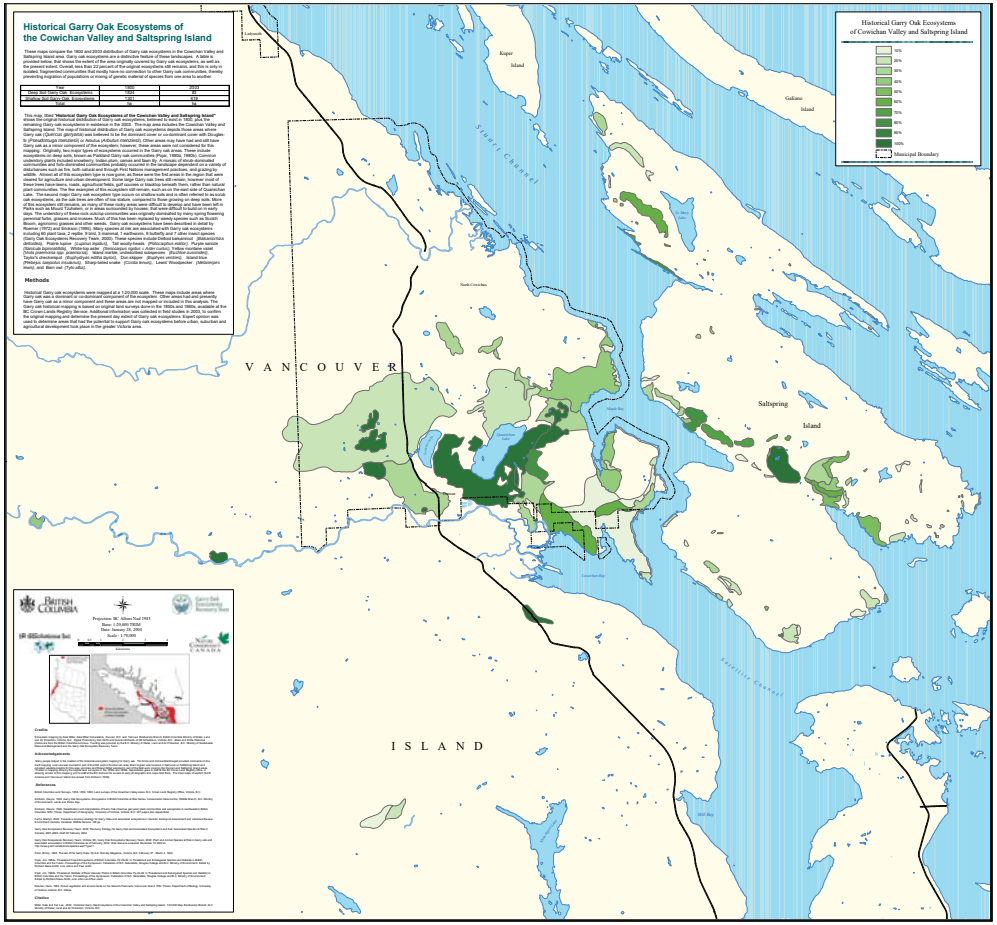
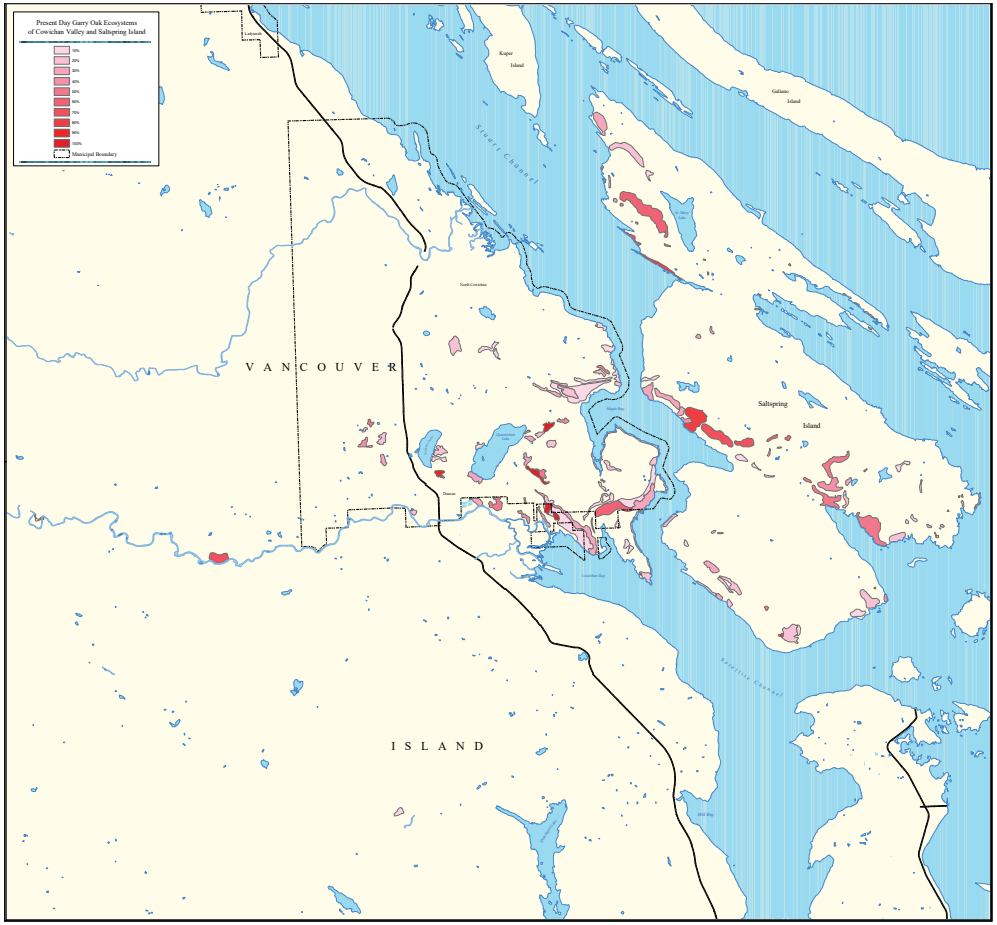

Historical Garry Oak Ecosystems of the Cowichan Valley and Saltspring Island
These maps compare the 1850 and 2003 distribution of Garry oak ecosystems in the Cowichan Valley and Saltspring Island area. Garry oak ecosystems are a distinctive feature of these landscapes. A table is provided below, that shows the extent of the area originally covered by Garry oak ecosystems, as well as the present extent. Overall, less than 22 percent of the original ecosystems still remains, and this is only in isolated, fragmented communities that mostly have no connection to other Garry oak communities, thereby preventing migration of populations or mixing of genetic material of species from one area to another.
