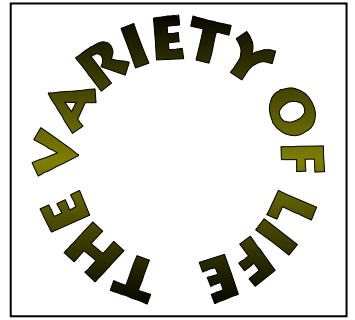


BIODIVERSITY

IN GREATER VANCOUVER



HERB AND GRASS ECOSYSTEMS

*Old Field
Pasture
Commercial/Recreational Open
Space*

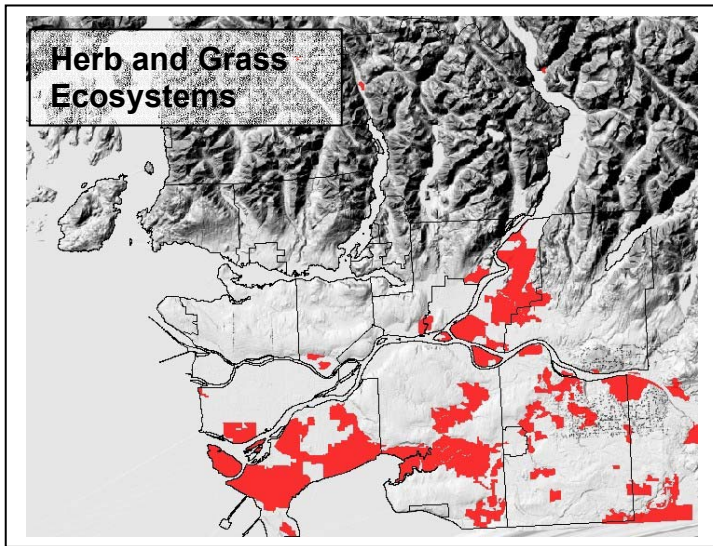
P. Zevit

Fact Sheet #8



BIODIVERSITY CONSERVATION STRATEGY
FOR THE
GREATER VANCOUVER REGION

GEORGIA BASIN ECOSYSTEM INITIATIVE



Ministry of Sustainable Resource Management-Baseline Thematic Mapping. *Data may not be complete for some areas

What are Herb and Grass Ecosystems?

Old field habitat refers to abandoned agricultural lands that are overgrown with herbaceous and shrub species.

Pastures are agricultural land used for grazing by farm animals.

Commercial/recreational open space refers to athletic fields, golf courses, cemeteries, airports and suburban parks that are subjected to regular maintenance and frequent mowing. In some areas within the Greater Vancouver region, herb and grass ecosystems can also undergo seasonal flooding and provide function as vernal wetlands.

Where are they?

Most old field and pasture habitats are located in Delta, Surrey, Langley, Coquitlam and Maple Ridge.

Athletic fields, golf courses, cemeteries, airports, and playing fields are located throughout the Greater Vancouver Region.

Status

Old field, decommissioned farmlands or pasture not presently protected as agricultural land (under the Agricultural Land Reserve Act) or as park reserves or under conservation leases (like many in Delta) are vulnerable to

conversion through infilling and development. Athletic fields, golf courses, cemeteries, airports and other commercial and recreational active open space are a facet of community development and will most likely increase with increasing population growth.

Threats

- **Urban/Industrial development related to land use conversion.**
- **Off-road vehicle activity**
- **Removal of lands from the ALR**
- **Infilling, modification through excessive mowing or grooming, replacement with artificial groundcover.**



Old field habitat found in places like Colony Farm Regional Park are critical reservoirs for grassland dependent species.

Nature's Services

- **Contribute to soil conservation and carbon sequestration, overall air quality benefits as greenspace filters in urban areas.**
- **Add to the beautification of urban areas.**
- **Recreation and relaxation opportunities.**
- **Pastures and old field areas provide critical stop over areas for migratory birds.**

Regional Indicators Checklist

- Red-legged Frog (*Rana aurora*)
- Pacific Treefrog (*Ascaphus truei*)
- Northwestern Salamander (*Ambystoma gracile*)
- Great Blue Heron (*Ardea herodias*)
- Northern Pintail (*Anas acuta*)
- Northern Harrier (*Circus cyaneus*)
- Black-bellied Plover (*Pluvialis squatarola*)
- Barn Owl (*Tyto alba*)
- Short-eared Owl (*Asio flammeus*)
- Rufous Hummingbird (*Selasphorus rufus*)
- Spotted Towhee (*Pipilo maculatus*)
- Townsend's Vole (*Microtus townsendii*)
- Creeping Vole (*Microtus oregoni*)
- Anise Swallowtail (*Papilio zelicaon Lucas*)

