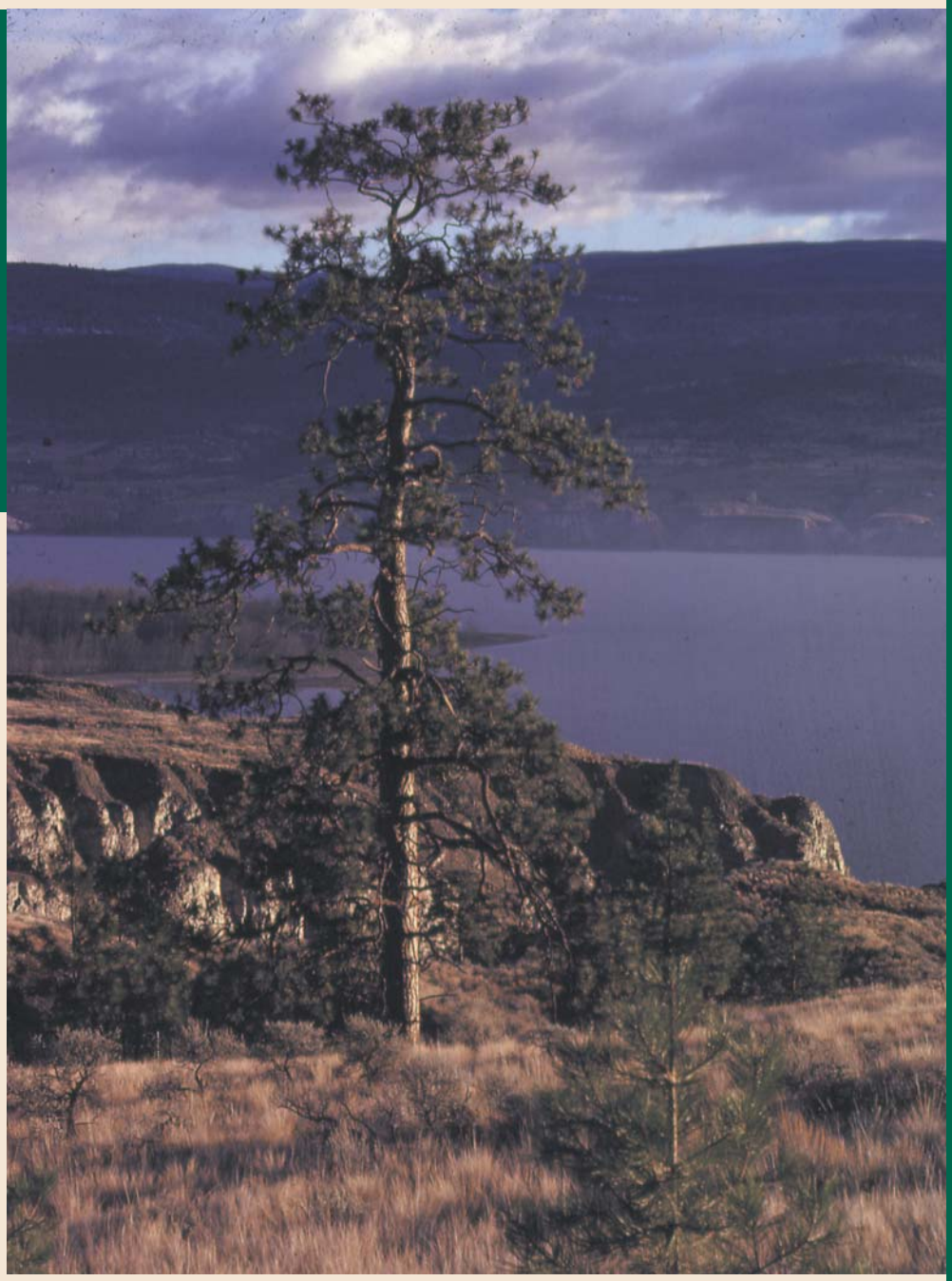
The Stewardship Series

NATURESCAPE
BRITISH COLUMBIA

Caring for Wildlife Habitat at Home



Native Plant and Animal Booklet, Southern Interior

HABITAT CONSERVATION TRUST FOUNDATION

National Library of Canada Cataloguing in Publication Data
Main entry under title:
Naturescape British Columbia. Native plant and animal booklet, Southern Interior

(Stewardship series)

On cover: Caring for wildlife habitat at home.
ISBN 0-7726-3261-8

1. Biontic communities - British Columbia.
2. Nature conservation - British Columbia.
I. Cannings, Richard J. (Richard James)
II. Naturescape British columbia.
III. Title: Caring for Wildlife habitat at home.
IV. Series.

QH77.C3N37 1997 577.8'2 2" 09711 C97-960148-7

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Native Plant and Animal Booklet, Southern Interior

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ABOUT NATURESCAPE BRITISH COLUMBIA

Naturescape British Columbia promotes caring for wildlife habitat at home.

It is funded by Wildlife Habitat Canada, Environment Canada (Canadian Wildlife Service), British Columbia Ministry of Environment, Lands and Parks, the Habitat Conservation Trust Fund and the participants who register in the Naturescape Program. The support and assistance of the Federation of British Columbia Naturalists, British Columbia Nursery Trades Association, British Columbia Society of Landscape Architects, and the Urban Wildlife Committee (Vancouver) is greatly appreciated.

The financial contribution of the Okanagan Region Wildlife Heritage Fund Society made the printing of this publication possible.

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Table of Contents

INTRODUCTION

The Provincial Guide has given you the basic how-to information for creating wildlife habitat in your yard. The next step is to consider the type of habitat appropriate to your location in the Southern Interior. What plants should you consider? And what animals can you expect to attract?

To answer these questions, let's first venture into the surroundings beyond your home. Let's explore the concept of ecosystems and the physical area of the Southern Interior to take a look at where your property sits in this larger scheme of things. Then we can return to your outdoor space and begin to answer your questions.

To get a better sense of our sustaining environment, we need a different perspective - one that looks beyond the neighbourhoods, shopping malls, orchards, vineyards and golf courses. While it is still possible in British Columbia to look over the mountains and plateaus and see large expanses of natural ecosystems, the valley bottoms have been radically changed, especially in the Southern Interior. Most of us live and work in the warmer valleys, and much of the natural habitats there have given way to urban developments and agriculture. What are the different species of wildlife found in these areas? How do they live in this natural world? In the past, what animals, plants and soils would have been where your house now sits?

D. LYRAQUER

Yellow-headed Blackbird in interior wetland.

Just as we define our neighbourhoods and communities, so too the natural world can be defined by natural communities. You can think of these divisions of the natural landscape as nature's neighbourhoods. In essence then, you have two addresses – your urban address, and your address within the natural environment of the Southern Interior.

This Native Plant and Animal Booklet explains the broader natural environment within which you live, and allows you to determine the general types of wildlife habitats you might consider when planning **Naturescape** projects. It includes a listing of plants and examples of their uses by wildlife, and listings of wildlife species with notes on their natural history. A section on xeriscape gardening gives techniques for creating a low-maintenance, water conserving yard.

ECOSYSTEMS AND ECOSYSTEM DIVERSITY

Ecosystem Defined

An ecosystem is a concept. The term applies to a set of living organisms and non-living elements, and their interaction with each other in both obvious and subtle ways.

You can think of an ecosystem as being any segment of the world that includes all the organisms and the environment within which they occur. The entire system must have a primary energy source, which is generally the sun. Plants use the sun's energy for their growth and, in turn, serve as food and shelter for animals. The cycle continues with the animals. Their foraging activities may, for example, play a role in pollination, seed dispersal, or opening up the plant community so that other species may become established.

The science of ecology, which studies the myriad relationships and processes in ecosystems, has only begun to scratch the surface in recognizing, describing and understanding all the processes that occur in different ecosystems. There is still much we don't know or fully understand.

Ecosystems can be defined at different scales from the very small to the very large. A decaying log in the forest, with its many plant and animal organisms and associated non-living elements such as water, forms a small ecosystem within a much larger forest ecosystem.

Just as within a neighbourhood each person has an address, so within an ecosystem each organism has an address or habitat. Differences in habitat are quite clear; grassland animals such as Great Basin Pocket Mice and Vesper Sparrows do not live in the same neighbourhood as subalpine forest animals such as Snowshoe Hares or Brown Creepers. But animals not only live in different habitats, they have different foraging and life history strategies. You could think of these as their work addresses; where you would find Snowshoe Hares and Brown Creepers doing very different things.

Since every species has its own niche, or job, the loss of a species in any ecosystem has a ripple effect on the entire system. That is one of the many reasons why biodiversity is so important. On another scale, the loss of habitat diversity leads to a lessening of species diversity and richness in our natural world.

SHARING YOUR OBSERVATIONS

As you create and nurture wildlife habitat on your property, you become one of the discoverers in the relatively young science of ecology. Your observations of relationships and processes, which happen within the wildlife habitat you provide and nurture, may be valuable to others. **Naturescape British Columbia** encourages you to record your observations. Who knows what you might discover in this on-going adventure?

Diversity of Ecosystems

Ecosystems vary from one place to another due to a myriad of factors, including climate, terrain, disturbance, soil forming processes and age. Because British Columbia shows tremendous variation in all these factors, it has an incredible diversity of ecosystems. In fact, this province is the most naturally diverse in all of Canada.

Climate

The climate in British Columbia is as diverse as its ecosystems. The combination of high mountain ranges, deep valleys and westerly winds off a large ocean produce some of the rainiest, snowiest, driest, hottest, coldest and windiest climates in Canada. Each winter the coast is inundated with the heaviest rainfalls in North America. This winter rain turns to snow as you climb the mountains, so the Coast and Columbia mountain ranges record some of the greatest snow depths in the world. Other locations in the Southern Interior nestled in the lee of the Coast Mountains, receive so little precipitation they can almost be considered deserts.

Temperatures along the open coast are moderated by the massive waters of the Pacific Ocean, rarely dipping below freezing in winter and rarely exceeding 25°C in summer. Sites east of the coast ranges are cut off from the moderating influence of the ocean and annual temperatures there can fluctuate widely.

Development of Ecosystem Diversity

An ecosystem will change over time, and each organism within the system has its own life cycle. Nothing remains static in nature. Different plant species succeed others in the development and evolution of a forest, thus creating habitat for different wildlife species over time. The tremendous diversity in a tropical rain forest results not only from the warm, predictable tropical weather, but from the long life of the forest, and the myriad of climate changes and disturbances that have affected it during that development. In the Southern Interior, the most diverse ecosystems are in the valley bottoms.

This is especially true in the north where long summer days produce highs above 35°C and frigid Arctic fronts bring winter temperatures down to -40°C or less.

Topography

The topography of an area – its mountains, valleys and plateaus – affects the diversity of ecosystems within that area. Species of plants and animals that favour the sheltered or leeward side of mountains may differ from those that thrive on the unsheltered or windward side. Furthermore, the slope of the terrain and angle to the sun will limit the kinds of plants that can grow and the animals associated with them. If you look at a mountain valley, you see a richness in vegetation and wildlife species. Whereas the steep, rocky, upper slopes of the mountains on either side are often sparsely vegetated and contain different and fewer animal species.

Disturbance

Disturbance and the frequency of that disturbance affects the relative evolution of an ecosystem. Natural disturbances, such as landslides, flash floods, forest fires, wind storms and tidal waves, alter or change existing ecosystems on both a local and regional level.

The more frequent the disturbance, the less likely the ecosystem will be able to evolve to the degree of complexity it could exhibit. For example, on many mountain slopes you will see bright green swathes of Alder mixed in with the dark green spruce-fir forests. These patches of bright green exist because annual avalanches permanently inhibit the growth of large trees in their path.

The dry forests and grasslands of the Southern Interior are shaped by fire. Natural fires used to sweep through these habitats every ten years or so, burning small shrubs and trees. The perennial bunchgrasses and large Ponderosa pines and Douglas-firs survive most fires, resulting in an open, park-like habitat. If fires are suppressed, young firs and pine survive to form a dense forest entirely different from the fire-maintained parkland.

Some types of disturbance may recur over time, but cause relatively local disturbance to a system. High winds cause trees to topple and create various-sized clearings in the forest, but they generally do not significantly alter the forest. Other types of disturbance may change the original ecosystem forever. An area of wetland, filled in with boulders and other rock debris from a landslide, is not likely to return again to a wetland ecosystem.

Disturbances are not always natural. One of the most detrimental types of disturbance is urbanization, which irrevocably alters the landscape, removes areas of natural habitat and causes barriers to the movement of plant and animal species between remaining habitats. Roughly a quarter to a third of any urbanized land surface is covered by pavement, and much of the remainder contains buildings, houses, and other structures. Logging roads and recreational off-road vehicle tracks cause further erosion of the natural habitat.

The introduction of non-native plant species, such as Purple loosestrife, Knapweed, Sulphur cinquefoil, and Toadflax, has caused serious damage to interior ecosystems, aggressively outcompeting native species. Introduced wildlife, such as Carp, European Starlings and House Sparrows, have seriously affected native animal populations as well.

Ecoprovinces, ecoregions, and ecosections

British Columbia's 10 ecoprovinces are divided into 46 terrestrial and marine ecoregions; these are further divided into 116 local scale ecosections.

HOW ECOSYSTEMS ARE CLASSIFIED IN BRITISH COLUMBIA

Scientists have developed a number of different ecosystem classification schemes over the years. Each scheme makes use of a combination of one or more of three main factors: climate, physiography, and vegetation.

One system used by the BC Ministry of Water, Land and Air Protection and other agencies involved in resource and environmental management is known as the Ecoregion System. This classification is based on the interaction between climatic processes, such as seasonal rainfall pattern, and physiography or topography.

The Ecoregion System divides the landscape into ecosystems at various spatial scales. Because the **Naturescape** program is ecologically-based, it makes use of the ten ecoprovinces that make up British Columbia.

- ecoprovinces define areas with consistent climate, relief, and geological structures such as the Southern Interior Ecoprovince.
- ecoregions occur within ecoprovinces and cover areas with major physiographic and minor climatic variation, for example the Thompson-Okanagan Plateau Ecoregion.
- ecosections occur within ecoregions and define areas with minor physiographic and climatic variation, such as the North Okanagan Basin Ecosection.

Ecoprovinces, ecoregions, and ecosections each describe, albeit at different scales, areas of similar climate, physiography, vegetation and wildlife potential.

Think of the Ecoregion System as a way of determining your address in the broader, natural community of the Southern Interior beyond your neighbourhood and municipality. In this case your address becomes one of the four ecoregions, or ultimately twelve ecosections, within the Southern Interior Ecoprovince.

SOUTHERN INTERIOR ECOPROVINCE

Interior Transition Ranges Ecoregion

Leeward Pacific Ranges Ecosection
Pavilion Ranges Ecosection
Pavilion Ranges Ecosection

Northern Cascades Ecoregion

Hozameen Range Ecosection
Okanagan Range Ecosection

Okanagan Range Ecoregion

Southern Okanogan Basin Ecosection
Southern Okanogan Highland Ecosection

Thompson-Okanakan Ecoregion

Northern Okanagan Basin Ecosection
Northern Okanagan Highland Ecosection
Northern Thompson Upland Ecosection
Southern Thompson Upland Ecosection
Thompson Basin Ecosection

THE SOUTHERN INTERIOR ECOPROVINCE

by Dennis Demarchi

Location

This Ecoprovince is shared between British Columbia and Washington, with about 60% of it occurring in BC. It includes the Thompson Plateau, the Pavilion Ranges, the eastern portion of the Coast Mountains and Cascade Ranges from Bridge River south to Lake Chelan, the western margin of the Shuswap Highlands and the Okanagan Highlands (spelled Okanogan in Washington). The leeward portion of the coastal mountains and the drier portion of the

The Southern Interior Ecoprovince

The 10 ecoprovinces of British Columbia

Columbia Highlands are included because they share many of the same climatic processes as the main plateau area. The southern boundary in British Columbia is the Canada - U.S.A. border, but the Ecoprovince actually extends southward across the Okanagan Range, southern Okanogan valley and Okanogan Highlands to the northern edge of the dry Columbia Basin.

Climate

Air moving into the Ecoprovince from the Pacific has already lost most of its moisture on the west-facing slopes of the coastal mountains. The air moving across the plateau surface tends to be level, resulting in little precipitation, except through surface heating of lakes and streams. There are occasional irruptions of hot, dry air which come from the Great Basin to the south in the summer, which bring clear skies and very warm temperatures. In winter and early spring, frequent outbreaks of cold, dense Arctic air occur because there is no effectivebarrier once it enters the interior plateaus of British Columbia. Such events however, are less frequent than on the plateaus to the north. This cold air can get trapped in the large basins once the eastward flow of moist air resumes, causing the valleys to be much cloudier than the uplands.

Vegetation

The Southern Interior Ecoprovince has a diverse array of vegetation zones reflecting both climate and topographic variability. Most of the valley bottoms are characterized by Sagebrush-steppe and Steppe, the largest such occurrence in the province. Many of the glacial benches in the valleys are covered by big sagebrush. On the slopes of the major valleys, Ponderosa pine forests are common. Large meadow steppe areas occur on moderate elevation upland

L. SHAVER

A sample of valley slope habitat in the Northern Okanagan Basin Ecosection.

basins, but dry Interior Douglas-fir forests and Lodgepole pine dominated Montane spruce forests are the most common vegetation. Subalpine fir and spruce forests occur on the highest areas of the plateau and highlands, but on the middle slopes in the coastal mountains. Alpine tundra occur on the highest mountain areas, mainly in the coastal mountains.

The vegetation communities are transitional with the most diverse grasslands occurring in the southern areas, with species such as Antelope-brush, prickly phlox, Threetip sagebrush, and Many-spined prickly-pear cactus restricted to the southern-most grasslands. Many of these grasslands are now dominated by weedy invader species, such as Spotted and Diffuse knapweed, Summer cypress and Loesel's tumble mustard. Forest communities reflect the moisture and elevational gradients from the high coastal mountains, across the interior plateaus, to the eastern Columbia Highlands. There is also a north-south gradient, with dry, hot climate tolerant forests in the south and cold, humid tolerant forests in the north. Much of the plateau upland has been frequently burned, resulting in extensive Lodgepole pine forests.

Wildlife

The Southern Interior Ecoprovince provides a vital link for forest-living wildlife species such as Lynx, Marten, Fisher and Black Bear, from the boreal forests of central British Columbia, southward to the montane forests of Washington and Oregon. As well, it also provides a similar link for grassland species, such as Burrowing Owl, Long-billed Curlew, Gopher Snake and Western Rattlesnake, from the deserts and grasslands of the Great Basin and Columbia Plateau of Nevada, Oregon and Washington, northward to the grasslands of southern and central British Columbia.

This Ecoprovince has the greatest diversity of birds in the interior of British Columbia and the most breeding bird species of all Ecoprovinces; it holds 74% of all birds species that occur and 70% of the species that breed in the province. It is the centre of breeding abundance in the province for Swainson's Hawk, California Quail, Mourning Dove, Burrowing Owl, Long-eared Owl, Western Kingbird and Lark Sparrow. Some species breed nowhere else in the province such as, Ferriginous Hawk, Prairie Falcon,

California Gull, Common Poorwill, Canyon Wrens, and Black-chinned Hummingbird. It contains the only site in Canada that supports a major population of Tundra Swans during the winter.

The grasslands have a fauna that is particularly interesting from a national perspective. Tiger Salamanders and Great Basin Spadefoot Toads breed in saline ponds, while Sage Thrashers and Brewer's Sparrows sing from the fragrant sagebrush benches. Canada's only population of Western Harvest Mice and Great Basin Pocket-mice are found in these grasslands habitats as well. The rocky cliffs along the valley walls provide habitat for Northern Scorpions, Western Rattlesnakes, Night Snakes and Prairie Falcons.

Wetlands and riparian habitats are very rich in species such as Painted Turtles, American Bittern, Long-eared Owls and British Columbia's only Yellow-breasted Chats. While on the South Thompson River hundreds of Tundra and Trumpeter Swans, and Canada Geese spend the winter.

The Southern Interior Ecoprovince marks the northern limits of Ponderosa pine forests, and these forests also have a distinct fauna. White-headed Woodpeckers and Gray Flycatchers are found nowhere else in Canada, while Flammulated Owls, Common Poorwills, Lewis' Woodpeckers and Pygmy Nuthatches are more common here than anywhere else in the country. The steep slopes and rocky cliffs provide habitats for Peregrine Falcons, White-throated Swifts, Canyon Wrens and California Bighorn Sheep.

The montane forests provide habitat for Mule Deer, White-Tailed Deer, Moose, Lynx and Bobcat, Cougar, Coyote and Black Bear. Grizzly Bears, while never abundant in this Ecoprovince, still occur in the Coast Mountains, Columbia Highlands and a few even remain on the northeastern portion of the Thompson Plateau.