Type | 1850 | 2003
Deep Soil Garry Oak Ecosystems | 1,000 | 220
Shallow Soil Garry Oak Ecosystems | 1,021 | 218
Total | ha | ha
This map, titled "Historical Garry Oak Ecosystems of the Cowichan Valley and Saltspring Island" depicts the historical distribution of Garry oak ecosystems in 1850, and the extent of the remaining Garry oak ecosystems in existence in the 2003. The map area includes the Cowichan Valley and Saltspring Island. The map of historical distribution of Garry oak ecosystems depicts those areas where Garry oak (Quercus garryana) was a dominant or co-dominant species, and those areas where arbutus (Pseudotsuga menziesii) or Arbutus (Arbutus menziesii). Other areas may have had and still have Garry oak as a minor component of the ecosystem; however, these areas were not considered for this mapping. Originally, two major types of ecosystems occurred in the Garry oak areas. These include ecosystems on deep soils, known as Parkland Garry oak communities (Pojar, 1980a, 1980b). Common species in these communities include Garry oak, Douglas-fir, and grasses. The Garry oak and grassland communities and fire-dominated communities probably occurred in the landscape dependent on a variety of disturbances such as fire, both natural and through First Nations management practices, and grazing by native species. Because of the fertile soils, these areas were the first areas to be settled and cleared for agriculture and urban development. Some large Garry oak trees still remain, however most of these trees have been cut, roads, agricultural fields, golf courses or blacktop beneath them, rather than natural ecosystems. Many of these areas are now found in the vicinity of Duncan, Cowichan Bay and Cowichan Lake. The second major Garry oak ecosystem type occurs on shallow soils and is often referred to as rocky oak ecosystems, as the oak trees are often of low stature, compared to those growing on deep soils. More than 90 percent of these areas are found on the Gulf Islands, with the largest areas found on Mount Parke such as Mount Tuxhalano, or in areas surrounded by houses, that were difficult to build on in early days. The understory of these rock outcrop communities was originally dominated by many spring flowering species, including camas, chocolate lily, blue-eyed Mary, sea blush, harvest brodiaea, and a variety of grasses, sedges, and other weeds. Garry oak ecosystems have been described in detail by Roemer (1972) and Erickson (1980). Many species at risk are associated with Garry oak ecosystems (Garry Oak Ecosystems Recovery Team 2000). Species at risk found in the Garry oak ecosystems (Garry Oak Ecosystems Recovery Team 2000). Three species include Oxford tarsonemid (Bidiscorsicles detrideta) Prairie lupine (Lupinus lepidus), Tall woolly-heads (Psilocarphus elatior), Purple sanicle (Sanicula bipinnatifida), White-top aster (Sericocarpus rigidus v. Aster curtus), Yellow montane violet (Viola praemorsa ssp. Praemorsa), Howell's montane violet (Viola praemorsa ssp. Howellii), Taylor's checkerspot (Euphydryas editha taylori), Dun-skipper (Euphyes vestris), Island blue (Plebejus saepiolus insulanus), Sharp-tailed snake (Contia tenuis), Lewis' Woodpecker (Melanerpes lewis), and Barn owl (Tyto alba).
Methods
Historical Garry oak ecosystems were mapped at a 1:20,000 scale. These maps include areas where Garry oak was a dominant or co-dominant component of the ecosystem. Other areas had and presently have Garry oak as a minor component of the ecosystem, however these areas were not mapped. The Garry oak historical mapping is based on original land surveys done in the 1850s and 1860s, available at the BC Crown Lands Registry Service. Additional information was collected in field studies in 2003, to confirm the location of remaining ecosystems and to verify the historical mapping. Air photos were examined in each case to determine areas that had the potential to support Garry oak ecosystems before urban, suburban and agricultural development took place in the greater Victoria area.
Historical Garry Oak Ecosystems of Cowichan Valley and Saltspring Island
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Municipal Boundary
Projection: BC Albers/Nad 1983
Datum: NAD 83
Date: January 31, 2006
Scale: 1:750,000
Credits
Acknowledgements
References
Citation
VANCOUVER
ISLAND
Saltspring
Island
Kuper
Island
Galiano
Island
North Cowichan
Stuart Channel
Georgia Strait
Cowichan Bay
Sansum Narrows
Saanich Inlet
Haro Strait


Present Day Garry Oak Ecosystems of Cowichan Valley and Saltspring Island
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Municipal Boundary
VANCOUVER
ISLAND
Saltspring
Island
Kuper
Island
Galiano
Island
North Cowichan
Stuart Channel
Georgia Strait
Cowichan Bay
Sansum Narrows
Saanich Inlet
Haro Strait