Grasslands

A FBCN Conservation Policy

GRASSLANDS

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The Federation of British Columbia Naturalists

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FBCN GRASSLANDS POLICY

Grasslands cover about 1.5% of the land base of British Columbia, a total area of about 1.4 million hectares[1]. These grasslands are concentrated in the mid-Fraser, Okanagan and Thompson valleys, and elsewhere are scattered, occurring at different latitudes and at varied altitudes. All are biologically diverse. They are geologically youthful, having been formed between 13,000 to 10,000 years ago, when the ice sheets retreated and flora and fauna migrated in from the unglaciated mid-continent and the far north.

Part 1. Grassland Ecology

Grasslands occur predominantly in the Bunchgrass, Ponderosa Pine and Interior Douglas Fir biogeoclimatic zones but are also found in very limited areas on the coast, and in the boreal and sub-alpine zones. Several methods of classifying grassland ecosystems in British Columbia have been attempted, based on such criteria as topography, plant composition, soil characteristics, climate conditions or altitude of occurrence. Since such variables as the amount of grazing, the vagaries of climate, leading to unusually dry or cold years, and the presence or absence of fire, can all affect the composition of a grassland community, these classifications are sometimes difficult to apply.

1.1 Bunchgrass Zone

Bunchgrass steppes in this zone are the most extensive of the grasslands in British Columbia and are found in dry valleys in the rainshadows of the mountains. The predominant grass is a perennial bunchgrass, either bluebunch wheatgrass or fescue. Bunchgrasses also occur across the intermountain states of the USA. The bunchgrass steppes are home to numerous plants and animals. They provide habitat for at least 30% of the red-listed (endangered) vertebrate species in British Columbia and for dozens of rare plants and plant communities. The sensitive cryptogamic crust that coves the soil between the bunchgrass clumps provides habitat for many small species of flora and fauna and is extremely sensitive to disturbance.

The British Columbia bunchgrass steppes are the northernmost example of this habitat in North America and are unique for having many species of northern origin. While some species rare in British Columbia occur in reasonable numbers further south, the northern species may have significantly different genetic features from those of the core populations.

The present classification for bunchgrass communities into Lower, Middle and Upper grasslands is straightforward, and is described by R.J. Cannings & S. Cannings in *British Columbia ~A Natural History.*

[1] Figures from Grassland Conservation Council of B.C.

1.1.1 Lower Grasslands

This hot and arid grassland community, is found typically at elevations below 500m, and where annual precipitation averages less than 250 mm. Okanagan, Similkameen, Thompson basin and mid-Fraser grasslands belong to this community. Flora and fauna include: bluebunch wheatgrass, needlegrasses, Sandberg bluegrass, needle and thread grass, big sagebrush, giant ryegrass, yellow bells, biscuitroot, mariposa lily, prickly pear cactus, Nuttall's cottontail, pallid bat, western rattlesnake and northern scorpion. The **antelope-bitterbrush ecosystem** occurs in southern British Columbia, along the US border. In the South Okanagan the antelope brush ecosystem is much restricted. It is characterized by such species as bluebunch wheatgrass, pallid bat, spotted bat, snakes, common poorwill, and lark sparrow. 31% of B.C. red-listed and 51% of blue-listed vertebrate species occur in the South Okanagan, together with over 275 rare invertebrates.

1.1.2 Middle Grasslands

At mid-elevations, between 500 and 800 m, there is slightly more precipitation and the daytime temperatures are a little cooler. A greater number of plants grows in this community, but big sagebrush and antelope brush are generally absent and fescue is present. Typical species include: bluebunch wheatgrass, Sandberg bluegrass, common rabbitbrush, pasture sage, Junegrass. The Lac du Bois, Nicola and mid-Fraser Valley grasslands belong to this community.

1.1.3 Upper Grasslands

At higher elevations, usually above 800 m in southern British Columbia and where annual precipitation rises to 300 to 750 mm, a moister bunchgrass community occurs, with fescues dominating. Species include: bluebunch wheatgrass, rough and Idaho fescues, Nuttall's larkspur, and silky lupine. In the Cariboo - Chilcotin area fescues are absent, and bluebunch wheatgrass and needlegrasses dominate. The grasslands of the East Kootenays and the southern Rocky Mountain trench are very diverse and provide habitat for such rare grassland plants as scarlet gaura and flat-topped broomrape.

1.1.4 Ponderosa Pine and Douglas-fir Grasslands

Grasslands are also an important component of the dry ponderosa pine forests and lower elevations of the interior Douglas-fir forests. Ponderosa pine forests occur from 335 m to 900 m as open stands with an understory of bunchgrasses. Small grassland areas are common, particularly on drier sites. Arrow-leaved balsam-root, timber milk-vetch and yarrow are often found in these grasslands. These grasslands occur throughout the Okanagan, Thompson, Fraser and Columbia valleys. Large areas of grasslands are found in many parts of the Interior Douglas-fir biogeoclimatic zone, particularly on dry south-facing slopes. They occur above the ponderosa pine forests. Bluebunch wheatgrass and either rough or Idaho fescue are common, with a variety of mixes of flowering plants and shrubs. Aspen stands along riparian areas and on wet sites are an important feature in both the ponderosa pine and Douglas-fir grasslands, adding to their diversity.

1.1.5 Cliffs, Rocks, Gullies and Talus slopes

These features occur throughout the Bunchgrass zone and are an important part of the bunchgrass ecosystem. They provide roost, den and nest sites, hibernacula, shelter from predators and support for lichen growth. Steep-sided canyons between cliffs have

relatively moist, shady soils, that promote shrub growth and provide shelter and nest habitat. Species include: California big horn sheep, canyon wren, white-throated swift, snakes and bats.

1.2 Mountain Grasslands

Mountain grasslands occur in drier alpine and sub-alpine areas of the province, usually occurring with a sharp break above the timberline. Where there is higher snowfall, such as on the western coastal slopes, heaths become more prevalent. Altai fescue is the dominant bunchgrass at high elevations and on south-facing slopes and ridges at all elevations in the North. Other grass species include Rocky Mountain fescue, arctic bluegrass and alpine bluegrass. Mountain grasslands typically have many flowering plants, as well as grasses, for example paintbrush and valerians. These alpine meadows provide summer range for deer, moose, sheep and grizzly bears as well as habitat for ground squirrels and marmots.

1.3 Northern Grasslands

Grasslands in the northern zones of the province are not widespread but can be locally important, especially for such species as Stone sheep, mountain goat, caribou and elk. Some have unusual botanical assemblages, containing species at or near the northern limit of their range. They are very dynamic systems, often merging with aspen, forb meadows and alpine ecosystems.

South-facing slopes, combined with well-drained coarse soils, give rise to locally widespread grassland communities. While fairly extensive grasslands remain in the Stikine River canyon, those on the Nechako Plateau and in the Babine - Bulkley drainages have been much reduced since European settlement. The relatively few native grasslands in these areas are mostly on upper slopes, too steep and dry for cultivation or grazing. The once extensive native grasslands of the Peace River were ploughed under long ago. Remnant grasslands, or breaks, occur on steep south-facing slopes along the river valley.

These grasslands are related to the bunchgrass steppes in the south, but pasture sage replaces big sagebrush and slender and western wheatgrass replaces bluebunch wheatgrass. The Saskatoon - slender wheatgrass ecosystem has been shown in recent studies to be more widespread than originally thought, but in poor condition. In the Bulkley Valley and near Kitwanga, on the Skeena River, there are remnant fragments of a rare variation on this ecosystem, with Rocky Mountain juniper dominant.

Northern grasslands are strongly affected by the inclination and impact of the sun's rays and are susceptible to the vagaries of climate change.