This Ecoprovince supports both anadromous and freshwater fish. Anadromous species include Pacific Lamprey, Steelhead, Chinook, and Sockeye Salmon and White Sturgeon. Freshwater fish include Rainbow Trout (both native and widely transplanted populations), Brook Trout (introduced), Dolly Varden, Mountain Whitefish, Lake Chub, Redside Shiner and Northern Squawfish.

Interior Transition Ranges Ecoregion

This is a rugged, mountainous area that occurs on the leeward side of the Coast Mountains, in the northwestern portion of the Ecoprovince. It is generally in a rainshadow, but moist coastal air enters the area via low passes to the west and south. In winter and early spring, cold Arctic air frequently irrupts into this area from the Central Interior. Past glaciation was intensive, with the entire area being overridden by cordilleran ice-sheets.

The Leeward Pacific Ranges Ecoregion is a very rugged mountainous area that extends from Gold Bridge in the northwest across the Fraser River at Boston Bar to the Coquihalla Pass. Both moist coastal and interior type forests dominate the valleys and slopes, while rugged, barren alpine occurs in the upper slopes.

The Pavilion Ranges Ecosection is a transitional mountain area that extends on the west from south of Big Bar Creek on the Fraser River past Lillooet to south of Lytton and on the east from west of Clinton south past Pavilion and Hat Creek to south of the Thompson River. Sagebrush-steppe and Ponderosa pine forests dominate the Fraser and Thompson valleys, while Interior Douglas-fir and Montane spruce forests occur on the upper slopes.

The Southern Chilcotin Ranges Ecosection is a foothills mountain area that includes the Bridge River basin and extends southward across the lower Stein River valley. Interior Douglas-fir and Montane spruce forests dominate the valleys and lower slopes while subalpine forests dominate the middle mountain slopes. Extensive alpine tundra, from the rugged glacier dominated areas in the west to rolling alpine meadows, occurs on the upper slopes.

Northern Cascade Ranges Ecoregion

This is a rugged, mountainous area that occurs on the leeward side of the Cascade Range. Most of the area is in a rainshadow but moist Pacific air often dominates the western portion. Glaciation was light compared to more northerly environments and restricted to the higher mountain summits, with many areas left unglaciated.

The Hozameen Range Ecosection is a rugged mountainous area lying just east of the Cascade Crest. It extends from Coquihalla Pass to Manning Park in southern British Columbia and to the Wenatchee River in Washington. Subalpine forests and rugged alpine dominate the higher slopes and dry montane forests dominate the lower elevations and valleys.

The Okanagan Range Ecosection is a mountain and basin area that extends from Hedley and Keremeos south to Cathedral Mountain Provincial Park and the international border. In Washington it extends southward to Lake Chelan. Subalpine forests and rolling alpine tundra dominate the upper slopes, while steppe-grasslands occur in the wide, low elevation basins.

Okanogan Highland Ecoregion

More than 95% of this Ecoregion lies within Washington State - therefore the American spelling of Okanogan was used. This is a rugged highland and valley unit with dry forests in the uplands and Sagebrush-steppe in the valleys. Glaciation was light and restricted mainly to glacial lobes in the valleys.

The Southern Okanogan Basin Ecosection is a trench and foothills area that extends from Okanagan Falls on Skaha Lake south to Osoyoos in BC and as far south as Omak in Washington. This area reflects many of the grassland communities from further south in Washington and Oregon.

The Southern Okanagan Highland Ecosection is a rolling forested upland. In British Columbia it is characterized by the Kettle River Basin at Greenwood and Grand Forks. Dry Ponderosa pine and Interior Douglas-fir forests dominate the valleys in British Columbia, although in Washington, grasslands dominate the large southern valleys.

Thompson - Okanagan Plateau Ecoregion

A broad forested rolling plateau with low elevation grassland steppe dominated basins. The Ecoregion was heavily glaciated with much rearrangement of rivers. The major lakes are all surrounded by cliffs and terraces of fine glacial silt. Several large lakes occur in the valley basins, while hundreds of small lakes and ponds occur across the uplands. Cold arctic air from the north often overrides the area for short periods during the winter and early spring.

The Northern Okanagan Basin Ecosection is a trench and foothills area that extends from Skaha Lake in the south to the Shuswap River at Enderby in the north. It includes Skaha, Okanagan, Wood and Kalamalka lakes. Vegetation zones reflect the low elevation and valley corridor connection to the Columbia Basin to the south. Above the lakes and riparian areas, Bunchgrass and Ponderosa pine zones dominate the lower and middle slopes, while meadow-steppe and dry Interior Douglas-fir forests dominate the upper slopes.

The Northern Okanagan Highland Ecosection is a rolling upland, transitional in height from the plateaus to the west and mountains to the east, several river valleys dissect the upland surface. This Ecosection extends from the Kettle Valley in the south to the Coldstream - Shuswap valley in the north. Vegetation zones reflect the higher relief and moister climate caused by air rising over the Columbia Mountains to the east. The Douglas-fir zone occurs in the lower slopes of the main valleys. The Montane spruce zone, with Lodgepole pine dominated forests occur in the western and southern uplands; the Engelmann spruce - Subalpine fir zone occurs on the highest upland areas; and the moist Interior cedar - Hemlock zone occurs on valley slopes on the eastern portion of the Ecosection.

The Northern Thompson Upland Ecosection is a rolling upland that is dissected by the North Thompson River and the lower Adams and western Shuswap lake basins. It extends across the northern portion of the Ecoprovince from Enderby and Salmon Arm, northwest to Sorrento, Barriere, Little Fort and Clearwater and westward to plateau north

of Cache Creek. Vegetation zones reflect the complex climates of rising moist air on the east, arctic air outbreaks on the northwest uplands and dry valley climates.

The Southern Thompson Upland Ecosection is a rolling plateau that is dissected by wide basins. It extends from the Similkameen basin at Princeton, across the upland to the Nicola Basin at Merritt, north across the upland to Logan Lake, Westwold and Falkland. Vegetation zones reflect the wide low elevation basins and rolling upland surface. The Bunchgrass zone with Sagebrush-steppe occupies the basin floors, above that the Ponderosa pine zone and meadow-steppe and dry Interior Douglas-fir forests dominate the lower benches. The Montane spruce zone which is dominated by Lodgepole pine forests occurs over most of the uplands and only the higher areas have the moister Englemann spruce - Subalpine fir forests.

The Thompson Basin Ecosection is a broad valley that extends from Chase in the east to Kamloops, Savona, Cache Creek, Ashcroft and Spences Bridge in the west. The South Thompson River occupies the valley east of Kamloops, the North Thompson River occupies the valley north of Kamloops and the Thompson River and Kamloops occupies the valley west of Kamloops. The vegetation in this Ecosection reflects the hot, dry climate with the Bunchgrass zone mainly consisting of sagebrush-steppe occupying the valley and lower slopes, giving way to steppe and Ponderosa pine forests at higher elevations.

THE PROTECTION OF GRASSLANDS IN THE SOUTHERN INTERIOR

Two hundred years ago the grasslands in the Southern Interior were little affected by grazing, although the native inhabitants had acquired horses in the early part of the 18th century. These grasslands are unique in Canada, with many species of plants and animals restricted to them. In the past century and a half, however, we have severely abused, and all but destroyed them, and the grasslands of the south Okanagan are considered one of the most endangered ecosystems in Canada.

First, uncontrolled grazing by horses, cattle and sheep in the late 1800's left large areas of grassland severely over-grazed. Early provincial government settlement policies encouraged large numbers of settlers into the Okanagan and Thompson valleys in the early 1900's. Thousands of hectares of grassland were converted to orchards, pastures and townsites. Expansion continues today with both the conversion of small farms into larger holdings, continued conversion of grasslands into alfalfa and ginseng crops, vineyards, and orchards, and ultimately the subdivision of many areas into ranchettes, theme parks and housing developments.

Most of the grasslands are privately owned and very little of this ecosystem is protected in parks or other conservation holdings. Without a corridor of protected areas, it is difficult for most species to move across the grassland from one portion of the Ecoprovince to another. Landowners, however, can play a critical stewardship role in preserving this unique heritage. They can manage them in ways that will maintain the vital connectivity from one area to another. Even tiny remnants of these habitats can be valuable refuges and provide movement corridors for plants, mammals, reptiles and invertebrates. Stewardship can be a difficult task in this ecosystem, since most of the remaining grasslands have been invaded by Knapweed, Sulphur cinquefoil, Toadflax and other non-native weed species.

Fire management also has a critical role to play in grassland stewardship, since this ecosystem is adapted to periodic burning. If periodic small fires are inappropriate on your grasslands. Take steps to remove dry grass and pine needles at regular intervals, otherwise a large fuel load will build up on the land and a single spark could lead to a catastrophic fire.

PUTTING IT ALL TOGETHER IN YOUR YARD

You now have a general introduction to ecosystems and how they change. You have a broad visual picture of the Southern Interior Ecoprovince and can peruse the lists of native plants and animals for this ecoprovince offered in the second half of the booklet. After determining the location of your home within an ecosection of the Southern Interior, spend some time visiting and taking a closer look at more natural, undisturbed areas nearby.

The type of wildlife habitat that will work in your outdoor space depends on a combination of factors, including size of your property, exposure to sun and other elements, soil conditions, topography and your specific location within the Southern Interior Ecoprovince. Everyone's outdoor space is different.

The size and shape of the outdoor space you have available may limit the extent of the wildlife habitat that can reasonably be developed. Apartment dwellers with balconies could focus on creating small flower gardens to attract hummingbirds and butterflies. Townhouse patio yards may offer enough space to provide a few shrubs and small trees that produce berries or seeds attractive to birds. If your patio area is large enough, perhaps a small wildflower meadow or shrubby section of forest edge could be created.

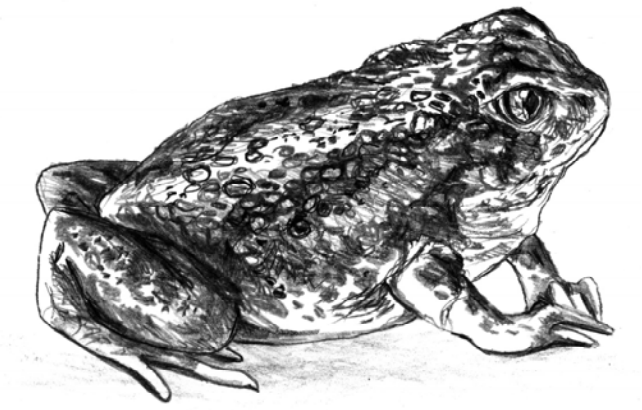
Small yards have potential for some larger trees and more extensive forest edge or forest clearing habitat. A pond for amphibians could be considered. There may be room for small brushpiles, rockpiles and a flower garden for hummingbirds and butterflies. Larger properties may allow for the enhancement of existing woodland, stream, and pond habitats, or the creation of large open meadows with shrubbery in dry areas, and small areas of wetland in the lower parts. If your property has dead trees, logs and stumps, retain them if possible, since they provide valuable habitat for many wildlife species.

Nest boxes for birds and bats are a valuable addition to any backyard; most species will be more easily attracted if there are ample trees and shrubs in the yard for cover and foraging habitat. If the shape of your outdoor space is such that the wildlife habitat can be kept separate and undisturbed from human activities, you may have better luck offering natural or supplementary nesting sites for wildlife.

The amount of shade or sunlight your outdoor space receives is an important factor to consider in determining the type of habitat that you can create. If you have a small townhouse yard that is shaded by adjacent buildings, you may want to consider a shady forest floor habitat, filled with shade-tolerant shrubs and ferns. If your property has full exposure to south-or west-facing sunlight, you may want to emphasize native grassland plants, sun-loving perennials and some of the flowering and fruit-bearing shrubs.

Soil conditions can be modified to some extent, but you will want to take the basic condition of your soil into account when selecting plants. The needle fall in mixed and coniferous forests makes the soil acidic. It makes sense in this example to choose plants that thrive in such soil conditions. On the other hand, many soils in dry grasslands can be alkaline and favour a completely different set of plant species.

Soil conditions and topography also have an effect on drainage conditions on your property. A well-drained, gravelly soil may be perfect for many dry grassland species such as Penstemon and Rabbit-brush, but inappropriate for plants adapted for moist, bottomland soils.



Spadefoot Toad

J. Salsnek

S. SCHMIDPM

A dry interior garden.

The specific location of your home within the Southern Interior Ecoprovince will have considerable bearing on what plants can be successfully grown and what animals can be expected in your wildlife habitat. Here is where time spent observing natural areas beyond your property will help most. By noting the types of habitat found in more natural parks and green belts, you will have a better idea of what habitat will work in your yard.

If you can hear the frogs singing in a natural area not far from your home, then you may have good success attracting various types of amphibians to a natural or artificial pond in your yard. If you live near a natural forested area containing deciduous and coniferous trees, various berry-producing shrubs and a number of different ferns, then you may want to consider creating a similar forest edge habitat in your yard. In that way your wildlife habitat essentially forms an extension of the natural habitat nearby.

If you live within the area containing the unique dry grasslands of the Southern Interior, you may want to consider creating that habitat in your yard. Again, take a close look at how the various grasses, flowers, shrubs, and trees are arranged in more natural areas and then use that as a guide for your own wildlife habitat plans. If you have a large property, you may have the physical elements and room to allow for the creation of a small marsh or other wetland habitat. A close exploration and examination of natural wetland habitats would help you design your project.

It is important to keep in mind that the more you look at natural habitats, the more you will begin to see and understand. The process of creating wildlife habitat is not a one time project. It becomes a continuous exchange between your efforts and the responses of the plants and wildlife. Your awareness and understanding of what will work in your outdoor space will grow with time and experience, as will your ability to enhance your habitat garden and make it even more attractive to wildlife.

Some things may not work at first, but don't get discouraged. Try to determine reasons why the project isn't succeeding. The solution may be as simple as a slightly different placement of a nest box to attract interest from the birds, or a different ratio of evergreen to deciduous trees and shrubs in your forest edge habitat to attract the wildlife. Always go back to the natural areas nearest your property to look for answers. Be patient and enjoy the adventure.

IN SUMMARY...

When you look beyond your yard to focus on the broader natural environment within the Southern Interior, your address is no longer just a street number in an urban habitat, but also your location within the Ecoprovince. You share this landscape with a natural community of plants and animals. Think about the impact of human activity on this community. Become educated about developments that will affect your community and get involved in planning and decision making.

Since small patches of relatively undisturbed ecosystems within an urban expanse are not sustainable over the long term, promote the creation of wildlife corridors and the protection of natural areas. Larger patches of natural wildlife habitat can be restored, enhanced, maintained and protected over the years.

By caring for wildlife habitat at home, you begin the process of creating a patchwork quilt of natural habitat throughout the urban and rural landscape. Rather than a few scattered patches of green parkland in a gray urban expanse, the vision becomes patches of gray urbanization in a sea of green. Take pride. You are a pioneer in the naturalization of our urbanized areas and a steward for your home ecosystem – a guardian for the rich biodiversity of the Southern Interior.

XERISCAPE: WATER CONSERVATION FOR A NATURESCAPE GARDEN

Xeriscape (ZEER-i-scape) is the application of principles of water conservation to create landscapes compatible with local conditions. "Dryland gardening" uses natural precipitation only. Both involve a change in attitude to gardening and the surrounding natural environment. The following scene serves as an example:

A couple moves into an existing home in the Southern Interior. They decide to redo the "water-gulping" landscape around their new abode. They decide to do it step-by-step, without straining their budget or their own energy. Half of the high-water-use turf in the front yard will be removed with a sod cutter in the fall. The sod will be turned over and given away, or smothered with black plastic in the winter then rototilled back into the soil in the spring (no chemicals used). They will leave a small circle of lawn as an inviting focal point, surrounded by ground covers and shrubs. The unused lawn area will become a colourful butterfly garden with many native plants, and an organic vegetable garden. The vegetable garden soil will be heavily amended to increase its water-holding capacity.

The existing black plastic and gravel mulch around the evergreen trees, bushes and yuccas will be replaced with living ground covers. The little-used section of grass next to the driveway will be replaced with a low-water-use, slow-growing alternative turf. Tiny bulb species planted throughout the grass will provide early-season jewels of color, since the new turf greens up about a month later than traditional turf. The downspout releasing water beside the house foundation will be extended to release its water at the dripline of the apricot tree, thus reducing needed irrigation water. After looking at the present irrigation system, our couple decides to redesign the whole thing. Drip irrigation will replace

The Xeriscape Philosophy

How did this couple know what to do? They applied the seven common-sense, good-gardening principles of xeriscape, "quality landscaping that conserves water and protects the environment." Xeriscape is water conservation through creative landscaping. It conserves water, but doesn't look dry and has nothing to do with barren, inhospitable expanses of gravel dotted with a few hardy shrubs.

The application of xeriscape principles results in an environmentally and economically conserving and sustainable landscape. The human energy and time required to maintain a landscape are reduced because the landscape becomes ever more self-sustaining. Applying the xeriscape philosophy means bringing your yard into harmony with the natural world around you. Wildlife habitat and green corridors are created that enhance the urban landscape and echo the surrounding ecosystems.

sprinkler heads, except on turf. No more blanketing all plants three times a week regardless of their needs. They vow to irrigate deeply but only once a week: perhaps twice a week during the hottest days of summer.

A Unified Approach

The seven principles of xeriscape are interdependent and synergistic. Apply any one or two, and you achieve some degree of simple water savings. Apply all seven, and you compound the results.

The seven principles of xeriscape are:

1. Planning and design
2. Soil analysis
3. Appropriate plant selection
4. Practical turf areas
5. Efficient irrigation
6. Use of mulches
7. Appropriate maintenance

What, where and when...

Planning and designing a xeriscape begins with the same steps as designing a traditional landscape. List the primary outdoor activities of each family member and how they utilize the yard. Do you eat and entertain outside? Do you want to attract birds and butterflies, grow vegetables, have off-street parking, or a private area? What are the areas of heaviest use and foot traffic? What type and colour of plants do you prefer; how much time do you want to spend maintaining your landscape; do you want to reduce or eliminate supplemental watering? Follow steps outlined in the **Naturescape** Provincial Guide to make a scale drawing and inventory of your yard. Over this site plan, make a bubble diagram of new uses and plantings for your yard.

By putting plants in specific zones based on their water needs, you can create a water-efficient landscape. Avoid scatter-gun planting of individual plants. Locate your favorite high-water-requiring plants close to the house or patio where they receive high visual exposure. As you move farther from the house, plant increasingly drought-tolerant and native species.

The final step in the planning and design phase is scheduling and budgeting the work to be done. First you may want to do the area of highest water use, or the area for which the right amount of money is immediately available. You may decide to complete structural changes first, such as, patios, fences and walkways. The time of year and weather will also influence the schedule.

Dig in

Soil analysis is part of the site preparation phase. Weed control now is an integral part of creating a low maintenance situation later. If enough time is allowed, weed control can be done in harmony with nature, without chemicals. Minor weed invasions can be dug out, cut at soil level, or pulled with little soil disturbance. This is especially appropriate for areas of native vegetation. Knapweed readily invades disturbed soil in the Southern Interior, so the less disturbance the better. Wholesale removal of unwanted vegetation can be accomplished by several methods. Rototill, then water and wait for the weeds to sprout in three to six weeks. Pull the weeds and repeat. You can also cut sod and either remove it to compost in a pile, or turn it over to compost in place then rototill it in. Smother vegetation for several months during cool weather with black plastic mulch.

Having your soil analyzed in a laboratory is the only way you will know with certainty upon what nutritional and textural base you are building your xeriscape. Select plants that will thrive in your existing soil. It's much easier to grow something appropriate to the soil you already have than to try to change the soil significantly

Soil can be amended with organic matter to improve water-holding-capacity, drainage and nutrient content. There is no such thing as "ideal" soil, because it all depends on what you want to grow. Analyze your soil, think about the needs of the plants in each of your hydrozones, and then decide where to amend

the soil and to what degree. High-water-requiring plants and vegetable gardens will likely require the most amendment, native plants the least. A soil amendment should be spread in a thin layer over an entire area, then worked in. Excessive amending to create "supersoil" in isolated planting holes is not recommended and results in root growth stopping at the boundary of the amended soil.

Organic amendments useful in the Southern Interior are compost, aged manure, sawdust (add nitrogen to compensate for leaching of soil nitrogen during rapid decomposition), or milfoil from the lakes. Topsoil is not recommended as a soil amendment. Its composition may not be suited to your yard and can compound problems. It is also often full of weed seeds.

A world of beauty: xeriscape plants

Most plants have a place in a xeriscape landscape. Appropriate plant selection, the third principle of xeriscape, may mean re-thinking some of your garden selections but it does not mean relinquishing beauty. Grouping according to site microclimates, soil variations, and respective water needs, makes the use of almost any plant possible.

