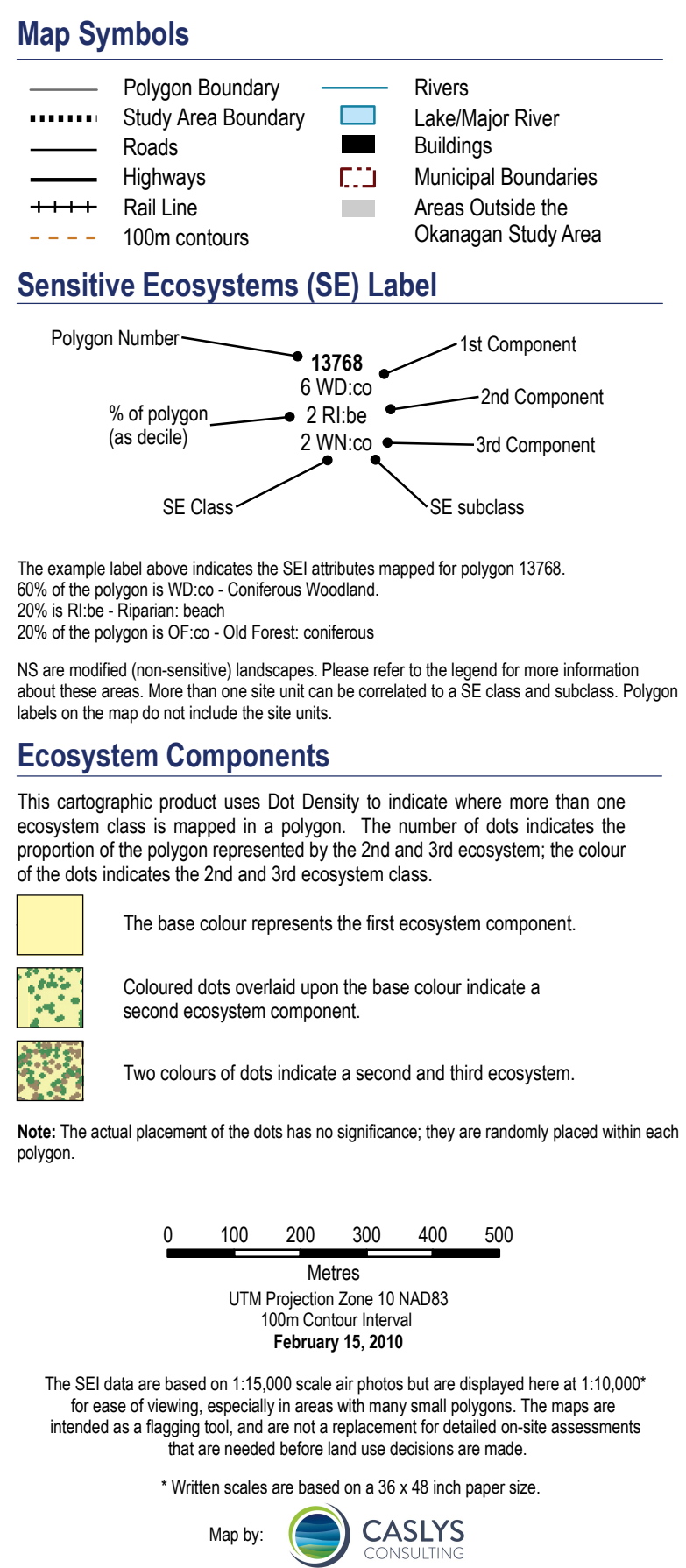


Alpine (AP):

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

[illegible]

Three protected species have been included in Schedule 1 of the Species at Risk Act (SARA) since 2002. The new Schedule 1 includes the Western Hare, the American Badger and the new B.C. Wildlife Amendment Act will protect their populations and habitats on provincial lands. Protection of Species at Risk and land planning matters on private lands is also covered through careful land use importations and municipal bylaws.

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The methods and access to all fieldwork and map products for the Okanagan Valley SEI projects are available at EcoMap; www.gov.bc.ca/ecomap/ (see in S.E. Okanagan Valley or the project area name as a keyword).

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**British Columbia Conservation Data Bank (CCD). Ecosystems Branch. B.C. Ministry of Environment. www.env.gov.bc.ca/ccdb**

**Related Publications and Links**

**Green Rylands Toolkit for Conserving Sensitive Ecosystems and Open Spaces:** [www.greenrylands.ca](http://www.greenrylands.ca)

**Tool Kit:** Contains practical examples of how provisions currently in use can be applied to develop plans for Regional Growth Strategies, Official Community Plans, Development Permit Areas, Zoning, Tax Exemptions, etc. Includes information on environmental and other regulations too. It includes several case studies and case studies of successful infrastructure projects and best practices.