1.4 Coastal Prairies

1.4.1 Garry Oak Meadows

These rare grasslands occur on the Gulf Islands and southern Vancouver Island, typically where there are well-drained soils on steep south or west facing slopes with exposed bedrock. They have a great diversity of plant species, including native fescues and bluegrasses, nodding onion, Easter and chocolate lilies, satin flower, common camas, the rare Macoun's meadowfoam, and of course Garry oak. Fauna include garter snake, alligator lizard and the rare sharp-tailed snake. Garry oak meadows in the past were

browsed by native deer and some areas were subject to a frequent fire cycle, as part of the aboriginal agricultural method. Today, the majority of sites that haven't been built on have been much modified by introduced species, aggravated by overgrazing of domestic animals and feral rabbits. Consequently exotic species such as Scotch broom, orchard grass, cat's ear and sweet vernal grass are now common.

1.4.2 Fraser Valley Grasslands

The native grasslands of the Lower Fraser valley, at Langley, Chilliwack and Matsqui prairies, have long ago been ploughed under and built upon.

In a few areas of the Fraser delta, for example, around Boundary Bay and at Brunswick Point, old field habitats mimic the native wet meadows that existed before dyking and draining. Old fields are abandoned agricultural fields and pastures in an early stage of succession, and include a moderately dense mat of grasses, together with forbs and shrubs. A majority of the grasses are introduced species such as tall fescue, quackgrass, bentgrass and reed canary grass. The delta old field habitat is important for many species, including Townsend's voles, short-eared owls and northern harriers. 1.4.3 Estuarine Grasslands

Grasslands also occur in the salt water marshes of estuaries and at the head of fjords. Here they provide valuable grazing for many species including deer and bears, as well as habitat for shorebirds such as killdeer, heron and snipe. An example of estuarine grasslands occurs at Windy Bay, Queen Charlotte Islands.

1.5 Wetlands

Wetlands are an important feature of the dry Interior grasslands. They reduce flooding and soil erosion, they purify water, they serve as travel and migration corridors and stop-overs, and they provide habitat for many species: shelter and shade from the sun, snags and trees for nesting, water to drink in hot, dry zones and food in the form of larvae, insects and fish. Some important wetland ecosystems related to grasslands are discussed below.

1.5.1 Cottonwood Riparian Ecosystem

This biologically rich woodland occurs throughout the province along river valleys. In the Okanagan valley it is restricted to only a few remnant sites. It comprises such species as black cottonwood, water birch, trembling aspen, ponderosa pine, red-osier dogwood, and Nootka rose. Cottonwood stands provide habitat for several species of snakes, including rubber boa and gopher snake, frogs, and many species of birds, including Lewis' woodpecker, yellow-breasted chat, and western screech owls. The insects that thrive in these woodlands also provide food for a variety of bats.

1.5.2 Shallow Lakes, Sloughs and Ponds

Shallow ponds and lakes amid the grasslands support a complex of grasses and sedges. Some are alkaline and are ringed with white deposits of carbonate and sulphate salts. These wetlands have unique communities of plants and invertebrates and provide migration and nesting habitat for numerous waterfowl. Species using shallow lakes and ponds include: ground and tiger beetles, shore flies, damselflies and dragonflies, and birds such as Wilson's phalarope, American wigeon, ruddy duck, and northern pintail.

	Some Key Dates in the History of B.C. Grasslands
13,000- 8,000 years ago	Last Ice Age ends, glaciers retreat, grasslands emerge, North American large mammals eg. mammoths, mastodons and ground sloths become extinct.
10,000 - 8,000 years ago	Extensive grasslands in northeastern B.C. support bison, ground squirrels and jack rabbits. First Nations are thought to have used grasslands for travel corridors, settlement (eg. at Charlie Lake), hunting and gathering food and medicine.
8,000 - 5,000 years ago	Many Interior grasslands converted to forests of ponderosa pine and Douglas fir. Garry Oaks colonize southern Vancouver Island.
5,000-3,000	Warming trend lessens, arid areas with grasslands decrease.
1790	Alexander Mackenzie visits the Peace River.
1858	Cariboo Gold Rush marks the beginning of cattle grazing in the grasslands.
1885	CPR built, increasing the demand for meat and agricultural products..
1870/80	All natural grasslands of interior and Kootenays claimed; there are concerns about overuse and gradually regulations evolve.
1907	White-throated swifts move into the south Okanagan.
1910	End of market hunting in British Columbia
1914 -18	World War 1 increases the demand for cattle and horses. Overstocking and disturbance promotes an invasion of annual weeds. Burrowing owl declines.
1920	Ranchers demand remediation help, blaming grasshopper depredation, although gradually it is recognized that over grazing is the primary problem.
1930	Better grazing management regimes are introduced but the depression and droughts drive down prices, hampering restoration.
1933	US Senate Document199 introduced, changing attitudes to grasslands across the West.
1939 -45	World War 2 increases the demand for meat.
1947	Federal Agriculture Research Station established in Kamloops with emphasis on livestock health and nutrition, improving range condition, and insect pests
1950	The Peace River region is finally pre-empted, purchased and ploughed.
1960s	First purchase of land near Vaseux Lake for conservation. Ecological Reserves Act passed in British Columbia.
1967	It is now illegal to trap or shoot badgers in British Columbia.
1973	Agricultural Land Reserve Act passed in BC Legislature
1979	Spotted bat first discovered in South Okanagan, 900km north of its previously known range.
1980 onwards	Grassland management principles are better understood and slowly brought into practice, but more land is taken for orchards, vineyards and ginseng.
1982	Grassland Symposium held in Kamloops brought together top grasslands scientists and researchers to exchange up-to-date information and to discuss grasslands classification. Important strides made in understanding of grasslands communities.

	Some events affecting grasslands in the last decade
1990	Formation of South Okanagan Conservation Strategy
1991-94	FBCN Land For Nature projects in Kamloops, Okanagan, Victoria and the Kootenays press the issue of the need for grasslands protection
1993	First colloquium on Garry oak ecosystems held in Victoria
1993	Haynes Lease Ecological Reserve burns
1995	Cariboo Chilcotin Land Use Plan: Churn Creek & Junction Sheep Range proposed as protected areas
1996	Provincial parks with significant grasslands components established at Lac du Bois Grasslands, Elephant Hill, Tunkwa, and Cornwall under the Kamloops LRMP.
1996	Formation of Grasslands Conservation Council of British Columbia, FBCN is a partner.
1997	LRMP for South Okanagan initiated: FBCN at table.
1999	At Risk ~ Conference on species at risk held in Kamloops
1999	The Nature Trust, in partnership with other groups and agencies, embarks on their new Biodiversity Ranch proposal for their ranch properties and associated grazing licenses in the White Lake-Vaseux Lake area.
1999	New species for Canada found: Merriam's shrew at Kilpoola Lake and Preble's shrews at Mt Kobau (Richter Pass) and Vaseux Lake benchlands.
2000	South Okanagan Conservation Strategy signed by Federal and Provincial Environment Ministers and Clarence Louie of the Osoyoos Indian Band.
2000	LRMP for South Okanagan completed.

Part 2. Grassland Conservation Issues

Grasslands in British Columbia have a long history of human use and abuse. Their plant communities have been substantially modified by such activities as cattle grazing, the use or restriction of fires, the introduction of non-native grasses and alien weeds, hunting and predator control, housing, orchard and vineyard encroachment. Very few grasslands remain in the province in anything approaching a natural state. At least six vertebrate species that lived in the South Okanagan grasslands have disappeared since European settlement began[2], and grasslands in the Peace River and East Kootenays regions have shrunk in area dramatically.

Management of grasslands for conservation purposes does not come under the mandate of any one government agency. A multitude of agencies have a responsibility to manage different aspects of grasslands and their use. The Forest Service and B.C. Parks have conservation on their agenda, but have to balance sometimes conflicting priorities. Many of the other agencies remain focused on single issues, and fail to see ecosystems holistically.

In summary:

- Grasslands are British Columbia's most endangered major ecosystem.
- Grasslands have more endangered species than any other ecosystem in B.C.
- Grasslands are particularly susceptible to damage and destruction by human activities.
- A holistic approach is essential for grassland conservation to be effective.