The greatest water savings result from the use of xeric plants— native plants adapted to local conditions. All new plants, whether native or non-native, require water during their initial phase of establishment, which normally lasts from one to two years. You might use annuals for one or more seasons to fill in spaces between immature shrubs or perennials. Groundcovers can be a mainstay of your xeriscape. For areas that don't need to be walked on, they duplicate the lush, low "sea of green" look of turf without the high watering and maintenance.

The grass may be more than green in a xeriscape garden

What does it mean to make "practical turf areas" as indicated by the fourth principle of xeriscape? Have a definite purpose for each section of high-water-use grass in your yard. A xeriscape yard need not be grass free, but it should be grass thoughtful. Kentucky bluegrass requires up to 100 cm of precipitation per year to look lush. Annual precipitation in the Southern Interior ranges from 20 cm in Keremeos to 45 cm in Armstrong. Thus bluegrass comprises one of the thirstiest hydrozones in your yard. Remove and replace unused sections with interesting drought-tolerant groundcovers, ornamental grasses, and other plants (listed at the back of the plant tables). Experiment with low-water-use alternative turfs, such as Buffalo grass or a fescue blend, in areas where grass is still needed. Small lawns with a definite shape have a strong total visual impact. Shape your turf for irrigation efficiency. Make it large enough to be functional with the smallest possible perimeter. Locate your high-water-use turf where it will best serve its use (heavy traffic play areas). Redesigning your yard and finding alternatives to traditional turf can be the most important contribution you make to water conservation.

Drip don't splash

The basics of efficient irrigation, the fifth principle of xeriscape, are simple. Irrigation starts with a cloud, not with a pipe. The trick is to harness and harvest as much natural precipitation as possible. A 100 m^2 roof will give you 1000 litres of water during a 1 cm rain. Use this water to reduce the amount of irrigation necessary in landscaped beds by extending flow from the drainpipe out about 1.5 m from the house foundation over a cobblestone run-off. Slope new walkways, patios, and drives sideways so that water draining off them can be used by anything you plant next to them. Turn narrow areas into slight depressions rather than berms. Harness water on slopes by terracing to slow down water run-off, allowing water time to soak in.

Uniformity of water application is the single most significant way of gauging any system's efficiency. Since manual, oscillating sprinkler heads give the most uneven distribution of water application, they are the least efficient way to irrigate. Low-flow or drip irrigation is the most efficient, saving as much as 70% of the water used by overhead sprinklers.

Dryland Plant Adaptations

Xeric plants use a variety of strategies to adapt to low water environments.

Sagebrush has a deep taproot, whereas brittle Prickly-pear cactus has shallow fibrous roots that act as a sponge to quickly soak up water from light summer rains. The arrow-leaved Balsamroot and bulbs such as the Chocolate lily store water in their roots. The lance-leaved stonecrop and other succulents store water in their thick fleshy leaves.

Other xeric plants reduce their water loss from leaf surfaces. Old man's whiskers has tiny hairs on its leaves which shade the leaf surface and reduce the drying effect of wind. The light grey-green color of Prairie sagewort presumably reflects the sun's light and heat, reducing evaporation. The blue silky Lupine and the extremely drought-tolerant Antelope-brush fold or curl their leaves in the midday heat.

Unlike most plants, brittle Prickly-pear cactus and other succulents wait until the cool of night before opening pores to absorb carbon-dioxide and thereby minimize water loss.

Finally, some xeric plants show growth characteristics that increase their water efficiency. Round-leaved alumroot has ground-hugging foliage that stays out of drying winds, and sends up flowers on leafless stems. Bitterroot and other bulbous plants go dormant during the dry seasons and flourish in spring using snow melt.

If you use a "set it and forget it" attitude toward an automated watering system, you can turn the most efficiently designed system into the least efficiently run system imaginable. At least once a month adjust how often and how long your automatic system runs, guided by the time of year and the daily weather. Water deeply once every two weeks early in the growing season, and gradually make the intervals between watering shorter as the summer gets hot. You will be surprised how little supplemental irrigation is actually needed, especially if you design your xeriscape with plants adapted to the Southern Interior.

Water seldom and deeply. A screwdriver shoved into the ground will show if your soil is soft and moist or hard and dry. Apply about 2.5 cm (1") of water to shrubs, flowers, and grass at each watering.

If water starts to puddle or to run, the ground is saturated and can no longer absorb water. Saturation happens faster on heavy clay soils than on light sandy ones. Try watering for short, repeated periods that allow time for water to soak in. These short "multicycles" can be programmed into automatic irrigation systems. With an overhead sprinkler system, you can determine how long it takes to apply 2.5 cm of water by distributing several straight-edged containers around the watering area and watering for an hour. Average the total water accumulated in an hour by pouring the water into one container, and dividing the combined depth by the number of cans. This gives you the average centimeters or inches irrigated in one hour.

Water in the morning before 10 a.m. to prevent evaporation. Up to 50% of irrigation water applied by overhead sprinklers during the heat of the day can evaporate before it hits the ground. Watering in the evening encourages disease. Big heavy water droplets coming from your sprinkler heads will allow less water to evaporate than tiny mist droplets. Try not to waste water on driveways and patios, they will not grow!

Lay it on thick

The sixth step in creating a xeriscape is the use of mulches. Nature mulches itself. Look between the tufts of Bluebunch wheatgrass on the semi-arid slopes of the Southern Interior. The dry remains of the previous year's growth forms a mulch around plants. The ground is also covered with a living mulch of moss and lichens where grazing or other disturbances have not destroyed this fragile cover. Organic mulches keep weeds down, moisture levels up, and roots cool. Mulches also hold the soil, controlling erosion by softening the impact of falling rainwater. They prevent surface cracking by insulating against freeze/thaw cycles and excessive drying. Organic and living plant mulches (ground cover plants) improve soil structure and fertility as their biomass breaks down. Mulches act as a cushion when applied over heavy clay soils, reducing compaction.

Take advantage of the design enhancement mulches can add to your yard. Mulches make patterns, tie areas together and make gardens neater as well as more attractive. One of the fastest ways to achieve a substantial visual change in your yard is to apply organic and/or inorganic mulches. The entire ground plane is transformed. Living mulches (groundcovers) achieve results somewhat more slowly than non-living mulches, but are just as, if not more effective in transforming the ground plane. Maintenance of mulch requires periodic weeding and occasional renewal.

Leaf and twig litter from your plants can be left to mulch and recycle nutrients from the plants' own leaves. An organic mulch appropriate for the Southern Interior is stringy, shredded bark, which is slow to break down and has a low fire hazard. The long, thin pieces knit together to form a mat resistant to wind erosion. Pine needles, readily available in the Southern Interior, are also wind resistant. They are excellent at letting water in while holding little themselves. As they slowly decompose, organic matter and much needed acidity are added to the often highly alkaline soils of the Southern Interior. Pine needles should not be used near a house or anywhere they might pose a fire hazard.

Sawdust should be weathered a year or so before it is used as a mulch. Being a raw wood product, it breaks down rapidly. Nitrogen must be added in order that nitrogen is not drawn from the soil during this rapid decomposition process. Sawdust increases soil acidity, so the needs of your plants must be considered when using it as a mulch. It holds water itself, becoming heavy and possibly forming a compact barrier.

Many types of rock and gravel are used as inorganic mulches. They are long lasting. Alpine wildflowers, accustomed to growing in scree, thrive in this reflected heat. However, in your yard they will bounce tremendous amounts of heat and light back to adjacent plants and houses, often increasing the temperature and need for water. Crushed stone can be very reflective if too white. Large expanses of inorganic mulch can easily result in a sterile looking landscape dubbed "zeroscape."

Black plastic film is no longer recommended for use under mulches. The resultant lack of oxygen and carbon dioxide exchange in the soil is very hard on plants and soil organisms, and water penetration is restricted to holes in the plastic. Woven landscape fabric is often used as a weed barrier under mulches. A mulch that is 1 cm in diameter will have to be at least 5 cm thick to be effective at blocking out ultraviolet light and suppressing weed seed germination. Larger diameter mulches must be 10 to 15 cm thick. The use of landscape fabric reduces the need for a thick mulch and still allows oxygen and water to penetrate the soil. With time, a layer of material conducive to seed germination accumulates on top of the weed barrier, and dandelions may grow out from between gravel or round cobblestones. Since the weeds have their roots above the barrier you put down to prevent weeds, they are are easily pulled.

Perhaps the best mulch of all is a very drought-tolerant groundcover. These perform all the functions of other mulches with the added bonus of lending beauty, colour and interest to your landscape.

Your garden, a part of nature's beauty

Appropriate maintenance of your landscape, the seventh and final principle of xeriscape, begins with informing yourself about water-conserving maintenance practices. For example, turf cut at 8 cm (3") is more drought-tolerant than that same turf close-cropped to 4 cm. The more leaves that grass has to photosynthesize, the greater the grass' ability to produce deep roots that can tap underground water sources. Longer grass also shades the soil and results in less water loss and less need to water.

You can design your landscape to increase the things you as a gardener like to do, while reducing those things you don't like to do. For example, if you don't like to mow, install low-maintenance groundcovers, use slow-growing alternative turfs, design practical hardscape (patio) areas, and retain minimal lawn areas. A significant number of gardeners devote half a day a week to mowing lawns but are reluctant to spend a few minutes pulling weeds! Puttering is enjoyable, low-key maintenance that can be done

when time allows. A well-designed xeriscape is usually well maintained by puttering. The main activities become monitoring and adjusting the irrigation system, occasional renewal of organic mulches, and seasonal clean-up.

Observing the seasonal changes and different animals that use plants in your yard will bring you closer to the surrounding natural environment of the Southern Interior. Xeriscape teaches us to let go of the typical "civilized" domination and manipulation of nature and to adopt a gardening philosophy and lifestyle in harmony with our natural surroundings.

Naturescape Projects: An integral part of the naturalization of urbanized areas

The Southern Interior is one of the fastest growing parts of Canada in terms of human population and urbanization. As urbanization spreads farther and farther, you, your neighbors and others, value more and more, the remaining areas of community green space, undeveloped sites, and the municipal, regional, provincial and federal parks and protected areas that remain.

Not only do these more natural areas provide aesthetics to the urban and rural landscape, but they also provide important functions as wildlife corridors, areas of greater biodiversity, and enhancers of the quality of air, water, and soil in the local environment. Urban ravines are one example of areas which, because of their topography, have been spared from development and may still contain a rich assortment of plants and animals.

These protected, more natural areas are patches of less disturbed, more nearly original wildlife habitat within a broader urban expanse. By creating wildlife habitat on your own property, you offer one integral link in the development of a patchwork quilt or network of habitat areas and wildlife corridors.

Far from being insignificant, your contribution to the creation and stewardship of wildlife habitat, collectively with the contribution of others, works to restore biodiversity in the urban setting. A more complete layering of vegetation throughout the urban landscape cleans the air, provides shade, and protects from the wind. Native vegetation provides habitat essential for wildlife and generally requires less water and care because it has evolved to tolerate local climate and soil conditions.

While the continued existence of urbanized areas precludes the complete restoration of original ecosystems, some of the richness can be brought back through **Naturescape** projects — one yard at a time. **Naturescape British Columbia** offers individuals a way to become personally involved in the larger trend towards naturalization of urban and rural areas.

SUMMARY OF PLANT AND ANIMAL TABLES, SOUTHERN INTERIOR

Table 1: Native Plants

This list includes only those native species that we know to be currently available from commercial nurseries. Native plants should not be transplanted from the wild unless they are being salvaged from an area slated for destruction, e.g. through road-building or new housing. Cuttings should never be taken from plants in parks; it does not make sense to disturb one natural area just to create a natural area somewhere else. Furthermore, the success rate for nursery-raised native plants is much higher than for plants taken from the wild. If it is a plant you are sincerely interested in trying to grow in your yard, consider collecting seeds and growing from seed.

When buying native plants from commercial sources, it is important to inquire about nursery sources of the plants, to ensure that they are nursery propagated from seeds or cuttings, and not collected from the wild.

As local growing conditions do vary considerably throughout the Southern Interior, it is a good idea to discuss proposed plant purchases with the personnel at your local garden centre or retail nursery.

KEY

Species marked with ***X*** are suitable for xeriscape (water conservation gardening) projects.

AVAILABILITY

- available in specialty nurseries, some research may be required
- available in most nurseries and garden centres

SUN EXPOSURE

- prefers full shade
- prefers a mix of sun and shade
- prefers full sun

MOISTURE PREFERENCE

- prefers dry, well-drained soils
- needs some moisture
- prefers moist to wet soils

Lodgepole pine

P. Shantz

Name Common, Scientific	Availability	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
TREES					
Subalpine fir *Abies lasiocarpa*				30 m evergreen; smooth grey bark, short branches, stiff needles, spire-like growth form.	Seeds a favourite with squirrels.
Western larch *Larix occidentalis*				30 m deciduous conifer; needles turn gold in autumn, new growth bright green in spring. Likes well-drained soil.	Large trees favoured by woodpeckers, hawks and owls for nest sites.
Rocky Mountain juniper ***X*** *Juniperus scopulorum*				10 m shrubby evergreen; slow-growing, found on south-facing slopes with rocky or sandy soils.	Berries eaten by Townsend's Solitaires; larval foodplant for the Juniper Hairstreak.
Engelmann spruce *Picea engelmannii*				35 m evergreen; scaly bark, dense prickly needles, long branches sweep to ground in open locations.	Seeds eaten by crossbills and squirrels.
White spruce *Picea glauca*				35 m evergreen; scaly bark, dense prickly needles. Very similar to Engelmann spruce, but generally grows in moist soils along rivers and lakes at lower elevations.	Seeds eaten by crossbills and squirrels.
Lodgepole pine *Pinus contorta*				20 m evergreen. Straight and narrow; commonly used for shelterbelts. Will grow in a wide variety of soils and moisture regimes.	Seeds provide food for squirrels and crossbills.
Western white pine *Pinus monticola*				30 m evergreen; smooth white bark, long cones, Long grey-green needles. Grows in a variety of soils. Prone to blister rust in cities.	Squirrels eat seeds.
Ponderosa pine ***X*** *Pinus ponderosa*				30 m evergreen; attractive reddish jigsaw bark, long needles and large cones. Roots sensitive to compaction or other disturbance.	Seeds provide food for many bird species.
Douglas-fir ***X*** *Pseudotsuga menziesii*				35 m evergreen; deeply furrowed bark. Coastal subspecies widely available; interior form from specialty nurseries.	Seeds eaten by crossbills and squirrels.
Western redcedar *Thuja plicata*				40 m evergreen; can be pruned for hedge or grown as large specimen.	Thick foliage provides roost sites for birds; larval food plant for Rosner's Hairstreak.
Water birch *Betula occidentalis*				shrubby, 10 m tree with brownish bark	Seeds eaten by Pine Siskins.
Paper birch *Betula papyrifera*				30 m tree with white, papery bark.	Seeds eaten by Pine Siskins.
Trembling aspen *Populus tremuloides*				25 m tree with whitish bark and trembling leaves. Shallow invasive roots; appropriate for rural landscapes.	Fast-growing to quickly provide bird foraging habitat, older aspens are favoured by woodpeckers for nest cavities. Aspens are food plants for several butterfly species.
Black cottonwood *Populus balsamifera ssp. trichocarpa*				30-40 m tree; deeply furrowed bark. Shallow invasive roots, suitable for rural locations.	Fast-growing to quickly provide bird foraging habitat, older trees hollow out, providing nests and roosts for owls, swifts, woodpeckers, bats and other animals. Food plants for the larvae of several butterfly species, including Tiger Swallowtails.

Name Common, Scientific	Availability	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
SHRUBS					
Douglas maple *Acer glabrum*				Shrub to 7 m multistemmed tree, smooth bark. Good ornamental; early crimson twigs in spring, colourful leaves in fall. Small enough for urban yards.	Seeds eaten by Evening Grosbeaks. Flowers a nectar source for insects.
Sitka alder *Alnus crispa ssp. sinuata*				Shrub to 5 m tree, found at higher elevations. Roots fix nitrogen.	Alder seeds eaten by Pine Siskins; good foraging sites for warblers and other insectivores.
Mountain alder *Alnus incana ssp. tenuifolia*				Shrub to clumped 10 m tree; found at all elevations. Roots fix nitrogen.	Alder seeds eaten by Pine Siskins; good foraging sites for warblers and other insectivores.
Saskatoon ***X*** *Amelanchier alnifolia ssp. cusickii*				5 m shrub with white flowers and dark purple berries. Cultivars more widely available. Prune largest stems at ground level to control height in small yard.	Flavourful berries eaten by many birds, including tanagers and thrushes.
Big sagebrush ***X*** *Artemisia tridentata*				2 m evergreen shrub with silvery-grey foliage, very aromatic	In natural habitats large specimens provide nest sites for Sage Thrashers and Brewer's Sparrows.
Mountain sagebrush ***X*** *Artemisia tridentata ssp. vaseyana*				50 cm shrub with silvery-grey, aromatic foliage; can be pruned to maintain compact shape. Found at higher elevations. Suitable for shrub borders or perennial beds in any yard.	In natural habitats large specimens provide nest sites for Sage Thrashers and Brewer's Sparrows.
Cutleaf sagebrush ***X*** *Artemisia tripartita*				60 cm sagebrush with frilly appearance. Spreads underground, but not invasive. Can be pruned to maintain compact shape.	In natural habitats large specimens provide nest sites for Sage Thrashers and Brewer's Sparrows.
Scrub birch *Betula glandulosa*				1 to 2 m shrub; small round leaves turn russet in fall.	Provide cover for ground-dwelling birds. Seeds eaten by wintering redpolls.
Redstem ceanothus ***X*** *Ceanothus sanguineus*				1-3 m shrub with clusters of white, fragrant flowers. Red twigs add winter colour. Fixes nitrogen.	A favourite browse for deer. Larval foodplant for several species of butterflies, including the Pale Swallowtail.
Snowbrush ***X*** *Ceanothus velutinus*				60 cm to 1 m, mat-forming evergreen shrub with clusters of white flowers, fragrant foliage. A good open ground cover for large spaces; requires extra water until established. Fixes nitrogen.	Important browse for deer (also called Buckbrush).
Common rabbit-brush ***X*** *Chrysothamnus nauseosus*				1 m shrub with silvery-grey stems and leaves, bright yellow flowers in September.	Important browse for deer and Bighorn Sheep.
Red-osier dogwood *Cornus stolonifera*				4 m shrub with many bright red stems, clusters of white flowers and white berries.	Berries favoured by kingbirds, thrushes and other birds. Important deer browse.
Beaked hazelnut *Corylus cornuta*				4 m shrub with many stems. Found on moist, well-drained sites.	Hazelnuts gathered and stored by chipmunks, squirrels, and jays.

Name Common, Scientific	Availability	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
Columbian hawthorn *Crataegus columbiana*				5 m thorny shrub with white flowers and red berries	Thick growth makes it a favourite for nesting and roosting birds; berries eaten by many species of birds and mammals.
Black hawthorn *Crataegus douglasii*				8 m thorny shrub with white flowers and blackish berries. Found in moist sites alongs streams and ponds at low to mid elevations.	Thick growth makes it a favourite for nesting and roosting birds; berries eaten by many species of birds and mammals. Larval food plant for the Brown Elfin and Grey Hairstreak.
Wolf-willow *Eleagnus commutata*				3 to 4 m shrub with silvery-grey foliage, small, yellow, very fragrant flowers, silvery berries. Found on sandbars and silty cutbanks along watercourses. Close relative of Russian olive. Fixes nitrogen.	Berries eaten by birds and mammals.
Oceanspray ***X*** *Holodiscus discolor*				4 m shrub with conspicuous sprays of creamy flowers. Prefers rocky, gravelly hillsides.	
Common juniper ***X*** *Juniperus communis*				Prostrate evergreen shrub forming mats 3 m in diameter; bluish berry-like fruit.	Berries eaten by Townsend's Solitaires.
Black twinberry *Lonicera involucrata*				1 to 2 m shrub with small yellow flowers and black berries set in conspicuous red bracts.	Flowers are a nectar source for hummingbirds in spring.
Tall Oregon-grape *Mahonia aquifolium*				Attractive evergreen shrub up to 1 m, holly-like leaves, yellow flowers and blue berries. Spreads from roots. One of the most versatile landscape plants; will grow in dry shade or full sun.	Large, dense specimens provide winter cover for ground-dwelling birds. Berries provide winter food for pheasants.
Devil's club *Oplopanax horridus*				3 m shrub with large leaves and very spiny stems; attractive clusters of bright red berries.	Berries are a favourite with bears.
Falsebox *Pachistima myrsinites*				Dense evergreen shrub up to 60 cm, tiny red flowers.	Winter browse for deer.
Mock-orange ***X*** *Philadelphus lewisii*				3 m shrub with white, fragrant flowers, found at lower elevations.	Butterfly nectar plant; the larval food plant for the rare California Hairstreak butterfly.
Shrubby cinquefoil *Potentilla fruticosa*				1 m shrub with many yellow flowers through summer. Easily propagated with softwood cuttings; many ornamental cultivars.	
Choke cherry *Prunus virginiana*				4 m straggly shrub with bottle-brush clusters of white flowers and black berries. Moist, rich soil preferred, but adapts to dry, exposed sites. Susceptible to Tent Caterpillars. Cultivated forms good for fall colour.	Berries favoured by many birds and mammals; larval food plant of the Two-tailed Swallowtail butterfly.
Pin cherry *Prunus pensylvanica*				5 m shrub with small clusters of white sites at low elevations.	Berries favoured by many birds, especially thrushes.
Antelope-brush ***X*** *Purshia tridentata*				2 m shrub with small, dark grey-green leaves, covered with bright yellow flowers in April/May. Can be pruned for compact shape. Roots fix nitrogen. Prefers gravelly or sandy soils. Sprouts easily from seeds.	Important browse for deer and Bighorn Sheep; larval food plant for the rare Behr's Hairstreak butterfly. Rodents cache and eat seeds.

