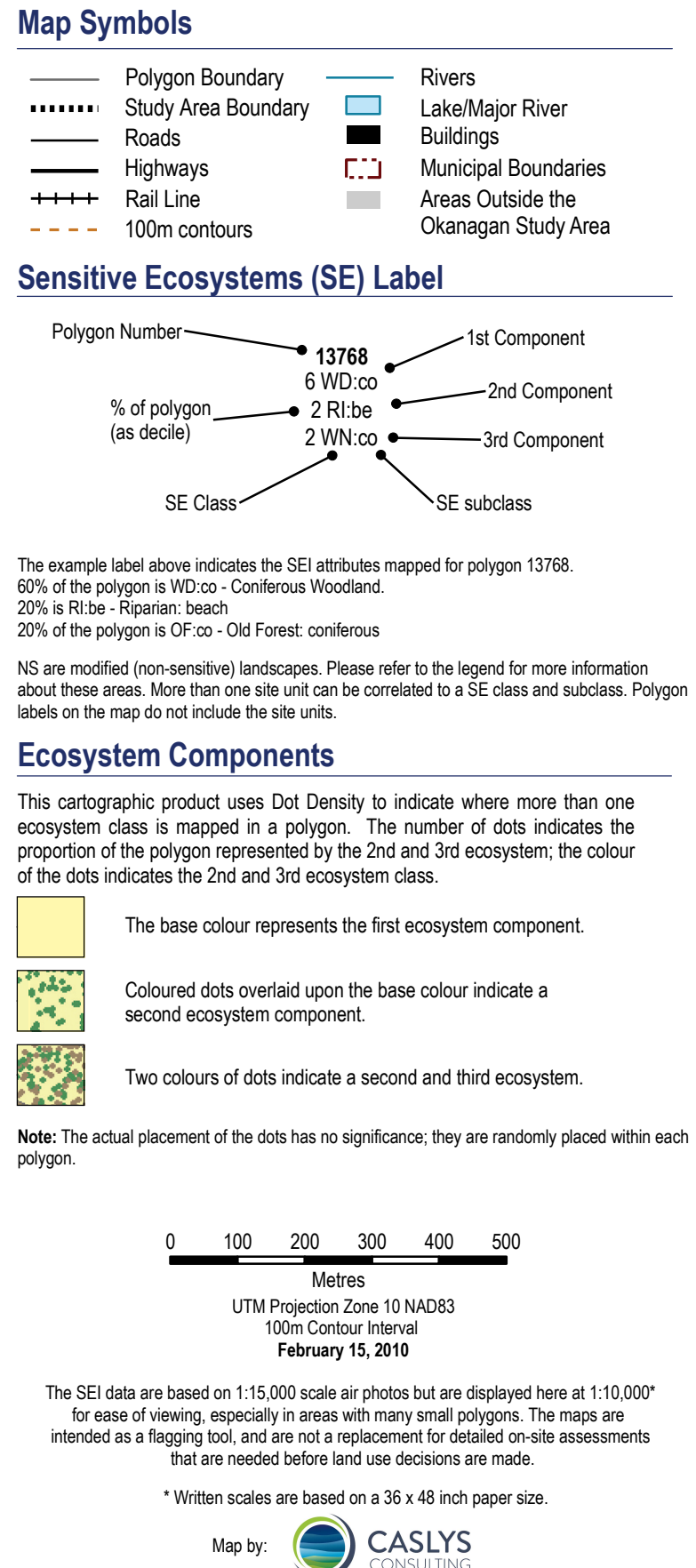


Alpine (AP):

Alpine ecosystems are high-elevation alpine and parkland ecosystems including **herbaceous** ecosystems dominated by forbs or graminoid vegetation (AP<sub>hp</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 (TNL 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.



Treatened species that have been included in Schedule 1 of the Species at Risk Act are afforded protection on federal lands, and the new B.C. Wildlife Amendment Act will protect their populations and habitats on provincial lands. Protection of Species at Risk and their important habitats on private lands is primarily achieved through careful land use planning and municipal bylaws.

**Bella Vista – Goose Lake Range:** Iverson, K. and J. Shypitka. 2002. Terrestrial Ecosystem Mapping Of the Bella Vista – Goose Lake Range.

**Kelowna:** Iverson, K. and P. Unilua. 2008. Sensitive Ecosystems Inventory: Kelowna - Vernon. 120,000 maps.

**South Okanagan:** Iverson, K. and A. Haney. 2009. Refined and updated ecosystem mapping for the South Okanagan and lower Similkameen Valley. Unpub. report prepared for the Regional District of the Okanagan - Similkameen.

**Joe Rich:** Iverson, K. and P. Uunila. 2006. Sensitive Ecosystems Inventory: Central Okanagan. Joe Rich. 1:20,000 maps.