2.1 Habitat loss

Habitat loss is the major cause of ecosystem and biodiversity decline. Habitat loss can be prevented in grassland ecosystems by designating protected areas and parks, or by maintaining near-natural conditions in range grasslands with the use of careful stewardship. According to the Land Use Co-ordination Office records, less than 8% of the total Bunchgrass Zone (Biogeoclimatic Ecosystem Classification System) is in protected areas, comprising 4.64% for the Kamloops Region and 16.21% for the Cariboo, a total area of 23,257 hectares[3]. However, the recently completed Okanagan-Shuswap Land and Resource Management Plan will add more grasslands areas to the parks system. Stewardship programs on range land are being attempted by a variety of groups, including the Grasslands Conservation Council of British Columbia and the South Okanagan Similkameen Stewardship Program.

2.1.1 Grassland Conversion

Grassland conversion has been on going since post-glacial times. However, human activities are accelerating this process. Grasslands have been ploughed under, for example in the Peace River region, where all of the valley bottom grasslands have been converted to agricultural use. Other grasslands have been converted to orchards, alfalfa fields,

[2] White-tailed jack rabbit, Nuttall's cottontail, sage grouse, sharp-tailed grouse, pygmy short-horned lizard, burrowing owl (now being reintroduced); Minister of Environment, Lands & Parks

[3] February 2000 Land Use Co-ordination Office records; personal inquiry

vineyards, ginseng farms or human communities, especially in the Okanagan and Thompson valleys. Many grasslands are in private ownership and susceptible to rezoning and change of use. Subdivisions are extending up hillsides and along lake shores and river banks. Rivers have been channelled, dammed, diverted and industrialized, destroying riparian vegetation. Garry oak woodlands used to stretch across much of the area now occupied by the city of Victoria. Remaining Garry oak ecosystems on eastern Vancouver Island and the Gulf Islands are threatened by rapid urban development and only 9% is still relatively undisturbed[4]. More than 60% of the antelope brush habitat in the South Okanagan has been destroyed.

Forest encroachment on grasslands is cause for concern in some parts of the southern interior. In the Cariboo - Chilcotin region, 11% of grasslands have been encroached by forest in the last 40 years, an estimated total of 20,000 ha. Recent studies show that, around 1950, grasslands in the East Kootenays covered as much as 150,000 hectares. Since then they have been lost at an estimated average rate of 3,000 ha a year, mostly through forest encroachment.

2.1.2 Urban Development

Urban development leads to greater water consumption and demands for more roads and recreational areas. It not only destroys habitat, but also fragments populations and habitats for many species. For example, the western harvest mouse populations are divided into two communities, north and south of Kelowna. The harvest mouse is a key prey species for the burrowing owl. This owl is now extirpated from the South Okanagan and a first attempt at a reintroduction program has failed, although attempts elsewhere are more promising. Peripheral and sub-populations of species need extra attention and care. We do not know enough about biodiversity to fully understand how loss of genetic variety in individual species will affect the ecosystem as a whole. Natural habitat corridors need to be maintained between wildlife population centres.

In the Bulkley Valley, the majority of surviving areas of the Rocky Mountain juniper - slender wheatgrass ecosystem are on private land and threatened by housing developments.

Urban development is also a major factor in the introduction of alien plants, by creating roads and widespread areas of disturbed ground (see section 2.3).

2.2 Ranching

Little grassland remains anywhere in the province that has not been impacted to some degree by livestock grazing. However, the ranching industry depends on healthy grasslands for its sustainability. In British Columbia, 8.3 million hectares of Crown Lands (forest and grasslands) are under grazing licenses. Another 206,000 hectares are in private hands, with cattle grazing being the predominant use. 2,000 ranchers depend on rangelands to feed a quarter of a million cattle [5].

Most ranchers rely on Crown land for grazing their cattle from May until October. The animals are gradually moved up from the lowest grasslands as the ground dries out after winter snow, spending the summer months in the higher, forested, sub-alpine and even alpine areas.

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[4] Dr Geoff Scudder, "*The Ecological Significance of the South Okanagan*" in *B.C. Grasslands* Aug.2000

[5] Society for Range Management, information pamphlet 1999

In the past, cattle were let out onto the grasslands in spring with minimal supervision, and overgrazing was a severe problem. Perennial grasses are favoured by cattle and grazing causes some plant species to proliferate to the detriment of others. The fragile soils and lichen crusts around perennial bunchgrasses crumble when trampled and invasive alien species quickly take hold. Studies show that an overgrazed grassland can take as long as 25 to 40 years to recover, even if isolated from further grazing.

Cattle trampling can compact the soil, damage riparian vegetation and erode stream banks. Manure runoff can be a particular problem where wintering cattle gather in valley bottoms and large quantities of animal waste are washed into waterways during spring thaw.

Careful range management techniques have been introduced to lessen the impacts on fragile grasslands and restore the important grassland communities. Fencing restricts cattle
access to natural water sources, grassland set-asides allow recovery time for perennial plants, and attempts are being made to remove alien plant species. Cattle rotation over a wide area protects individual grassland areas from overgrazing. It is believed that properly controlled grazing might enhance the diversity of habitats in grasslands.

Program is working with landowners and conservation partners to maintain and restore habitat Examples of grasslands under restoration by ecological stewardship can be found at Hamilton and Lundbom Commonages, Churn Creek Provincial Park, Lac du Bois Grasslands Provincial Park, White Lake, and some private ranches. In the South Okanagan and Similkameen area, the South Okanagan-Similkameen (SOS) Stewardship.

2.3 Alien species

From earliest times, alien or exotic species have been penetrating the grassland ecosystems, arriving as seeds on cattle hooves, in vehicle tires or blown from suburban gardens. Some species, e.g. crested wheatgrass, were introduced deliberately, as part of reseeding and restoration programs. Alien species are often detrimental to native plant communities, and may be fatal to an ecosystem. As grasslands are disturbed, they become more susceptible to alien species invasion. Some indications of a severely degraded grassland are a predominance of such alien plants as knapweed, cheatgrass and Dalmatian toadflax.

Plants are not the only introduced species causing concern. Introduced insect pests are also a problem, e.g. the jumping gall wasp and the oak-leaf phylloxeran have severely impacted Garry oaks. The release of species such as red-eared slider turtles and American bullfrogs have led to their rapid spread through British Columbia wetlands. Interior lakes have been stocked with non-native fish at the expense of local species. European starlings flock around towns and agricultural communities displacing native bluebirds and eating crops.

2.4 Recreation

Outdoor recreation can be very destructive, particularly the uncontrolled use of all-terrain and off-road vehicles, the creation of golf courses which need substantial irrigation, and the building of roads along every lakeside and valley bottom. Even hikers and naturalists can do unwitting damage if they trample the fragile cryptogamic crust between the bunchgrass clumps. Once this thin layer of lichens, mosses, liverworts and

cyanobacteria is broken, the introduction of alien weed seeds becomes easier, and soil moisture is lost.

Erosion of grassland banks and watercourses can be caused by activities such as ATV and dirt bike use. One or two centimetres of topsoil, which took hundreds of years to develop, can be lost in an hour of heavy rain, if denuded of vegetation. Hunting may negatively impact grasslands and grassland species in certain areas. Many of the northern grasslands are encompassed by wildlife guiding territories. Species such as bighorn sheep are much sought after by hunters. Even rock slopes and cliffs can suffer recreational disturbance, by activities such as rock-climbing and caving, which may disturb special plants and bat roosts. The spotted bat, for example, appears to be very sensitive to human presence and lights.

While recreation can cause severe impacts on grassland ecosystems, it is nonetheless important that people have adequate opportunities to explore the grasslands so they can better understand and appreciate their special qualities. Furthermore, ecotourism is a growing economic resource for the province. Sufficient grassland parks have not yet been set aside to ensure the protection of grasslands while allowing for a variety of outdoor pursuits.

2.5 Other problems for grasslands ecosystems

The following are some examples of other problems affecting grassland ecosystems.