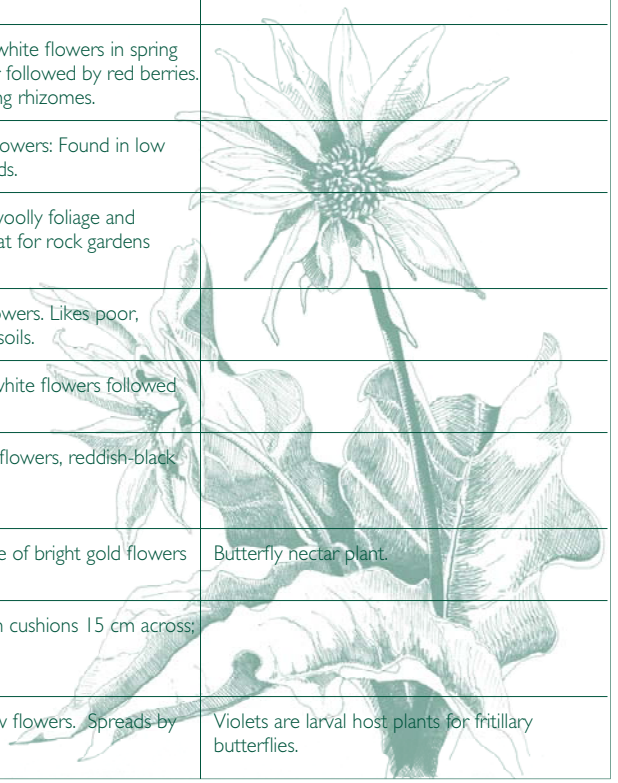
Name Common, Scientific	Availability	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
Smooth sumac ***X*** *Rhus glabra*				3 m shrub with clusters of yellow flowers and red berries; leaves spectacularly red in fall. Spreads rapidly from roots; good for bank stabilization. Adapts to a variety of soil and moisture conditions, but sun is essential.	Berries are winter food for bluebirds.
Northern black currant *Ribes hudsonianum*				1-2 m shrub with small white flowers and black berries; found along shady streams in moist forests at low to mid elevations.	Berries provide food for birds and mammals.
Black gooseberry *Ribes lacustre*				1-2 m shrub with clusters of small reddish purple flowers and purple berries. Found in moist forest clearings.	Berries provide food for birds and mammals.
Squaw currant ***X*** *Ribes cereum*				1 m shrub with pinkish white flowers and red berries. Found in open, dry forests at low elevations.	Flowers are important nectar source for hummingbirds in early spring; berries bitter
Prickly rose *Rosa acicularis*				1.5 m shrub with thorny stems, pink flowers and red hips (fruit). Invasively spreads by suckering. Found in forests at low to mid elevations.	Rose hips are eaten by many animals, particularly mammals such as chipmunks, Coyotes and bears.
Baldhip rose *Rosa gymnocarpa*				1.5 m shrub with thorny stems, pink flowers and small red hips (fruit). Invasively spreads by suckering.	Rose hips are eaten by many animals, particularly mammals such as chipmunks, [illegible]yotes and bears.
Nootka rose *Rosa nutkana*				3 m shrub with thorns at leaf bases, pink flowers and red hips (fruit). Found in open woodlands, often near water. Invasively spreads by suckering.	Rose hips are eaten by many animals, particularly mammals such as chipmunks, Coyotes and bears.
Prairie rose ***X*** *Rosa woodsii*				2 m shrub with thorns on stems, clusters of pink flowers and red hips (fruit). Invasively spreads by suckering. Needs water for establishment at lower elevations.	Rose hips are eaten by many animals, particularly mammals such as chipmunks, Coyotes and bears.
Red raspberry *Rubus idaeus*				Erect shrub to 1.5 m; very similar to cultivated raspberry; white flowers and red berries.	Berries eaten by birds and small mammals.
Thimbleberry *Rubus parviflorus*				2 m shrub with large maple-like leaves; white flowers and red berries. Suitable to naturalize among trees.	Berries eaten by birds and small mammals.
Pacific willow *Salix lucida*				Shrub to 9 m tree.	Willows are larval host plants for swallowtails and other butterflies.
Coyote willow (Sandbar willow) *Salix exigua*				3 m shrub; sprouts from widespread shallow roots. A graceful plant with narrow leaves found on moist sandy or gravelly soils at low elevations. Spreads vigorously.	Willows are larval host plants for swallowtails and other butterflies.
Scouler's willow *Salix scouleriana*				Shrub to 12 m tree.	Willows are larval host plants for swallowtails and other butterflies.
Sitka willow *Salix sitchensis*				Shrub to 8 m tree.	Important browse for Moose.

Name Common, Scientific	Availability	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
Blue elderberry ***X*** *Sambucus caerulea*				4 m shrub with clusters of white flowers and blue berries.	Berries enjoyed by bears and a variety of birds.
Soopolallie ***X*** (Soapberry) *Shepherdia canadensis*				1 to 2 m shrub with tiny red flowers and many small red berries. Understorey plant of dry, open forests; fixes nitrogen. Need male & female plant to get berries.	
Western mountain-ash *Sorbus scopulina*				1-5 m shrub with clusters of white flowers and orange berries. Found in sunny clearings in moist forests.	Berries a favourite of waxwings, robins and starlings
Sitka mountain-ash *Sorbus sitchensis*				1-5 m shrub with clusters of white flowers and orange berries	Berries a favourite of waxwings, robins and starlings
Birch-leaved spirea ***X*** *Spiraea betulifolia*				50 cm high, spreads vigorously from rhizomes; white flowers. Found in open forests and rocky slopes at all elevations.	
Pyramid spirea *Spiraea pyramidata*				50 cm high, pinkish flowers; found in sunny, moist clearings and wetland edges at low elevations.	
Common snowberry ***X*** *Symphoricarpos albus*				1 m shrub with small pinkish flowers and conspicuous white berries. Spreads by rhizomes to form low thickets.	Winter food for Pine Grosbeaks and Townsend's Solitaires. Host for Snowberry Clearwing Sphinx moth.
Black huckleberry *Vaccinium membranaceum*				1.5 m shrub with small pinkish flowers and purplish black, delicious berries. Found in coniferous forests at middle to high elevations.	Vacciniums are larval food plants for several butterflies, including the Pink-edged Sulphur and Reakirt's Copper. Berries are eaten by birds and mammals.
American bush-cranberry *Viburnum opulus*				2 m shrub with white flowers and bright red berries.	Berries eaten by birds in winter.
Ground Cover					
Kinnikinnick ***X*** *Arctostaphylos uva-ursi*				Trailing evergreen shrub with shiny, dark green leaves, pinkish flowers and bright red berries. Native strains more drought-tolerant than cultivars.	Berries eaten by birds and bears; larval food plant for the Brown Elfin.
Prairie sagewort ***X*** (Pasture wormwood) *Artemisia frigida*				To 50 cm high; silvery, aromatic foliage. Spreads quickly by seed, if pruned becomes a fluffy neat edge plant.	
Bunchberry *Cornus canadensis*				Clusters of small flowers surrounded by large, conspicuous white bracts; bright red berries in late summer.	Year round forage for deer. Grouse eat the berries.
Woodland strawberry *Fragaria vesca*				Deep green leaves, white flowers and small, delicious red berries.	Berries eaten by birds, mice and humans.
Wild strawberry *Fragaria virginiana*				Grey-green leaves, white flowers and small, delicious red berries.	Berries eaten by birds, mice and humans.
Twinflower *Linnaea borealis*				Trailing evergreen with tiny, fragrant pink flowers.	
Shrubby penstemon *Penstemon fruticosus*				20 cm shrub with purplish flowers; in dry, rocky locations. 'Purple Haze' cultivar available.	Penstemons are larval host plants for checkerspot butterflies.

Name Common, Scientific	Availability	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
Five-leaved bramble *Rubus pedatus*				Easily propagated from runners; good cover plant in cool, shady, mossy locations	Berries small, tasty.
Pale evening-primrose ***X*** *Oenothera pallida*				To 40 cm; white flowers, pink buds. Spreads rapidly to form wide mats on hot sunny, sandy soils at low elevationsin the south.	Nectar source for moths.
VINES					
Orange honeysuckle *Lonicera ciliosa*				Climbing vine up to 6 m high with orange, tubular flowers and orange-red berries; found at low to mid elevations.	Flowers a valuable source of nectar for hummingbirds.
White clematis "Traveller's Joy" *Clematis ligusticifolia*				Spreads or climbs easily; profuse white starry flowers that become feathery white seed heads.	Seed heads used by birds as nesting material.
Blue clematis *Clematis occidentalis*				Delicate climbing or trailing vine up to 5 m long; large blue flowers	Seed heads used by birds as nesting material.
PERENNIALS					
Yarrow ***X*** *Achillea millefolium*				50 cm, with flat clusters of small white or pink flowers. Fragrant, feathery foliage. Extremely adaptable, good bank stabilizer; invasive with irrigation. Can be used as ground cover.	
Nodding onion ***X*** *Allium cernuum*				To 50 cm, from oval bulb. Pink flowers in nodding, umbrella-shaped cluster, grass-like leaves.	Hummingbirds and butterflies use nectar.
Pearly everlasting ***X*** *Anaphalis margaritacea*				20 to 90 cm, with clusters of small yellow disk flowers surrounded by white bracts; tolerant of poor soil. Widespread at all elevations.	Preferred summer browse for deer.
Rosy pussytoes ***X*** *Antennaria microphylla*				A beautiful rock garden plant; site adaptable; found in dry to moist, but always sunny, spots at all elevations.	
Red columbine *Aquilegia formosa*				70 cm, with spurred red and yellow flowers.	Nectar source for hummingbirds and butterflies.
Tarragon ***X*** *Artemisia dracunculus*				Up to 150 cm tall. Fragrant shrub of grasslands and rocky slopes. Yellow flowers.	Favored by Oregon Swallowtail butterfly.
Western mugwort *Artemisia ludoviciana*				30 to 90 cm, with silvery foliage. Spreads underground in silty soil; good bank stabilizer.	
Showy milkweed ***X*** *Asclepias speciosa*				Beautiful pink flowers; adapts to dry sandy slopes or moist ditches at low to mid elevations	Host plant for Monarch butterfly larvae.
Lindley's aster *Aster ciliolatus*				60-90 cm, purple flowers in fall. Spreads rapidly by rhizomes in moist soils; confine with edging.	Butterfly nectar plant; asters are larval host plants for checkerspot and crescent butterflies.
Showy aster ***X*** *Aster conspicuus*				Sunny forest clearings at low to mid elevations; showy purple flowers.	Butterfly nectar plant; Asters are larval host plants for checkerspot and crescent butterflies.

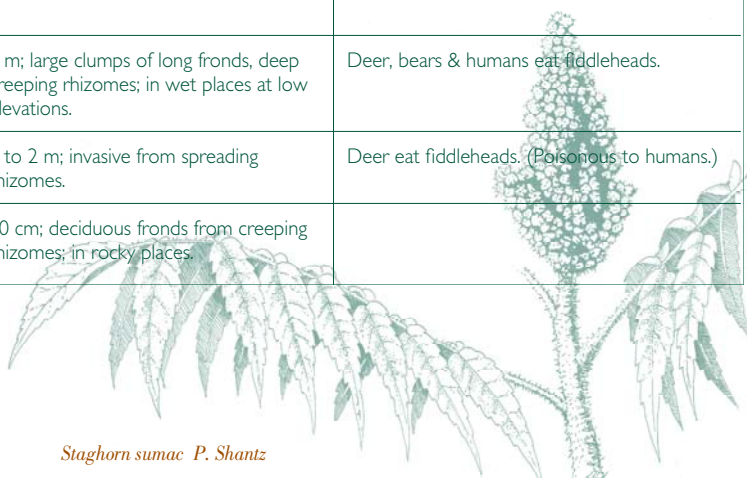
Name Common, Scientific	Availability	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
White prairie aster ***X*** *Aster ericoides ssp. pansus* *Aster pansus*				30 to 75 cm, round, bushy plant covered with yellow-centred white flowers in fall. Tolerates alkaline soils.	
Arrow-leafed balsamroot ***X*** *Balsamorhiza sagittata*				75 cm high, striking large yellow sunflowers in spring. Long taproot; cannot be transplanted. Common on open dry hillsides at low to mid elevations.	Forage plant for deer and elk; provides nectar for humming birds and butterflies.
Red paintbrush *Castilleja miniata*				Brilliant red flowers; partially parasitic on roots of neighbouring plants (do not transplant). Sunny openings at most elevations. Difficult to grow so treasure it if you have it.	Important nectar source for hummingbirds.
Queen's cup *Clintonia uniflora*				Large, stalked, white flowers, bright blue berries.	
Upland larkspur ***X*** *Delphinium nuttallianum*				Distinctive deep-blue flowers are poisonous. Grows in dry forests and grasslands.	
Few-flowered shootingstar *Dodecatheon pulchellum*				Beautiful, swept-back magenta and yellow flowers in spring. Needs moisture in spring.	
Fireweed *Epilobium angustifolium*				1 to 3 m, with spike of pink-purple flowers followed by fluffy-white seeds. Vigorously spearding roots.	Nectar source for butterflies, bees and hummingbirds; spring food for deer and bear.
Golden daisy ***X*** *Erigeron aureus*				Short yellow daisy grows in dry and alpine sites.	
Thread-leaved fleabane ***X*** *Erigeron filifolius*				Blue or white flowers; found in dry grasslands at low elevations.	
Parsnip-flowered buckwheat ***X*** *Eriogonum heracleoides*				Tufted white flowers on multiple stalks; silvery foliage.	Valuable larval food plant for several butterflies, including the rare Sheridan's Hairstreak and Immaculate Green Hairstreak.
Snow buckwheat ***X*** *Eriogonum niveum*				Attractive white folieage. Grows in poor rocky soil.	
Brown-eyed susan ***X*** *Gaillardia aristata*				30 to 50 cm biennial with showy yellow flowers, self seeding.	Butterfly nectar source.
Old man's whiskers ***X*** *Geum triflorum*				Dry grasslands; beautiful leaves, unique flowers and seedheads.	
Cow-parsnip *Heracleum lanatum*				2 m; large umbels of white flowers.	This and other members of the carrot family are larval food plants for the Anise Swallowtail butterfly.
Golden-aster ***X*** *Heterotheca villosa*				Masses of yellow flowers on low mounds in late summer.	
Round-leaved alumroot ***X*** *Heuchera cylindrica*				Spring blooming, to 15 cm, with small creamy flowers above a mound of leaves. Great in rocky areas.	Nectar for hummingbirds.
Scarlet gilia ***X*** *Ipomopsis aggregata* *Gilia aggregata*				Dry, usually sandy soil at low elevations. Bright red, tubular flowers. Biennial, self seeding.	Nectar source for hummingbirds.

Name Common, Scientific	Availability	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
Bitterroot ***X*** *Lewisia rediviva*				Rosette of dark green, short tubular leavesin early spring; these dry up and are replaced by spectacular pink flowers. Excellent in rock gardens.	
Tiger lily *Lilium columbianum*				Beautiful orange flowers.	
Desert parsley ***X*** *Lomatium spp.*				Small parsley or fern-like plant; grows on dry and rocky slopes and grasslands. Dill-like flower clusters.	Food source for Anise Swallowtail caterpillar.
Silky lupine ***X*** *Lupinus sericeus*				Found in dry grasslands and clearings at low elevations. Leaves go dormant in summer.	Lupines are larval food plants for several butterflies, including the Sooty Gossamer Wing.
Skunk cabbage *Lysichiton americanum*				Huge leaves; spectacular yellow bract forms hood around greenish flower spike in spring. Swampy ground.	
Hoary aster ***X*** *Machaeranthera canescens*				60 cm, with bluish purple flowers in fall. Self-seeding.	
Wild lily-of-the-valley *Maianthemum canadense*				Clusters of small white flowers in spring and early summer followed by red berries. Spread by creeping rhizomes.	
Long-leaved phlox ***X*** *Phlox longifolia*				Beautiful mauve flowers: Found in low elevation grasslands.	
Woolly plantain ***X*** *Plantago patagonica*				Small plant with woolly foliage and inflorescence; great for rock gardens or dry spots.	
Showy Jacob's-ladder *Polemonium pulcherrimum*				Attractive blue flowers. Likes poor, gravelly or sandy soils.	
False Solomon's-seal *Smilacina racemosa*				Spike of creamy white flowers followed by red berries.	
Star-flowered false Solomon's-seal *Smilacina stellata*				Clusters of white flowers, reddish-black berries.	
Goldenrod *Solidago canadensis*				90 cm, with plume of bright gold flowers in late summer.	Butterfly nectar plant.
Okanogan fameflower ***X*** (Blue List) *Talinum sediforme*				Fleshy perennial in cushions 15 cm across; white flowers.	
Stream violet *Viola glabella*				5 to 30 cm; yellow flowers. Spreads by rhizomes.	Violets are larval host plants for fritillary butterflies.

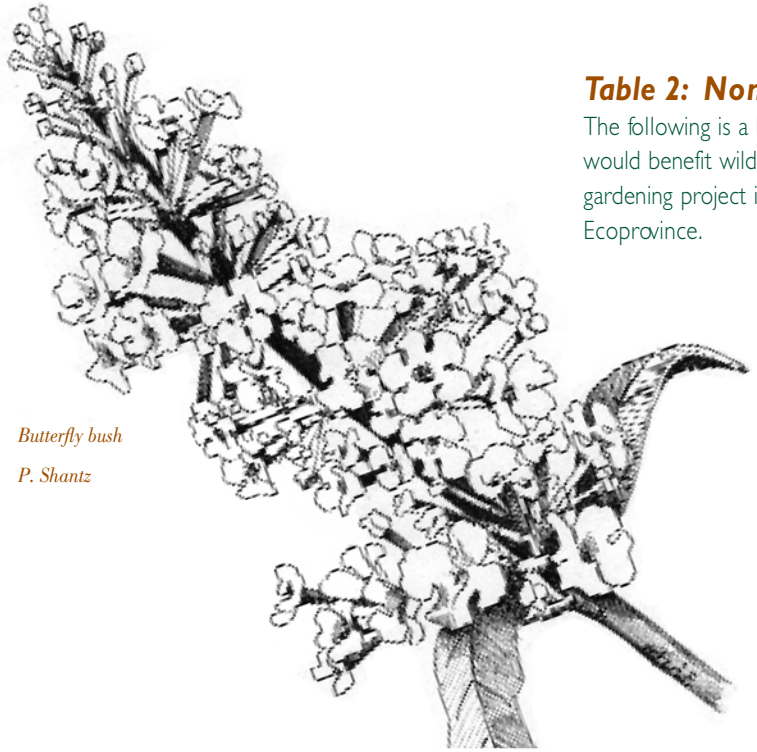


Arrowleaf Balsamroot – P. Shantz

Name Common, Scientific	Availability	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
GRASSES					
Red three-awn ***X*** *Aristida longiseta*				20-50 cm perennial "bunchgrass" with feathery mass of reddish awns. Found in shallow, rocky soils at low elevations.	Food plant for Skipper and Satyr families of butterflies.
Giant wild rye *Elymus cinereus*				Tall (90 cm) blue-green leaves, flower spikes up to 175 cm. Found in gulches or at bottom of slopes where there is some subsurface moisture. Highly ornamental.	
Bluebunch wheatgrass ***X*** *Agropyron spicatum* *Elymus spicatus*				The classic bunchgrass; up to 100 cm tall; elegant stiff flower spikes. Found on sunny slopes and open woodlands at low to mid elevations.	Excellent forage grass for deer and other ungulates. Food plant for Skipper and Satyr families of butterflies.
Idaho fescue *Festuca idahoensis*				30-90 cm densely tufted "bunchgrass" with blue-green leaves. Found at low to subalpine elevations; a cool season grass that adapts to some irrigation. Good for flowerbed edges.	
Sand dropseed ***X*** *Sporobolus cryptandrus*				70 cm tufted perennial; abundant on sandy soil at low elevations. Can spread aggressively on disturbed soil; suitable for restoration.	
Needle-and-thread grass ***X*** *Stipa comata*				60 cm tufted perennial found on dry grasslands at low to mid elevations. Long, spear-like awns attractive, but can irritate pets.	
FERNS					
Maidenhair fern *Adiantum pedatum*				50 cm; elegant fronds with black stems; in moist, humus-rich areas. Use as foliage plant in shade garden.	
Lady fern *Athyrium filix-femina*				2 m; spreading, erect fronds; moist thickets.	
Fragile fern *Cystopteris fragilis*				30 cm; deciduous fronds from short rhizomes; in rocky places.	
Spiny wood fern *Dryopteris expansa*				1 m; broad triangular fronds, thick rhizome.	
Oak fern *Gymnocarpium dryopteris*				40 cm; spreads from creeping rhizome.	
Ostrich fern *Matteucia struthiopteris*				2 m; large clumps of long fronds, deep creeping rhizomes; in wet places at low elevations.	Deer, bears & humans eat fiddleheads.
Bracken fern *Pteridium aquilinum*				1 to 2 m; invasive from spreading rhizomes.	Deer eat fiddleheads. (Poisonous to humans.)
Rocky Mountain woodsia *Woodsia scopulina*				40 cm; deciduous fronds from creeping rhizomes; in rocky places.	