**Climate Change:** Wilson, S.J. & R.H. Helms. Mitigating and Adapting to Climate Change through the Green Economy. Available at: [www.landtransitionlab.ca/research.html](http://www.landtransitionlab.ca/research.html)

**Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia.** BC Ministry of Environment  
[www.gov.bc.ca/wildlifemanagement/britishwithcaredeveloping\\_with\\_care.htm](http://www.gov.bc.ca/wildlifemanagement/britishwithcaredeveloping_with_care.htm)

**Taking Nature's Pulse: The Status of Biodiversity in British Columbia.** Austin, M.A., D.A. Buffett, D.J. Nicolson, G.G. Snodgrass and V. Stevens (eds.). 2008. Taking Nature's Pulse: The Status of Biodiversity in British Columbia. Victoria, BC: 2008. Available at: [www.biodiversity.org/](http://www.biodiversity.org/)

[illegible]

Alpine (AP):

Alpine ecosystems are high-elevation alpine and parkland ecosystems including **herbaceous** ecosystems dominated by forbs or graminoid vegetation (*AP<sub>gf</sub>*), **parkland forests** where trees occur in distinct clumps (*AP<sub>pf</sub>*), and **shrub** ecosystems dominated by dwarf shrubs such as heather (*AP<sub>sh</sub>*). 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 shallow 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

**Alpine Ecosystems provide the following services:**

- Pollination
- Flood production
- Soil formation

**Some species associated with Alpine Ecosystems are:**

- American Badger
- Peregrine Falcon
- Wolverine

**Amniotic Beaver**  
Twisted limbs afflict them  
(Barnett, 2008)

Photo by Peter Gowan / W. Lynch

**Wolverine**  
Grip, grip, grip  
(Barnett, 2008)

Photo by Peter Gowan / W. Lynch

## Used 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, waterfowl 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
- Carbon storage
- Maintenance of productive soils
- Soil recovery
- Soil protection
- Feed regulation
- Drainage and natural irrigation
- Fresh water

**Some species associated with Seasonally Flooded Agricultural Fields are:**

- Great Black Spadetail
- Long-billed Curlew
- Peregrine Falcon
- American Badger
- Great Blain Spadetail
- Western Rattlesnake

**Great Black Spadetail**  
Down feathers  
(Barnett, 2008)

Californian.com

**Peregrine Falcon**  
Peregrine perched on a rock  
(Bart, 2008)

Photo by Peter Gowan / W. Lynch

## (MF):

Mature Forest ecosystems are dominated by mature trees, including **broadleaf** (MF<sub>bl</sub>) **forests**, **coniferous** (MF<sub>c</sub>) **forests**, and **mixed** (MF<sub>m</sub>) **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
- Erosion control
- Sediment retention
- Nutrient cycling and maintenance of productive soils

**Some species associated with Mature Forest Ecosystems are:**

- Lyall's Forsetia
- Western Screech Owl
- Wolverine
- Wilkinson's Sapsucker
- Old-world Flycatcher
- Shore Bird
- Western Rattlesnake

**Flammarion's Owl**  
Old world flycatcher  
(Barnett, 2008)

Photo by Peter Gowan / W. Lynch

**Wilkinson's Sapsucker**  
Sapsucker foraging  
(Barnett, 2008)

Photo by Jane Hobbs

## landscapes (NS): (Areas not mapped as sensitive or other important ecosystems are depicted in white)

Non-sensitive landscapes are mapped as 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, terrestrial and native vegetation, or cultivated crops. Young forests are forest dominated by trees between 0 and 50 years. Non-sensitive landscapes are shown in white in the areas that are not designated by a sensitive ecosystem. In addition, many sensitive ecosystems are located on polygons close to urban or disturbed areas which have a modified landscape relationship with the sensitive ecosystem(s). In this case the sensitive ecosystems are too small to map individually. These modified

## Other Important Ecosystems

Seasonally Flooded Agricultural Fields (FS)

**Seasonally Flooded Agricultural Fields** ecosystems are cultivated fields that flood annually, providing important migration and wintering habitats 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 Forested ecosystems if natural flood regimes and vegetation are reestablished.

**Seasonally Flooded Agricultural Fields** provide the following services:

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

**Some species associated with Seasonally Flooded Agricultural Fields are:**

- Great Basin Spardeek
- Long-billed Curlew
- Pennine Falcon
- American Badger
- Great Basin Gophersnake
- Western Redstart

**Seasonally Flooded Agricultural Fields** are also associated with the following species:

- Great Basin Spardeek
- Long-billed Curlew
- Pennine Falcon
- American Badger
- Great Basin Gophersnake
- Western Redstart

**Mature Forest (MF):**

Mature Forest ecosystems are dominated by mature trees, including **broadleaf** (MF-bf) forests, **coniferous** (MF-c) forests, and **mixed** (MF-m) 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
- Erosion control
- Sediment retention
- Nutrient cycling and maintenance of productive soils
- Food control
- Pollination
- Pollution control
- Food production

**Some species associated with Mature Forest Ecosystems are:**

- Lutescent Marmot
- Volcanic
- William's Sapsucker
- Blue-sided Tanager
- Snowy Plover
- Western Redstart

**Mature Forest Ecosystems** are also associated with the following species:

- Lutescent Marmot
- Volcanic
- William's Sapsucker
- Blue-sided Tanager
- Snowy Plover
- Western Redstart

**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 grass, terraced and native vegetation, or cultivated crops. Young forests are conifer-dominated stands with an age range between 10 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, such as riparian, wetland, and forested ecosystems, may also occur in non-sensitive landscapes. Non-sensitive Landscapes may have a modified landscape interspersed with the sensitive ecosystem(s), in which the sensitive ecosystem(s) are too small to map individually. These modified areas are depicted as NSC (non-sensitive) on the maps.