Fire quickly breaks down plants into minerals which enrich the grassland soils and keep the forest back. The role of fire since post-glacial times is still being studied and is not well understood. Fires certainly occur naturally, and prescribed burning may have a role to play in preventing forest and shrub encroachment. Fire suppression may allow trees to encroach on grasslands and Douglas fir to out-compete ponderosa pines in the Interior and Garry oaks on the coast. More studies on the impacts of fire and its use in best management techniques is needed.

Pollution of the environment by agricultural and forestry chemicals, particularly insecticides, is extremely detrimental for many invertebrates and species such as songbirds, bats, and shrews that feed on them. These pollutants are transported by air or water, and can contaminate the food chain for species in neighbouring grasslands.

Highways and Railways create huge disturbances and provide seedbeds for alien plant species. They also result in animal mortalities, especially for species like deer, badger, snakes and big-horn sheep.

Workers Compensation Board rules mean that snags and rotten trees in forested grasslands are being felled even though these are vital wildlife habitat, and provide sites for dozens of primary and secondary cavity nesters. However, the Wildlife Tree Retention policy under the Landscape Unit Planning guidelines, requires potentially dangerous trees to be surrounded by no-work zones, thus allowing the possibility of retaining them.

Reservoirs have flooded many grasslands, particularly in the East Kootenays, with negative impacts on grassland communities and species, e.g. the destruction of badger habitat.

Part 3. FBCN Grasslands Policy

On the basis of the above background and rationale for FBCN interest in grassland ecosystems, the FBCN has adopted the following policy to give directions for future action. This policy was approved by the FBCN Board of Directors at the Fall General Meeting on September 23 2000 and it forms the basis for FBCN statements and actions on grasslands. It may be reviewed and amended from time to time by the Board of Directors.

3.1 FBCN Goals for Grasslands

The FBCN goals for grassland conservation are:

- Stop the loss of prime grassland habitats across British Columbia.
- Stop the extirpation of grassland species in British Columbia.
- Educate the public and decision makers on the value of grassland ecosystems.
- Restore the physical and ecological quality of grassland communities across British Columbia.

The FBCN will achieve these goals by cooperating with the relevant governments, landowners, and non-government organizations. The FBCN recognizes that a holistic approach to grassland ecosystems is necessary for management and restoration plans to be successful.

3.2 Strategies for achievement of these goals

3.2.1 Preventing Habitat Loss

The FBCN encourages and advocates for:

- much greater government emphasis on the protection of grassland ecosystems, the adoption of a holistic approach and the improvement of inter-agency understanding of grasslands conservation.
- a provincial government habitat conservation strategy for grasslands that includes protection of natural corridors and wildlife linkages between core areas, as well as associated habitats such as cliffs, rock and talus slopes, shallow lakes and ponds, and riparian areas.
- the purchase of grasslands, with federal and provincial funds, for national and provincial parks and protected areas, including Wildlife Management Areas, Ecological Reserves, conservation covenants and stewardship scheme sites.
- the establishment of benchmark sites of ungrazed areas within protected areas where no human disturbance is allowed, akin to park conservancy areas or ecological reserves. Monitoring of these areas is essential to measure changes in grassland communities.
- the adoption of the recommendations of the South Okanagan Conservation Strategy, as listed in the Habitat Atlas for Wildlife at Risk, South Okanagan and Lower Similkameen [6].

[6] see Appendix 2

3.2.2 Preventing Species Extirpation

The FBCN encourages and advocates for:

- recognition by decision makers that species become endangered principally through loss and fragmentation of habitat, but also through competition with alien species, pollution, hunting and resource extraction pressure, climate change, and by natural causes.
- immediate action to be taken to secure populations of red-listed grassland species from further threats.
- enactment of endangered species legislation (federal and provincial) which protects all elements of habitats used by rare and threatened species, and not just their nests or dens.
- development of a provincial government alien species policy and management strategy through inter-agency co-operation.
- research to understand the extent to which alien plant species are used by wildlife species and the actual impact of alien vertebrates on ecosystems.
- public education programs to focus on the values of native species in the grasslands ecosystems and the impacts our activities have on them.

3.2.3 Ranching

The FBCN encourages and advocates for:

- stewardship of grasslands on private lands through public education, landowner outreach programs and tax incentives for ecologically sound management practices.
- stewardship schemes, that include tax incentives for donating or setting aside grasslands, for private, Crown and First Nations' lands.

The FBCN supports the policies and goals of:

- The South Okanagan-Similkameen Stewardship Project.
- The Grasslands Conservation Council of British Columbia [7]

3.2.4 Recreation

The FBCN encourages and advocates for:

- the licensing and regulation of all-terrain vehicles.
- discouraging strongly all off-road vehicle use in grassland areas, by better public education and identification of closed areas.
- the revitalization of the B.C. Wildlife Viewing Program and its expansion into the interior grasslands communities.
- public education programs that focus on informing recreationalists, municipalities, tourism agencies, and visitors, of the value of particular areas and grasslands in general. These programs could include signs, brochures, maps and naturalist tours and walks in conjunction with tourism boards, hotels, etc. The advice of local naturalist and stewardship groups should be sought when preparing material.

3.2.5 Other issues

The FBCN encourages and advocates for:

- research and scientific discussion on policies regarding prescribed fire, which should follow ecological sustainability guidelines. Considerations must also be given to known health problems associated with smoke.

[7] see Appendix 2

- the reduction of chemical spray use by agricultural operations in areas with insectivorous endangered species, particularly riparian areas in valley bottoms. Integrated Pest Management and organic farming should be given incentive-based priority (e.g. tax incentives) adjacent to grassland ecosystems.
- the introduction of slow zones, traffic calming schemes and highway signs for areas with high wildlife values (e.g. bighorn sheep areas).
- resolution of the problem of wildlife trees and snags being destroyed in the name of public safety by government agencies and WCB.
- resolution of the problems associated with water control, hydro schemes and irrigation in a manner that has minimum impact on grasslands and their associated wildlife populations.
- an immediate increase in staff and budgets for natural resource management agencies to achieve wildlife and habitat protection in grassland ecosystems.
- the creation of Environmental Advisory Committees in municipalities in grassland areas to help them make wise ecologically-based planning decisions.

Part 4. Procedures associated with this policy

The FBCN has adopted the following internal procedures for achievement of grassland policy goals and strategies.

4.1 Work cooperatively

The FBCN believes in working co-operatively with member clubs and other organizations with similar grassland goals (see Appendix 2 for list of groups). The FBCN is currently a formal participant in the following organizations and projects which address grassland issues:

- Grasslands Conservation Council of British Columbia,
- Intermountain Wetland Conservation Program,
- B.C. Endangered Species Coalition and
- South Okanagan-Similkameen Conservation Program.

The FBCN is not a member or formal participant in the following groups, but FBCN members and member clubs may be, and the FBCN, as a whole, supports their goals: the Okanagan Similkameen Conservation Alliance (OSCA), the South Okanagan Similkameen Stewardship Program (SOS Stewardship), The Nature Trust of British Columbia, South Okanagan Ranch Land Conservation Program, The Habitat Acquisition Trust Fund, The South Okanagan Transcontinental Bluebird Trail Society and The Land Conservancy.

FBCN membership in any grassland organization will be reviewed on a regular basis, and be subject to our continued agreement on grassland goals and strategies.

The FBCN will attempt to maintain good communications between other conservation organizations, to co-ordinate activities and to avoid duplication of efforts.

The FBCN will also attempt to work co-operatively within planning processes and sustainability strategies currently underway in the province, such as the Fraser Basin Council, the Georgia Basin Ecosystem Initiative, and the Land and Resource Management Planning processes. These initiatives will be used as an opportunity to share our knowledge of nature with decision makers and to advocate for FBCN conservation goals.

Any discussion of land use issues will inevitably involve liaison with local Bands and Tribal Councils. The FBCN Grasslands Policy does not cover liaison methods, treaties, or other issues of importance to our relationship with First Nations. However, naturalists should become informed on aboriginal concerns and goals, especially as they relate to land use.