Staghorn sumac P. Shantz



Butterfly bush

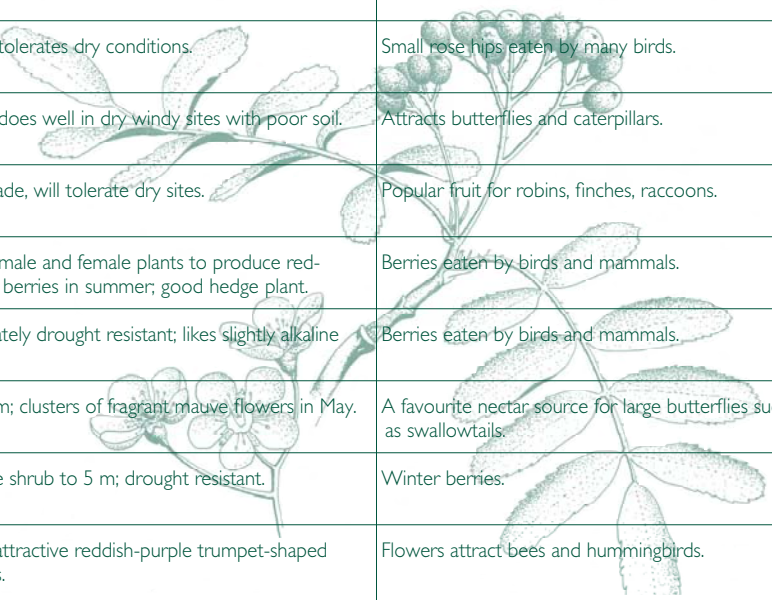
P. Shantz

Table 2: Non-native Plants

The following is a list of non-native plants that would benefit wildlife and/or a water conserving gardening project in the Southern Interior Ecoprovince.

Name Common, Scientific	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
TREES				
Amur maple *Acer ginnala*			5 m; shrubby tree with brilliant red fall foliage.	Seeds eaten by Evening Grosbeaks; caterpillars eat leaves.
Crabapple *Malus spp.* (not appropriate in S. Okanagan with codling moth eradication program.)			4 to 10 m trees; pinkish white blossoms followed by small fruit.	Small fruits eaten in winter by robins, waxwings, pheasants, and Pine Grosbeaks.
Colorado spruce *Picea pungens*			25 m; likes moist soil and sunlight but will tolerate dry sites.	Thick foliage provides excellent roost shelter for birds; seeds eaten by finches.
Cherry *Prunus spp.*			4-6 m; lives in well-drained moist soils.	Flowers attract large butterflies, fruit are favored by birds.
Apricot *Prunus armeniaca*			2-4 m; drought tolerant.	Blossoms attract Mourning Cloak butterflies.
Willows *Salix spp.*			Most shrubby, some large trees (e.g. Weeping willow).	Larval food for swallowtail butterflies.
American Mountain ash *Sorbus americana* European Mountain ash (Rowan) *S. aucuparia*			4-10 m. high. Attractive leaves and berries gives year-round interest.	Important fall and winter fruit for thrushes, waxwings, and many other birds.
Yew *Taxus spp.*			5-10 m evergreen. Red berries are poisonous to humans and livestock.	Waxwings and Townsend's Solitaires eat red berries.

Name Common, Scientific	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
SHRUBS				
Butterfly bush *Buddleia davidii* *B. alternifolia*			White to purple clusters of flowers; prune B. davidii almost to ground level in winter.	Attracts butterflies and hummingbirds.
Cotoneaster ***X*** *Cotoneaster spp.*			Drought-tolerant.	Edible berries.
English hawthorn ***X*** *Crataegus laevigata* *C. monogyna*			Drought-tolerant; sandy, alkaline soil.	Berries attract birds.
Burning bush *Euonymus alata*			Somewhat drought tolerant.	Winter berries for birds.
Forsythia *Forsythia sp.*			Shrub covered with yellow blossoms in early spring; prune after flowering.	Provides dense cover for ground birds. Buds eaten by finches.
Honeysuckle *Lonicera tatarica*			Red flowers and red berries; to 3 m.	Attracts hummingbirds and insects.
Firethorn *Pyracantha coccinea*			Profuse orange berries persist into winter. Needs winter protection in north.	Berries eaten by birds.
Staghorn sumac *Rhus typhina*			Somewhat drought tolerant; spectacular red leaves in fall, followed by red berries atop elegant branches. Invasive roots.	Edible berries last into winter; enjoyed by bluebirds.
Golden currant *Ribes aureum*			Native to eastern Washington; dark green leaves and golden flowers in spring. Found along rivers (moist soil) in dry grasslands.	Edible berries; fragrant flowers are very attractive to moths.
Multiflora rose ***X*** *Rosa multiflora*			Hardy, tolerates dry conditions.	Small rose hips eaten by many birds.
Hardy shrub rose spp. ***X*** *Rosa rugosa*			Hardy, does well in dry windy sites with poor soil.	Attracts butterflies and caterpillars.
Blackberry, Raspberry *Rubus spp.*			Part-shade, will tolerate dry sites.	Popular fruit for robins, finches, raccoons.
Silver buffaloberry *Sheperdia argentea*			Needs male and female plants to produce red-orange berries in summer; good hedge plant.	Berries eaten by birds and mammals.
Coralberry *Symphoricarpos orbiculatus*			Moderately drought resistant; likes slightly alkaline soil.	Berries eaten by birds and mammals.
Lilac *Syringa sp.*			2 to 5 m; clusters of fragrant mauve flowers in May.	A favourite nectar source for large butterflies such as swallowtails.
Wayfaring tree *Viburnum lantana*			Treelike shrub to 5 m; drought resistant.	Winter berries.
Weigela *Weigela florida*			1.5 m; attractive reddish-purple trumpet-shaped flowers.	Flowers attract bees and hummingbirds.
VINES				
Trumpet vine ***X*** *Campsis radicans*			Tolerant of drought and poor soil.	Red, orange or yellow tubular flowers attract hummingbirds.
American bittersweet *Celastrus scandens*			Grows rampantly in good soils; small purple flowers and bright red berries.	Bright red berries are eaten by birds but poisonous to people.



Mountain ash P. Shantz

Name Common, Scientific	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
Honeysuckle *Lonicera ssp.*			Orange, red or pink tubular flowers followed by red berries. Some cultivars very fragrant.	Tubular scented flowers attract hummingbirds and moths.
Virginia Creeper ***X*** *Parthenocissus quinquefolia*			Rambles up buildings, trees or over ground; bears clusters of small dark purple berries; brilliant red leaves in fall.	Winter fruits eaten by birds.
Grape *Vitis spp.*			Familiar fruiting vine suitable for gardens and fencelines.	Fruit favored by many birds and mammals; also provides cover and nest sites.
PERENNIALS				
Hollyhock *Alcea rosa*			Tall (1 to 2.5 m) biennial or short-lived perennial.	Host for Painted Lady, West Coast Lady and Grey Hairstreak butterfly larvae.
Basket of gold ***X*** *Alyssum saxatile*			Drought tolerant rock garden plant with bright yellow flowers.	Favorite nectar-flower of many small butterfly species.
Double bubble mint *Agastache canna*			Purple-pink, tubular flowers, very fragrant.	Attracts bees.
French tarragon ***X*** *Artemisia dracunculus sativa*			Edible herb. Fragrant grey-green leaves on woody spikes.	Butterfly larvae feed on leaves.
Milkweed ***X*** (Butterfly weed) *Asclepias tuberosa*			Bright orange flowers in mid-summer; to 1 m.	Butterfly nectar source; Monarch butterflies will use as a larval food plant.
Sweet William *Dianthus barabatus*			Biennial or short-lived perennial, self-seeding; deadhead for continual blooms.	Favorite nectar plant for butterflies.
Fuchsia *Fuchsia spp.*			Grow in hanging baskets in rich, porous soil.	Attracts hummingbirds.
Purple coneflower ***X*** *Echinacea purpurea*			Tall thistle-like flowers with thin ray petals.	Attracts bees and butterflies.
Sunflower ***X*** *Helianthus spp.*			Large yellow flowers; drought tolerant, self-seed easily.	Flowers attract butterflies; seeds winter food for many birds.
Sweet rocket *Hesperis matronalis*			Heads of sweetly scented purple or white flowers; to 90 cm.	Popular spring nectar source for butterflies, food for butterfly larvae.
Candytuft *Iberis sempervirens*			White flower clusters, in rock gardens or as ground cover; somewhat drought tolerant.	Attracts Hairstreak butterflies.
Lavender *Lavandula angustifolia*			Fragrant mauve-blue flowers form dense clumps.	Attracts insects and butterflies.
Liatris spp. ***X*** *Liatris*			Soft spikes with mauve flowers.	
Money plant *Lunaria annua*			Purple or white flowers; biennial, self-seeds easily; transluscent coin-like seed pods; to 1 m.	Provides nectar for butterflies and food for their larvae.
Mallows *Malva spp.*			To 1 m; hollyhock-like flowers; biennial or short-lived perennial.	Host plant for Painted Lady, West Coast Lady and Grey Hairstreak butterfly larvae.
Grape hyacinth ***X*** *Muscaria spp.*			Blue or white flowers from bulbs, need little or no water in summer.	Early spring nectar source for butterflies.
Evening primrose ***X*** *Oenothera missouriensis*			Large yellow flowers on prostrate, sprawling stems; good for rock garden, drought tolerant.	Nectar attracts moths.

Name Common, Scientific	Sun	Moisture	Description and Cultivation	Wildlife Habitat Values
Oregano X *Oregano vulgare*			Edible herb. Light, sandy soil; tolerates alkaline soil. Forms mat.	
Penstemon spp. X *Penstemon barbatus* (many species available)			Red, yellow or blue tubular flowers; some have evergreen leaves on mounded rosettes. Drought-tolerant.	Flowers attract hummingbirds.
Russian sage X *Perovskia atriplicifolia*			Profuse, bright-blue flowers on tall-thin foliage.	Attracts bees.
Sage spp. X *Salvia officinalis*			Fragrant and attractive grey-green leaves.	
Thyme X *Thymus spp.*			Ground cover, fragrant foliage.	Nectar source for butterflies and bees.
GRASSES				
Blue gramma X *Bouteloua gracilus*			Clumps 10-30 cm high; a drought tolerant bunchgrass used for turf substitute.	Food plant for Skipper and Satyr families of butterflies.
Buffalo grass X *Buchloe dactyloides*			Sod forming, 10-15 cm, extremely drought tolerant turf substitute.	Food plant for Skipper and Satyr families of butterflies.
Elijah blue fescue X *Festuca ovina*			Fine grass; forms clumps.	Food plant for Skipper and Satyr families of butterflies.

PLANTS FOR SPECIAL AREAS

SLOPE AND SOIL STABILIZATION - DRY SITES

Smooth sumac	*Rhus glabra*
Tall Oregon-grape	*Mahonia aquifolium*
Wild rose	*Rosa spp.*
Prairie sagewort	*Artemisia frigida*
Yarrow	*Achillea millefolium*
White clematis	*Clematis ligusticifolia*
Snowberry	*Symphoricarpos albus*
Western mugwort	*Artemisia ludoviciana*
Thyme	*Thymus spp.*
Bluebunch wheatgrass	*Agropyron spicatum*
Red three-awn	*Artistida longiseta*
Sand dropseed	*Sporobolus cryptandrus*

XERISCAPE FOR A SMALL URBAN GARDEN

Common rabbit-brush	*Chrysothamus nauseosus*
Prairie sagewort	*Artemisia frigida*
Round-leaved alumroot	*Heuchera cylindrica*
Mountain sagebrush	*Artemisia tridentata*
Brown-eyed Susan	*Gaillardia aristata*
Penstemons	*Penstemon spp.*

REPLACING LAWNS WITH DROUGHT RESISTANT PLANTS

Buffalo grass	*Buchloe dactyloides*
Yarrow	*Achillea millefolium*
Pale evening-primrose	*Oenathera pallida*
Woolly thyme	*Thymus pseudolanguineosus*
Horizontal juniper	*Juniperus horizontalis*
Stonecrop	*Sedum spp.*
False rock cress	*Aubretia deltiodea*
Wall cress	*Arabis alpina, "Snowcap"*
Snow-in-summer	*Cerastium tomentosum*
Creeping phlox	*Phlox subulata*

PLANTING NOTES

Date	Species	Observation

Table 3: Butterflies, Moths and Other Insects

Although the following list of butterflies and moths is extensive, it covers only those most likely to be seen in the Southern Interior. Some rarer species of conservation interest are also included; those that are considered threatened or endangered at a provincial level are marked ***X***.

Abundance

A sliding scale from 1 (rare) to 5 (common).

Food Plants for Caterpillars

Only the most frequently eaten plants are listed, and in some cases only the genus is given, because species use is poorly documented in BC. Butterfly watchers should record foodplant records through photographs or pressed plant specimens.

Distribution

Most species are widely distributed in the Southern Interior unless noted.

Name Common, Scientific	Abundance	Food Plants for Caterpillars	Habitat, Distribution and Natural History
Family Hesperidae			
Northern Cloudy Wing *Thorybes pylades*	3	Many plants of the pea family.	Low elevation grasslands.
Dreamy Dusky Wing *Erynnis icelus*	3	Poplar, willow.	Openings in deciduous forests.
Persius Dusky Wing *Erynnis persius*	3	Milk-vetch, lupine, willow, poplar.	Forest openings and grasslands.
Two-Banded Skipper *Pyrgus ruralis*	3	Cinquefoil, wild strawberry.	Forest openings.
Common Sooty Wing *Pholisora catullus*	3	*Chenopodium*	Forest openings.
Arctic Skipper *Carterocephalus palaemon*	3	Grasses	Wet meadows.
European Skipper *Thymelicus lineola*	3	Timothy hay	An introduced European pest on timothy hay.
Common Branded Skipper *Hesperia comma*	4	Grasses	Grasslands from low elevation to alpine.
Nevada Skipper *Hesperia nevada*	2	Grasses	Okanagan and Similkameen valleys.
Sonora Skipper ***X*** *Polites sonora*	1	Grasses	Similkameen Valley.
Woodland Skipper *Ochlodes sylvanoides*	5	Grasses	Common in late summer from low to mid elevations.
Dun Skipper ***X*** *Euphyes vestris*	1	Sedges	Fraser Canyon near Lytton.
Roadside Skipper *Amblyscirtes vialis*	3	Grasses	Low elevation grasslands and forest openings.

PARNASSIANS & SWALLOWTAILS - *Family Papilionidae*			
Phoebus' Parnassian *Parnassius phoebus*	3	Stonecrops *(Sedum lanceolatum, S. stenopetalum, S. roseum)*	Thinly vegetated grasslands from mid-elevation to alpine.
Old World Swallowtail *Papilio machaon*	3	Tarragon *(Artemisia dracunculus)*	Low elevation grasslands.
Anise Swallowtail *Papilio zelicaon*	4	Many plants of the carrot family: Angelica, Cow parsnip, *Lomatium;* garden carrots, parsley, dill, parsnip.	Males maintain territories on hilltops, waiting for females to arrive. From low elevations to alpine.
Indra Swallowtail ***X*** *Papilio indra*	1		Manning Park only in the subalpine.
Canadian Swallowtail *Papilio canadensis*	4	Poplars, willow, wild cherry, saskatoon.	Hybrids between P. rutulus (southwestern BC) and P. canadensis (north and central BC) are common in the Southern Interior.
Western Tiger Swallowtail *Papilio rutulus*	4	Poplars, willow, wild cherry, saskatoon.	
Two-tailed Swallowtail *Papilio multicaudatus*	4	Choke cherry	Low elevation grasslands; the males "hilltop" with Anise Swallowtail males.
Pale Swallowtail *Papilio eurymedon*	3	Redstem ceanothus	Low elevation shrubby hillsides.
WHITES AND SULPHURS - *Family Pieridae*			
Pine White *Neophasia menapia*	3	Pines, Douglas-fir, true firs, hemlocks.	Population sizes fluctuate greatly from year to year, rarely reaching pest levels in BC; low to mid-elevation forest openings.
Becker's White *Pontia beckerii*	3	Arabis and other wild mustards.	Low elevation grasslands.
California White *Pontia sisymbrii*	3	Arabis and other wild mustards.	Arid low elevation grasslands.
Western White *Pontia occidentalis*	4	Arabis and other wild mustards.	Grasslands from low elevation to alpine; males sometimes establish territories on mountain peaks over 3000 m high.
Mustard White *Pieris napi*	3	Wild mustards growing in moist meadows and open woodlands.	Moist meadows and open deciduous woodlands.
Cabbage Butterfly *Pieris rapae*	5	Garden and weed varieties of cabbage, cauliflower, radish, mustard etc. Also nasturtiums.	Usually near human settlements, occasionally in natural habitats.
Large Marble *Euchloe ausonides*	4	Arabis and other wild mustards.	Low to mid-elevation grasslands.
Pearly Marble *Euchloe hyantis*	3	Arabis and other wild mustards.	Arid low elevation grasslands.
Sara Orange Tip *Anthocharis sara*	3	Arabis and other wild mustards.	Low to mid-elevation grasslands.
Clouded Sulphur *Colias philodice*	5	Alfalfa, clover.	Low elevation grasslands and alfalfa fields to the alpine; the Clouded Sulphur and the uncommon, migratory Alfalfa Butterfly hybridize.

Queen Alexandra's Sulphur *Colias alexandra*	3	Milk-vetch and others.	Low to mid-elevation forest openings.
Pink-Edged Sulphur *Colias interior*	3	Wild blueberries and huckleberries.	Low to mid-elevation forest openings; the pink edges to the wings are not prominent in southern BC populations.
GOSSAMER WINGS - *Family Lycaenidae*			
Blue Copper *Chalceria heteronea*	3	Eriogonum	Low elevation grasslands.
Purplish Copper *Epidemia helloides*	5	Plantain, dock.	Wetlands, ditches and other wet areas with sparse vegetation.
Nivalis Copper ***X*** *Epidemia nivalis*	2	Plantain	Okanagan Valley, low to mid-elevation forest openings.
Reakirt's Copper *Epidemia mariposa*	3	Wild blueberries and huckleberries.	Low elevation to subalpine forest openings.
Behr's Hairstreak ***X*** *Satyrium behrii*	2	Antelope-brush	Low elevation in the south Okanagan only.
Sooty Gossamer Wing ***X*** *Satyrium fuliginosum*	2	Lupines	Low elevation grasslands in the south Okanagan.
Acadian Hairstreak *Satyrium acadicum*	3	Willow	Riparian areas at low elevations.
California Hairstreak ***X*** *Satyrium californicum*	2	Antelope brush	Okanagan and Similkameen Valleys.
Hedge-Row Hairstreak *Satyrium saepium*	3	Redstem ceanothus	Dry shrubby hillsides.
Immaculate Green Hairstreak ***X*** *Callophrys affinis*	2	Eriogonum	Okanagan Valley only.
Sheridan's Hairstreak *Callophrys sheridanii*	3	Eriogonum	Low elevation grasslands to the alpine.
Thicket Hairstreak *Mitoura spinetorum*	3	Dwarf mistletoe parasitic on pines, Douglas-fir, true firs, larch.	Low to mid-elevation forest openings.
Rosner's Hairstreak *Mitoura rosneri*	3	Western redcedar	Low elevation moist forest openings.
Juniper Hairstreak *Mitoura siva*	3	Rocky Mountain juniper	Low elevation juniper thickets in grasslands.
Brown Elfin *Incisalia augustinus*	3	Kinnikinnick, Ceanothus, hawthorn.	Low elevation forest openings.
Western Pine Elfin *Incisalia eryphon*	3	Pine trees	Low elevation forest openings.
Gray Hairstreak *Strymon melinus*	3	Clovers, milk-vetch, lupines, vetches, mallows, Eriogonum, hawthorn, apple. Many other families and genera are known to be used.	Low elevation grasslands and forest openings.
Western Tailed Blue *Everes amyntula*	3	Vetch, milk-vetch, wild pea.	Low elevation grassland and forest openings.

