

WHAT IS A SENSITIVE ECOSYSTEM?

For the purpose of this report, an ecosystem is considered to be a portion of the landscape with relatively uniform dominant vegetation.

Are Sensitive Ecosystems are ecosystems that are ecologically sensitive and/or at risk in the landscape.

Rationale

The Okanagan Valley region covers one of the most rapidly growing portions of British Columbia, and development pressure is escalating. The area is under intense pressure due to urban and rural human settlement as well as agriculture, and has experienced significant changes to its natural landscape. Sensitive Ecosystems Inventory mapping projects across the province have identified ecosystem stressors and ecological functions through the spread of invasive alien species and fire extinction. Very high ecological values, combined with the development pressures, have resulted in the Okanagan Valley being one of the most rapidly growing based land use decision making throughout the Okanagan Valley.

Regional and municipal governments of the Okanagan Valley and conservation organizations, assisted by Environment Canada's Canadian Wildlife Service and the British Columbia Ministry of Forests, Lands and Natural Resource Operations, Sensitive Ecosystems Inventory mapping projects across the means to identify the remaining sensitive ecosystems in the Okanagan Valley. The SEI is a broader initiative to provide local governments with information to encourage local governments, landowners, developers, and other citizens to become more aware of the landscape, and to help them make better land use decisions. Conservation of these ecosystems is increasingly important as rapid population growth in the Okanagan continues to cause fragmentation, degradation, and loss of natural resources.

An ecosystem, for the purpose of this report, is a portion of the landscape with relatively uniform vegetation and soil. Sensitive ecosystems are those that are ecologically sensitive and/or at risk. Criteria for ecological sensitivity include the presence of rare or unusual species, vulnerability to biological changes, sensitivity to the introduction and spread of invasive plants, and sensitivity to recreational activity and other human disturbances.

To provide local governments with information to encourage local governments to determine the SEI, a working group of scientists and managers determined by the B.C. Conservation Data Centre (CDC), a member program of the International NatureServe network. The CDC task force represents a wide range of expertise and is particularly focused on representation of at-risk ecological community.

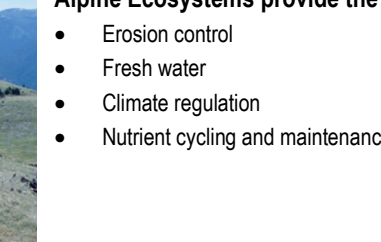
Ecological Significance

The Okanagan Valley is characterized by a complex landscape of rugged, steep, rocky terrain and gently sloping terraces. These formations result from a combination of geological and glacial processes that have shaped the landscape over the last glacial period. The complex terrain, combined with a moderated semi-arid climate, supports diverse ecosystems and organisms. Open ponderosa pine forests, grasslands, shrub and tall-shrub, and a diversity of riparian and 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 rarely unparalleled ecological and biological diversity.

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Alpine (AP):



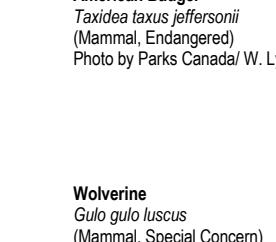
Alpine ecosystems are high-elevation alpine and parkland ecosystems including **herbaceous** ecosystems dominated by forbs or graminoid vegetation (APh), **parkland forests** where trees occur in distinct groups (APF), and **shrub** ecosystems dominated by dwarf shrubs such as heather (APsh). Alpine ecosystems are found at higher elevations in the South Okanagan (T1, 15) where there is significant snow cover for large parts of the year. Alpine ecosystems are sensitive to disturbance, as the minute soils and cold temperatures slow vegetation recovery.