4.2 Promote grassland conservation

The FBCN can be effective in promoting grassland conservation in many ways, including:

- Campaigning for FBCN grassland goals by writing letters, meeting with Ministers and staff, appearing before standing committees, speaking at conferences and forums, participating in Land and Resource Management Planning (LRMPs); etc.

- Providing a networking mechanism for naturalists and organizations concerned about grassland ecosystems, and a central source of information on wildlife, habitat and conservation programs;
- Participating in the management of publicly held grasslands, e.g. Lac du Bois Grasslands Provincial Park, and by FBCN representation on management committees. Field trips by members and occasional reports at FBCN meetings can augment this participation.
- Member club involvement in specific grassland conservation projects;
- Member involvement as scientific advisors, monitors or volunteers in stewardship programs and ecological land use planning, e.g. Ecological Reserve wardens, The South Okanagan Ranch Land Conservation Program, SOS Stewardship, etc.
- Encourage financial support of programs leading to grassland habitat and species conservation.
- Administering and promoting FBCN projects that further grassland conservation goals. Currently, the FBCN has two major projects which may have implications for grassland areas: **B.C. Important Bird Areas Program** and **The Living by Water Project**, both of which involve stewardship activities.
- Supporting research and inventory work in grasslands, including bird counts, amphibian monitoring etc.

4.3 Advocate the designation and acquisition of grasslands

The FBCN supports the protection of grasslands by a wide variety of mechanisms, including the following designations: national or provincial park, National Wildlife Area, provincial Wildlife Management Area, Ecological Reserve, conservation covenant or as part of a stewardship scheme.

In particular, the FBCN supports the establishment of a grasslands national park in Parks Canada Natural Region 3, as part of the completion of the national park system in Canada.

The FBCN seeks the designation of Crown Land as protected areas, through participation in Land and Resource Management Planning processes, and through advocacy to B.C. Parks, Parks Canada, Ministry of Environment, Lands and Parks, Canadian Wildlife Service and other agencies.

The FBCN may participate in the protection of private land by advocating outright purchase or lease of the land, (generally by consortia of government and non-government agencies eg. The Nature Trust, Nature Conservancy, The Land Conservancy, Habitat Conservation Trust Fund, etc.), by encouraging the adoption of conservation covenants on the land (which would be much facilitated by innovative changes to tax laws), or by the initiation of stewardship schemes with landowners.

4.4 Educate about grassland ecosystems

The FBCN will build on its existing grasslands educational materials with the goal of broadening the natural history knowledge of members and the general public.

FBCN members include many experts on grasslands. Their knowledge should be shared as widely as possible. The FBCN poster and slide show on the Interior grasslands should be utilised as much as possible by member groups. An issue of the *BC Naturalist* in 1998 featured grasslands; this theme should be repeated in future issues. *Cordillera* has had many articles about grasslands or grassland species.

The Education Committee could be directed to produce interpretation pamphlets featuring common grassland birds, grasses, wild flowers, butterflies, etc.

The FBCN should also work towards ensuring reasonable access to natural grasslands for field trips and ecological observation, by rapport with owners. Grasslands embrace some of the finest birding opportunities and many interesting biological and physical features, but owners gain little and often sustain loss by allowing public access. The benefits of discussion and cooperation with owners, notably ranchers, can be mutual, especially in near-urban areas where recreation pressures on private grasslands are increasing. Membership in the Grasslands Conservation Council of B.C. and other partnership groups should facilitate this.

Recreational users of grassland must be made aware of the fragility and value of grassland ecosystems. The FBCN could develop brochures that complement or build on such pamphlets as the Ministry of Forests' *Recreational Vehicles: Tips for Responsible OHV Use*, their *Noxious Weeds* poster, and SOS Stewardship Program's *Tread Lightly on our Dry Grasslands*, which includes a code of ethics for grassland visitors. The FBCN will continue to urge the Provincial Government to regulate and license all terrain vehicles and will encourage ATV users to adopt the Tread Lightly program code of behaviour.

4.5 Support the Concept of Sustainable Ranching

"Privately held natural grasslands change ownership and management regimes quite frequently. To ensure long term stability for the grassland ecosystem of B.C. it would be useful to designate special, representative areas which would: be under a well delineated long term management prescription, have animal numbers, domestic and wild, determined, not by markets, but by ecological factors, and provide opportunities for some grazers to use areas adjacent to the special representative areas.

Idealized management systems would most certainly emphasize biological diversity and would include bovines (cattle, bison) and ovines (domestic and native sheep). It is too late to bring this vision to fact in the Prince River area where all the natural grasslands have been plowed under. Even there, as in Alberta, some of the grassy bluffs along major rivers could be conserved."

"Sustaining the integrity of the remaining Interior grasslands calls for the development of new attitudes of stewardship and management both for ranchers and the general public. The opportunities for good management and stewardship should be appreciated by industry and public."

– text from FBCN grasslands poster.

Since these words were written just a few years ago, some promising developments have occurred. Many groups are now working on stewardship activities. The formation of the Grasslands Conservation Council of B.C. (GCC) brings together naturalists, ranchers and grasslands specialists to develop long-term management strategies, based on sound ecological principles. The GCC has produced a program plan for 1999 - 2002, supported by the FBCN, which states four main goals: education in grassland ecosystems, support for sustainable agriculture, ensuring the long-term health of grasslands by stewardship practices, and promoting conservation and management of a mosaic of representative grassland ecosystems.

4.6 Establishing new or amended policies

The FBCN sets policy through Resolutions at General Meetings of the membership. Individual grassland issues may be raised in this way by any member, member club or region

of the FBCN. This policy may be amended by Resolution at a General Meeting, or by the decision of the Board of Directors.

Outstanding FBCN Resolutions on grasslands, namely the regulation and licensing of All Terrain Vehicles; the formation of a National Park in Natural Area 3, Protection of Native Plants, Tranquille Creek WMA expansion, etc. are a priority for action.

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FBCN Grasslands Policy, September 2000
Project Coordinator: Anne Murray

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Appendix 1. Previous FBCN Resolutions on Grasslands

The FBCN has passed a number of resolutions pertaining to grasslands over the past twenty years. The following table gives a summary of all resolutions since 1988. The most recent on each topic is summarized, with dates of similar resolutions given in brackets. Consult Resolutions Manual, annual Resolutions list or AGM minutes for exact text of each resolution.

NC = Nature Conservancy; TNT = The Nature Trust; HAT = Habitat Acquisition Trust; WMA = Wildlife Management Area

FBCN RESOLUTION	UPDATE September 2000
All terrain vehicle regulation: to request the provincial government to enact the necessary legislation that would require the licensing of all-terrain vehicles and the prominent display of a license number. AGM 2000 (1994, 1993, 1992, 1991, 1990 and 1989).	Our repeated requests for regulation have met with excuses or stonewalling.
Biodiversity Protection: to work with member clubs and all government agencies to develop policies that will protect British Columbia's biodiversity and to recommend to government that adequate legislation be developed to empower agencies to enforce policies that protect biodiversity. AGM 1992	B.C. Government published "*Initiatives for the Conservation of Biodiversity in British Columbia*" in 1996, outlining strategies to meet the Canadian Biodiversity Strategy goals, published in 1995.
Garry Oak ecosystems: to urge the provincial government to protect and preserve the *Quercus garryana* ecosystem and that the FBCN provide other conservation associations with information on Garry Oak ecosystems. AGM 1993 (1992)	Elkington property,10 ha site purchased by NC at Maple Bay Also protected: Oak Haven Park, & Medicine Beach, Mt Erskine (HAT). Scafe Hill still under threat of development.
Golf courses and agriculture: to urge the provincial government to rescind OIC 1141/88 and to take all necessary steps to ensure agricultural capability of the province is maintained, by a variety of cooperative measures together with mitigation to farmers for losses that are attributable to their helping maintain wildlife populations, and to ensure that winter range for wildlife is not lost to golf course development. AGM 91	OIC 1141/88 was rescinded in 1990, golf course development on farmland curtailed, Delta Farmland and Stewardship Trust was set up to address habitat issues in Fraser Delta, Wildlife Agriculture Advisory Committee set up by Ministry of Agriculture.
Haynes Estate: to condemn the sale of Crown Land between the vineyard to the northwest and Ecological Reserve #100 to the southeast and request a reservation as a necessary adjunct to the reserve and to the burrowing owl project. AGM 1989	Option to buy most of Crown land cancelled, Section 16 reserve in favour of wildlife approved: land is now within South Okanagan WMA.
Introduction of exotic plants into B.C.: to urge federal and provincial ministries and agencies to declare the introduction of exotic plants and animals into B.C. as unlawful, without full	No overall provincial policy. Exotic species program: a) Rats removed Langara Is.