Spring Azure *Celastrina argiolus*	5	Wild cherry, hardhack, many other families and genera.	Low elevation grassland and forest openings.
Silvery Blue *Glaucopsyche lygdamus*	4	Vetch, milk-vetch, wild pea, lupine.	Low elevation grassland, forest openings and up to the alpine.
Northern Blue *Lycaeides idas*	4	Vetch, milk-vetch, wild pea , lupine.	Low elevation grassland, forest openings and up to the alpine.
Greenish Blue *Plebejus saepiolus*	4	Clover	Low elevation grassland and forest openings.
Icariodes Blue *Icaricia icarioides*	3	Lupine	Low elevation grassland and forest openings.
Acmon Blue *Icaricia acmon*	3	Eriogonum	Low to mid-elevation grasslands.
Mormon Metalmark ***X*** *Apodemia mormo*	1	Snow buckwheat	Arid, low elevation, gravelly slopes; known in BC only from Keremeos.
BRUSHFOOTS - *Family Nymphalidae*			
Great Spangled Fritillary *Speyeria cybele*	3	Violets	Low elevation grasslands.
Zerene Fritillary *Speyeria zerene*	3	Violets	Low to mid-elevation grassland and forest openings.
Callippe Fritillary *Speyeria callippe*	3	Violets	Low to mid-elevation grassland and forest openings.
Atlantis Fritillary *Speyeria atlantis*	4	Violets	Low to mid-elevation forest openings.
Hydaspe Fritillary *Speyeria hydaspe*	4	Violets	Low to mid-elevation forest openings.
Mormon Fritillary *Speyeria mormonia*	3	Violets	Low elevation forest openings to the alpine.
Western Meadow Fritillary *Clossiana epithore*	3	Violets	Moist meadows.
Titania Fritillary *Clossiana titania*	3	Willows, violets.	Moist forest openings.
Northern Checkerspot *Charidryas palla*	4	Asters, rabbit-brush, ragwort, fleabane, goldenrod.	Dry grasslands, shrubby areas and forest openings.
Pearl Crescent *Phyciodes morpheus*	5	Asters	The species name may change in the near future due to on-going research. Grasslands and forest openings.
Field Crescent *Phyciodes pratensis*	4	Asters	Grasslands and forest openings.
Pale Crescent *Phyciodes pallidus*	3	Thistles	Dry, low elevation grasslands.
Mylitta Crescent *Phyciodes mylitta*	4	Canada thistle	Low elevation forest openings.

Anicia Checkerspot *Euphydryas anicia*	4	Paintbrush, penstemon, common toadflax, others.	Low elevation grasslands, sometimes in the alpine.
Edith's Checkerspot *Euphydryas editha*	3	Plantain, paintbrush, penstemon, others.	Alpine habitats.
Satyr Anglewing *Polygonia satyrus*	5	Stinging nettle	Adults hibernate over winter; forest openings.
Green Comma *Polygonia faunus*	4	Birch, alder, willow.	Adults hibernate over winter; forest openings.
Zephyr *Polygonia zephyrus*	3	Gooseberries, White rhododendron.	Adults hibernate over winter; mid-elevation forest openings.
Compton Tortoise Shell *Nymphalis vaualbum*	5	Birch, willow, poplars.	Adults hibernate over winter; low to mid-elevation forest openings.
Mourning Cloak *Nymphalis antiopa*	4	Willow and poplars; many other families and genera are eaten occasionally.	Adults hibernate over winter; low to mid-elevation forest openings.
Milbert's Tortoise Shell *Aglais milberti*	4	Stinging nettle	Adults hibernate over winter; low elevation to the alpine.
West Coast Lady *Vanessa annabella*	3	Stinging nettles, mallow; perhaps lupines.	Migratory some years; adults hibernate over winter.
Painted Lady *Vanessa cardui*	3	Bull thistle and Canada thistle are used most commonly, but also a wide variety of other families and genera.	Migratory; common some years, rare others; low elevation to the alpine.
Red Admiral *Vanessa atalanta*	3	Stinging nettle	Migratory; common some years, rare others; low elevation to the alpine.
Viceroy ***X*** *Basilarchia archippus*	X	Willows, poplars, apple, cotoneaster, hawthorn, saskatoon, others.	Formerly locally common in the Okanagan, extirpated from BC about 1930, possibly due to apple orchard spraying.
Lorquin's Admiral *Basilarchia lorquini*	4	Willows, poplars, apple, cotoneaster, hardhack, others.	Lorquin's Admiral hybridizes with the less common White Admiral; low to mid-elevation forest openings and riparian areas.
SATYRS - FAMILY SATYRIDAE			
Ringlet *Coenonympha tullia*	4	Grasses	Low elevation grasslands.
Common Wood Nymph *Cercyonis pegala*	4	Grasses	Low to mid-elevation forest openings.
Dark Wood Nymph *Cercyonis oetus*	3	Grasses	Low to mid-elevation forest openings.
Vidler's Alpine *Erebia vidleri*	3	Grasses	Mid-elevation to subalpine forest openings.
Common Alpine *Erebia epipsodea*	4	Grasses	Low elevation to alpine moist meadows.
Chryxus Arctic *Oeneis chryxus*	4	Grasses	Dry grassland hillsides from low elevation to the alpine.

Monarchs & Queens - *Family Danaidae*			
Monarch *Danaus plexippus*	3	Showy milkweed	Migratory; low elevations in the Okanagan and Thompson Valleys.
Sphinx Moths - *Family Sphingidae*			
Tomato Hornworm *Manduca quinquemaculata*	3	Tomatoes	Migratory, larvae are large "hornworms" which feed on tomato leaves and fruit; pupae hibernate successfully in the soil in the Okanagan in mild winters.
Snowberry Sphinx *Sphinx vashti*	3	Snowberry	A similar but larger species is the Chersis Sphinx *(Sphinx chersis)*.
Twin-spot Sphinx *Smerinthus jamaicensis*	3	Willow, birch, Wild cherry.	Similar to the Eyed Sphinx, but smaller and with the blue eyespot divided in two.
Eyed Sphinx *Smerinthus cerisyi*	4	Willow, poplar, apple.	The sphinx moth most commonly attracted to lights.
Bedstraw Sphinx *Hyles gallii*	3	Fireweed, Bedstraw.	Also commmonly called the "Hummingbird Moth," as with the White-lined Sphinx.
White-lined Sphinx *Hyles lineata*	4	Fireweed, Fuchsia.	Also commonly called the "Hummingbird Moth," because it hovers in front of flowers at dusk to sip nectar much like a hummingbird.
Modest Sphinx *Pachysphinx modesta*	3	Willow, Poplar.	The largest sphinx moth.
Snowberry Clearwing *Hemaris diffinis*	3	Snowberry	Also known as the "Bee Hawk", because it flies in the daylight much like a bumblebee.
Silk Moths - *Family Saturniidae*			
Ceanothus Silkmoth *Hyalophora euryalis*	3	*Ceanothus*	Frequently attracted to lights in the vicinity of dry brushy slopes.
Polyphemus Moth *Antheraea polyphemus*	3	Birch, willow, poplar, cherry, others.	Frequently attracted to lights in riparian areas.
Common Sheepmoth *Hemileuca eglantarina*	3	Snowberry, willow, poplar.	Flies in the daylight, mid-elevation grasslands and forest openings, fast flying and so seldom clearly seen.
Tiger Moths - *Family Arctiidae*			
Fall Webworm *Hyphantria cunea*	5	Choke cherry, willow, alder, hawthorn, apple, many others.	A widespread web-building pest species, adult moths are pure white; webs built and caterpillars active in late summer.
Tent Caterpillar Moths - *Family Lasiocampidae*			
Western Tent Caterpillar *Malacosoma californicum*	5	Almost all deciduous trees and shrubs.	A widespread tent building pest species; the closely related Forest Tent Caterpillar *(Malacosoma disstria)* does not build tents. Caterpillars are active in spring and early summer.

Name Common, Scientific	Habitat, Distribution and Natural History
OTHER BENEFICIAL INSECTS	
Dragonflies & damselflies *Odonata*	Beneficial predators, patrol territories catching small insects such as flies and mosquitoes. Eggs are laid in water (such as backyard ponds); larvae are aquatic predators. Large and colourful, these species make excellent subjects for nature observation.
Water Strider *Gerridae*	Spidery insects that skitter across the surface of ponds and slow-moving streams; predators on insects that are found on the water surface.
Praying Mantis *Mantis religiosa*	Large, greenish insect; introduced from Europe. Introduced and common in southern Okanagan Valley. Preys on a wide variety of insects.
Hover Flies *Syrphidae*	Wasp and bee-mimicking flies that characteristically hover motionless for a time, then buzz off. Important pollinators of many flower species, especially those in the daisy family; larvae prey on aphids and scale insects.
Ground Beetle *Carabidae*	Medium to large, flattish, shiny beetles, usually found under rocks or other objects. Active predators on other insects, including cutworms.
Tiger Beetle *Cicindelidae*	Metallic green to purple beetles, often with intricate white patterns, active on open ground in sunny spots. Very fast runners, quick to fly. Ferocious predators on many insects.
Ladybird Beetle *Coccinellidae*	Adults and larvae are major predators on aphids. Watch for bristly, spindle-shaped, black and orange larvae near aphid colonies.
Ichneumon Wasp *Ichneumonidae*	Fairly large, elongate wasps with very long ovipositors ("tails"); lay eggs on larvae of beetles, butterflies and moths; they do not sting humans.
Leafcutter Bees *Megachilidae*	Metallic dark green bees that cut circular holes in leaves. Build nest burrows in ground or rotting wood that are lined with the leaf sections. Important pollinators.

PLANT LIST FOR A SOUTHERN INTERIOR BUTTERFLY GARDEN

The Provincial Guide (p. 26) presents a model butterfly garden with a list of suitable plant species. Here are some plants adapted for the Southern Interior climate that can be added to that list. See the plant lists in this guide for their specific needs.

KEY

L Larval food plant;
N Necter source

Spreading Dogbane	*Apocynum androsaemifolium*	N	Showy daisy	*Erigeron speciosus*	L
Columbine	*Aquilegia formosa*	N	Parsnip-leaved buckwheat	*Eriogonum heracleoides*	L
Wild Rock Cress	*Arabis hoelboelli*	L	Lilac	*Syringa sp.*	N
Showy milkweed	*Asclepias speciosa*	L	Lupines	*Lupinus spp.*	L
Showy aster	*Aster conspicuum*	L	Tall Oregon-grape	*Mahonia aquifolium*	N
Basket-of-gold	*Alyssum spp.*	N	Mallow	*Malva spp.*	L
Butterfly bush	*Buddleia davidii*	N	Hollyhock	*Alcea rosa*	L
Redstem ceanothus	*Ceanothus sanguineum*	L	Sweet rocket	*Hesperis matronalis*	N
Common Rabbit-brush	*Chrysothamnus nauseosus*	N	Russian tarragon	*Artemisia dracunculus*	L
Thistle	*Cirsium spp.*	L,N	Stinging nettle	*Urtica dioica*	L
Sweet William	*Dianthus spp.*	N	Violets	*Viola spp.*	L

Table 4: Amphibians and Reptiles

Distribution:

Lists the ecosections the species is known from; "All" signifies that the species is widely distributed in the Southern Interior. Please refer to the Ecoprovince table and map on pages 5 and 6.

Venomous Snakes

The Southern Interior has only two venomous snakes. One of them, the Night Snake, is of no danger to humans since its rear fangs are used only on its small prey; it is also extremely rare in Canada. Western Rattlesnakes are shy animals that usually remain still (and therefore unseen) or rattle loudly as they retreat into the nearest hiding spot. They only strike at humans when they are stepped on, cornered, handled or attacked. If you do find a rattlesnake, give it wide berth and it will not harm you. Bites are almost never fatal. Rattlesnakes are uncommon reptiles that have suffered greatly from past persecution in the Southern Interior and are sensitive to human disturbance around their dens.

Creating Habitat for Amphibians

Most amphibians appreciate cool, shady and secluded retreats near pools. The **Naturescape** Provincial Guide gives tips on creating a wildlife pond (pp28-31).

Reminder: It is in the interest of both you and amphibians that you avoid handling them. They may have toxic skin secretions that are transferred to your hands. In turn, they may absorb, through their permeable skin, chemicals on your hands that are harmful to them, such as suntan oil or bug repellent. Furthermore, amphibians are often in danger of desiccation and handling them increases the risk.

How Scientists Categorize Threatened and Endangered Species

RED LIST

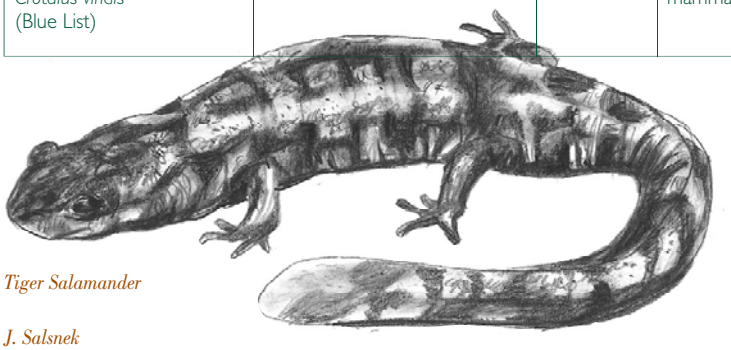
Includes any indigenous species or subspecies (taxa) considered to be Extirpated, Endangered, or Threatened in British Columbia. Extirpated taxa no longer exist in the wild in British Columbia, but do occur elsewhere. Threatened taxa are likely to become endangered if limiting factors are not reversed. Red-listed taxa include those that are being evaluated for these designations.

BLUE LIST

Includes any indigenous species or subspecies considered to be Vulnerable in British Columbia. Vulnerable taxa are of special concern because of characteristics that make them particularly sensitive to human activities or natural events. Blue-listed species are at risk, but are not Endangered or Threatened.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
Salamanders			
Larval salamanders prey on aquatic invertebrates; adults in this region generally prey on terrestrial invertebrates.			
Long-toed Salamander *Ambystoma macrodactylum*	All	Common	Adults come to ponds in early spring to breed; ponds can be small but must be permanent and have considerable aquatic vegetation.
Tiger Salamander *Ambystoma tigrinum* (Red List)	Okanogan Highland Ecoregion	Rare	Adults come to low elevation, often saline ponds in early spring to breed. In lakes without fish, tiger salamanders often develop neotenic populations that breed in the gilled, aquatic form and never metamorphose into terrestrial adults.
Frogs & Toads			
Larval frogs and toads (tadpoles) feed on algae and other aquatic vegetation; adults in this region generally prey on invertebrates.			
Great Basin Spadefoot Toad *Scaphiopus intermontanus* (Blue List)	Grasslands	Uncommon	Adults come to ponds, often small, temporary ones, to breed in late spring. Larvae develop quickly, metamorphosing in mid-summer. Adults spend hot, dry and cold periods buried underground.
Western Toad *Bufo boreas*	All	Uncommon	Adults breed in permanent ponds and small lakes in summer; larvae develop quickly, metamorphosing in mid-summer. Adults forage mainly at night in damp woodlands.
Pacific Treefrog *Hyla regilla*	All	Common	Breed in shallow, permanent ponds; larvae metamorphose in late summer.
Spotted Frog *Rana pretiosa*	All	Common	Adults and larvae live in permanent ponds and small lakes.
Northern Leopard Frog *Rana pipiens* (Red List)	South Okanagan Basin	Rare	Formerly found in marshes around Osoyoos Lake, now very rare or gone. Breed in well-vegetated ponds, larvae metamorphose in mid-summer.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
Wood Frog *Rana sylvatica*	Fraser-Thompson	Rare	Commoner on northern plateaus. Breed early in spring in shallow ponds; larvae develop quickly and metamorphose in mid-summer. Adults spend most of summer in forests.
Bullfrog *Rana catesbeiana*	South Okanogan Basin	Rare	Introduced species formerly common in Okanagan from Penticton south, now very rare or absent. Breeds from late spring through summer in marshy lakes and ponds.
Fresh-water Turtles			
Painted Turtle *Chrysemys picta* (Blue List)	All	Common	Found in marshy ponds and lakes with muddy bottoms; lay eggs in south-facing banks where digging is easy, gravel or sand is preferred. Like to have logs or other supports for basking. Feeds on aquatic invertebrates, small vertebrates and vegetation.
Lizards			
Short-horned Lizard *Phrynosoma douglassi* (Red List)	South Okanagan Basin	Rare	Only BC records from the Osoyoos area at the turn of the century. Live in sandy grasslands where they feed on ants.
Western Skink *Eumeces skiltonianus*	Okanagan Shuswap Similkameen	Rare	A secretive species, usually found under rocks or other objects in open areas. Feed on small invertebrates. Young have bright blue tails.
Northern Alligator Lizard *Elgaria coerulea*	All	Uncommon	Usually found near open rocky areas or wood piles. Feed on invertebrates.
Snakes			
Rubber Boa *Charina bottae*	All	Uncommon	Found most commonly in Douglas-fir forests; feeds on mice and other small mammals. Highly nocturnal and rarely seen except on roads at night.
Yellow-bellied Racer *Coluber constrictor*	All	Uncommon	Found in warm, open habitats; eats small mammals, insects and other *Coluber* animals.
Gopher Snake *Pituophis melanoleucus* (Blue List)	All	Uncommon	Found in a variety of habitats at lower elevations; feeds on small mammals and sometimes birds and eggs.
Common Garter Snake *Thamnophis sirtalis*	All	Common	Found in almost every habitat in the region, especially near water. Feeds on amphibians, earthworms, small mammals and other small animals.
Western Garter Snake *Thamnophis elegans*	All	Common	This snake is rarely found far from water in a wide variety of open habitats. Feeds on fish, amphibians, leeches, birds, and other small animals.
Night Snake *Hypsiglena torquata* (Red List)	South Okanagan Basin	Rare	A secretive, nocturnal snake found in dry, rocky habitats.
Western Rattlesnake *Crotalus viridis* (Blue List)	All; lower elevations	Uncommon	Found in open forests and grasslands; near water in summer. Feed on small mammals. Rocky den sites critical to survival.



Tiger Salamander

J. Salsnek

Table 5: Birds

Calliope Hummingbird

J. Salsnek

Birds, with their bright colours, songs and daytime habits, are one of the most rewarding groups of wildlife to attract to your home. Read the **Naturescape** Provincial Guide for good information on how to attract birds; here are some quick hints on creating a Southern Interior backyard to attract birds:

Provide a source of water for drinking and bathing; this is perhaps the most important thing you can do for birds in the Southern Interior. A small recirculating pump can be used to create a trickling waterfall that acts like a magnet on birds in hot weather. Almost every species of bird near your home will use a small bird bath, which can be as simple as a large dish or old garbage can lid set in the ground.

Plant berry-producing shrubs and trees. Mountain ash, Choke-cherry, Blue elderberry, Saskatoon and Red-osier dogwood are good native species..

Plant nectar-producing flowers for hummingbirds. Honeysuckle is an excellent choice.

Provide seeds for sparrows, finches and other species. Small black sunflower seeds are perhaps the best all-round type, but millet and large striped sunflower seeds are popular as well. Goldfinches and siskins prefer the small niger seed, while wheat kernels and cracked corn provide winter food for quail and pheasants.

Provide suet or a suet mix for woodpeckers, chickadees, nuthatches, jays, nutcrackers and several other species. Suet can be hung in cake form in an onion bag or wire frame, or pushed into holes drilled into a hanging log.

Put up nest boxes for cavity-nesting species such as swallows, chickadees, nuthatches, wrens and bluebirds. Larger boxes provide homes for small owls, kestrels, flickers, and several species of ducks. Nest platforms placed under the eaves of houses or outbuildings can be used by Barn Swallows, Say's Phoebes, American Robins and Western Flycatchers. Larger nest platforms built of wire mesh and sticks can attract larger owls or even Ospreys.

