

WHAT IS A SENSITIVE ECOSYSTEM?

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Ecological Significance

The Okanagan Valley is characterized by a complex landscape of rugged steep, rocky terrain and gently sloping terraces. These formations result from glacial lakes and the movement of materials by melting ice during the retreat of the last glaciers. The complex terrain, combined with a moderated semi-arid climate, supports diverse ecosystems and organisms. Open ponderosa pine woodlands, shrublands, and tall alpine slopes, and a diversity of riparian wetland ecosystems often occur in close proximity to one another. The wetland and riparian ecosystems are a focal point in the landscape for many species.

The Valley is a region of nearly unparalleled ecological and biological diversity within British Columbia and the rest of Canada. It is home to many stri-

Within the province, species are assessed by the B.C. Conservation Data Centre. Species at risk are identified on the B.C. Red and Blue lists. Red-listed species are extirpated, endangered, or threatened; blue-listed species are of special concern due to low or declining populations and are sensitive to human activities or natural events. Nationally at-risk species are ranked by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Endangered, Threatened, or of Special Concern. Endangered species face imminent extirpation or extinction; Threatened species may become endangered if limiting factors are not reversed. Species of Special Concern are particularly sensitive to human activities or natural events. Endangered or

Naramata: Dalziel, Rod. 2006. Naramata Sensitive Ecosystems Inventory. 1:20,000 maps

Central Okanagan (including south slopes): Hanley, A. and K. Iverson. 2009. Conservation analysis and updated ecosystem mapping for the Central

Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia. BC Ministry of Environment
www.env.gov.bc.ca/wid/documents/bmp/developwithcare2006/develop_withintro.html

Taking Nature's Pulse: The Status of Biodiversity in British Columbia
Austin, M.A., D.A. Buffett, D.J. Nicolson, G.G.E. Scudder and V. Stevens
(eds.). 2008. *Taking Nature's Pulse: The Status of Biodiversity in British
Columbia*. Biodiversity BC, Victoria, BC. 268 pp. Available at:
www.biodiversitybc.org

Waterfowl
Gallus gallus domesticus
(Mammal, Special Concern)
Photo by Parks Canada/Nature Canada

Seasonally Flooded Agricultural Fields Ecosystems provide the following services:		Some species associated with Seasonally Flooded Agricultural Fields are:	
<ul style="list-style-type: none"> Flood control Drought recovery 	Carbon storage	<ul style="list-style-type: none"> Great Basin Sparrow Long-billed Curlew 	Great Basin Sparrow <i>Sayornis saya</i> (American, Threatened) Photo by Gary Nels - Calliswaps.com
	Maintenance of productive soils		

<ul style="list-style-type: none"> • storm protection • Drainage and natural irrigation • Fresh water 	<ul style="list-style-type: none"> • Pollination • Pest regulation • Food production 	<ul style="list-style-type: none"> • Peregrine falcon • American Badger • Great Basin Gophersnake • Western Rattlesnake 	<p>Peregrine Falcon <i>Falco peregrinus anatum</i> (list, Special Concern)</p>
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F): Mature Forest ecosystems are dominated by mature trees, including **broadleaf** (MF-bd) forests, **coniferous** (MF-co) forests, and **mixed** (MF-mx) deciduous and coniferous forests; however it excludes mature riparian forests, and mature coniferous and broadleaf woodlands. Mature Forests are an important buffer to sensitive ecosystems. They provide some of the same values associated with Old Forest ecosystems and can also be important recruitment sites for Old Forests. Mature forest ecosystems have many important structural attributes, including some remaining large, old trees.

Mature Forest Ecosystems provide the following services:

- Climate regulation
- Carbon storage
- Air quality
- Flood control
- Pest regulation
- Pollination

Some species associated with Mature Forest Ecosystems are:

- Lyall's Mariposa Lily
- Wolverine
- Williamson's Saururizer
- Western Screech Owl
- Flammulated Owl

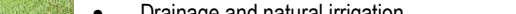
<ul style="list-style-type: none"> • Erosion control • Sediment retention • Nutrient cycling and maintenance of productive soils 	<ul style="list-style-type: none"> • Pollination control • Food production 	<ul style="list-style-type: none"> • Olive-sided Flycatcher • Showy Phlox • Western Rattlesnake 	<p>Williamson's Sapsucker <i>Sphyrapicus thyroideus</i> (bird, Endangered) Photo by Jared Hobbs</p>
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landscapes (NS): (Areas not mapped as sensitive or other important ecosystems are depicted in white)