disclosure to public, full government supervised environmental and ecological impact, presence of public benefit identified and mechanism in place for recovering costs of environmental damage caused. AGM 1990.	b)Work Group for Georgia Basin c) Awareness campaign for purple loosestrife, scotch broom, gorse & Eurasian water milfoil, knapweed.
Native grasslands protection: to urge governments at all levels to protect remaining grasslands within the Okanagan Basin, and that strategies for protection include purchase of private grasslands. AGM 1993	White Lake (1997), Longs,('98) & Thomas Ranch ('00) acquired by TNT, NC etc. South Okanagan WMA enlarged.
Native grasslands: to present to government our desire that not only Kamloops but all provincial grasslands should be protected. June 1993.	Churn Creek/Empire Valley Ranch, Junction Sheep Range established as Parks.
Native plants: to urge the Ministry of Environment to initiate a new Act to better protect our native plants. AGM 1989	No action on a new Act. No B.C. or federal endangered species legislation.
Okanagan Mountain Park: to urge provincial Minister of Parks to acquire private land on the shore of Okanagan Lake adjacent to the Park. AGM 1990.	Private lake shore land acquired by Parks, but 150 acre parcel mid-park still unprotected.
Park reserve status for Southern Chilcotin and Chilko Lake: to urge provincial government to establish a park reserve in the Southern Chilcotin and Chilko Lake areas. AGM 1990.	13,602 ha grassland protected in the Cariboo Region. Chilko Lake Park designated
Public viewing of rattlesnakes: to urge the establishment of a MELP rattlesnake viewing subcommittee to evaluate the potential for rattlesnake - human interactions and Provincial Government liability when rattlesnake viewing opportunities are identified to the public. AGM 1991	The Wildlife Viewing Program (MELP) did not develop specific guidelines, just a guarded warning.
Southern Interior grasslands: to call on Minister responsible for Parks Canada to establish one or more National Parks in National Region 3 (the South Okanagan and Lower Similkameen), to protect natural history values. AGM 1999	Discussions ongoing between Conservation Chair and various ENGO and government agencies. FBCN is awaiting results of LRMP in area, at which we are represented by Harold King, from Osoyoos.
Tranquille Creek: to urge MELP to expand the Wildlife Management Area to include 1. Riparian habitats along Kamloops Lake west to Cooney Bay and 2. a buffer strip on either side of Tranquille Creek from the creek's outlet through the Tranquille property to the Crown Lands. AGM 1996	Sale of the Tranquille property before the courts; includes protection for some of the areas identified in the resolution.

Appendix 2. Organizations & Programs

The following is a list of organizations and programs of importance to grasslands conservation.

Federation of British Columbia Naturalists (FBCN)
425 1367 West Broadway, Vancouver, B.C. V6H 4A9
Tel. 604 737 3057 Fax. 604 738 7173 Email: fbcn@intergate.bc.ca Web: http://members.nbci.com/fbcn

The FBCN is an umbrella organization of 50 member and affiliated naturalist clubs province-wide, representing over 5300 members. Clubs are organized by regions: Lower Mainland, Vancouver Island, Thompson-Okanagan, Northern and Kootenay. Many of our clubs are involved in grassland conservation and education programs. Clubs with an interest in local grasslands include: Arrowsmith Naturalists, Bulkley Valley Naturalists, Central Okanagan Naturalists Club, Comox Valley Naturalists Society, Cowichan Valley Naturalists Society, Kamloops Naturalist Club, Mount Tolmie Conservancy Association, Nanaimo Field Naturalists, North Okanagan Naturalist Club, North Shuswap Naturalist Club, Oliver-Osoyoos Naturalists, Osoyoos Desert Society, Prince George Naturalist Club, Rocky Mountain Naturalists, Salt Spring Trail and Nature Club, Similkameen Naturalist Club, South Okanagan Naturalist Club, Squamish Estuary Conservation Society, Timberline Trail and Nature Club, Vancouver Natural History Society, Vermilion Forks Field Naturalists, Victoria Natural History Society, Williams Lake Field Naturalists Society.

For a full listing of club addresses and phone numbers, details of programs and other information contact the FBCN office at the above address.

National Organizations

Assembly of First Nations (B.C. Region)
205 675 West Hastings St, Vancouver, B.C. V6B 1N2
Tel. 604 609 0114 Fax 604 609 0124 Email. bcafn@istal.ca

Any discussion of land use issues will inevitably involve liaison with local Bands and Tribal Councils. The FBCN Grasslands Policy does not cover liaison methods, treaties, or other issues of importance to our relationship with First Nations. However, naturalists often need to become informed on aboriginal concerns and goals, especially as they relate to land use. For example, much of the remaining antelope brush habitat in the South Okanagan is on First Nations' land. Information on bands can be obtained through the Assembly of First Nations or from the Communications Branch of the **Ministry of Aboriginal Affairs**, PO Box 9100, Victoria, V8W 9B1, Tel. 250 356 2394. The Communications Branch publishes "*A Guide to Aboriginal Organizations and Services in British Columbia*" which lists all the bands, Tribal Councils, Treaty Offices and Umbrella Organizations. This publication is also available on line at http://www.aaf.gov.bc.ca/aaf/pubs/orglist1

Canadian Nature Federation (CNF)
Suite 520, 1 Nicholas St, Ottawa, Ontario KIN 7B7
Tel. 613 562 3447 or 1 800 267 4088 Executive Director: Julie Gelfand

CNF is the national organization working on behalf of naturalists. FBCN is an affiliated member. The CNF initiated the Important Bird Areas program in Canada, in partnership with **Bird Studies Canada**. This program identifies and protects locations of

importance to birds. Several IBA sites have been identified in grassland regions in British Columbia. CNF also has a Wildlands Campaign urging the 'completion' of Canada's national parks system, a federal government commitment which would see parks in all 39 natural regions of the country. Natural Region 3 in the Interior of British Columbia is not yet represented.

Canadian Parks and Wilderness Society (CPAWS)
CPAWS (BC Chapter) 502 - 475 Howe St, Vancouver, BC V6C 2B3
Tel. 604 685 7445 Fax. 604 685 6449
Email: info@cpawsbc.org Web. Http://mypage.direct.ca/c/cpawsbc Executive Director: Bob Peart

This national organization has a BC Chapter which is active in promoting and protecting grassland ecosystems in British Columbia. It is a founder member of the BCGCC and produced a comprehensive booklet on grasslands in BC. CPAWS supports a National Grasslands Park in British Columbia.

Society for Range Management
445 Union Boulevard, Suite 230, Lakewood, Colorado, 80228 USA
Web: http:// srm.org

This international society was formed in 1948 to process, disseminate and co-ordinate information and research on range management. It publishes two journals: one technical and academic and one for the general reader. The Society has a British Columbia chapter.

<u>Provincial Organizations</u>

B.C. Cattlemen's Association
Box 344, Pritchard, B.C. V0E 2P0

The new edition of the *Rangeland Handbook for B.C.* published by the **BC Cattlemen's Association** emphasizes ecosystem management. It is a good resource to aid naturalists in further understanding grasslands and the needs of the cattle industry.