If you have a large yard, brush piles or areas of thick shrubbery will provide roosting and escape cover.

If you have pet cats, please keep them indoors if you can. If not, place low wire fencing (sold in garden stores as edging) around types of cover sites cats use before pouncing, such as low-lying shrubs. Forcing the cat to go over the fence gives the birds just enough time to escape. Belling cats is usually ineffective.

Distribution

The names of ecosections are given for species which have restricted ranges within the Southern Interior .

All:	occurs throughout the Southern Interior over a wide range of elevations
High:	occurs mainly at high elevations (> 1000 m)
Low:	occurs mainly at low elevations (<1000 m)
Okanagan:	occurs mainly in the South and North Okanagan Basins.

Abundance

Uncommon:	not seen every day in appropriate season and habitat
Common:	seen every day in appropriate season and habitat
Resident:	present year-round
Summer:	present only from spring through fall
Winter:	present only from fall through spring

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
HERONS			
Large, long-legged water birds that feed on fish and other aquatic animals.			
Great Blue Heron *Ardea herodias* (Blue List)	All	Uncommon Resident	Feeds primarily on fish, also on field mice; nests in large trees; occasionally unwelcome visitor to fish ponds.
SWANS, GEESE AND DUCKS			
There are more than 30 species of waterfowl in the Southern Interior. Some have very specific habitat and foraging requirements, others such as the Canada Goose and Mallard, can be attracted to almost any body of water in an open area.			
Wood Duck *Aix sponsa*	Low	Uncommon Summer	Nests in tree cavities beside ponds and river oxbows, often uses nest boxes.
Mallard *Anas platyrhynchos*	All	Common Resident	Easily attracted to ponds larger than 10 metres diameter; readily feeds on grains such as wheat or corn.
Common Goldeneye *Bucephala clangula*	All	Common Resident	Forages by diving; feeds on aquatic invertebrates; nests in tree cavities or nest boxes.
Barrow's Goldeneye *Bucephala islandica*	All	Common Resident	Forages by diving; feeds on aquatic invertebrates; nests in tree cavities or nest boxes.
Bufflehead *Bucephala albeola*	All	Common Resident	Forages by diving; feeds on aquatic invertebrates; nests in tree cavities or nest boxes.
Hooded Merganser *Lophodytes cucullatus*	All	Uncommon Resident	Forages by diving; feeds on small fish and aquatic invertebrates; nests in tree cavities or nest boxes.
VULTURES, HAWKS AND FALCONS			
Seventeen species in the Southern Interior; most require natural areas far larger than the average property. The species most often seen around homes are those that feed on small birds and mammals—the Sharp-shinned Hawk, American Kestrel and Merlin. Their presence is an indication of how successful you have been at attracting their prey.			
Osprey *Pandion haliaetus*	All	Uncommon Summer	Dives to catch fish in shallow lakes and rivers; builds large stick nests on top of snags or poles. Nest platforms designed specifically for Ospreys are used regularly.
American Kestrel *Falco sparverius*	All	Common Resident	Forages in open country for large insects, small mammals and small birds. Nests in tree cavities or nest boxes (7 cm hole).
GALLINACEOUS BIRDS			
Nine species in the Southern Interior, four of them non-native. All species nest on the ground; many will use brush piles or thick coniferous trees for roosting, especially during bad weather. The species listed below can be attracted by providing wheat kernels or cracked corn on the ground.			
Ring-necked Pheasant *Phasianus colchicus*	Low	Common Resident	Forages in agricultural habitats such as pastures and orchards, as long as good cover is available nearby.
Chukar *Alectoris chukar*	South Okanagan & Thompson Basins	Uncommon Resident	Prefer steep rock or silt bluffs in grasslands; will feed on wheat kernels or corn on the ground.
Gray Partridge *Perdix perdix*	Okanagan	Uncommon Resident	Forages in dry grasslands and agricultural fields.
California Quail *Callipepla californica*	Okanagan	Common Resident	Forages in suburban and rural gardens, orchards, farmland and open woodland. Winter flocks readily feed on wheat kernels spread on the ground; need thick cover for roosting.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
RAILS, COOTS AND CRANES			
This group of birds are primarily marsh-dwellers; all require beds of reeds or wet meadows to nest.			
Sora *Porzana carolina*	All	Common Summer	Nests and forages in marshes and wet meadows.
American Coot *Fulica americana*	All	Common Resident	Forages by diving for aquatic plants and invertebrates. Nests in reed beds around marshy lakes or ponds; winters in large flocks on large lakes.
SHOREBIRDS AND GULLS			
A diverse group of birds, almost all of which are associated with the water's edge. Most plovers and sandpipers prefer shallow, muddy shores for foraging; gulls scavenge along beaches or follow ploughs or haying equipment, catching insects and mice. Almost all nest on the ground.			
Killdeer *Charadrius vociferus*	All	Common Summer	Forages on open fields, nests on the ground.
Spotted Sandpiper *Actitis macularia*	All	Common Summer	Forages along shorelines, nests on ground nearby. Found near almost all kinds of freshwater habitats.
Long-billed Curlew *Numenius americanus* (Blue List)	Low	Uncommon Summer	Forages in fields and dry grasslands.
Common Snipe *Gallinago gallinago*	All	Common Summer; Uncommon Winter	Forages and nests in wet meadows and marshes, winters in spring-fed creeks and marshes.
Ring-billed Gull *Larus delawarensis*	Low	Common Resident	Forages in farm fields, playing fields and landfills; nests in large colonies near Carr's Landing and Salmon Arm.
Black Tern *Chlidonias niger*	All	Uncommon Summer	Forages for insects over marshy lakes, nests in dense reed beds.
PIGEONS AND DOVES			
Seed-eating birds that can be attracted to seed feeders. If their presence causes problems at feeders, a chicken-wire barrier can effectively exclude them and other larger birds while allowing sparrows, finches and other small birds in to feed.			
Band-tailed Pigeon *Columba fasciata*	Clear Range, Thompson Basin	Uncommon Summer	Forages for seeds, berries and acorns; nests in trees.
Mourning Dove *Zenaida macroura*	All	Common Resident	Forages for seeds on the ground; nests on the ground or in trees.
OWLS			
Fourteen species of owls are found in the Southern Interior. No owls build their own nests, so you can provide nest sites for most species. Several of the smaller species will nest in nest boxes, while larger species will often use nest platforms.			
Barn Owl *Tyto alba* (Blue List)	Low	Uncommon Resident	Forages for mice over pastures, nests and roosts in large hol low trees, barns and old buildings, and in cliff crevices. Will use large nest boxes on trees or buildings or platforms in barns for roosting and nesting.
Flammulated Owl *Otus flammeolus* (Blue List)	All	Uncommon Summer	Forages for insects in the forest canopy, nests in old wood pecker holes. Will use nest boxes for nesting (7 cm hole).
Western Screech-Owl *Otus kennicottii* (Blue List; interior subspecies)	Low	Uncommon Resident	Forages for small mammals, birds and invertebrates in mixed woodlands; nests in tree cavities. Will use nest boxes for roosting and nesting (7 cm hole).

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
Great Horned Owl *Bubo virginianus*	All	Common Resident	Forages for rabbits, skunks, muskrats, grouse and mice in open forests and grasslands. Nests in old crow and hawk nests; will use nest platforms.
Northern Pygmy-Owl *Glaucidium gnoma*	All	Uncommon Resident	Forages for small birds and mammals during the day; can be attracted to feeders by small bird activity. Nests in tree cavities; will nest and roost in nest boxes, but front must be thick (> 4 cm) and hole small (4 cm).
Burrowing Owl *Speotyto cunicularia* (Red List)	Low	Uncommon Summer	Forages for mice and insects at dawn and dusk over dry grass lands; nests in old mammal burrows. Will use artificial burrows made from drainage pipes.
Barred Owl *Strix varia*	All	Uncommon Resident	Forages for squirrels and mice in forests. Nests in large tree cavities or on top of snags; will use large nest boxes.
Great Gray Owl *Strix nebulosa*	High	Uncommon Resident	Forages for mice and pocket gophers at dawn and dusk in meadows and forest openings. Nests on top of snags or on mistletoe clumps; will use artificial nest platforms.
Long-eared Owl *Asio otus*	All	Uncommon Resident	Forages for mice over meadows and grasslands. Roost in thick vegetation; nest in old crow, magpie or hawk nests or on mistletoe clump; will use artificial nest platform.
Boreal Owl *Aegolius funereus*	High	Uncommon Resident	Forages for small mammals and birds in subalpine forest openings. Nests in tree cavities; readily uses nest boxes (10 cm hole).
Northern Saw-whet Owl *Aegolius acadicus*	All	Common Resident	Forages for mice in forests and woodlands; nests in tree cavities; readily uses nest boxes (7 cm hole).
Swifts and Hummingbirds			
Fast-flying birds with tiny feet. Swifts forage for insects in the air, hummingbirds are primarily nectar feeders.			
Vaux's Swift *Chaetura vauxi*	All	Uncommon Summer	Forages for insects in the air, nest and roost in large hollow trees (usually cottonwoods in this area) or chimneys.
Black-chinned Hummingbird *Archilochus alexandri*	Low	Uncommon Summer	Forages in low elevation deciduous woodlands for flower nectar and sap at sapsucker wells; attracted to hummingbird feeders.
Anna's Hummingbird *Calypte anna*	Low	Uncommon Resident	Very rare around gardens; non-migratory, relying on humming-bird feeders in fall and winter.
Calliope Hummingbird *Stellula calliope*	All	Common Summer	Forages in open woodlands and gardens for flower nectar and sap at sapsucker wells; attracted to hummingbird feeders.
Rufous Hummingbird *Selasphorus rufus*	All	Common Summer	Forages in all habitats for flower nectar and sap at sapsucker wells; attracted to hummingbird feeders.
Kingfishers			
Kingfishers nest in long burrows dug into dirt banks along roads, rivers or lakes.			
Belted Kingfisher *Ceryle alcyon*	All	Common Summer, Uncommon Winter	Forages for small fish in all aquatic habitats; nests in burrows dug into banks.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
WOODPECKERS			
Woodpeckers characteristically feed on insects in dead or dying trees and are important controlling agents for those insects. They also excavate nest and roost cavities in trees, which are used later by numerous other birds and mammals. Woodpeckers can be attracted to feeders by suet and suet mixes, especially if the suet is inserted into holes in hanging logs. Some species, especially flickers, will also use nest boxes.			
Lewis' Woodpecker *Melanerpes lewis* (Blue List)	Low	Uncommon Summer	In summer forages in open, low-elevation habitats, catching flying insects in the air and eating fruit in orchards. The few that winter usually feed on acorns stored in the cracks of snags and power poles, or on unpicked apples.
Red-naped Sapsucker *Sphyrapicus nuchalis*	All	Common Summer	Drill rows of small, shallow holes in deciduous trees which they later visit to lap up sap; they also pick up insects (usually ants) visiting these "wells." Commonest in groves of aspen and birch along creeks.
Williamson's Sapsucker *Sphyrapicus thyroideus* (Blue List)	High	Uncommon Summer	Similar habits to those of the Red-naped Sapsucker, but the Williamson's is usually found in coniferous forests, particularly Western larch in the south Okanagan and Boundary districts, large Ponderosa pines in the Princeton area, and spruce-aspen groves in the Thompson-Nicola.
Downy Woodpecker *Picoides pubescens*	All	Common Resident	Found in deciduous and mixed woodlands; common at suet feeders.
Hairy Woodpecker *Picoides villosus*	All	Common Resident	Found in coniferous and mixed woodlands; common at suet feeders.
White-headed Woodpecker *Picoides albolarvatus* (Red List)	South Okanagan Basin	Uncommon Resident	Restricted to Ponderosa pine forests in the south Okanagan, rare visitor to suet feeders.
Three-toed Woodpecker *Picoides tridactylus*	High	Common Resident	Common at higher elevations, particularly in spruce forests.
Black-backed Woodpecker *Picoides arcticus*	High	Uncommon Resident	Locally common in areas of insect infestations such as burns and pine beetle outbreaks; rare elsewhere.
Northern Flicker *Colaptes auratus*	All	Common Resident	In summer, forages on the ground in open woodlands for ants; in summer feeds on berries and fruit. Flicker nest cavities are important nesting and roosting sites for many birds and mammals.
Pileated Woodpecker *Dryocopus pileatus*	All	Uncommon Resident	Large, oval nest cavities in large dead or dying trees; forages for carpenter ants in dead and down trees; in summer and fall also eats berries.
FLYCATCHERS			
Highly migratory birds that characteristically catch insects in sallying flight, that is they fly out from a perch, catch the insect, then return to the perch. There are twelve species in the region, only a few of which are particularly attracted to gardens or small farms.			
Western Flycatcher *Empidonax difficilis* (Pacific-slope and Cordilleran Flycatchers)	Low	Uncommon Summer	Locally common in shady creek valleys and in moist forests around some lakes. Builds small, mossy nest on road or creek banks, also on bridges or under eaves of house or shed. Will use nest platforms.
Say's Phoebe *Sayornis saya*	Low	Uncommon Summer	Forages in grasslands or pastures, perching on fenceposts or rails. Nests on ledges on rock bluffs or under eaves of house or barn. Will use nest platforms.
Eastern Kingbird *Tyrannus tyrannus*	Low	Common Summer	Conspicuous around orchards, gardens and deciduous wood land along lakes or rivers. Forages for flying insects in summer, berries in late summer.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
Western Kingbird *Tyrannus verticalis*	Low	Common Summer	Conspicuous along power lines in open habitats. Nests on power poles and large, open trees or snags.
LARKS			
Ground-dwelling birds of open country.			
Horned Lark *Eremophila alpestris*	All	Common Summer, Uncommon Winter	Breed on dry grasslands of Thompson, Nicola and Fraser valleys, also on alpine tundra. Nests on ground; feeding on insects and berries in summer and seeds in winter.
SWALLOWS			
Familiar aerial insect-eating specialists.			
Tree Swallow *Tachycineta bicolor*	All	Common Summer	Found around water and open grasslands. Commonly use nest boxes.
Violet-green Swallow *Tachycineta thalassina*	All	Common Summer	Found mainly around houses and cliffs. Nest in cliff crevices and cavities in houses, will also use nest boxes.
N. Rough-winged Swallow *Stelgidopteryx serripennis*	All	Common Summer	Nests in burrows in banks dug by other birds and animals.
Bank Swallow *Riparia riparia*	All	Common Summer	Nests in colonies in burrows dug in banks.
Cliff Swallow *Hirundo pyrrhonota*	All	Common Summer	Nests in colonies in ovoid mud nests plastered to cliffs, under the eaves of buildings, in barns or under bridges.
Barn Swallow *Hirundo rustica*	All	Common Summer	Nests more or less singly in bowl-shaped mud nests plastered under the eaves of buildings, in barns or under bridges. Can use small nest platforms placed under the eaves of buildings.
JAYS, CROWS AND ALLIES			
Highly intelligent birds that are easily attracted to suet feeders and platform feeders supplied with sunflower seeds or peanuts. Most of these birds store food when it is available in quantity, as is the case around feeders, so they will often clean out a feeding station very quickly. If you want to keep jays and other larger birds out of feeders while allowing entry to smaller birds, surround the feeder with a chicken-wire mesh. All species in this family have a predilection for preying on the eggs and nestlings of smaller birds.			
Gray Jay *Perisoreus canadensis*	High	Common Resident	Forages in Montane spruce and subalpine forests; comes to feeders at elevations above 1200 m elevation.
Steller's Jay *Cyanocitta stelleri*	All	Common Resident	Forages widely in coniferous forests, common at feeders. Some move to the coast in fall.
Clark's Nutcracker *Nucifraga columbiana*	All	Common Resident	Forages for pine seeds in ponderosa pine and whitebark pine forests. Easily attracted to suet feeders.
Black-billed Magpie *Pica pica*	Low	Common Resident	Forages in open habitats, usually at lower elevations.
American Crow *Corvus brachyrhynchos*	Low	Common Resident	Forages in mixed woodlands and farmlands at lower elevations.
Common Raven *Corvus corax*	All	Common Resident	Scavenges for carrion and garbage; can also be predatory on small birds and mammals.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
CHICKADEES			
Small, social birds that form flocks in winter and family groups in summer. Chickadees store food when they find it in abundance, so they can go through a lot of sunflower seeds quickly. They prefer the smaller black oil sunflower seeds to the larger striped variety. Chickadees nest in small tree cavities. They can excavate their own cavity if a rotten stump or branch is available, but more often use an old woodpecker or nuthatch hole. They are easily attracted to nest-boxes.			
Black-capped Chickadee *Parus atricapillus*	All	Common Resident	Forages in deciduous and mixed woodlands, more common at lower elevations.
Mountain Chickadee *Parus gambeli*	All	Common Resident	Forages in coniferous and mixed woodlands up to treeline.
Boreal Chickadee *Parus hudsonicus*	High	Uncommon Resident	Forages in subalpine forests above 1500 m elevation.
Chestnut-backed Chickadee *Parus rufescens*	High	Uncommon Resident	Found in moist hemlock-cedar forests along the northeast edge of the Southern Interior.
NUTHATCHES			
Nuthatches glean for food along the trunks and branches of trees. They nest in tree cavities, usually excavating their own. They often smear pitch around the nest entrance to deter predators. They readily nest in nest boxes, though not as often as chickadees.			
Red-breasted Nuthatch *Sitta canadensis*	All	Common Resident	Found in all coniferous and mixed woodlands, particularly above 500 m elevation. Common at feeders.
White-breasted Nuthatch *Sitta carolinensis*	All	Uncommon Resident	Found in Ponderosa pine and open Douglas-fir forests.
Pygmy Nuthatch *Sitta pygmaea*	Low	Common Resident	Restricted to Ponderosa pine forests, but abundant there. Easily attracted to suet feeders if they are near Ponderosa forests; use nest boxes for roosting and nesting.
CREEPERS			
A small family of inconspicuous, insectivorous birds that forage on tree trunks.			
Brown Creeper *Certhia americana*	All	Uncommon Resident	Nests in coniferous forests (except dry Ponderosa pine forests) behind slabs of bark on dead trees. Will use special nest boxes that mimic these bark slabs; will also come to suet feeders.
WRENS			
Small, insectivorous birds that nest in cavities or crevices. The first two listed here will use nest boxes, none visit feeders very often. Many species build several "dummy" nests, but only use one.			
House Wren *Troglodytes aedon*	Low	Common Summer	Nests in tree cavities; easily attracted to nest boxes. Builds several dummy nests and vigorously defends them, so can be a bit of a pest for other hole-nesting birds. Will also puncture the eggs of other hole-nesting birds.
Winter Wren *Troglodytes troglodytes*	All	Uncommon Summer	Builds mossy nests in bank crevices or hollows in upturned tree roots; occasionally in nest boxes.
Marsh Wren *Cistothorus palustris*	Low	Common Summer	Builds football shaped reed nests in marshes.
DIPPERS			
A small family of distinctive aquatic birds found along streams and rivers.			
American Dipper *Cinclus mexicanus*	All	Uncommon Resident	Nests on rocky river or creek banks, often near waterfalls; will also nest on bridges or dams. Feeds on aquatic insects and fish eggs.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
KINGLETS AND THRUSHES			
A large, diverse family of birds including many of the most popular songbirds. Kinglets are insectivorous; most thrushes eat invertebrates in summer and fruit and berries in winter.			
Western Bluebird *Sialia mexicana*	Low	Common Resident	Forages in open Ponderosa pine woodlands or aspen copses; flying from low perches for ground-dwelling insects such as grasshoppers. In winter switches to eating berries, particularly those of the Russian olive. Nests in tree cavities; easily attracted to nest boxes.
Mountain Bluebird *Sialia currucoides*	All	Common Summer	Forages in open grasslands or grazed pastures for ground-dwelling insects. Nests in tree cavities; easily attracted to nest boxes.
Townsend's Solitaire *Myadestes townsendi*	All	Uncommon Resident	Forages in open coniferous forests for insects in summer, berries in winter. Favourite berries include juniper, mountain ash and cotoneaster. Nests under root clumps on road banks.
Veery *Catharus fuscescens*	Low	Common Summer	Forages for insects in dense deciduous creek and river bottom habitat; eats berries such as choke-cherries in late summer.
American Robin *Turdus migratorius*	All	Common Resident	Forages in open meadows and lawns for earthworms and other invertebrates in summer; eats fruit and berries in fall and winter. Particularly attracted to fruit orchards or vine yards; mountain ash is a favourite berry as well. Builds mud and grass nest in tree, shrub, or on building; will use small nest platform under eaves.
Varied Thrush *Ixoreus naevius*	All	Common Resident	Forages on the ground in dense, moist coniferous forests in summer, eats berries in winter. Will also feed on suet crumbs scattered on ground. Builds mossy nest in trees and shrubs.
CATBIRDS AND THRASHERS			
Noted songsters that are insectivorous in spring and summer but eat berries in late summer and fall. Nest in shrubs.			
Gray Catbird *Dumetella carolinensis*	Low	Uncommon Summer	Forages and nests in dense shrubbery at low elevations. Eats berries such as choke-cherries in late summer.
Sage Thrasher *Oreoscoptes montanus* (Red List)	South Okanagan Basin, Okanagan Range	Uncommon Summer	Nests in a few areas of sagebrush in the south Okanagan and Similkameen valleys. Forages on ground for insects, eats berries in late summer.
WAXWINGS			
Handsome berry-eating birds, easily attracted by mountain-ash, Russian olive and other berry-producing trees.			
Bohemian Waxwing *Bombycilla garrulus*	All	Common Winter	Large flocks search for berry and fruit trees in winter; especially fond of mountain ash, Russian olive and grapes.
Cedar Waxwing *Bombycilla cedrorum*	All	Common Summer	Small flocks feed on berries in late summer (occasional in winter), also catch insects on the wing.
SHRIKES			
Raptorial songbirds of open country, occasionally seen harassing small birds at feeders.			
Northern Shrike *Lanius excubitor*	All	Uncommon Winter	Hunt for mice and small birds in open fields and grasslands.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
STARLINGS			
A large Afro-Eurasian family of generalist feeders; most nest in cavities.			
European Starling *Sturnus vulgaris*	All	Common Resident	Feed in gardens, parks and agricultural habitats for ground-dwelling invertebrates, also feed heavily on fruit and berries. Nests in cavities, aggressively defends or takes over cavities from other birds. Careful choice of next box hole size can prevent this problem.
VIREOS			
Small insectivorous birds; all in this region are summer visitors only. Their drab colours and tree-top foraging habits make them inconspicuous to the eye, but they are loud and persistent singers. Vireos are forest or woodland birds, and are attracted to stands of native trees. They will eat berries in late summer.			
WARBLERS			
Small insectivorous birds; all in this region are summer visitors only. Each of the dozen species in the Southern Interior is attracted to a different habitat or foraging site. Some feed close to the ground, others in the treetops. Attracted by a diversity of trees and shrubs, especially native species. During migration, warblers seem to particularly favour alders in which to look for their insect meals.			
TANAGERS			
Small to medium-sized songbirds, often brightly coloured. Most species are tropical, but one reaches British Columbia.			
Western Tanager *Piranga ludoviciana*	All	Common Summer	Forages in coniferous forests, particularly Douglas-fir, for insects during the breeding season, berries in late summer.
GROSBEAKS AND BUNTINGS			
A group of large-beaked birds related to sparrows. Other species of grosbeaks are in the finch family.			
Black-headed Grosbeak *Pheucticus melanocephalus*	Low	Uncommon Summer	Forages in deciduous woodlands for insects, seeds and berries. Will come to sunflower seed feeders.
Lazuli Bunting *Passerina amoena*	Low	Common Summer	Found in open, shrubby habitats at lower elevations.
SPARROWS			
Birds with moderately thick bills; feed on insects in summer, seeds in winter. You can attract many species to seed feeders, especially those offering millet. Most sparrows prefer to feed on the ground, however, and tend to feed on the seeds scattered below feeders. Several species require open grassland habitats and are rarely seen around homes.			
Spotted Towhee *Pipilo maculatus*	Low	Common Summer, Uncommon Winter	Forages in thick shrubbery at low elevations, nests on or near ground under bushes. A few will overwinter in yards offering seeds on the ground and thick cover for roosting.
Chipping Sparrow *Spizella passerina*	All	Common Summer	Forages on ground in shrubbery, nests in small bushes or out on the branches of large trees.
Brewer's Sparrow *Spizella breweri* (Red List)	South Okanagan Basin	Uncommon Summer	Forages on ground and in shrubs; restricted to large expanses of sagebrush habitat. Nests in sagebrush.
Vesper Sparrow *Pooecetes gramineus*	All	Common Summer	Forages and nests on ground in dry grasslands.
Lark Sparrow *Chondestes grammacus*	South Okanagan Basin	Uncommon Summer	Prefers grassland habitats with large shrubs, especially Antelope-brush.
Savannah Sparrow *Passerculus sandwichensis*	All	Common Summer	Forages and nests on ground in moist pastures.
Grasshopper Sparrow *Ammodramus savannarum* (Red list)	Okanagan	Uncommon Summer	Forages and nests on ground in dry grasslands.
Song Sparrow *Melospiza melodia*	All	Common Resident	Forages on ground, nests on or near ground; found in marshes and shrub-lined wetlands. Fairly common on ground around winter feeders.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
Lincoln's Sparrow *Melospiza lincolnii*	All	Uncommon Summer	Forages and nests on ground in high elevation sedge meadows.
White-crowned Sparrow *Zonotrichia leucophrys*	All	Common Resident	Forages and nests on or near ground in shrubbery; very common in migration at low elevations, when it may come to seed feeders.
Harris' Sparrow *Zonotrichia querula*	All	Uncommon Winter	Forages on ground in shrubbery, can be attracted to winter feeders offering millet.
Dark-eyed Junco *Junco hyemalis*	All	Common Resident	Forages on ground in forests and brushy habitats, common at winter feeders offering millet.
BLACKBIRDS AND ALLIES			
A diverse group related to sparrows; most species feed on insects in summer and seeds in winter.			
Bobolink *Dolichonyx oryzivorus* (Blue list)	Low	Uncommon Summer	Found in large, moist hay meadows.
Red-winged Blackbird *Agelaius phoeniceus*	All	Common Resident	Forages and nests in marshy habitats in summer, feeding on insects. In fall and winter forages in flocks in open country, feeding on seeds. Attracted to feeders, especially those offering sunflower seeds or cracked corn.
Western Meadowlark *Sturnella neglecta*	All	Common Summer	Forages for insects in grasslands, nests on ground. A few over winter, especially if corn is available.
Yellow-headed Blackbird *Xanthocephalus*	Low	Uncommon Summer	Nests in rich bulrush marshes, foraging in grasslands for insects. After breeding, will feed on grain with other species of blackbirds.
Brewer's Blackbird *Euphagus cyanocephalus*	Low	Common Summer, Uncommon Winter	Nests in a variety of situations, usually in thick shrubbery next to open grasslands or agricultural fields. Forages for insects on ground in open habitats.
Brown-headed Cowbird *Molothrus ater*	All	Common Summer	Lays eggs in the nests of other birds. Young are fed insects by their foster parents; adults feed on insects in fields, often following cattle or horses. Can be common at seed feeders.
Bullock's Oriole *Icterus bullockii*	Low	Common Summer	Forages and nests in deciduous woodlands and gardens at low elevations. Characteristic nest is sock-like. You can provide nest materials for orioles by hanging bits of string, yarn and hair in shrubs.
FINCHES			
Large-billed birds that eat seeds and fruit, though all species will eat insects at times. Often the dominant group at seed feeders. Finches appreciate a seed feeder through the summer months as well as in the winter; sunflower seeds are their favourite.			
Pine Grosbeak *Pinicola enucleator*	All	Uncommon Resident	Forages for berries and seeds at high elevations, though some will come down to valley bottoms in winter. They particularly like crabapples.
Cassin's Finch *Carpodacus cassinii*	All	Common Summer, Uncommon Winter	Forages for seeds in coniferous forests in summer, some stay around seed feeders in winter. Common at seed feeders in spring and summer; prefers black oil-seed sunflowers.
House Finch *Carpodacus mexicanus*	Low	Common Resident	One of the most familiar feeder birds in the Southern Interior; prefers black oil-seed sunflowers.
Red Crossbill *Loxia curvirostra*	All	Common Resident	Forages for conifer seeds in forests, will also glean for insects such as aphids in summer. Highly attracted by water sources such as birdbaths and small pools.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
White-winged Crossbill *Loxia leucoptera*	High	Uncommon Resident	Forages for spruce and larch seeds in high elevation forests, very rare lower down.
Common Redpoll *Carduelis flammea*	All	Uncommon Winter	Forages for small seeds on trees such as alder and birch. Will come to feeders, especially those offering niger "thistle" seed.
Pine Siskin *Carduelis pinus*	All	Common Resident	Forages for small seeds on trees such as alder and birch. Common at feeders year-round, especially those offering niger "thistle" seed or black oil-seed sunflowers.
American Goldfinch *Carduelis tristis*	All	Common Summer, Uncommon Winter	Forages for small seeds on low plants such as thistles and dandelion. Will come to feeders year-round, especially those offering niger "thistle" seed and black oil-seed sunflowers.
Evening Grosbeak *Coccothraustes vespertinus*	All	Common Resident	Forages for large seeds in trees; favourites are maple and Russian olive. Flocks often descend on feeders offering sun flower seeds, even in summer. Also feed on insects such as Spruce Budworm in summer.
Old World Sparrows			
A group unrelated to our sparrows, but sharing their habits of eating insects in summer and seeds in winter.			
House Sparrow *Passer domesticus*	All	Common Resident	Restricted to urban, suburban and rural habitats. Nests in cavities, but will also build large grass nest in thick vegetation. Aggressively defend cavities against native bird species, will also evict other species from nest boxes. Careful attention to hole size and shape can deter them from nesting in boxes designed for bluebirds or swallows.