Alpine Ecosystems provide the following services:

- Erosion control
- Fresh water
- Climate regulation
- Nutrient cycling and maintenance of productive soils
- Pollination
- Food production
- Soil formation

Some species associated with Alpine Ecosystems are:

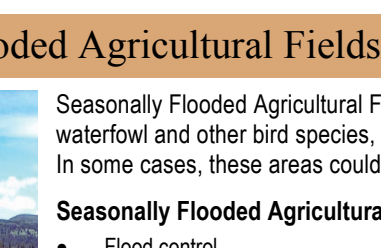
- American Baderger
- Pinyon Pine Falcon
- Wolverine



American Baderger
Taxidea taxus (American Badger)
 Photo by Parks Canada/W. Lynch

Wolverine
Elo gulo gulo
 (American Spotted Coonant)
 Photo by Parks Canada/W. Lynch

Seasonally Flooded Agricultural Fields (FS):



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, wetland and other bird species, small mammals, and many types of predators. They are located along lowlying 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.

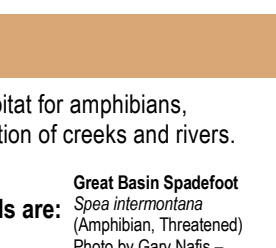
Seasonally Flooded Agricultural Fields ecosystems provide the following services:

- Flood control
- Drought recovery
- Storm protection
- Damage and natural irrigation
- Fresh water
- Carbon storage
- Maintenance of productive soils
- Pollination
- Pest regulation
- Food production

Some species associated with Seasonally Flooded Agricultural Fields are:

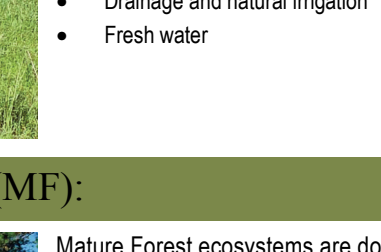
- Great Blue Swallowtail
- Long-billed Curlew
- Pinyon Pine Falcon
- American Baderger
- Great Basin Gophersnake
- Western Redstart

Great Blue Swallowtail
Papilio glaucus (Swallowtail)
 Callithyridae.com



Pinyon Pine Falcon
Falco pinnatus (American Bird, Spotted Coonant)
 Photo by Parks Canada

Mature Forest (MF):



Mature Forest ecosystems are dominated by mature trees, including **broadleaf** (MF-bf) forests, **coniferous** (MF-cf) forests, and **mixed** (MF-mx) deciduous and coniferous forests; however it excludes mature riparian forests, and mature coniferous and broadleaf wetlands. Mature Forests are an important buffer to sensitive ecosystems. They provide some of the same values associated with sensitive 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.

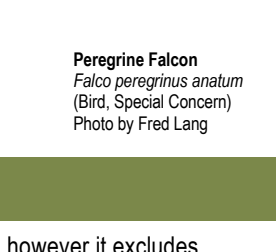
Mature Forest Ecosystems provide the following services:

- Climate regulation
- Carbon storage
- Air quality
- Erosion control
- Sediment retention
- Nutrient cycling and maintenance of productive soils
- Flood control
- Pest regulation
- Pollination
- Pollution control
- Food production

Some species associated with Mature Forest Ecosystems are:

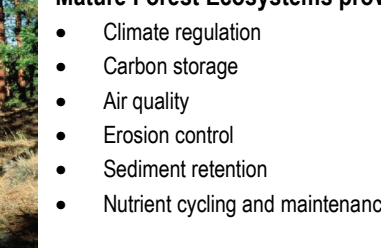
- Lyle's Maroposa Lily
- Western Screech Owl
- Wolverine
- Williamson's Sapsucker
- Olive-sided Flycatcher
- Shrew Pitta
- Western Redstart

Olive-sided Owl
Nyctaleo olivaceus (Bird, Spotted Coonant)
 Photo by Parks Canada/W. Lynch



Williamson's Sapsucker
Sphyrapicus bicknelli (Bird, Endangered)
 Photo by Jean-Hébert

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-induced 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 cone-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 ecosystems and polygons close to urban or disturbed areas may have a modified landscape (designated by the sensitive ecosystem), in which the sensitive ecosystem's area are small to map individually. These modified