British Columbia Endangered Species Coalition (BCESC)
c/o Sierra Legal Defence Fund 214 - 131 Water St. Vancouver, B.C. V6B 4M3
Tel. 250 847 2400 Web: www.bcendangeredspecies.org or www.extinctionsucks.org
Email: kate@extinctionsucks.org End. species Co-ordinator: Kate Smallwood

The FBCN is a Steering Committee and founder member of the BCESC, which is creating greater public awareness and concern for rare species while working towards the goal of federal and provincial endangered species legislation. At least 30% of the red-listed vertebrates and 50% of blue-listed ones in British Columbia are found in grassland ecosystems., particularly in the Southern Okanagan and Similkameen Valleys.

B.C. Environmental Network (BCEN)
207 West Hastings St Suite 610, Vancouver, B.C. V6B 1H7
Tel. 604 879 2279 Fax 604 879 2272 Email. info@bcen.bc.ca

The BCEN is an umbrella organization for about 250 environmental groups in British Columbia. It has an interest in parks and wilderness, forestry, water and other ecological and environmental issues. BCEN publishes a comprehensive directory of groups involved in the environmental movement, including First Nations.

B.C. Spaces for Nature
Box 673 Gibsons, B.C. V0N 1V0
Tel.. 604 886 4632 Fax 604 886 3768 Email. bcspaces@sunshine.net

B.C. Spaces for Nature is an organization working to promote the protection of British Columbia's rich diversity of wilderness and wildlife. It is provincial in scope and is actively involved in land and resource management planning processes and transboundary issues.

B.C. Wildlife Federation
303 - 19292 60 Ave. Surrey, B.C. V3S 8E5
Tel. 1 800 533 2293 Ext. 230 Fax 604 533 1592 Web. www.bcwf.bc.ca

This is the umbrella organization for hunting and angling clubs around the Province. It is a partner group in a number of grassland conservation initiatives including the South Okanagan-Similkameen Conservation Program.

Federation of Mountain Clubs of B.C. (FMCBC)
47 West Broadway, Vancouver, B.C. V5Y 1P1
Tel. 604 878 7007 Fax . 604 876 7047 Toll free 888 892 2266 Email. fmcbc@mountainclubs.bc.ca

FBCBC is a non-profit organization representing the interests of non-mechanized hikers and climbers and outdoor clubs throughout British Columbia. It addresses mountain access, recreation and conservation issues, promotes outdoor education and safety and builds and maintains hiking trails. FMCBC is currently campaigning with FBCN, CPAWS and others for licensing and identification of all terrain vehicles, in an attempt to prevent the degradation of grasslands and back-country areas from irresponsible off road recreation.

Friends of Ecological Reserves (FER)
Box 8477, Victoria, B.C. V8W 3S1
Tel. 250 385 9246

Grasslands Conservation Council of British Columbia (GCC):
727 Dominion St, Kamloops, BC V2C 2X8 Ph/fax: 250 374 5721
Email: bruno_delesalle@telus.net Executive Director: Bruno Delesalle

The GCC is a strategic alliance of organizations and individuals committed to the conservation and stewardship of grasslands. The GCC vision is of healthy and life sustaining grassland ecosystems in British Columbia. The FBCN is a founding partner of the GCC and supports its mission and goals. The GCC has recently launched the **B.C. Grasslands Mapping Project** which will bring together existing information on grassland ecosystems for a provincial geographical information system and associated maps, to ensure that accurate and consistent information is available. The map included in this document is a preliminary map, based on currently available information, and was provided by GCC.

Land Trust Alliance of B.C
204 - 338 Lower Ganges Rd, Salt Spring Island B.C. V8K 2V3
Tel. 250 538 0112 Email: ltabc@saltspring.com Web. www.island.net/~ltabc/

Founded in 1998, this is the umbrella organization for the many land trusts now existing in British Columbia. It acts as a vehicle for the sharing of information and expertise.

Native Plant Society of B.C.
2012 William St. Vancouver, B.C. V5L 2X6
Tel. 604 255 5719 Fax 604 258 0201 Email. npsbc@hotmail.com Web: www.npsbc.org (in development)

The Native Plant Society holds grass identification workshops around the province each year and operates a listserve for subscribers.

The Land Conservancy (TLC)
5793 Old West Saanich Road, Victoria, BC V8X 3X3
Tel. 250 361 7693 Email: nichola@conservancy.bc.ca
2150 Maple St, Vancouver, BC V6J 3T3
Ph. 604 733 2313 Email: admin@conservancy.bc.ca Web. www.conservancy.bc.ca
Okanagan Office: 27A Front St. Penticton, B.C. V2A 1H2 Ph. 250 492 0173
Kootenay Contact: Ph. 250 427 1974

The Land Conservancy is a charitable non-profit land trust working to protect British Columbia's special places. TLC's main concern is preserving ranchland and grasslands in the Interior, through land owner contact delivery and stewardship programs. TLC works closely with GCC and is the team leader for the stewardship component of the South Okanagan Similkameen Conservation Program. In January 1999, the TLC initiated a Grassland Stewardship Project for the East Kootenays, geared towards private properties 10 - 160 acres in size.

The Nature Trust of British Columbia
#260 - 1000 Roosevelt Crescent, North Vancouver, BC V7P 1M3
Tel. 604 924 9771 Fax. 604 924 9772 Email. naturebc@istar.ca

The Nature Trust is a charitable corporation dedicated to conserving areas of ecological significance in British Columbia. One of the current Nature Trust projects is the **South Okanagan Ranch Land Conservation Program.** This project is designed to implement management for biodiversity on Nature Trust and Environment Canada properties within a total area of 150,000 acres between Keremeos and Vaseux Lake. Working with neighbourhood ranchers and a Technical Committee of scientific experts, existing Range Use Plans will be amalgamated to develop new plans that will better serve the conservation needs of the area. Protection of the many red and blue-listed species on the properties is paramount. Partners in this program are financial contributors B.C. Environment, Habitat Conservation Trust Fund, Environment Canada, Nature Conservancy of Canada, US Nature Conservancy and The Nature Trust, together with involved ranchers. The Nature Trust is the team leader for the acquisition component of the South Okanagan Similkameen Conservation Program.

<u>Local Organizations</u>

Boundary Bay Conservation Committee (BBCC)
Box 1251, Station A, Delta, B.C. V4M 3T3 Tel. 604 943 6406

BBCC works towards the protection of wildlife habitat in the Boundary Bay ecosystem, including the conservation of old field habitats, through advocacy and public education. It published "*Ours to Preserve ~ a proposal for a Boundary Bay biosphere reserve*" in 1992.

Delta Farmland and Wildlife Trust (DFWT)
205 - 4882 Delta St. Delta, B.C. V4K 2T8
Tel. 604 940 3392 Fax 604 946 7820 Email: dfwt@axionet.com

The trust is dedicated to protecting wildlife habitat and sustainable agriculture in the Fraser Delta, through research, monitoring and education and by working with farmers and landowners on habitat stewardship. A long-term supply of old field habitat is provided by a Set-Aside program, which allows fields to lie fallow, on a rotational basis, for periods of five years.

Desert Centre
Box 123, Osoyoos, B.C. V0H 1V0
Tel. 250 495 2470 Email: mail@desert.org Web. www.desert.org

The Desert Centre at Osoyoos is run by the Osoyoos Desert Society, an FBCN Affiliate Club. The main activities are education and restoration of the pocket desert. Escorted tours of the desert are available.

Garry Oak Meadow Preservation Society
3873 Swan Lake Road, Victoria, B.C. V8X 3W1
Tel. (250) 361-1694 Email garryoak@netscape.net website: www.garryoak.bc.ca

The Garry Oak Meadow Preservation Society, formed in 1992, is dedicated to the preservation, protection and restoration of Garry Oak stands and their natural habitats. We engage in educational activities, lobby all levels of government through letter writing and attending council meetings and public hearings; and we work on habitat restoration. The Society is authorized by the Ministry of Environment to hold conservation covenants.