There are many different types of animals that use Herb and Grass Ecosystems. These ecosystems provide critical foraging opportunities and habitat for birds and small mammals. They also provide stop over habitat for migrating birds. These ecosystems can also be considered surrogate wetland habitat because they frequently become flooded. Many small mammals are attracted to Herb and Grass Ecosystems because of the abundance of forage. These small mammals provide an excellent food source for larger predators such as raptors and birds of prey. Even golf courses, playing fields and airports can provide greenspace linkages, habitat and cover for a host of life other than people.

Townsend's Vole

This dark brown rodent has large ears and a long blackish tail. It is 5-10cm in length and weighs 40-100g. Townsend's vole is a small mammal that is a main food source for Barn and Short-eared owls. Other animals that prey upon Townsend's voles are house cats, weasels, coyotes, foxes, skunks, snakes, and the great blue heron. It is apparent that this vole is critical food for many species and its presence in Herb and Grass Ecosystems is vital.



Like many other native rodent species the Townsend's vole is a keystone link in herb and grass ecosystem foodchains.

Short-eared owl

The feathers of a Short-eared owl are light brown with dark streaks on the chest, belly, and back. It has yellow eyes and a black bill. These owls are 33-43cm in length and weigh 206-475g. This owl is a predator that regularly hunts in Herb and Grass Ecosystems.

Some non-breeding habitat includes marshes, estuaries, lakeshores, beaches, and lagoons. Short-eared owls are also found in several human modified habitats including airports, golf courses, dykes and agricultural fields.

Breeding habitat is open country with short vegetation, including rangeland, grasslands, marshes, farmlands, brushy fields and forest clearings. These owls unlike other owl species are active hunters during the day, healthy herb and grass ecosystem are necessary for the survival of this species and it's prey. This species is showing signs of marked decline in Greater Vancouver. Fragmentation of habitat, loss of prey species and many other factors may be contributing to its decline.



Photo by A. Wilson

The short eared owl is a unique grassland and old-field species we are in danger of losing for good in Greater Vancouver.

Optimal form & function

Old field greater than 50 ha (possibly greater than 80 ha) with buildings and/or scattered trees nearby or within grassland limits. Close to large woodlots greater than 120 ha or surrounding large woodlots. Adjacent to wetlands (within 60 ft) that are greater than 2 ha in size. Native grasses 25-50 cm with a litter mat 10-15 cm deep and surrounded by hedgerows or shelterbelts are components of good habitat. Non-native species should be controlled, and low intensity maintenance of the site should be encouraged to keep fields at their optimal successional stage.

What can we do?

- **Maintain local park and recreational open spaces with natural features in mind.**

- **Conserve old field habitat by maintaining open mixed grasslands free of alien or invasive species.**
- **Avoid use of pesticides and herbicides on short grassy fields, golf courses or airstrips.**



Airports and other commercial and recreational open space like golf courses although maintained for active use provide grassed habitat linkages for both migratory and resident species from surrounding lands.

More detailed information on this ecosystem and associated species can be obtained from the report: "Conserving Biodiversity in Greater Vancouver –Indicator Species and Habitat Quality". Available from the Ministry of Water, Land & Air Protection at: <http://wlapwww.gov.bc.ca/sry/fwh/GBEI/index.htm>
 Design & Text: Leah Efford, Douglas College IUE
 Photo Sources: IUE, S. Barret, P. Zevit, Rob Rithaler, Charles Simenstad, Colin Parrish, J.A. Spindelov, Matt Goff, Doreen Lawson, Greg Lesley, Peter S. Weber, A. Wilson
 Map: Ministry of Sustainable Resource Management
 Layout & Editing by: Pamela Zevit, MWLAP-Surrey
 Produced by: Douglas College Institute of Urban Ecology for: The Environmental Stewardship Division, Ministry of Water, Land & Air Protection – Lower Mainland Region, Surrey



The Biodiversity Conservation Strategy for the Greater Vancouver Region - Project Steering Committee: Environment Canada, Province of British Columbia, Greater Vancouver Regional District, BIEAP/FREMP