Mountain Chickadee

J. Salsnek

Table 6: Native Mammals

Most mammals lead lives unseen by humans, since they are mainly nocturnal, living in a dark world where scent, not sight, is the most important sense. The more well-known species are those that are diurnal – such as squirrels and chipmunks – or large, such as bear, deer and Moose. Many species of mammals are unwelcome around homes and gardens, so certain steps must be taken to live in harmony with these species.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
Shrews & Moles *Insectivora*			
There are 5 species of shrews in the Southern Interior, but no moles. Shrews are tiny mammals that consume large quantities of insects and other invertebrates in their short lives. They forage on the ground and nest in rotten logs or small burrows in humus. To make your yard attractive to shrews leave areas of dense vegetation with a scattering of logs.			
Bats *Chiroptera*			
There are 14 species of bats in the Southern Interior – more than in any other ecoprovince, indeed, more than in any other part of Canada. Bats are an important part of the nightlife of the Southern Interior, and all species consume large amounts of insects. Bat colonies found in buildings in summer are maternity groups of mothers and young. Most species will roost in tree cavities and many species hibernate in caves or mine-shafts. See the Provincial Guide for instructions on how to build bat houses for your backyard.			
California Myotis *Myotis californicus*	All	Common	Found in a wide variety of habitats from dry grasslands to wet forests. Will use almost any type of natural or man-made shelter.
Western Small-footed Myotis *Myotis ciliolabrum* (BlueList)	Dry Valleys	Rare	The smallest bat in British Columbia; lives near cliffs and other rocky habitats in arid environments.
Western Long-eared Myotis *Myotis evotis*	All	Uncommon	Found at all elevations; the only bat regularly found high in mountains in British Columbia.
Little Brown Myotis *Myotis lucifugus*	All	Common	Found in a wide variety of habitats at all elevations; the most widespread bat species in the province.
Fringed Myotis *Myotis thysanodes* (Blue List)	Dry Valleys	Rare	Forages along streams and rivers.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
Long-legged Myotis *Myotis volans*	Valleys	Uncommon	Prefers to hunt along woodland edges and cliff faces; also over water.
Yuma Myotis *Myotis yumanensis*	Valleys	Common	Forages over water; often the commonest bat over Southern Interior rivers and streams.
Western Red Bat *Lasiurus blossevillii* (Red List)	South Okanagan Basin	Rare	Solitary; roosts in large deciduous trees. Only Canadian records are from Okanagan Falls and the Skagit River. Retain large cottonwoods.
Hoary Bat *Lasiurus cinereus*	Valleys	Uncommon	Feeds on large moths, beetles, dragonflies and other sizeable insects; roosts in trees. Probably migrates to southern California or Mexico in winter.
Silver-haired Bat *Lasionycteris noctivagans*	All	Common	Feeds on moths and other insects; roosts and hibernates in trees, though migrating individuals can be found on outside walls of buildings.
Big Brown Bat *Eptesicus fuscus*	All	Common	Commonly roosts in buildings; also hollow trees and rock crevices. Hibernates in buildings, caves and mineshafts.
Spotted Bat *Euderma maculatum* (Blue List)	Dry Valleys	Rare	Roosts in small numbers in crevices in large, rocky cliffs. Echolocation clicks ("tsip tsip ...") are audible to the human ear.
Townsend's Big-eared Bat *Plecotus townsendii* (Blue List)	Valleys	Uncommon	Roosts in buildings or caves; hibernates in caves and mine shafts.
Pallid Bat *Antrozous pallidus* (Red List)	South Okanagan Basin	Rare	Forages in arid grasslands for larger invertebrates(beetles, cicadas, praying mantids, katydids and scorpions. Most prey is gleaned from the ground or off vegetation. Roosts in rock crevices.
Pikas, Rabbits and Hares *Lagomorpha*			
There are four species from this Order in the Southern Interior, although one, the White-tailed Jackrabbit, is almost certainly now extirpated from the province.			
Snowshoe Hare *Lepus americanus*	All, higher elevations	Common	Feeds on a wide variety of vegetation; young are born in shallow nests next to logs or in dense shrubbery. Populations fluctuate dramatically in a ten-year cycle.
Nuttall's Cottontail *Sylvilagus nuttallii* (Blue List)	South Okanagan Basin	Uncommon	Found in open Ponderosa pine woodland and dry grasslands, usually near rocky cover.
Rodents *Rodentia*			
The most diverse mammal group in the region, with 33 species represented. Rodents are generally vegetarians, although members of the squirrel family can be quite carnivorous in spring and summer.			
Yellow-bellied Marmot *Marmota flaviventris*	Valleys	Common	Often seen basking on rocks in open grasslands; sleep and hibernate in underground burrows in rocky habitat. Feed on grasses and forbs. A major prey item of Golden Eagles.
Yellow-pine Chipmunk *Tamias amoenus*	All	Common	Found in open forests at all elevations; feeds on seeds and berries in summer, also bird eggs and nestlings in spring. Nests in short burrows under tree roots or fallen logs, also has summer nests in tree cavities. Inactive in winter.
Red Squirrel *Tamiasciurus hudsonicus*	All	Common	Nests in tree cavities (will use large nest boxes) or in stick-and-leaf nests called drays; feeds on conifer seeds. Also raids birds' nests for eggs and nestlings. Will come to bird feeders.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
Fox Squirrel *Sciurus niger*	South Okanagan Basin	Uncommon	A large grey and orange squirrel found around orchards and gardens north to Oliver. An introduced species that has spread north from Washington State. Feeds on fruit and nuts, nests in tree cavities and drays.
Northern Flying Squirrel *Glaucomys sabrinus*	All	Common	A nocturnal species that is seldom seen; roosts and nests in tree cavities, readily uses large nest boxes. Feeds on fungi, lichens and seeds, as well as bird eggs and nestlings. Will come to bird feeders at night.
Northern Pocket Gopher *Thomomys talpoides*	All	Common	Produces mounds of earth incorrectly called "mole-hills". Seldom seen, as it lives underground, feeding on plants, especially roots. Can be a garden pest.
Great Basin Pocket Mouse *Perognathus parvus* (Blue List)	Dry Grasslands	Common	Feeds on seeds, which are stored in underground burrows. Burrow entrances are small holes in metre-wide expanses of turned-up sand, often under shrubs such as antelope-brush.
Beaver *Castor canadensis*	All	Common	Feeds on deciduous trees and shrubs; forages close to bodies of water. Ponds formed behind beaver dams increase the diversity of forest life and are important factors in late summer water supply and spring flood prevention.
Western Harvest Mouse *Reithrodontomys megalotis* (Blue List)	Okanagan Valley	Uncommon	Forages in dry grasslands, especially around areas of dense shrubbery such as wild rose thickets.
Deer Mouse *Peromyscus maniculatus*	All	Common	Omnivorous, feeds on a wide variety of plant matter, fungi and invertebrates. Found in almost all terrestrial habitats, nesting in various cavities. This species often comes into cabins and houses; exercise caution when cleaning up droppings, since it can carry hantavirus.
Bushy-tailed Woodrat ("Packrat") Neotoma cinerea	All	Common	Feeds on foliage, fungi, fruit, berries, seeds and some insects in a variety of forest habitats; nests in rock crevices, tree cavities or buildings.
Meadow Vole *Microtus pennsylvanicus*	All	Common	Feeds on grasses and forbs, lives in moist pastures and meadows, creating tunnel-like runways under the matted grass. A very important prey species for many hawks, owls and mammalian predators. May chewing bark off young trees; wrap lower trunks with hardware cloth or metal flashing.
Muskrat *Ondatra zibethicus*	All	Common	Feeds on marsh vegetation; lives in burrows along the shores of ponds and lakes.
Porcupine *Erethizon dorsatum*	All	Uncommon	Feeds on tree and shrub twigs as well as the bark of larger trees. Particularly fond of chewing plywood. Dens in hollow logs, tree cavities and small caves.
CARNIVORES *Carnivora*			
There are 18 species of carnivores in the region. Some, such as Raccoons, bears, skunks and Coyotes, are truly omnivores.			
Coyote *Canis latrans*	All	Common	Omnivorous; eats berries, fruit, mice and occasionally larger mammals (including pets) and birds. Commonest in grass lands and open forests at lower elevations
Black Bear *Ursus americanus*	All	Common	Omnivorous; eats berries, fruit, fish and occasionally larger animals in all forested habitats. Will frequent orchards, vegetable gardens and compost piles. Keep food waste inside if possible.

Name Common, Scientific	Distribution	Abundance	Habitat, Behavior and How to Attract
Raccoon *Procyon lotor*	Okanagan	Uncommon	Omnivorous; eats aquatic invertebrates, fish, berries, fruit. Cover or use electrified fencing on ornamental fish ponds to keep raccoons away.
Short-tailed Weasel (Ermine) *Mustela erminea*	All	Common	Preys on meadow mice and other small mammals in a wide variety of forest habitats.
Mink *Mustela vison*	All	Uncommon	Preys on fish, crayfish and other aquatic animals in rivers, marshes and lakes.
Badger *Taxidea taxus* (Blue List)	Grasslands	Rare	Preys on groundsquirrels and mice in dry grasslands and open forests. Digs burrows for denning, these were also used by Burrowing Owls.
Striped Skunk *Mephitis mephitis*	Valleys	Common	Omnivorous; eats fruit, berries, eggs, invertebrates and other small animals.
Cougar *Felis concolor*	All	Uncommon	Preys on deer, Bighorn Sheep and other ungulates. Hungry Cougars will also attack pets, another good reason to keep your pets indoors at night.
Bobcat *Lynx rufus*	All	Uncommon	Preys on rabbits, mice, grouse, etc., in grasslands and open forests at lower elevations.
UNGULATES *Artiodactyla*			
Six species of ungulates are found in the Southern Interior; four members of the deer family (with antlers) and two members of the bovine family (with horns). Ungulates are grazers and browsers. Note: Use high fences around vineyards, orchards and gardens to discourage damage from deer foraging. This also reduces road-kill incidents due to deer moving from areas of natural habitat into orchards and gardens.			
Elk *Cervus elaphus*	All (but locally distributed)	Uncommon	Forages in grasslands, pastures and open woodland. Herds have been introduced to a number of sites in the region.
White-tailed Deer *Odocoileus virginianus*	All	Common	Forages in forests, meadows, pastures and hayfields, usually close to thickets, which provide cover. Uncommon to rare west of the Okanagan Valley.
Mule Deer *Odocoileus hemionus*	All	Common	Forages in open forests, meadows, pastures and hayfields at all elevations.
Moose *Alces alces*	Mountains and plateaus	Common	Feeds on aquatic vegetation in marshes and wet meadows in summer; browses shrubs and deciduous trees in winter.
Mountain Goat *Oreamnos americanus*	Okanagan Ranges; locally elsewhere	Common	Feeds on a wide variety of forbs and shrubs at all elevations, always close to steep, rocky escape terrain. Strongly attracted to alkaline earth licks.
Bighorn Sheep *Ovis canadensis*	Okanagan Ranges, South Okanagan Basin; locally elsewhere	Common	Forages on grass and shrubs at all elevations, always close to steep escape terrain.

WILDLIFE OBSERVATIONS

Date	Species	Observation

Photo credits:

Front Cover

Poderosa Pine and Okanagan Lake	*S.R. Cannings*

Back Cover

Anise Swallowtail Butterfly	*E. Durance*
Manposa Lily	*E. Durance*
Spotted Frog	*D. Lybarger*
Steller's Jay	*D. Lybarger*
Western Rattlesnake	*D. Lybarger*
Black-capped Chickadee on pinecone	*D. Lybarger*

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