Habitat Acquisition Trust Fund (HAT)
PO Box 8552 Victoria, B.C. V8W 3S2
Tel. 250 995 2428 Email: hatmail@home.com Website: www.hat.bc.ca
Executive Director: Bruce Whittington

HAT is working to protect the significant remnant Garry oak grasslands and other habitats in the Capital Regional District, through land acquisition, conservation covenants and stewardship programs.

Intermountain Wetland Conservation Program
Manager Interior Field Office, Ducks Unlimited Canada
954A Laval Crescent, Kamloops, BC V2C 5P5
Tel. 250 374 8307 Fax. 250 374 6287

This program is a follow on from the Interior Wetland Program of the North American Waterfowl Management Plan (NAWMP) aimed at conserving and enhancing wetlands in the Interior of B.C. The lead partner is Ducks Unlimited and the FBCN is a formal partner.

Okanagan Region Wildlife Heritage Fund Society
Box 5081, Station A, Kelowna, B.C. V1Y 8T9
Tel. 250 766 2559 Fax 250 766 4864 Email: retaylor@silk.net Contact: President, Ron Taylor

The basic concern of the Society is to raise money to buy land for wildlife in Ministry of Environment Region 8, which includes the Okanagan Valley, and stretches from Keremeos in the west to Grand Forks in the east.

Okanagan Similkameen Conservation Alliance (OSCA)
PO Box 20133, Penticton, B.C. V2A 8K3
Contacts: Tel. 250 497 8149 250 492 4422 Email osca@telus.com

This organization was formed in 1998 as the next step in the South Okanagan Conservation Strategy. OSCA is now the team leader for the outreach component of the SOS Conservation Program (see below) and organises the annual Meadowlark Festival in the Penticton area, on the May long weekend.

Okanagan Similkameen Parks Society (OSPS)
Secretary
Box 787, Summerland, B.C. V0H 1Z0
Tel. 250 494 8996

Formed in 1966, the Society works towards the acquisition and protection of parkland and wildlife habitat in the Okanagan and Similkameen area. It raises funds and promotes greater public awareness of the natural environment. Members of OSPS were instrumental in the formation of Cathedral Lakes Park, Okanagan Mountain Park, Conkle Lake Park and the Big Horn Sheep Area and are also involved in ongoing stewardship and programs such as Forest Watch.

South Okanagan Similkameen Stewardship Program (SOS Stewardship)
c/o 201 - 3547 Skaha Lake Road, Penticton, B.C. V2A 7K2
Contacts: Anthea Bryan 250 492 0312; Sue Austin 250 492 7196; Lisa Scott 250 404 0115

Since 1994, the South Okanagan-Similkameen Stewardship Program has been promoting conservation stewardship on private lands in the South Okanagan. SOS Stewardship, with conservation partners, has been raising public awareness of habitat values; encouraging stewardship of significant habitat lands through landowner contact; undertaking habitat enhancement projects of mutual benefit to conservation and agriculture; and offering a spectrum of land securement options. Demonstration projects include grassland and riparian fencing, wildlife gates at a vineyard, and restoration of dryland habitat. Also, the program produces a newsletter and brochures, such as *Tread Lightly on our Dry Grasslands*. Currently, SOS Stewardship is undertaking two community stewardship projects: one features California Bighorn Sheep, a Blue-listed and high-profile species; the other, the antelope-brush community, a globally imperilled habitat. A third project involves raising awareness of local snake species at risk through public presentations and wide distribution of the program's fact sheet, *Snake Smart*.

South Okanagan Similkameen Weed Committee
c/o Okanagan Similkameen Regional District
101 Martin St. Penticton, B.C. V2A 5J9 Ph. 250 492 0237
Contact: Lisa Scott Tel. 250 404 0115 Fax 250 404 0116 Email: lscott@vip.net

The South Okanagan-Similkameen Weed Committee (SOSWC) was formed in 1996 to address the major environmental threat of weeds in rangelands and natural habitats in the South Okanagan-Similkameen area. The Committee includes representatives from utility companies; regional, provincial and federal government; conservation groups; First Nations; and members of the ranching community. The Weed Program works closely with the existing private land stewardship program.

Government and Multi-partner Organizations and Programs

Garry Oak Ecosystems Recovery Team (GOERT)
c/o A-954 Queens Street, Victoria, B.C. V8T 1M6
Tel. 250-385-6400 Fax. 250-385-6609 Contact: Marilyn Fuchs

GOERT is an interagency team with representatives from federal, provincial, regional, and municipal governments, the Songhees First Nation, and a number of academic institutions and non-governmental organizations. Our task is the development of an ecosystem-level recovery plan that will serve as a blueprint for co-ordinated, progressive action on the part of governmental and non-governmental agencies. Our aim is to facilitate actions that will protect the ecosystems and their component species over the long-term.

South Okanagan - Similkameen Conservation Program
c/o Manager, Pacific Wildlife Research Centre, 5241 Robertson Rd, RR#1 Delta, V4K 3N2
Tel. 604 940 4700 Web: www.pyr.ec.gc.ca/wildlife

This is an umbrella of cooperation between the federal and provincial governments and a growing number of environmental and conservation groups, including the FBCN, with the goal to "*maintain the rich biodiversity of the area, including species at risk, and a viable ecological corridor between the deserts to the south and the grasslands to the north.*" Announced on July 31 2000, the program was launched by David Anderson, Minister of Environment, Joan Sawicki, Minister of Environment, Lands and Parks and Clarence Louie of the Osoyoos Indian Band. This program essentially replaces and builds on the South Okanagan Conservation Strategy (see below). Partners include Environment Canada, Ministry of Environment, Lands and Parks, The Nature Conservancy of Canada, Ducks Unlimited, FBCN, and the Royal B.C. Museum. A prospectus entitled "*Conserving Canada's Desert Country*" is available.

South Okanagan Conservation Strategy (SOCS):
No longer in existence

SOCS was initiated in 1990 as a 5 year multi-partner program with funding from The Habitat Conservation Fund, to identify and protect those areas deemed to be most critical for biodiversity or for rare and endangered species. Funding was extended for a further three years to 1998 but has now been discontinued. The Strategy focused on identifying, mapping and protecting threatened habitats and species and encouraged sustainable land use. The final product of its work is the excellent *Habitat Atlas for Wildlife at Risk ~ South Okanagan and Lower Similkameen*, published in 1998.

The B.C. Conservation Data Centre (CDC)
PO Box 9344 Stn. Prov. Gov. Victoria, B.C. V8T 9M1
Tel. 250 387 0732 Fax 250 387 2733 Email. elpcdcdata@victoria1.gov.bc.ca
Web. http://www.elp.gov.bc.ca/rib/wis/cdc/

This branch of the Ministry of Environment, Lands and Parks was established in 1991 and serves scientists, government departments, naturalists and the general public. It has an integrated data management system, and is a central source of species and habitat information.

The Fraser Basin Council
Suite 1257 - 409 Granville St, Vancouver, BC V6C 1T2
Tel. 604 605 3450 Fax. 604 605 3459 Email: info@fraserbasin.bc.ca

This is a multi-partner organization established in 1997 to ensure sustainability of the Fraser Basin. It has a 5 year action plan for 1997 – 2002. The majority of Council Directors are from municipalities and First Nations, or associated with government agencies. It has no direct grassland goals, however, a goal for the Thompson Region includes "growth management to ... .conserve wilderness and unique natural areas". The Fraser Basin Council should be strongly encouraged to become more involved in grassland conservation issues.

The Sensitive Ecosystems Inventory: East Vancouver island and Gulf Islands

This federal/provincial project has identified and mapped remnant unspoilt ecosystems on the coastal lowlands of east Vancouver Island and the Gulf Islands. It identifies a "terrestrial herbaceous" group of ecosystems which includes grassland and grass outcrops. The Inventory project has produced a technical report and a conservation manual, both available from www.publications.gov.bc.ca or 250 387 0371. Maps can be ordered through Clover Point Cartographics 250 384 3537.

GRASSLANDS is printed on Genesis, a 100% recycled paper.

Map courtesy of **Grasslands Conservation Council of B.C.**