British Columbia Conservation Data Centre (CDC), Ecosystems Branch,  
BC Ministry of Environment, [www.env.gov.bc.ca/cdc/](http://www.env.gov.bc.ca/cdc/)

[Related Publications and Links](#)

Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure: [www.greenbylaws.ca](http://www.greenbylaws.ca)  
The Toolkit contains practical examples of bylaw provisions currently in use

B.C., including model provisions for Regional Growth Strategies, Official Community Plans, Development Permit Areas, Zoning, Tax Exemptions, Environmental Assessment, Stormwater Management and other regulatory

**Climate Change:** Wilson, S. and B.H. Hobbs. *Mitigating and Adapting to*

Climate Change through the Conservation of Nature. Available at [www.landtrustalliance.bc.ca/research.html](http://www.landtrustalliance.bc.ca/research.html)

**Develop with Care:** Environmental Guidelines for Urban and Rural Land Development in British Columbia. BC Ministry of Environment  
[www.env.gov.bc.ca/wild/documents/bmo/developwithcare2006/develop\\_with\\_care](http://www.env.gov.bc.ca/wild/documents/bmo/developwithcare2006/develop_with_care)

**Taking Nature's Pulse: The Status of Biodiversity in British Columbia**

Austin, M.A., D.A. Boffett, 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.bloodvet.org

**Alpine Ecosystems provide the following services:**

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

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### Seasonally Flooded Agricultural Fields (FS):

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

- Flood control
- Carbon storage

- Drought recovery
- Storm protection
- Drainage and natural irrigation
- Maintenance of productive soils
- Pollination
- Pest regulation

- Fresh water
- Food production

F):

Mature Forest ecosystems are dominated by mature trees, including **broadleaf** (MF:bd) mature riparian forests, and mature coniferous and broadleaf woodlands. Mature Forest ecosystems are also the important recruitment sites for Old Growth. Mature Forest

**Mature Forest Ecosystems provide the following services:**

- Climate regulation
- Flood control

- Carbon storage
- Air quality
- Emission control
- Pest regulation
- Pollination
- Evapotranspiration control

- Sediment retention
- Food production
- Nutrient cycling and maintenance of productive soils

cleaner (NIC); (A) not manned or sensitive or other

Non-sensitive Landscapes are modified areas not occupied by sensitive ecosystems, and are not considered to pose a significant concern to the landscape. This does not mean these areas are

or disturbances that are common across the landscape. Disturbed forest areas can be stands with an age range between 0 and 80 years. Non-sensitive landscapes are shown as polygons close to urban or disturbed areas may have a modified landscape interspersed areas are denoted as NS (non-sensitive) on the map.

## 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, 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 environments if natural flood regimes and vegetation are re-established.

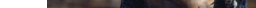
Seasonally Flooded Agricultural Fields Ecosystems provide the following services:

- Flood control
- Carbon storage

Some species associated with Seasonally Flooded Agricultural Fields are:

- Great Basin Spadefoot

- Drought recovery
- Storm protection
- Drainage and natural irrigation
- Maintenance of productive soils
- Pollination
- Pest regulation
- Long-billed Curlew
- Peregrine Falcon
- American Badger

<ul style="list-style-type: none"> <li>Fresh water</li> </ul>	<ul style="list-style-type: none"> <li>Food production</li> </ul>	<ul style="list-style-type: none"> <li>Great Basin Gophersnake</li> <li>Western Rattlesnake</li> </ul>	 <p><b>Peregrine Falcon</b>  <i>Falco peregrinus anatum</i>          (Bird, Special Concern)</p>
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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 are also an important recreational sites for CM Forests. Mature forest ecosystems have been impacted at about 40% in the Sydney region, and are also being lost.

**Mature Forest Ecosystems provide the following services:**

- Climate regulation
- Flood control

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

- Laysan's Mānōia L'ry
- Western Screech Owl
- Flammulated Owl
- Oahu Puffin
- Red-footed Booby
- Laysan Duck

- Carbon storage
- Air quality
- Firewise control
- Pest regulation
- Pollination
- Pollution control
- Wolverine
- Williamson's Sapsucker
- Old world Flycatcher
- Flammulated Owl

	<ul style="list-style-type: none"> <li>• <i>Geophila chelonis</i></li> <li>• Sediment retention</li> <li>• Nutrient cycling and maintenance of productive soils</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Parachanna obscura</i></li> <li>• Food production</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Unversiera</i> sp.</li> <li>• Shady Phlox</li> <li>• Western Rattlesnake</li> </ul>	<p><b>Williamson's Sapsucker</b>  <i>Sphyrapicus thyroideus</i>        (Bird, Sphyrapidae)</p>	
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Non-sensitive Landscapes (NLC): (Areas not mapped as sensitive or other important ecosystems are depicted in white)

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 (e.g. dense built-up areas, roads, and industrial areas). Disturbed rural landscapes include agricultural areas, forest clearings, and other areas of human influence. Young forests are newly established forests.

or disturbances that are common across the landscape. Undisturbed rural areas can be interspersed with range, farmland and native vegetation, or cultivated crops. Young forests are corner-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 identified as NS (non-sensitive) on the map.