Non-sensitive Landscapes are modified areas not occupied by sensitive ecosystems, and include urban areas, disturbed rural landscapes, and young forests. Urban areas have human-influenced features or disturbances that are dominant across the landscape. Disturbed rural areas can be interspersed with range, farmland and native vegetation, or cultivated crops. Young forests are conifer-dominated stands with an age range between 1 and 80 years. Non-sensitive landscapes are shown in white in the areas that are not designated by a sensitive ecosystem. In total, many sensitive ecosystem polygons close to urban or disturbed areas may have a modified landscape interspersed with the sensitive ecosystem(s), in which the sensitive ecosystems are too small to map individually. These modified

Other Important Ecosystems

Seasonally Flooded Agricultural Fields ecosystems are cultivated fields that flood annually, providing important migration and wintering habitat for birds. They provide important habitat for amphibians, waterfowl and other bird species, small mammals, and many types of predators. They are located along low-lying areas or former floodplains that have been isolated by channelization of creeks and rivers. In some cases, these areas could be restored to Wetland or Riparian ecosystems if natural flood regimes and vegetation are re-established.

	<p>Seasonally Flooded Agricultural Fields Ecosystems provide the following services:</p> <ul style="list-style-type: none"> • Flood control • Drought recovery • Storm protection • Drainage and natural irrigation 	<p>Some species associated with Seasonally Flooded Agricultural Fields are:</p> <ul style="list-style-type: none"> • Great Basin Sparrowfoot • Long-billed Curlew • Peregrine Falcon • American Badger 	<p>Some ecosystem services associated with Seasonally Flooded Agricultural Fields are:</p> <ul style="list-style-type: none"> • Carbon storage • Maintenance of productive soils • Pollination • Pest regulation
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Mature Forest (MF):

Mature Forest ecosystems are dominated by mature trees, including **broadleaf** (MF:bd) forests, **coniferous** (MF:co) forests, and **mixed** (MF:mx) deciduous and coniferous forests; however it excludes mature riparian forests, and mature coniferous and broadleaf woodlands. Mature Forests are an important buffer to sensitive ecosystems. They provide some of the same values associated with Old Forest ecosystems and can also be important recruitment sites for Old Forests. Mature Forest ecosystems have many important structural attributes, including some remaining large, old trees.

Mature Forest Ecosystems provide the following services:

- Climate regulation
- Carbon storage
- Air quality
- Flood control
- Pest regulation
- Pollination

Some species associated with Mature Forest Ecosystems are:

- Lysichiton Mariposa Lily
- Western Screech Owl
- Wolverine
- Flammulated Owl
- Williams' S. Squirrel

Photo: Stephen H. Frisvold

	<ul style="list-style-type: none"> • Erosion control • Sediment retention • Nutrient cycling and maintenance of productive soils 	<ul style="list-style-type: none"> • Pollution control • Food production 	<ul style="list-style-type: none"> • Olive-sided Flycatcher • Snowy Plover • Western Rattlesnake 	<p>Williamson's Sapsucker <i>Sphyrapicus thyroideus</i> (Bird, Endangered) Photo by Jared Hoots</p>
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Non-sensitive Landscapes (NS): (Areas not mapped as sensitive or other important ecosystems are depicted in white)

Non-sensitive Landscapes are modified areas not occupied by sensitive ecosystems, and include urban areas, disturbed rural landscapes, and young forests. Urban areas have human-influenced features or disturbances that are dominant across the landscape. Disturbed rural areas can be interspersed with range, farmland and native vegetation, or cultivated crops. Young forests are conifer-dominated stands with an age range between 0 and 80 years. Non-sensitive landscapes are shown in white in the areas that are not designated by a sensitive ecosystem. In addition, many sensitive ecosystem polygons close to urban or disturbed areas may have a modified landscape interspersed with the sensitive ecosystem(s), in which the sensitive ecosystems are too small to map individually. These modified areas are depicted as N/S (non-sensitive) on the map.